

Appendix A – Plants and Animals Observed in the Study Area

Table 1 - Plants

Table 2 - Mammals

Table 3 - Reptile and Amphibians

Table 4 - Birds

Table 5 - Fish

PLANT SPECIES OBSERVED IN THE STUDY AREA

Portsmouth Bypass Project
October 2001-July 2003

Scientific Name	Common Name	Mature Woodland	Successional Woodland	Scrub-Shrub	Floodplain Forest	Pasture/Old Field	Wetland
<i>Acer negundo</i>	Box-elder		X		X		X
<i>Acer rubrum</i>	Red Maple	X	X				
<i>Acer saccharinum</i>	Silver Maple	X	X		X		
<i>Acer saccharum</i>	Sugar Maple	X	X		X		
<i>Adiantum pedatum</i>	Maiden Hair Fern	X	X				
<i>Aesculus glabra</i>	Ohio Buckeye	X	X				
<i>Agrimonia parviflora</i>	Common Agrimony			X		X	
<i>Agrostis sp.</i>	Bentgrass					X	
<i>Ailanthus altissima</i>	Tree-of-Heaven		X	X			
<i>Alisma subcordatum</i>	Water-plantain						X
<i>Alliaria petiolata</i>	Garlic-mustard		X	X	X		
<i>Alnus serrulata</i>	Smooth alder				X		X
<i>Amaranthus sp.</i>	Amaranth					X	
<i>Amelanchier arborea</i>	Serviceberry	X					
<i>Amelanchier spicata</i>	Serviceberry	X					
<i>Amorpha fruticosa</i>	False Indigo		X		X		
<i>Amphicarpa bracteata</i>	Hog Peanut	X	X				
<i>Andropogon virginicus</i>	Broom-sedge					X	
<i>Antennaria plantaginifolia</i>	Pussytoes	X				X	

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<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass					X	
<i>Aplectrum hyemale</i>	Puttyroot Orchid	X					
<i>Aralia nudicaulis</i>	Sarsaparilla		X				
<i>Arctium minus</i>	Burdock					X	
<i>Arisaema draconium</i>	Green Dragon		X				
<i>Arisaema triphyllum</i>	Jack-in-the-Pulpit	X	X				
<i>Artemisia annua</i>	Wormwood					X	
<i>Aruncus dioicus</i>	Goat's Beard		X	X			
<i>Asarum canadense</i>	Wild Ginger	X	X				
<i>Asclepias incarnata</i>	Swamp Milkweed						X
<i>Asclepias syriaca</i>	Common Milkweed					X	X
<i>Asimina triloba</i>	Pawpaw	X					
<i>Asparagus officinalis</i>	Wild Asparagus					X	
<i>Asplenium platyneuron</i>	Ebony Spleenwort	X	X				
<i>Aster divaricata</i>	Aster	X	X				
<i>Aster sp.</i>	Aster		X	X	X		
<i>Athyrium asplenoides</i>	Northern Lady Fern	X	X				
<i>Athyrium pycnocarpon</i>	Narrow-leaved glade fern		X				
<i>Barbarea vulgaris</i>							X

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<i>Berberis thunbergii</i>	Japanese barberry		X				
<i>Betula lenta</i>	Sweet Birch	X					
<i>Betula nigra</i>	River Birch			X			
<i>Bidens sp.</i>	Sticktight						X
<i>Botrychium virginianum</i>	Grape fern	X	X				
<i>Boehmeria cylindrica</i>	False Nettle					X	X
<i>Brachyleytrum erectum</i>	Bearded shorthusk		X				
<i>Brassica rapa</i>	Field mustard					X	
<i>Bromus commutatus</i>	Meadow Brome					X	
<i>Bromus purgans</i>	Woodland brome		X				
<i>Bromus pubescens</i>	Canada Brome					X	
<i>Bromus sp.</i>	Brome						
<i>Bromus tectorum</i>	Downy Brome Grass					X	
<i>Campsis radicans</i>	Trumpet Vine		X				
<i>Campanula americana</i>	Tall bellflower		X				
<i>Cardamine hirsuta</i>	Hairy bittercress			X			
<i>Cardamine pennsylvanica</i>	Pennsylvania Bitter-cress					X	X
<i>Carex digitalis</i>	Slender woodland sedge	X					
<i>Carex frankii</i>	Frank's Sedge				X		X
<i>Carex gracillima</i>	Graceful sedge						X

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<i>Carex grayii</i>	Asa Gray's Sedge				X		X
<i>Carex hirsutella</i>	Fuzzy wuzzy sedge	X					
<i>Carex laxiflora</i>	Broad loose-flower sedge	X					
<i>Carex lupulina</i>	Hop Sedge						X
<i>Carex lurida</i>	Shallow Sedge						X
<i>Carex pennsylvanica</i>	Pennsylvania sedge	X					
<i>Carex platyphylla</i>	Broadleaf sedge	X					
<i>Carex rosea</i>	Rosy Sedge		X		X		
<i>Carex sp.</i>	Sedge						X
<i>Carex squarrosa</i>	Squarrose Sedge						X
<i>Carpinus caroliniana</i>	Ironwood	X	X				
<i>Carya cordiformis</i>	Bitternut Hickory	X					
<i>Carya glabra</i>	Pignut Hickory	X					
<i>Carya ovata</i>	Shagbark Hickory	X	X		X		
<i>Carya tomentosa</i>	Mockernut Hickory	X					
<i>Castanea dentata</i>	American Chestnut					X	
<i>Celastrus orbiculatus</i>	Oriental bittersweet			X			
<i>Cephalanthus occidentalis</i>	Buttonbush						X
<i>Cercis canadensis</i>	Redbud	X	X				
<i>Chimaphila maculata</i>	Spotted wintergreen		X				

*Cystopteris
fragilis -
Fragile Fern
Extirpated*

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<i>Cicuta maculata</i>	Water Hemlock						X
<i>Cimicifuga racemosa</i>	Black Snakeroot	X	X				
<i>Cinna arundinacea</i>	Wood-reed Grass				X		X
<i>Claytonia virginica</i>	Spring beauty	X					
<i>Circaea lutetiana</i>	Enchanter's nightshade	X	X				
<i>Clematis virginiana</i>	Virgin's-bower		X				
<i>Collinsonia canadensis</i>	Horse balm		X				
<i>Commelina communis</i>	Day flower					X	
<i>Conium maculatum</i>	Poison Hemlock					X	
<i>Conopholis americana</i>	Squawroot	X					
<i>Cornus amomum</i>	Silky Dogwood				X		X
<i>Cornus Florida</i>	Flowering Dogwood	X	X		X		
<i>Corydalis aurea</i>	Scrambled eggs		X				
<i>Cryptotaenia canadensis</i>	Honewort		X	X	X		
<i>Cuscuta sp.</i>	Bindweed		X	X	X		
<i>Cunila origanoides</i>	Dittany	X	X				
<i>Cyperus strigosus</i>	Yellow Flatsedge						X
<i>Cypripedium acaule</i>	Pink Lady's Slipper	X	X				
<i>Cystopteris fragilis</i>	Fragile fern		X				
<i>Dactylis glomerata</i>	Orchard Grass					X	

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<i>Danthonia spicata</i>	Poverty Oat Grass		X			X	
<i>Datura stramonium</i>	Jimson-weed				X	X	
<i>Dennstaedtia punctilobula</i>	Hay-Scented Fern	X	X				
<i>Desmodium nudiflorum</i>	Tick trefoil	X	X				
<i>Diarrhena americana</i>	American beakgrain		X				
<i>Dicentra cucullaria</i>	Dutchman's Breeches	X					
<i>Dioscorea quaternata</i>	Wild Yam	X	X				
<i>Disporum maculatum</i>	Fairybells	X	X				
<i>Diospyros kaki</i>	Persimmon	X					
<i>Dipsacus sylvestris</i>	Teasel			X		X	
<i>Draba verna</i>	Spring draba					X	
<i>Dryopteris marginalis</i>	Marginal Shield-Fern	X	X				
<i>Dryopteris spinulosa</i>	Crested Shield Fern	X	X		X		
<i>Echinocloa crusgalli</i>	Barnyard Grass					X	X
<i>Echinocloa muricata</i>	Barnyard Grass					X	X
<i>Echinocloa walteri</i>	Barnyard Grass					X	X
<i>Eleocharis sp.</i>	Spikerush						X
<i>Elymus canadensis</i>	Canada wild rye		X				
<i>Elymus riparius</i>	Riparian Wild Rye				X		
<i>Elymus virginicus</i>	Virginia Wild Rye					X	

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<i>Epifagus virginiana</i>	Beech Drops	X					
<i>Epigaea repens</i>	Trailing arbutus	X					
<i>Epilobium coloratum</i>	Willow-herb					X	X
<i>Equisetum hyemale</i>	Scouring-Rush				X		
<i>Erythronium album</i>	White trout-lily	X					
<i>Euonymus atropurpureus</i>	Strawberry bush	X	X				
<i>Euonymus obovatus</i>	Running strawberrybush	X	X				
<i>Eupatorium maculatum</i>	Joe-pye Weed					X	X
<i>Eupatorium perfoliatum</i>	Common Boneset						X
<i>Eupatorium rugosum</i>	Black snakeroot		X				
<i>Fagus grandifolia</i>	Beech	X					
<i>Festuca pratensis</i>	Meadow Fescue					X	
<i>Fragaria virginiana</i>	Wild strawberry		X	X	X	X	
<i>Fraxinus americana</i>	White Ash	X	X				
<i>Fraxinus pennsylvanica</i>	Green Ash		X		X		X
<i>Galium aparine</i>	Cleavers	X	X	X	X		
<i>Galium circaezans</i>	Wild Liquorice	X					
<i>Galium concinnum</i>	Shining bedstraw		X				
<i>Galium triflorum</i>	Fragrant bedstraw		X				
<i>Geranium carolinianum</i>	Carolina cranesbill		X				

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<i>Geum canadense</i>	White Avens						
<i>Geum macrophylla</i>	Large-leaf Avens	X	X				
<i>Geum vernum</i>	Spring avens		X				
<i>Gillenia stipulata</i>	American Ipecac			X			
<i>Glechoma hederacea</i>	Ground-Ivy	X	X	X	X	X	
<i>Glyceria striata</i>	Fowl Manna-Grass				X		X
<i>Goodyear pubescens</i>	Rattlesnake plantain	X	X				
<i>Habenaria lacera</i>	Green fringed-orchid		X				
<i>Hamamelis virginiana</i>	Witch hazel	X	X				
<i>Hemerocallis hybrida</i>	Daylily					X	
<i>Heuchera americana</i>	Alumroot	X					
<i>Hibiscus moscheutos</i>	Swamp Mallow						X
<i>Hieracium pratense</i>	Yellow Hawkweed					X	
<i>Hieracium venosum</i>	Veined hawkweed	X	X				
<i>Holcus lanatus</i>	Velvet Grass					X	X
<i>Houstonia caerulea</i>	Houstonia	X					
<i>Hydrangea arborescens</i>	Wild hydrangea	X	X				
<i>Hydrastis canadensis</i>	Goldenseal		X				
<i>Hydrophyllum sp.</i>	Waterleaf	X	X				
<i>Hypericum perforatum</i>	Common St. John's Wort					X	

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<i>Hypericum sp.</i>	St. John's Wort					X	
<i>Ilex opaca</i>	American Holly	X					
<i>Impatiens capensis</i>	Spotted Jewelweed		X	X	X		X
<i>Ipomoea pandurata</i>	Wild potato vine					X	
<i>Iris cristata</i>	Dwarf Blue Iris	X	X				
<i>Isopyrum bitematum</i>	Eastern false rue anemone	X					
<i>Isotria verticillata</i>	Large whorled pogonia	X	X				
<i>Juglans nigra</i>	Black Walnut	X	X		X		
<i>Juncus acuminatus</i>	Taper-tip Rush						X
<i>Juncus effusus</i>	Soft Rush						X
<i>Kalmia latifolia</i>	Mountain Laurel	X					
<i>Krigia biflora</i>	Dwarf Dandelion	X	X				
<i>Lamium purpureum</i>	Purple dead-nettle					X	
<i>Laportea canadensis</i>	Stinging Nettle		X		X		
<i>Leersia oryzoides</i>	Rice Cutgrass						X
<i>Lespedeza hirta</i>	Hairy lespedeza		X				
<i>Ligustrum vulgare</i>	Common Privet		X				
<i>Lindera benzoin</i>	Spicebush	X	X		X		
<i>Liquidambar styraciflua</i>	Sweet Gum				X		
<i>Liriodendron tulipifera</i>	Tulip-Tree	X	X		X		

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<i>Lobelia cardinalis</i>	Cardinal Flower		X				
<i>Lobelia siphilitica</i>	Great Blue Lobelia					X	
<i>Lobelia spicata</i>	Palespike					X	
<i>Lonicera japonica</i>	Japanese Honeysuckle	X	X	X	X	X	X
<i>Lonicera maackii</i>	Amur Honeysuckle	X	X	X	X		
<i>Ludwigia alternifolia</i>	Seedbox						X
<i>Ludwigia palustris</i>	Water-Purslane						X
<i>Lycopodium flabelliforme</i>	Ground Pine	X	X				
<i>Lycopodium lucidulum</i>	Shinning Clubmoss	X					
<i>Lycopus americanus</i>	Water-Horehound						X
<i>Lysimachia ciliata</i>	Loosestrife		X				
<i>Lysimachia nummularia</i>	Moneywort					X	
<i>Lysimachia quadrifolia</i>	Whorled loosestrife		X				
<i>Maclura pomifera</i>	Osage-orange				X		
<i>Menispermum canadense</i>	Canada moonseed		X				
<i>Mentha piperita</i>	Peppermint						X
<i>Mentha spicata</i>	Spearmint						X
<i>Mertensia virginica</i>	Bluebells				X		
<i>Mimulus ringens</i>	Monkey-Flower						X
<i>Mitchella repens</i>	Partridge berry	X					

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<i>Monarda clinopodia</i>	White bergamot		X				
<i>Monotropa hypopithys</i>	Pinesap	X					
<i>Monotropa uniflora</i>	Indian pipe	X					
<i>Nasturtium officinale</i>	Watercress						X
<i>Nepeta cataria</i>	Catnip		X	X			
<i>Nyssa sylvatica</i>	Black Gum	X	X				
<i>Onoclea sensibilis</i>	Sensitive Fern				X		X
<i>Ophioglossum vulgatum</i>	Adder's tongue		X				
<i>Orchis spectabilis</i>	Showy Orchis	X					
<i>Ornithogalum umbellatum</i>	Star of Bethlehem		X				
<i>Osmunda cinnamomea</i>	Cinnamon fern		X				
<i>Oxalis grandis</i>	Great Yellow Woodsorrel	X	X				
<i>Oxalis stricta</i>	Common Yellow woodsorrel	X	X		X	X	
<i>Oxalis violacea</i>	Violet Wood Sorrel	X					
<i>Oxydendrum arboreum</i>	Sourwood	X					
<i>Panax quiquefolia</i>	Ginseng	X					
<i>Panicum bicknellii</i>	Panic grass		X				
<i>Panicum boscii</i>	Panic grass		X				
<i>Panicum clandestinum</i>	Deer-Tongue Grass				X		X
<i>Panicum dichotomum</i>	Panic Grass					X	

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<i>Panicum latifolium</i>	Panic grass		X				
<i>Panicum sp.</i>	Panic Grass					X	X
<i>Panicum sphaerocarpon</i>	Round Fruited Panic Grass		X				
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	X		X	X		
<i>Passiflora lutea</i>	Yellow passion flower		X				
<i>Phacelia purshii</i>	Miami Mist		X				
<i>Phalaris arundinacea</i>	Reed Canary Grass					X	X
<i>Phlox divaricata</i>	Wild Blue Phlox		X				
<i>Phyla lanceolata</i>	Fog fruit			X			
<i>Phyma leptostachya</i>	Lopseed		X				
<i>Phytolacca americana</i>	Pokeweed			X		X	
<i>Pilea pumila</i>	Clearweed		X		X		
<i>Pinus echinata</i>	Short Leaf Pine		X				
<i>Pinus rigida</i>	Pitch Pine		X				
<i>Pinus sylvestris</i>	Scotch Pine			X			
<i>Pinus virginiana</i>	Virginia pine		X				
<i>Plantago lanceolata</i>	Narrow Leaf Plantain					X	
<i>Plantago major</i>	Common Plantain					X	
<i>Platanus occidentalis</i>	Sycamore				X		
<i>Poa compressa</i>	Canada Bluegrass				X	X	X

Blackjack
Oak -
Quercus
Marilandica-P

Polygala
incarnata - E
Pink milkweed -

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<i>Poa sp.</i>	Bluegrass					X	X
<i>Poa trivialis</i>	Rough Bluegrass				X		X
<i>Podophyllum peltatum</i>	Mayapple	X	X				
<i>Polemonium reptans</i>	Jacob's Ladder	X	X				
<i>Polygala incarnata</i>	Whorled milkwort		X				
<i>Polygonatum biflorum</i>	Solomon's Seal	X	X				
<i>Polygonum cuspidatum</i>	Japanese knotweed			X			
<i>Polygonum sagittatum</i>	Arrow-leaved Tear-thumb						X
<i>Polygonum sp.</i>	Smartweed						X
<i>Polymnia uvedalia</i>	Large flowered leaf cup		X				
<i>Polystichum acrostichoides</i>	Christmas Fern	X	X		X		
<i>Populus deltoides</i>	Cottonwood		X		X		
<i>Potentilla canadensis</i>	Five-fingers	X	X				
<i>Prenanthes alba</i>	White lettuce	X	X				
<i>Prenanthes trifoliata</i>	Gall-of-the-earth		X				
<i>Prunus serotina</i>	Black Cherry	X	X				
<i>Quercus alba</i>	White Oak	X					
<i>Quercus coccinea</i>	Scarlet Oak	X					
<i>Quercus marilandica</i>	Blackjack oak	X					
<i>Quercus palustris</i>	Pin Oak	X					

All 4 new species
of listed
Rhododendron
Clarify location

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<i>Quercus prinus</i>	Chestnut Oak	X					
<i>Quercus rubra</i>	Red Oak	X					
<i>Quercus velutina</i>	Black Oak	X					
<i>Rhamnus alnifolia</i>	Alder-leaf buckthorn		X				
<i>Rhamnus caroliniana</i>	Carolina Buckthorn		X				
<i>Rhododendron sp.</i>	Azalea	X	X				
<i>Robinia hispida</i>	Bristly Locust			X			
<i>Robinia pseudoacacia</i>	Black locust	X	X	X			
<i>Rosa multiflora</i>	Multiflora Rose	X	X	X	X	X	X
<i>Rosa palustris</i>	Swamp Rose						X
<i>Rubus allegheniensis</i>	Blackberry		X	X		X	
<i>Rubus occidentalis</i>	Black Raspberry		X	X		X	
<i>Rubus strigosus</i>	Bristly Raspberry			X		X	
<i>Rudbeckia hirta</i>	Black-eyed Susan			X			
<i>Rudbeckia laciniata</i>	Tall Coneflower				X		
<i>Rumex acetosella</i>	Sheep Sorrel						
<i>Rumex crispus</i>	Curly Dock					X	
<i>Rumex obtusifolius</i>	Broad-leaved Dock					X	
<i>Rumex verticillatus</i>	Swamp Dock					X	
<i>Salix exigua</i>	Sandbar Willow				X		X

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<i>Salix nigra</i>	Black Willow						X
<i>Sambucus canadensis</i>	Common Elderberry		X				X
<i>Sanicula canadensis</i>	Sweet cicely	X	X				
<i>Sanguinaria canadensis</i>	Bloodroot	X	X				
<i>Sassafras albidum</i>	Sassafras		X	X			
<i>Saururus cernuus</i>	Lizard's Tail				X		X
<i>Scirpus atrovirens</i>	Dark Green Bulrush						X
<i>Scirpus cyperinus</i>	Wool-Grass						X
<i>Scirpus sp.</i>	Bulrush						X
<i>Scutellaria integrifolia</i>	Hyssop skullcap	X					
<i>Setaria faberii</i>	Foxtail					X	
<i>Setaria glauca</i>	Yellow Foxtail					X	
<i>Silene stellata</i>	Starry campion	X	X				
<i>Silphium trifoliatum</i>	Whorled rosinweed		X				
<i>Smilacina racemosa</i>	False Solomon's Seal	X	X				
<i>Smilax bona-nox</i>	Saw greenbrier	X					
<i>Smilax glauca</i>	Catbrier	X	X				
<i>Smilax hispida</i>	Hispid greenbrier	X					
<i>Smilax rotundifolia</i>	Common Greenbrier	X	X	X	X		
<i>Solanum carolinense</i>	Horse-Nettle					X	

PLANT SPECIES OBSERVED IN THE STUDY AREA

Portsmouth Bypass Project
October 2001-July 2003

Scientific Name	Common Name	Mature Woodland	Successional Woodland	Scrub-Shrub	Floodplain Forest	Pasture/Old Field	Wetland
<i>Solidago caesia</i>	Goldenrod	X	X				
<i>Solidago canadensis</i>	Tall Goldenrod					X	
<i>Solidago graminifolia</i>	Grass Leaf Goldenrod						
<i>Sorghum halepense</i>	Johnson Grass			X		X	
<i>Sparganium gramineum</i>	Burreed						X
<i>Specularia perfoliata</i>	Venus looking Glass					X	
<i>Spiraea tomentosa</i>	Steeple Bush					X	
<i>Staphylea trifoliata</i>	Bladdernut		X				
<i>Stellaria media</i>	Chickweed					X	
<i>Stellaria pubera</i>	Giant Chickweed	X	X				
<i>Swertia carolinensis</i>	American columbo		X				
<i>Taraxacum officinale</i>	Dandelion					X	
<i>Teucrium canadense</i>	Germander			X			
<i>Thelypteris hexagonoptera</i>	Beech fern	X	X				
<i>Thelypteris noveboracensis</i>	New York fern	X	X				
<i>Thalictrum thalictroides</i>	Rue Anemone	X	X				
<i>Thelypteris phegopteris</i>	Beech Fern	X	X				
<i>Tilia americana</i>	Basswood		X				
<i>Tipularia discolor</i>	Cranefly Orchid	X					
<i>Toxicodendron radicans</i>	Poison Ivy	X	X	X	X	X	X

PLANT SPECIES OBSERVED IN THE STUDY AREA

Portsmouth Bypass Project
October 2001-July 2003

Scientific Name	Common Name	Mature Woodland	Successional Woodland	Scrub-Shrub	Floodplain Forest	Pasture/Old Field	Wetland
<i>Tridens flavus</i>	Purpletop					X	
<i>Trillium grandiflorum</i>	White Trillium	X	X				
<i>Tussilago farfara</i>	Coltsfoot						X
<i>Typha angustifolia</i>	Narrow-leaved Cattail						X
<i>Typha latifolia</i>	Common Cattail						X
<i>Ulmus americana</i>	American Elm	X	X				X
<i>Ulmus rubra</i>	Slippery Elm	X	X				
<i>Urtica dioica</i>	Stinging Nettle		X		X		
<i>Uvularia perfoliata</i>	Perfoliate bellwort	X	X				
<i>Vaccinium vacillans</i>	Lowbush Blueberry	X	X				
<i>Vaccinium stamineum</i>	Blueberry	X					
<i>Valerianella chenopodiifolia</i>	Goosefoot corn-salad		X				
<i>Valerianella oligatoria</i>	Corn-salad				X		
<i>Verbascum blattaria</i>	Moth Mullein					X	
<i>Verbascum thapsus</i>	Woolly Mullein					X	
<i>Verbesina alternifolia</i>	Wing-stem				X	X	
<i>Vernonia gigantea</i>	Tall Ironweed					X	
<i>Veronica officinalis</i>	Veronica		X				
<i>Veronica peregrina</i>	Purslane Speedwell					X	

PLANT SPECIES OBSERVED IN THE STUDY AREA

Portsmouth Bypass Project
October 2001-July 2003

Scientific Name	Common Name	Mature Woodland	Successional Woodland	Scrub-Shrub	Floodplain Forest	Pasture/Old Field	Wetland
<i>Viburnum acerifolium</i>	Mapleleaf Viburnum	X	X				
<i>Viburnum dentatum</i>	Arrowwood		X				
<i>Viburnum prunifolium</i>	Black Haw	X	X				
<i>Vicia villosa</i>	Purple Vetch					X	
<i>Vinca minor</i>	Periwinkle					X	
<i>Viola blanda</i>	White Violet		X			X	
<i>Viola papilionacea</i>	Common Blue Violet		X	X	X	X	
<i>Viola triloba</i>	Three-lobed violet	X					
<i>Vitis labrusca</i>	Fox grape		X				
<i>Vitis riparia</i>	Riparian grape				X		
<i>Xanthium strumarium</i>	Cocklebur					X	

MAMMAL SPECIES OBSERVED IN THE STUDY AREA
Portsmouth Bypass Project
October 2001 - July, 2003

Big brown,
Little brown,
N. bat,
Tricolor bat
SC

Scientific Name	Common Name
<i>Canis latrans</i>	Coyote
<i>Castor canadensis</i>	Beaver
<i>Didelphis virginiana</i>	Virginia opossum
<i>Eptesicus fuscus</i>	Big Brown Bat
<i>Glaucomys volans</i>	Flying Squirrel
<i>Lasionycteris noctivagans</i>	Silver-haired Bat
<i>Lasiurus borealis</i>	Eastern Red Bat
<i>Lasiurus cinereus</i>	Hoary Bat
<i>Marmota monax</i>	Woodchuck
<i>Microtus arvalis</i>	Common Vole
<i>Myotis lucifugus</i>	Little Brown Bat
<i>Myotis septentrionalis</i>	Northern Bat
<i>Odocoileus virginianus</i>	White-tailed Deer
<i>Ondatra zibethica</i>	Muskrat
<i>Peromyscus leucopus</i>	White-footed Mouse
<i>Pipistrellus subflavus</i>	Eastern Pipistrelle
<i>Procyon lotor</i>	Raccoon
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel
<i>Sciurus niger</i>	Fox Squirrel
<i>Sylvilagus insonus</i>	Eastern Cottontail
<i>Tamias striatus</i>	Eastern Chipmunk
<i>Vulpes fulva</i>	Red fox

Box
turtle
SC

Rough
Greenshake
SC

REPTILE AND AMPHIBIAN SPECIES OBSERVED IN THE STUDY AREA

Portsmouth Bypass Project

October 2001 - July 2003

Scientific Name	Common Name
<i>Bufo americanus</i>	American Toad
<i>Bufo woodhouseii fowleri</i>	Fowler's Toad
<i>Chelydra serpentina</i>	Snapping Turtle
<i>Desmognathus fuscus</i>	Northern Dusky Salamander
<i>Diadophis punctatus</i>	Ringneck snake
<i>Elaphe obsoleta</i>	Black Rat Snake
<i>Eumeces fasciatus</i>	5-lined Skink
<i>Eurycea bislineata</i>	Northern Two-lined Salamander
<i>Eurycea longicauda</i>	Longtail Salamander
<i>Hyla versicolor</i>	Gray Tree Frog
<i>Lampropeltis dolia</i>	Milk Snake
<i>Necturus maculosus</i>	Mud Puppy
<i>Nerodia sipedon</i>	Northern Water Snake
<i>Opheodrys aestivus</i>	Rough green Snake
<i>Plethodon cinereus</i>	Red-backed salamander
<i>Pseudacris crucifer</i>	Spring peeper
<i>Rana catesbeiana</i>	American Bullfrog
<i>Rana clamitans</i>	Green frog
<i>Rana pipiens</i>	Leopard Frog
<i>Sceloporus undulatus hyacinthinus</i>	Northern Fence Lizard
<i>Storeria dekayi</i>	Dekay's Brown Snake
<i>Terrapene carolina</i>	Eastern Box Turtle
<i>Thamnophis sirtalis</i>	Common Garter Snake

Brown Creeper

SI

BIRD SPECIES OBSERVED IN THE STUDY AREA
Portsmouth Bypass Project
October 2001 - July 2003

Scientific Name	Common Name
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Anas platyrhynchos</i>	Mallard
<i>Ardea herodias</i>	Great Blue Heron
<i>Bombycilla cedrorum</i>	Cedar Waxwing
<i>Bonasa umbellus</i>	Ruffed Grouse
<i>Branta canadensis</i>	Canada goose
<i>Buteo jamaicensis</i>	Red-Tailed Hawk
<i>Buteo lineatus</i>	Red-shouldered Hawk
<i>Butorides virescens</i>	Green Heron
<i>Cardinalis cardinalis</i>	Northern Cardinal
<i>Capello gallinago</i>	Common Snipe
<i>Caprimulgus vociferus</i>	Whip-poor-will
<i>Carduelis tristis</i>	American Goldfinch
<i>Cathartes aura</i>	Turkey Vulture
<i>Certhia americana</i>	Brown Creeper
<i>Ceryle alcyon</i>	Belted Kingfisher
<i>Chaetura pelagica</i>	Chimney Swift
<i>Charadrius vociferus</i>	Killdeer
<i>Cichladusa guttata</i>	Spotted Morning Thrush
<i>Coccyzus americanus</i>	Yellow Billed cuckoo
<i>Colaptes auratus</i>	Northern Flicker
<i>Contopus virens</i>	Eastern wood-pewee
<i>Corvus brachyrhynchos</i>	American Crow
<i>Cyanocitta cristata</i>	Blue Jay
<i>Cygnus olor</i>	Mute Swan
<i>Dendroica discolor</i>	Prairie Warbler
<i>Dendroica dominica</i>	Yellow-Throated Warbler
<i>Dryocopus pileatus</i>	Pileated Woodpecker
<i>Dumetella carolinensis</i>	Gray Catbird

BIRD SPECIES OBSERVED IN THE STUDY AREA
 Portsmouth Bypass Project
 October 2001 - July 2003

Dark-eyed
 Junco -
 T
 list time frame →
 breeding or winter

Scientific Name	Common Name
<i>Empidonax virescens</i>	Acadian FlyCatcher
<i>Falco sparverius</i>	American kestrel
<i>Geothlypis trichas</i>	Common Yellowthroat
<i>Hirundo rustica</i>	Barn Swallow
<i>Hylocichla mustelina</i>	Wood Thrush
<i>Icteria virens</i>	Yellow-Breasted Chat
<i>Icterus gabula</i>	Northern oriole
<i>Junco hyemalis</i>	Dark-eyed Junco
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker
<i>Meleagris gallopavo</i>	Wild Turkey
<i>Melospiza melodia</i>	Song Sparrow
<i>Mimus poyglodytes</i>	Northern Mockingbird
<i>Molothrus ater</i>	Brown-headed Cowbird
<i>Oporornis formosus</i>	Kentucky Warbler
<i>Otus asio</i>	Screech owl
<i>Parus bicolor</i>	Tufted Titmouse
<i>Parus atricapillus</i>	Black-capped Chickadee
<i>Parus carolinensis</i>	Carolina Chickadee
<i>Passerina cyanea</i>	Indigo Bunting
<i>Pheucticus ludovicianus</i>	Rose-Breasted Grosbeak
<i>Picoides pubescens</i>	Downy Woodpecker
<i>Pipilo erythrophthalmus</i>	Rufous-sided Towhee
<i>Piranga rubra</i>	Summer Tanager
<i>Quiscalus quiscula</i>	Common Grackle
<i>Regulus calendula</i>	Ruby-crowned Kinglet
<i>Sayornis phoebe</i>	Eastern phoebe
<i>Scolopax minor</i>	Woodcock
<i>Seiurus aurocapillus</i>	Ovenbird
<i>Seiurus motacilla</i>	Louisiana Waterthrush
<i>Sialia sialis</i>	Eastern Bluebird

BIRD SPECIES OBSERVED IN THE STUDY AREA
Portsmouth Bypass Project
October 2001 - July 2003

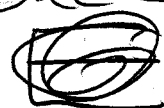
Red-breasted
Nuthatch
SI

Scientific Name	Common Name
<i>Sitta canadensis</i>	Red-Breasted Nuthatch
<i>Sitta carolinensis</i>	White-breasted Nuthatch
<i>Spizella pusilla</i>	Field sparrow
<i>Strix varia</i>	Barred owl
<i>Sturnella magna</i>	Eastern Meadowlark
<i>Sturnus vulgaris</i>	European starling
<i>Thryothorus ludovicianus</i>	Carolina wren
<i>Turdus migratorius</i>	American Robin
<i>Tyrannus tyrannus</i>	Eastern kingbird
<i>Vermivora peregrina</i>	Tennessee Warbler
<i>Vireo gilvus</i>	Warbling Vireo
<i>Vireo flavifrons</i>	Yellow-Throated Vireo
<i>Vireo griseus</i>	White-Eyed Vireo
<i>Vireo olivaceus</i>	Red-eyed Vireo
<i>Wilsonia citrina</i>	Hooded Warbler
<i>Zenaidura macroura</i>	Mourning Dove
<i>Zonotrichia albicollis</i>	White-throated Sparrow

FISH SPECIES OBSERVED IN THE PERENNIAL STREAMS
 Portsmouth Bypass Project
 June 2002

Scientific Name	Common Name
<i>Alosa chrysochloris</i>	Skipjack Herring
<i>Ameiurus natalis</i>	Yellow Bull head
<i>Ammocrypta pellucida</i>	Eastern Sand Darter
<i>Ambloplites rupestris</i>	Rock Bass
<i>Aplodinotus grunniens</i>	Freshwater Drum
<i>Campostoma anomalum</i>	Stone Roller
<i>Carpionodes cyprinus</i>	Quill Back
<i>Catostomus commersoni</i>	White Sucker
<i>Clinostomus funduloides</i>	Rosyside Dace
<i>Ctenopharyngodon idella</i>	Grass Carp
<i>Cyprinella spilopterus</i>	Spotfin Shiner
<i>Dorosoma cepedianum</i>	Gizzard Shad
<i>Etheostoma blennioides</i>	Greenside Darter
<i>Etheostoma caeruleum</i>	Rainbow Darter
<i>Etheostoma flabellare</i>	Fantail Darter
<i>Etheostoma nigrum</i>	Johnny Darter
<i>Etheostoma spectabile</i>	Orangethroat Darter
<i>Etheostoma zonale</i>	Banded Darter
<i>Fundulus notatus</i>	Blackstripe Topminnow
<i>Gambusia affinis</i>	Mosquito Fish
<i>Hypentelium nigricans</i>	Northern Hog Sucker
<i>Ictalurus Punctatus</i>	Channel Catfish
<i>Labidesthes sicculus</i>	Brook Silverside
<i>Lepomis cyanellus</i>	Green Sunfish
<i>Lepomis cyanellus x macrochirus</i>	Green/Blue Gill Hybrid
<i>Lepomis macrochirus</i>	Bluegill Sunfish
<i>Lepomis megalotis</i>	Longear Sunfish
<i>Luxilus chrysophepalus</i>	Stripped Shiner

E. Sand
 Darter
 SC

Rosyside
 Dace T


FISH SPECIES OBSERVED IN THE PERENNIAL STREAMS
 Portsmouth Bypass Project
 June 2002

Scientific Name	Common Name
<i>Lythrurus ardens</i>	Rosefin Shiner
<i>Micropterus dolomieu</i>	Smallmouth Bass
<i>Micropterus punctalatus</i>	Spotted Bass
<i>Micropterus salmoides</i>	Largemouth Bass
<i>Minytrema melanops</i>	Spotted Sucker
<i>Moxostoma anisurum</i>	Silver Redhorse
<i>Moxostoma duquesnei</i>	Black Redhorse
<i>Moxostoma erythrurum</i>	Golden Redhorse
<i>Moxostoma macrolepidotum</i>	Shorthead Redhorse
<i>Nocomis biguttatus</i>	Hornyhead Chub
<i>Notropis atherinoides</i>	Emerald Shiner
<i>Notropis buccata</i>	Silverjaw minnow
<i>Notropis photogenis</i>	Silver Shiner
<i>Notropis stramineus</i>	Sand Shiner
<i>Notropis volucellus</i>	Mimic Shiner
<i>Noturis miuris</i>	Brindled Madtom
<i>Percina caprodes</i>	Log Perch
<i>Percina maculata</i>	Blackside Darter
<i>Phenacobius mirabilis</i>	Suckermouth Minnow
<i>Phoxinus erythrogaster</i>	Southern Red-Belly Dace
<i>P. erythrogaster</i> x <i>S. atromaculatus</i>	Red-Belly/Creek Chub Hybrid
<i>Pimephales notatus</i>	Bluntnose Minnow
<i>Pimephales promelas</i>	Fathead Minnow
<i>Rhinichthys atratulus</i>	Blacknose Dace
<i>Semotilus atromaculatus</i>	Creek Chub
<i>Stizostedion canadense</i>	Sauger

Appendix B – Site Photographs

Perennial Streams (additional perennial stream photos in Aquatic Survey Report)



W1 Miller Run, below US 23, a Warmwater Habitat.



W2 SR t3 (Thomas Hollow) above US 23, a Warmwater Habitat.



W2 SR t3 (Thomas Hollow) below US 23, a Modified Warmwater Habitat.



W3 SR t1, a Warmwater Habitat.



W15 Wards Run, a Warmwater Habitat.



W20, Oven Lick, a potential Exceptional Warmwater Habitat.



W20 Shell Creek, a potential Exceptional Warmwater Habitat.



Little Scioto River in W21 , a Warmwater Habitat.

Intermittent Streams



W2 Scioto t5, an intermittent Class 2 headwater.



W3 Scioto t2, a modified warmwater habitat.



W21 LS t1, a Class 1 headwater.



W22 OR t1, a Class 3 headwater.



W23 OR t2 (Stewart Hollow), a Limited Resource Water.



W 23 OR t7, a Class 2 headwater.



W23 OR t5 (Upper Stewart Hollow), a Limited Resource Water.



W23 OR t1, a Limited Resource Water.



W23 OR t4 (Stewart Hollow), a Modified Warmwater Habitat.

Ephemeral Streams



W13 LS E1, typical ephemeral (Class 1 headwater) stream during a storm event.



W14, LS t1, an ephemeral stream (Class 1 headwater)



W12 LS t1, an ephemeral stream (Class 1 headwater).



W20 OL t1 E 1, an ephemeral stream (Class 1 headwater).



W21 LS t4, an ephemeral stream (Class 1 headwater).



W21 LS t1, an ephemeral stream (Class 1 headwater).



W22 OR t1, an ephemeral stream (Class 1 headwater).

Category 1 Wetlands:



W1 WL8, cattail wetland parallel to US 23.



W3 WL5, emergent wetland near Thomas Hollow Rd.



W8 WL23, emergent seep adjacent to pond and near Lucasville-Minford Rd.



W9 WL4, shallow seep in open pasture south of Minford.



W13 WL1, drainage of farm near the Gampp Residence on Gampp Lane.



W13 WL6, Bald Cypress seep next to Slab Run



W14 WL2, emergent drainage along Shoumberg Hollow (W14 LSt1) on farm along SR.335



W14 WL6, emergent groundwater/surface water -fed wetland through active pasture adjacent to SR 335.



W14 WL7, emergent groundwater fed wetland through active pasture adjacent to SR 335.



W14 WL11, depression at bottom of slope within sight of the Little Scioto River.



W14 WL13, groundwater seep wetland in active pasture.



W14 WL14, groundwater seep wetland in active pasture.



W14 WL16, ground water drainage to farm pond.
Farm is located along SR.335



W15 WL1, typical emergent wetland developing
in drained farm pond.



W15 WL2, emergent border around farm pond.



W21 WL3, emergent drainage along SR.140.
CAUTION: non-capped oil well at head of wetland
near the road. Actively seeping into wetland.



W21 WL13, forested seep draining to large farm
pond. Near SR.140.



W23 WL1, sedge wetland in Ohio River
floodplain, mapped as a pond on USGS map.



W23 WL4, emergent seep along embankment of US 52 in Wheelersburg.



W23 WL5, emergent wetland, partially channelized, parallel to US 52 in Wheelersburg.



W24 WL6, emergent wetland, partially channelized, parallel to US 52 in Wheelersburg.



W23 WL10, emergent drainage next to residential road in Wheelersburg.

Category 2 Wetlands:



W1 WL9, remnant wetland near US 23. Possibly part of old Miller Run channel.



W1 WL10, old stream channel wetland.



W3 WL4, scrub drainage behind residents along Thomas Hollow Rd.



W8 WL22, emergent drainage behind large aesthetic pond near Lucasville-Minford Rd.



W9 WL2, emergent drainage in large farm field along SR.335 south of Minford.



W9 WL3, old farm pond wetland.



W12 WL 1, groundwater seep wetland. Behind 566 Wheelers Mill Rd.



W12 WL 2, groundwater seep wetland. Near Wheelers Mill Rd.



W12 WL 3, scrub-shrub, groundwater and surface water-driven wetland in old field along Little Scioto floodplain.



W13 WL 5, groundwater seep wetland.



W14 WL1, emergent drainage for Shoumberg Hollow (W14 LSt1) on farm along SR.335.



W14 WL 10, forested wetland subject to timber harvesting.



W14 WL12, emergent seep behind hog farm along SR. 355.



W 21 WL1, wetland located along a drainage formerly dammed by beavers.



W 21 WL5, large wetland that developed in an apparent former stream oxbow. Left photo along northern portion in power line easement, right photo along southern portion.



W 21 WL6, scrub-shrub wetland located along a drainage.



W22 WL2, scrub drainage along SR.140.



W 23 WL2, wooded wetland receiving storm drainage from developed area north of US 52.



W 23 WL3, emergent wetland receiving storm drainage from adjacent developed property.

Ponds



W13, large, adjacent farm ponds along SR 335.



W13. Typical farm pond with adjacent pines.



W20. Pond south of SR 140 near Oven Lick.



W21. Typical aesthetic/recreational pond.



W8. 5year old pond created for aesthetics/recreation.



W8. Large pond drawn down due to embankment failure. Wetland vegetation developing along perimeter.

Appendix C - Agency Correspondence



Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

Division of Natural Areas and Preserves

Stuart Lewis, Chief

1889 Fountain Square, Bldg. F-1

Columbus, OH 43224-1388

Phone: (614) 265-6453; Fax: (614) 267-3096

September 24, 2001

Rob Miller
CH2M Hill
545 Metro Place South
Dublin, OH 43017

Dear Mr. Miller:

I have reviewed our Natural Heritage maps and files for the Portsmouth Bypass project area on the Wakefield, Lucasville, New Boston, Minford and Wheelersburg Quads. The numbers on the attached list correspond to the areas marked in red on the accompanying maps. A circle represents an exact location, a triangle a general location within a square mile, and a square a general location within greater than a square mile. Exactness is determined by the accuracy and detail of information provided by the surveyor. Common name, scientific name and status are given for each species. Animals without a status are inventoried by the Division of Natural Areas and Preserves but have not been assigned an official state status by the Division of Wildlife.

There are no existing or proposed state nature preserves or scenic rivers at the project site. We are also unaware of any geologic features, breeding or non-breeding animal concentrations or state parks, forests or wildlife areas in the project vicinity.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For additional information on wetlands and National Wetlands Inventory maps, please contact Jim Given in the Division of Real Estate and Land Management at 614-265-6770.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Debbie Woischke".

Debbie Woischke, Data Specialist
Support Services Group

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS AND PRESERVES

September 24, 2001

Portsmouth Bypass Project

WAKEFIELD QUAD

No data.

LUCASVILLE QUAD

1. Sourwood Ohio Champion Big Tree

NEW BOSTON QUAD

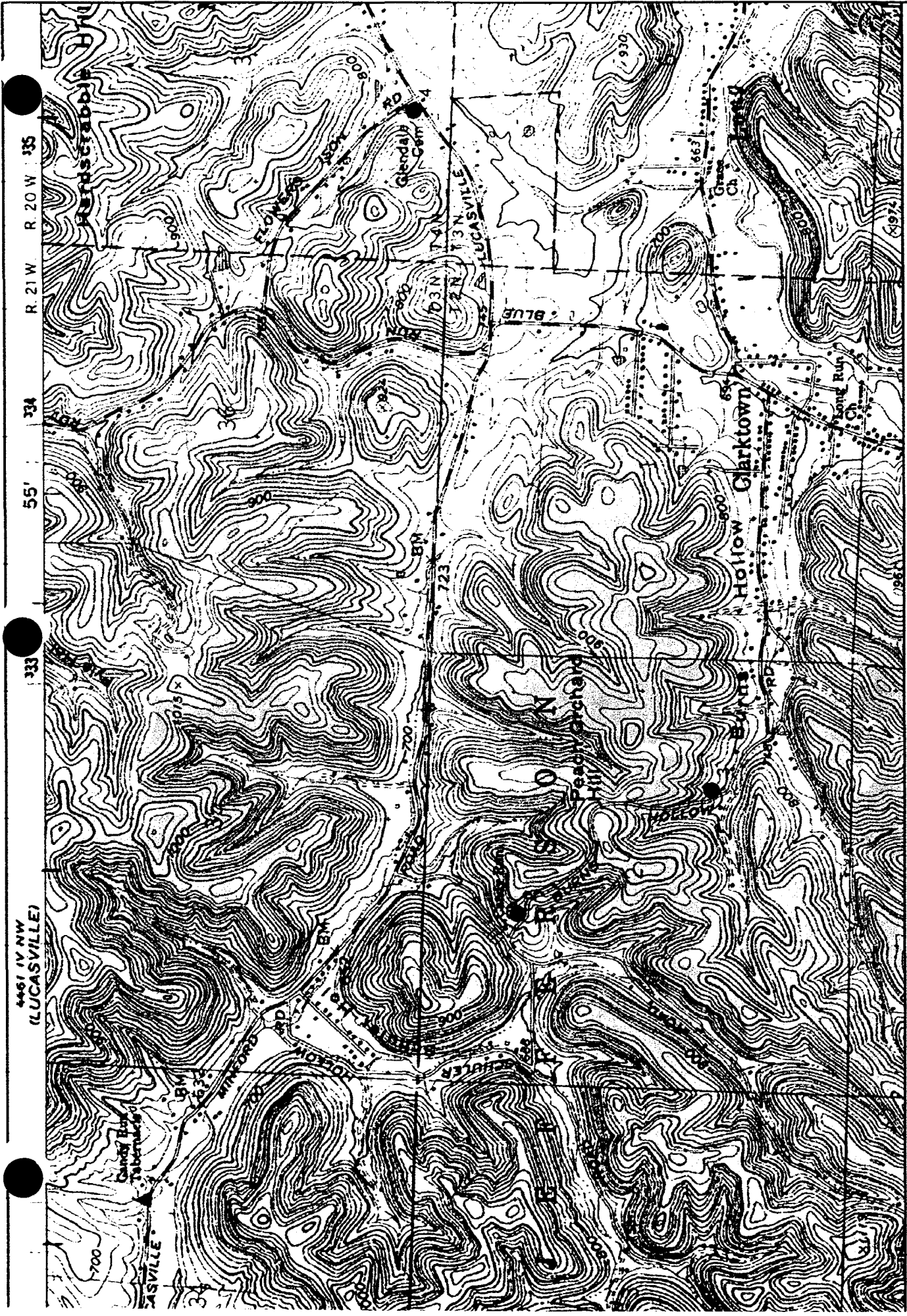
1. *Stenanthium gramineum* - Feather-bells, threatened
2. *Viola pedata* - Bird-foot Violet, threatened
3. *Viola pedata* - Bird-foot Violet, threatened
4. *Panicum laxiflorum* - Pale Green Panic-grass, potentially threatened

MINFORD QUAD

1. *Clinostomus funduloides* - Rosyside Dace,
2. *Quercus falcata* - Spanish Oak, threatened
3. *Ichthyomyzon unicuspis* - Silver Lamprey
4. *Phacelia bipinnatifida* - Fern-leaf Scorpion-weed, potentially threatened
5. *Simpsonaias ambigua* - Salamander Mussel, special interest

WHEELERSBURG QUAD

No data.



4451 IV NW
(LUCASVILLE)

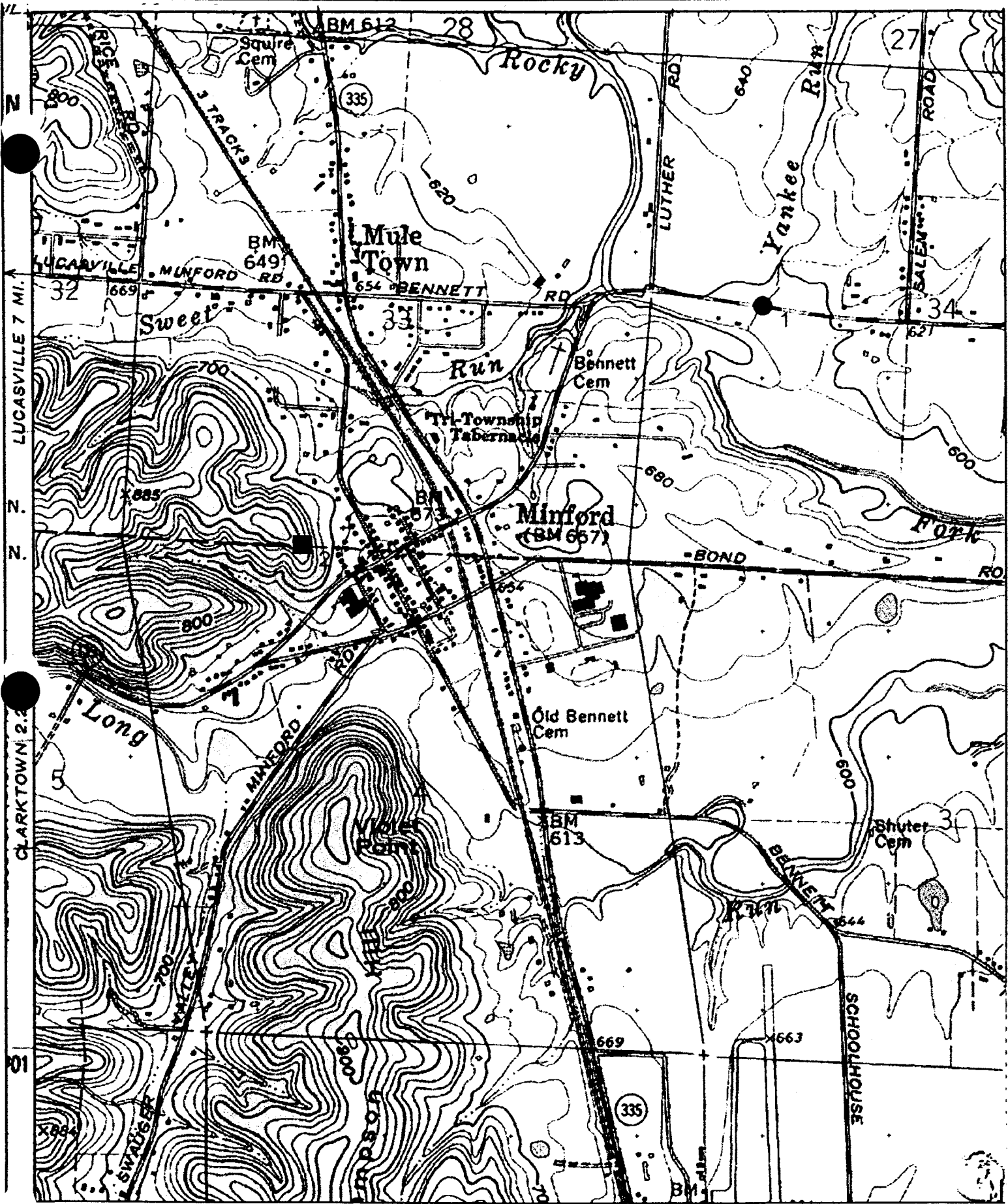
R. 21W R. 20W 335

55' 334

333

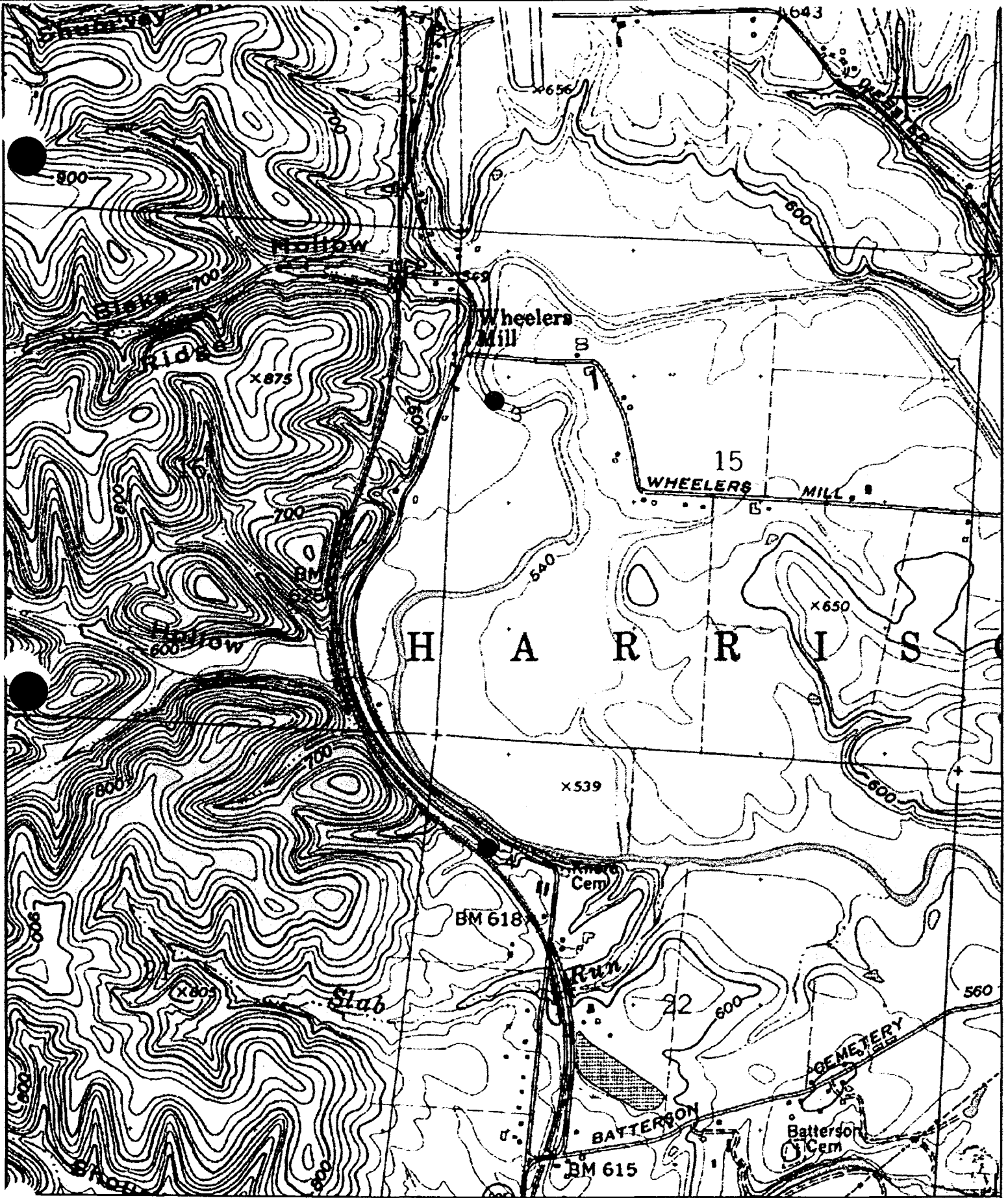
Location: 038° 51' 38.6" N 082° 55' 27.2" W
Caption: CH2M Hill;
Portsmouth Bypass Project

Name: NEW BOSTON
Date: 9/24/101
Scale: 1 inch equals 1600 feet



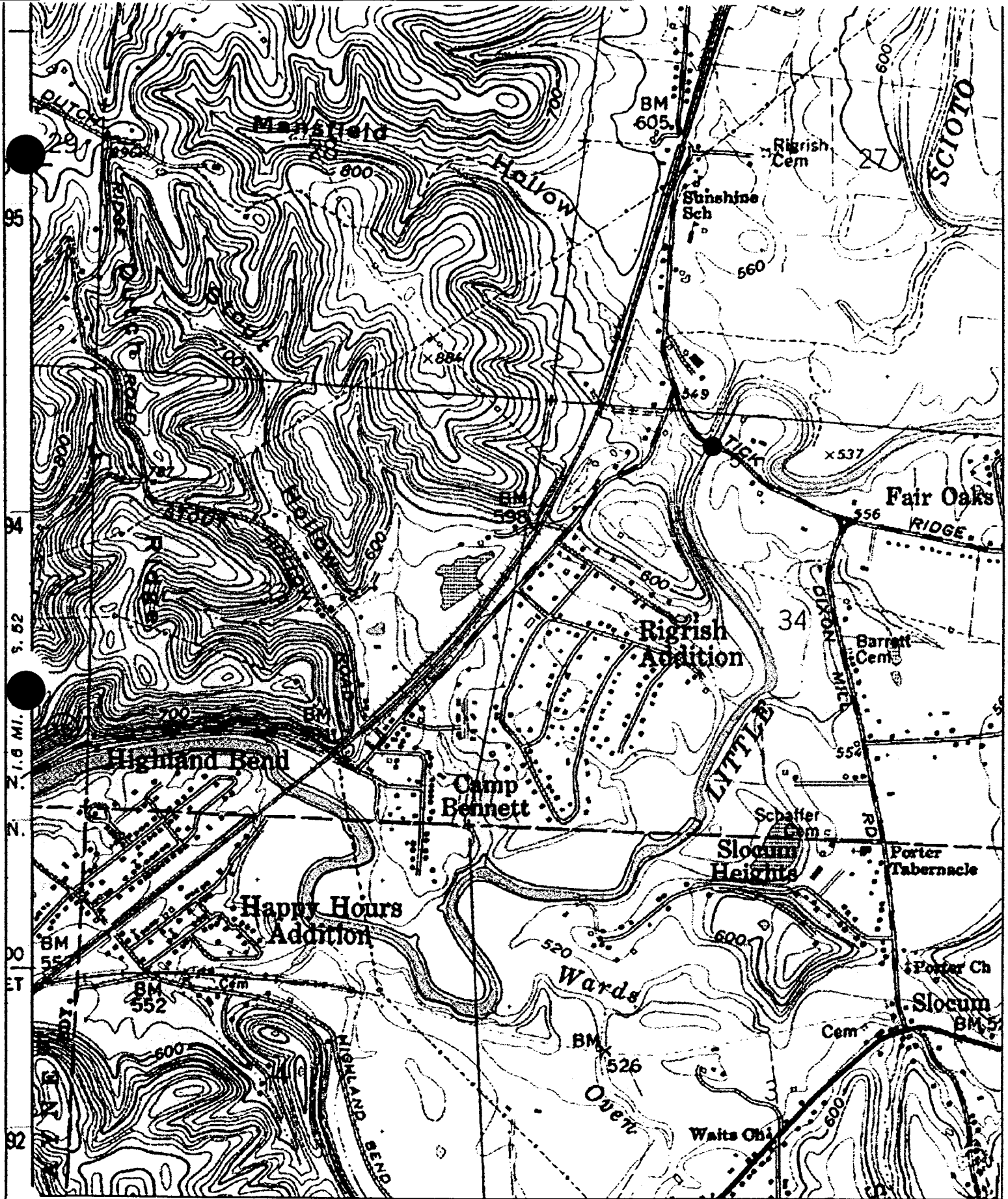
Name: MINFORD
 Date: 9/24/101
 Scale: 1 inch equals 1333 feet

Location: 038° 51' 28.0" N 082° 51' 26.9" W
 Caption: CH2M Hill,
 Portsmouth Bypass Project



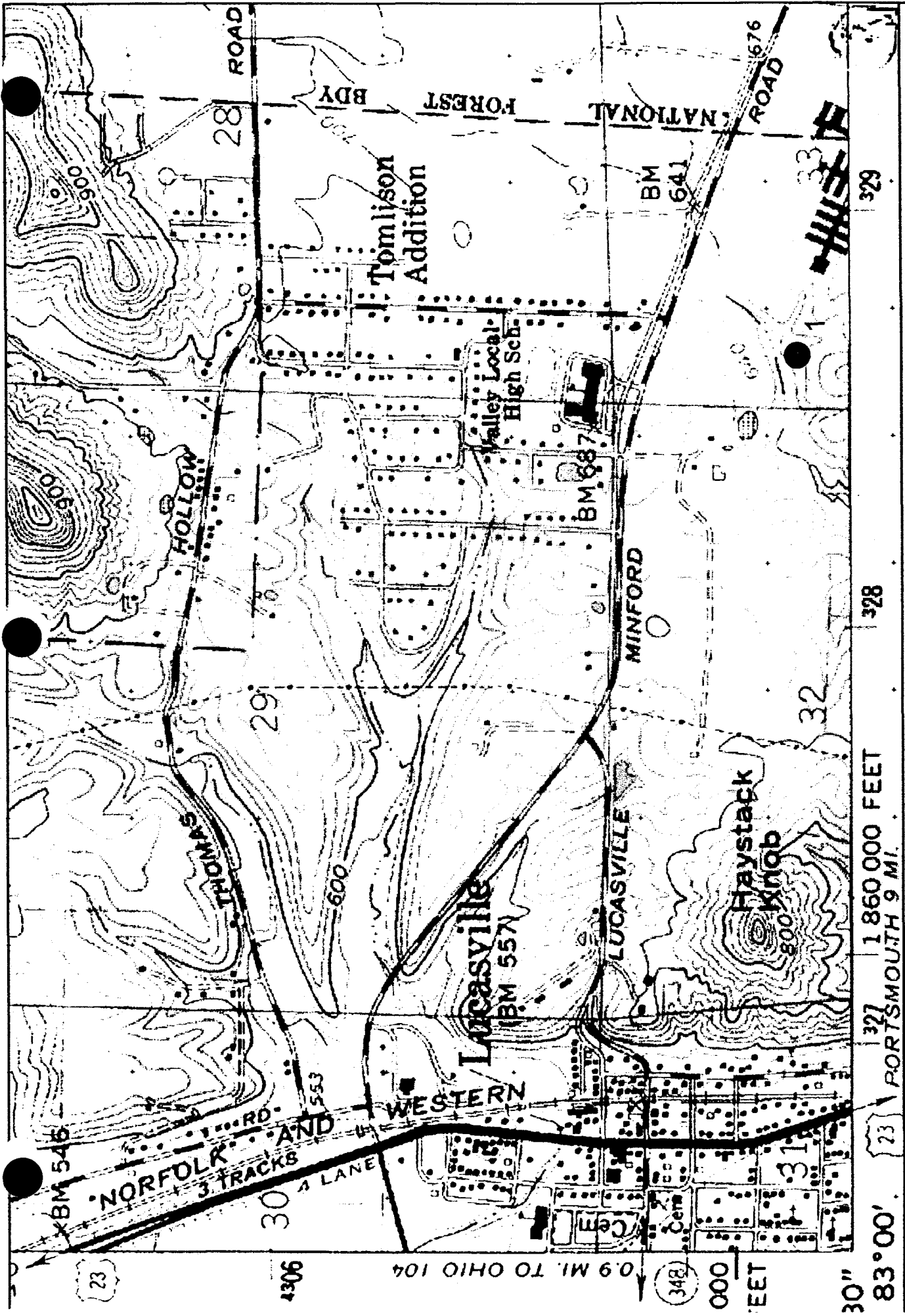
Name: MINFORD
 Date: 9/24/101
 Scale: 1 inch equals 1333 feet

Location: 038° 49' 06.9" N 082° 50' 54.3" W
 Caption: CH2M Hill;
 Portsmouth Bypass Project



Name: MINFORD
 Date: 9/24/101
 Scale: 1 inch equals 1333 feet

Location: 038° 46' 44.4" N 082° 51' 26.8" W
 Caption: CH2M Hill;
 Portsmouth Bypass Project



Name: LUCASVILLE
 Date: 9/24/101
 Scale: 1 inch equals 1000 feet

Location: 038° 53' 01.0" N 082° 59' 01.2" W
 Caption: CH2M Hill;
 Portsmouth Bypass Project

INVOICE

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS & PRESERVES
NATURAL HERITAGE DATA SERVICES
1889 FOUNTAIN SQUARE COURT
COLUMBUS, OHIO 43224-1331
(614) 265-6453

User Identification

Name: CH2M Hill
Contact: 545 Metro Place South
Address: Dublin, OH 43017

Payment due by: 10-24-2001

Billing Date: 9-24-2001	Invoice Number: N ^o 6196
Project(s): Portsmouth Bypass; Wakefield, Lucasville, New Boston, Minford & Wheelersburg Quads	Heritage Services: manual search, data provided 1 hr. @ \$25.00/½ hr. Cost: \$50.00
TOTAL	
\$50.00	

Please remit check or money order payable to "Division of Natural Areas & Preserves" within 30 days. If the invoice is not paid within 30 days, the amount will be certified with the Ohio Attorney General. Return one copy of invoice with payment.

Appendix D

Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) Forms

SUMMARY OF STREAM HABITAT EVALUATION INDICES

Portsmouth Bypass Project
October 2001-June 2002

	Data Form ID	Stream Type	QHEI ¹	HHEI ²	Provisional Use Designation Based on QHEI ³ Scores	Provisional Use Designation Based on HHEI Scores
Scioto River Watershed						
Miller Run – The entire main stem	W1 Miller Run	Perennial	45/61.5	-	WWH	-
Thomas-Hollow West - Lower perennial section	W2 SRT3	Perennial	66.0	-	WWH	-
*Thomas-Hollow West – Upper perennial section	W2 SRT8	Perennial	52.5	-	MWH	-
Thomas-Hollow West – All tributaries	W2 SRT5	Intermittent	-	21.0	-	2
Thomas-Hollow East – Entire perennial section	W3 SRT1	Perennial	64.5	-	WWH	-
*Thomas-Hollow East – Urbanized areas	W3 SRT3	Intermittent	53.0	-	MWH	-
*Thomas-Hollow East – Upper intermittent sections	W3 SRT2	Intermittent	59.5	11.0	MWH	1
*Thomas-Hollow East – All other tributaries	W3 SRT4	Intermittent	-	52.0	-	3
Lake Margaret tributary - Perennial section	W3 LMT1	Perennial	62.0	-	WWH	-
* Lake Margaret tributary – Intermittent section west	W3 LMT4	Intermittent	-	27.0	-	2
*Lake Margaret tributary – Intermittent section east	W3 LMT5	Intermittent	-	16.0	-	2
Candy Run – The entire main stem	W4 Candy Run	Perennial	56	-	WWH	-
*Candy Run tributary – South urbanized west	W4 CRT22	Intermittent	-	61.0	-	3
*Candy Run tributary – South urbanized east	W4 CRT1	Intermittent	54	-	MWH	-
**Candy Run tributary – North urbanized west	W4 CRT2	Intermittent	-	26	-	2
**Candy Run tributary – North urbanized east	W4 CRT3	Intermittent	-	45.0	-	3
*Candy Run tributary – Rural area	W4 CRT8	Intermittent	-	42.0	-	3
*Candy Run tributary – Urbanized section	W4 CRT13	Intermittent	-	50.0	-	3
*Candy Run tributary – Rural area	W4 CRT15	Intermittent	-	31.0	-	3
*Candy Run tributary – Rural area	W4 CRT18	Intermittent	-	36.0	-	3
*Candy Run tributary – All west ephemeral streams	W4 CRT1 E-3	Ephemeral ⁴	-	46.0	-	3
*Candy Run tributary – All east ephemeral streams	W4 Candy Run E-19	Ephemeral ⁴	-	40.0	-	3
Little Scioto River Watershed						
Little Scioto River – North section (Dan White and above)	W9 Little Scioto River	Perennial	70	-	WWH	-
Little Scioto River – South section (Dan White and below)	W15 Little Scioto River	Perennial	65	-	WWH	-
Blue Run (tributary #1)	W5 BRt1	Intermittent	-	26.0	-	3
Blue Run (tributary #2)	W5 BRt2	Intermittent	-	21.0	-	2
Blue Run (tributary #3) – Howard's Hollow	W5 BRt3	Intermittent	-	34.0	-	3

SUMMARY OF STREAM HABITAT EVALUATION INDICES

Portsmouth Bypass Project
October 2001-June 2002

	Data Form ID	Stream Type	QHEI ¹	HHEI ²	Provisional Use Designation Based on QHEI ³ Scores	Provisional Use Designation Based on HHEI Scores
Blue Run (tributary #4) – Pyle Rd.	W5 BRt4	Intermittent	-	16.0	-	1
Blue Run (tributary #5)	W5 BRt5	Intermittent	-	16.0	-	1
Long Run – The entire main stem	W8 Long Run	Perennial	63.5	-	WWH	-
*Long Run Tributary #1	W8 LRt15	Intermittent	68.5	-	WWH	-
**Long Run Tributary #2	W8 LRt16	Intermittent	-	60.0	-	3
***Long Run Tributary #3 – Flowers-Ison Rd.	W8 LRt19	Intermittent	-	41.0	-	3
* Long Run Tributary #4 – Shady Rd.	W8 LRt13	Intermittent	-	51.0	-	3
*Long Run Tributary #5 – Oliver Rd.	W8 LRt12	Intermittent	-	46.0	-	3
*Long Run Tributary #6 – Rase Farm west	W8 LRt10	Intermittent	-	40.0	-	3
*Long Run Tributary #7 – Rase Fram east	W8 LRt34	Intermittent	-	35.0	-	2
*Long Run Tributary #8 – Swauger Valley Rd.	W8 LRt3	Intermittent	45.5	-	LRW	-
**Long Run Tributary #9	W8 LRt4	Intermittent	-	51.0	-	3
*Long Run Tributary #10	W8 LRt1	Intermittent	-	45.0	-	3
*Long Run Tributary #11	W8 LRt15 E-3	Ephemeral ⁴	-	46.0	-	3
*Long Run Tributary #12	W8 LRt6 E-1	Ephemeral ⁴	-	45.0	-	3
Shumway Hollow	W9 LSt1	Intermittent	66.5	-	WWH	-
*Blake Hollow	W9 LSt2	Intermittent	-	60.0	-	3
Little Scioto tributary – South of Blake Hollow	W10 Little Scioto River E-1	Ephemeral ⁴	-	20.0	-	2
Dan White Hollow	W10 LSt3	Perennial	-	-	-	-
Little Scioto tributary – Crosses Wheelers Mill Rd.	W12 LSt1	Intermittent	-	22	-	2
Slab Run – The entire main stem	W13 Slab Run	Intermittent	70.5	42.0	WWH	3
*Slab Run tributary – Follows Rt.355	W13 SRt5	Intermittent	-	36.0	-	3
Shoumberg Hollow – Perennial section	W14 LSt1	Perennial	53	-	MWH	-
*Shoumberg Hollow - Intermittent section north	W14 LSt2	Intermittent	-	41.0	-	3
*Shoumberg Hollow – Intermittent section east	W14 LSt3	Intermittent	-	30.0	-	2
Mansfield Hollow – The entire main stem	W14 LSt8	Intermittent	-	44.0	-	3
Stout Hollow – South – Urbanized section	W16 LSt2	Perennial	66.0	-	WWH	-
*Stout Hollow – North – Rural Section near Cliff Lake	W16 LSt2	Intermittent	-	55.0	-	3
*Stout Hollow – North – Rural / Uninhabited section	W16 LSt5	Intermittent	-	57.0	-	3
Little Scioto Tributary – Crosses Highland Bend Rd.	W21 LSt1	Intermittent	-	12.0	-	1

SUMMARY OF STREAM HABITAT EVALUATION INDICES

Portsmouth Bypass Project
October 2001-June 2002

	Data Form ID	Stream Type	QHEI ¹	HHEI ²	Provisional Use Designation Based on QHEI ³ Scores	Provisional Use Designation Based on HHEI Scores
*Little Scioto Tributary – West of Highland Bend Rd.	W21 LSt2	Intermittent	-	14.0	-	1
Little Scioto tributary – Rural location crosses RR.	W22 Little Scioto River E-1	Ephemeral ⁴	-	25.0	-	2
* Little Scioto tributary – Rural location near RR.	W22 Little Scioto River E-2	Ephemeral ⁴	-	20.0	-	2
Wards Run – The entire main stem	W15 Wards Run	Perennial	69.5	-	WWH	-
*Shell Creek – The entire main stem	W20 Shell Creek	intermittent	74.5	-	WWH	-
*Oven Lick – The entire main stem	W20 Oven Lick	intermittent	69/74.5	-	WWH	-
**Oven Lick tributary – Follows Rt.140	W20 Oven Lick E-1	Ephemeral ⁴	-	21.0	-	2
Ohio River Watershed						
Ohio River tributary – Near Scioto Dale	W22 ORt1	Intermittent	-	73.0	-	3
Ohio River tributary – At Hasting Hill Rd.	W23 ORt1	Intermittent	-	21.0	-	2
Stewart Hollow – West of Route 52	W23 ORt2	Intermittent	32.0	-	LRW	-
*Stewart Hollow - Urbanized	W23 ORt4	Intermittent	54.5	61.0	MWH	3
**Stewart Hollow – East of Route 52	W23 ORt5	Intermittent	-	19.0	-	2
**Stewart Hollow – Follows Egbert Rd.	W23 ORt7	Intermittent	-	30.0	-	2

¹ QHEI = Qualitative Habitat Evaluation Index. If two numbers, first is upstream location, second downstream location.

² HHEI = Headwater Habitat Evaluation Index.

³ Use Designations: WWH = Warm Water Habitat; MWH = Modified Warm Water Habitat; LRW = Limited Resource Water.

⁴ Representative Headwater Data.

River Code: _____ RM: _____ Stream: PB-w1-MR (Miller Run)
 Date: Nov 14, 01 Location: 300 feet from Rt. 23 Bridge over Pass
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7] <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input type="checkbox"/>	<input checked="" type="checkbox"/> LIMESTONE [1] SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8] <input checked="" type="checkbox"/>	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/>	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> SANDSTONE [0] EMBEDDED	<input type="checkbox"/> EXTENSIVE [-2]
			<input type="checkbox"/> RIP/RAP [0] NESS:	<input type="checkbox"/> MODERATE [-1]
			<input type="checkbox"/> LACUSTRINE [0]	<input checked="" type="checkbox"/> NORMAL [0]
			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]
 (High Quality Only, Score 5 or >)

COMMENTS: Algae Bloom extensive

Substrate
18
 Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
4
 Max 20

3) CHANNEL MORPHOLOGY (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING <input type="checkbox"/> IMPOUND.
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION <input type="checkbox"/> ISLANDS
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL <input type="checkbox"/> LEVEED
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING <input checked="" type="checkbox"/> BANK SHAPING
				<input checked="" type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
11
 Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> CONSERVATION TILLAGE [1]	
	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	
	<input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0]	
	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

Riparian
7.5
 Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY POOLS & RIFFLES! (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1] <input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1] <input type="checkbox"/> INTERSTITIAL [-1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1] <input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> SLOW [1] <input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> < 0.2m [POOL=0]		

COMMENTS: Fish are Present; possible Johnny Darters

Pool/Current
7
 Max 12

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
6
 Max 8

Gradient
8
 Max 10

6) GRADIENT (ft/mi): 18.07 DRAINAGE AREA (sq.mi.): 15.18
 %POOL: 30 %GLIDE: —
 %RIFFLE: 30 %RUN: 40

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) X If Not, Explain:

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

Subjective Rating (1-10) Aesthetic Rating (1-10)

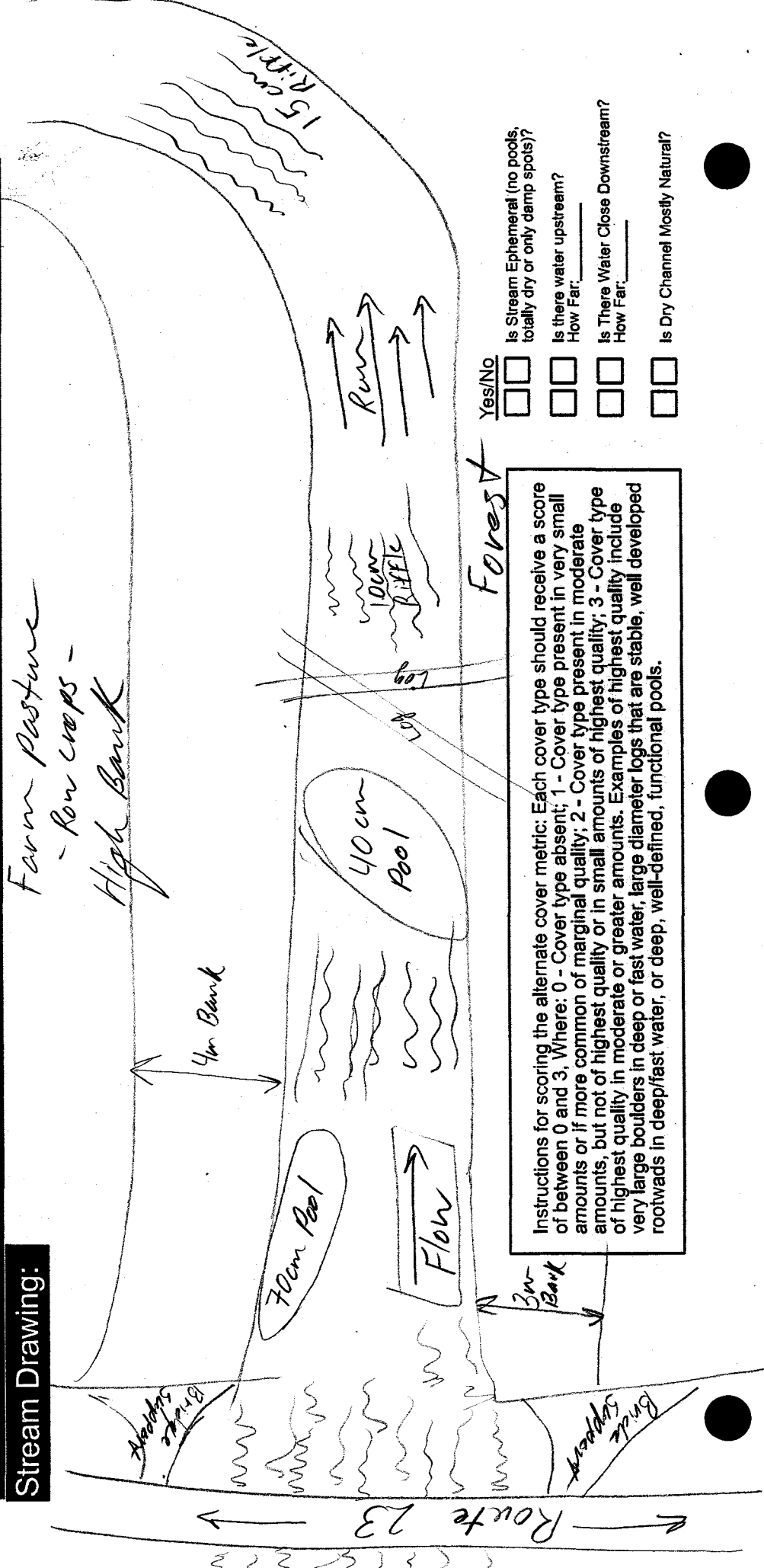
Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open: _____

First Sampling Pass

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Bankfull Width	Bankfull Depth	Mean W/D Ratio	Floodprone Area	Entrenchment Ratio
5m	30cm	70cm	10m	60cm	1.1m		

Stream Drawing:



- Yes/NO
- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
 - Is there water upstream? How Far: _____
 - Is There Water Close Downstream? How Far: _____
 - Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **45**

River Code: _____ RM: _____ Stream: Miller Run
 Date: Oct 29, 01 Location: upstream of Rt. 23; Between 2 Large Auto-Junkyards
 Scorers Full Name: SLJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input checked="" type="checkbox"/>	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/>	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT: <input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/>	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/>	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input checked="" type="checkbox"/> SILT [2]	<input checked="" type="checkbox"/>	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> SANDSTONE [0]	EMBEDDED	<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> RIP/RAP [0]	NESS:	<input type="checkbox"/> NORMAL [0]
		<input type="checkbox"/> LACUSTRINE [0]		<input type="checkbox"/> NONE [1]
		<input type="checkbox"/> SHALE [-1]		
		<input type="checkbox"/> COAL FINES [-2]		

Substrate
13
Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]
 (High Quality Only, Score 5 or >)

COMMENTS: _____

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)
 (Structure) TYPE: Score All That Occur

<input type="checkbox"/> UNDERCUT BANKS [1]	<input checked="" type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____		<input type="checkbox"/> SPARSE 5-25% [3]
			<input checked="" type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
3
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING <input type="checkbox"/> IMPOUND.
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION <input type="checkbox"/> ISLANDS
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL <input type="checkbox"/> LEVEED
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input checked="" type="checkbox"/> DREDGING <input checked="" type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
10
Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW <5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input checked="" type="checkbox"/> NONE [0]		

Riparian
2
Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY [POOLS & RIFFLES!]
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)
<input type="checkbox"/> >1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1] <input type="checkbox"/> TORRENTIAL [-1]
<input checked="" type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> FAST [1] <input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> MODERATE [1] <input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> SLOW [1] <input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: _____	

Pool/Current
7
Max 12

COMMENTS: _____

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
CHECK ONE OR CHECK 2 AND AVERAGE			
<input type="checkbox"/> Best Areas >10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
COMMENTS: _____		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
0
Max 8

Gradient
10
Max 10

6) GRADIENT (ft/mi): 19.17 DRAINAGE AREA (sq.mi.): 15.18
 %POOL: 20 %GLIDE: —
 %RIFFLE: — %RUN: 80

** Best areas must be large enough to support a population of riffle-obligate species

Entire Portion of Miller Run in Study Area Has Perminant Aquatic Habitat.

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

First Sampling Pass

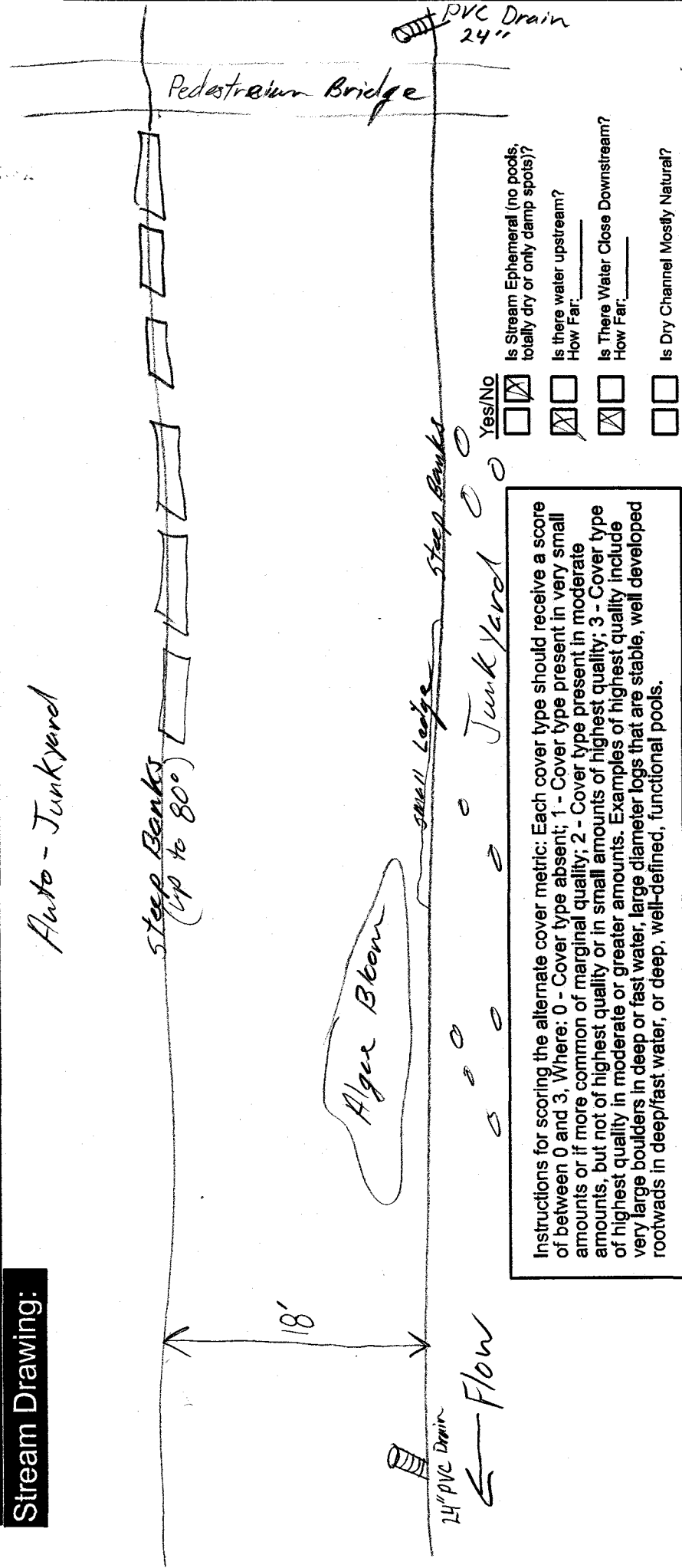
Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Bankfull Width	Bankfull Depth	W/D Ratio	Floodprone Area	Entrenchment Ratio
18ft	0.4m	0.7m					

Subjective Rating (1-10) Aesthetic Rating (1-10) Gradient: - Low, - Moderate, - High

Stream Drawing:



Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Yes No

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

River Code: RM: Stream WB-W2-SRT3
Date Nov 19, 01 Location West of Rt. 23 - Next to the Park & Ride
Scorers Initials: SGT/RH Comments Perennial Stream

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present):

Substrate form with columns for TYPE, POOL RIFFLE, SUBSTRATE ORIGIN, and SUBSTRATE QUALITY. Includes checkboxes for gravel, sand, silt, etc. and a score box for 9.

2) INSTREAM COVER (see back for instructions for additional cover scoring method)

Instream Cover form with columns for TYPE and AMOUNT. Includes checkboxes for undercut banks, vegetation, shallows, etc. and a score box for 10.

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

Channel Morphology form with columns for SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY, and MODIFICATIONS/OTHER. Includes checkboxes for high, moderate, low, etc. and a score box for 8.

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) *River Flight Looking Downstream*

Riparian Zone and Bank Erosion form with columns for RIPARIAN WIDTH, FLOOD PLAIN QUALITY, and BANK EROSION. Includes checkboxes for wide, moderate, narrow, etc. and a score box for 3.

COMMENTS:

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

Pool/Glide and Riffle/Run Quality form with columns for MAX DEPTH, MORPHOLOGY, and CURRENT VELOCITY. Includes checkboxes for pool width, etc. and a score box for 6.

Form for Riffle/Run quality with columns for RIFFLE DEPTH, RUN DEPTH, RIFFLE/RUN SUBSTRATE, and RIFFLE/RUN EMBEDDEDNESS. Includes checkboxes for riffle depth, etc. and a score box for 6.

Form for Gradient (ft/mi) and Drainage Area (sq.mi.). Includes handwritten values 75.4 and 2.493, and percentage boxes for Pool (40%), Riffle, and Run (60%).

Is Sampling Reach Representative of the Stream (Y/N) Y If Not, Explain:

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

Water Stage: _____ Canopy -% Open _____

Water Clarity: _____

Distance: _____

Gear: _____

First Sampling Pass

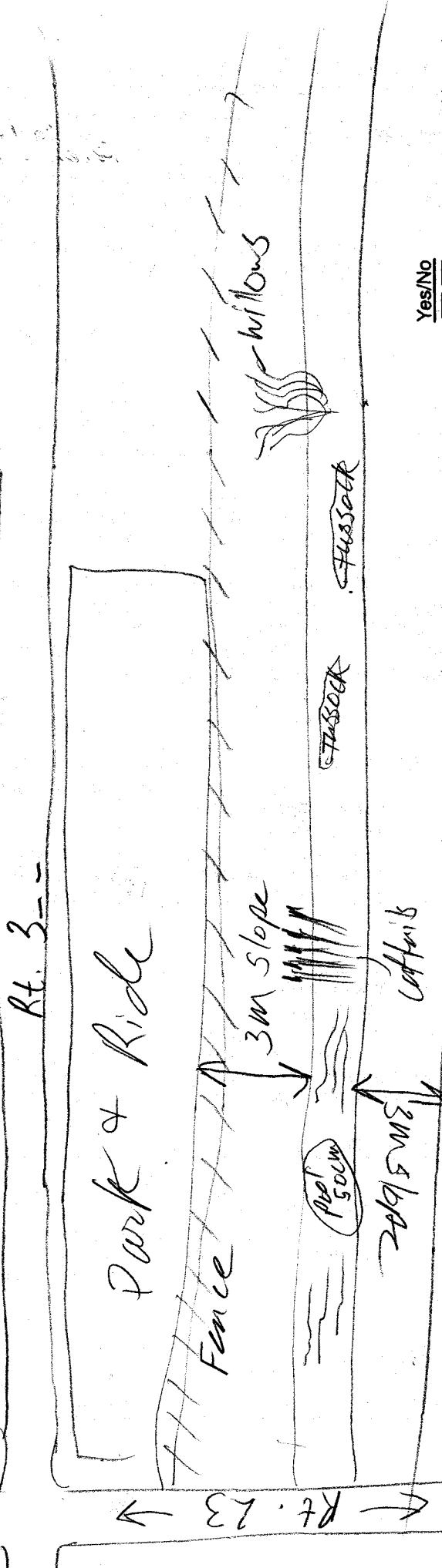
Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	W/D Ratio	Floodprone Area	Entrenchment Ratio
1.0m	10 cm	50 cm	2.5m	30 cm		60 cm	

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10)

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

- Yes/No
- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
 - Is there water upstream? How Far: _____
 - Is There Water Close Downstream? How Far: _____
 - Is Dry Channel Mostly Natural?



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **66**

River Code: RM: Stream: PB-W2-SRT3
 Date: Nov 13, 01 Location: Below Thomas Hollow Road Bridge Crossing
 Scorers Full Name: SCJ Affiliation: (Perennial Stream)

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7] <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6] <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> LIMESTONE [1] SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8] <input checked="" type="checkbox"/>	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/>	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2] <input checked="" type="checkbox"/>	NOTE: Ignore Sludge Originating From Point Sources		<input checked="" type="checkbox"/> SANDSTONE [0] EMBEDDED	<input type="checkbox"/> EXTENSIVE [-2]
			<input type="checkbox"/> RIP/RAP [0] NESS:	<input type="checkbox"/> MODERATE [-1]
			<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> NORMAL [0]
			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> COAL FINES [-2]	

Substrate
 17
 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2]
 3 or Less [0]

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]
<input checked="" type="checkbox"/> POOLS > 70 cm [2]	
<input type="checkbox"/> ROOTWADS [1]	
<input type="checkbox"/> BOULDERS [1]	
<input type="checkbox"/> OXBOWS, BACKWATERS [1]	
<input type="checkbox"/> AQUATIC MACROPHYTES [1]	
<input checked="" type="checkbox"/> LOGS OR WOODY DEBRIS [1]	

Cover
 8
 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> IMPOUND.
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> CANOPY REMOVAL
				<input type="checkbox"/> LEVEED
				<input type="checkbox"/> DREDGING
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
 11
 Max 20

COMMENTS: Channelization occurred at some time

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input checked="" type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

Riparian
 5
 Max 10

COMMENTS: Residential on Both Sides

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input checked="" type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> MODERATE [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> SLOW [1]
		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> VERY FAST [1]

Pool/Current
 11
 Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
 6
 Max 8
 Gradient
 8
 Max 10

6) GRADIENT (ft/mi): 93.6 DRAINAGE AREA (sq.mi.): 2.493
 % POOL: 25 % GLIDE: -
 % RIFFLE: 45 % RUN: 30

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

Riprap & Iron Dumping

None

Industrial

WWTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

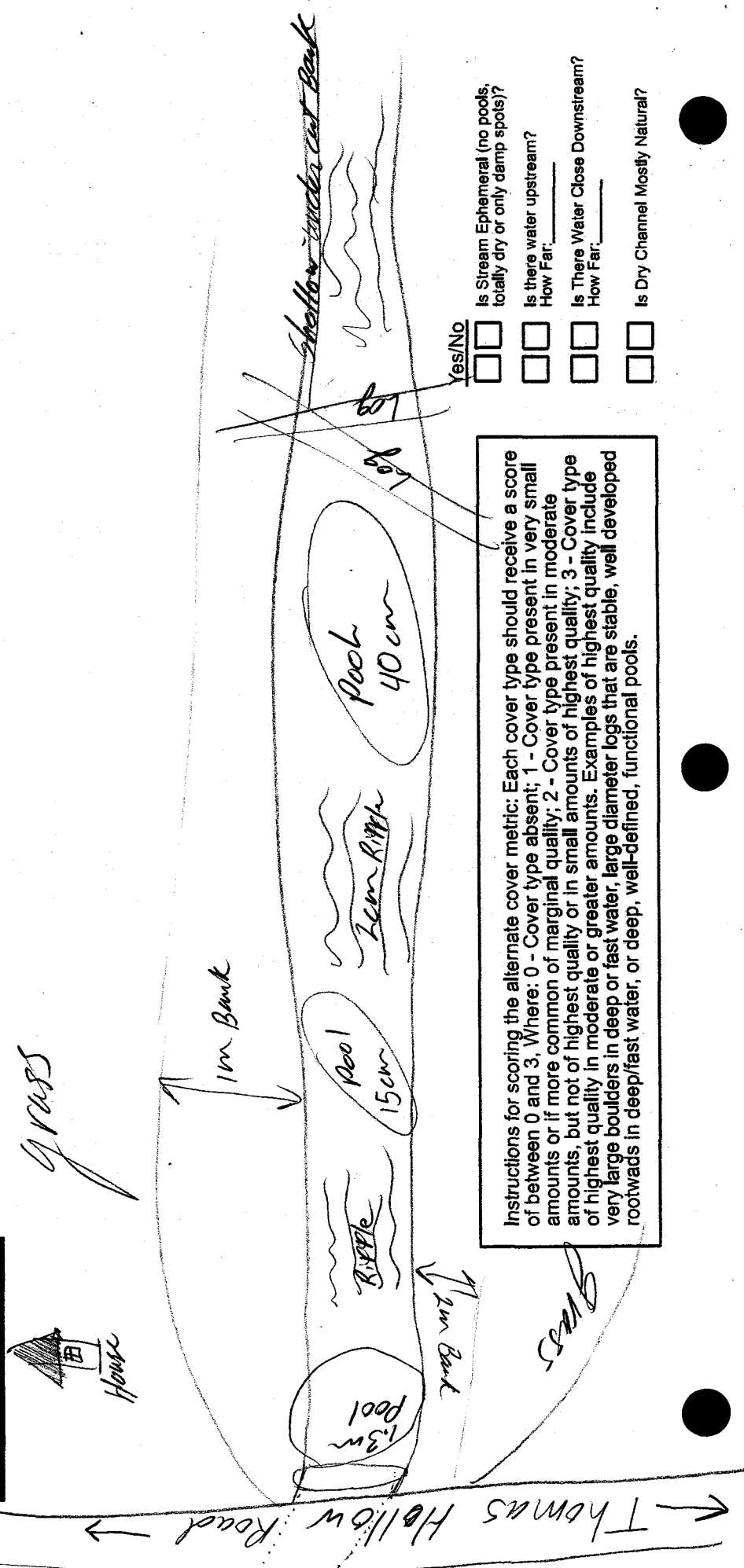
First Sampling Pass _____

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Bankfull Width	Bankfull Depth	Mean W/D Ratio	Floodprone Area	Entrenchment Ratio
1.5m	10cm	1.3m	4m	50cm		1.5m	

Subjective Rating (1-10) - Low, - Moderate, - High

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

How Far: _____

Is there water upstream?

How Far: _____

Is There Water Close Downstream?

How Far: _____

Is Dry Channel Mostly Natural?

River Code: RM: Stream: PB-W2-SREB (Perennial Stream)
Date: Nov 13, 01 Location: Next to Thomas Hollow Road upstream of single lane bridge
Scorers Full Name: SCJ Affiliation:

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)
TYPE POOL RIFFLE POOL RIFFLE SUBSTRATE ORIGIN SUBSTRATE QUALITY
 B-LDR /SLBS [10] GRAVEL [7] Check ONE (OR 2 & AVERAGE) Check ONE (OR 2 & AVERAGE)
 BOULDER [9] SAND [6] LIMESTONE [1] SILT: SILT HEAVY [-2] Substrate
 COBBLE [8] BEDROCK [5] TILLS [1] SILT MODERATE [-1] 13.5
 HARDPAN [4] DETRITUS [3] WETLANDS [0] SILT NORMAL [0] Max 20
 MUCK [2] ARTIFICIAL [0] HARDPAN [0] SILT FREE [1]
 SILT [2] SANDSTONE [0] EMBEDDED EXTENSIVE [-2]
NOTE: Ignore Sludge Originating From Point Sources RIP/RAP [0] NESS: MODERATE [-1]
 LACUSTRINE [0] NORMAL [0]
 SHALE [-1] NONE [1]
 COAL FINES [-2]

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]
(High Quality Only, Score 5 or >)

COMMENTS:

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)
(Structure) TYPE: Score All That Occur AMOUNT: (Check ONLY One or check 2 and AVERAGE) Cover
UNDERCUT BANKS [1] POOLS > 70 cm [2] OXBOWS, BACKWATERS [1] EXTENSIVE > 75% [11] 6
OVERHANGING VEGETATION [1] ROOTWADS [1] AQUATIC MACROPHYTES [1] MODERATE 25-75% [7]
SHALLOWS (IN SLOW WATER) [1] BOULDERS [1] LOGS OR WOODY DEBRIS [1] SPARSE 5-25% [3] Max 20
ROOTMATS [1] COMMENTS: NEARLY ABSENT < 5% [1]

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)
SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY MODIFICATIONS/OTHER Channel
 HIGH [4] EXCELLENT [7] NONE [6] HIGH [3] SNAGGING IMPOUND.
 MODERATE [3] GOOD [5] RECOVERED [4] MODERATE [2] RELOCATION ISLANDS 11
 LOW [2] FAIR [3] RECOVERING [3] LOW [1] CANOPY REMOVAL LEVEED Max 20
 NONE [1] POOR [1] RECENT OR NO RECOVERY [1] DREDGING BANK SHAPING
 ONE SIDE CHANNEL MODIFICATIONS

COMMENTS:

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream
RIPARIAN WIDTH FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) BANK EROSION Riparian
L R (Per Bank) L R (Most Predominant Per Bank) L R L R (Per Bank)
 WIDE > 50m [4] FOREST, SWAMP [3] CONSERVATION TILLAGE [1] NONE/LITTLE [3] 8
 MODERATE 10-50m [3] SHRUB OR OLD FIELD [2] URBAN OR INDUSTRIAL [0] MODERATE [2] Max 10
 NARROW 5-10 m [2] RESIDENTIAL, PARK, NEW FIELD [1] OPEN PASTURE, ROWCROP [0] HEAVY/SEVERE [1]
 VERY NARROW < 5 m [1] FENCED PASTURE [1] MINING/CONSTRUCTION [0]
 NONE [0]

COMMENTS:

5) POOL/GLIDE AND RIFFLE/RUN QUALITY
MAX. DEPTH MORPHOLOGY CURRENT VELOCITY POOLS & RIFFLES! Pool/Current
(Check 1 ONLY!) (Check 1 or 2 & AVERAGE) (Check All That Apply)
 >1m [6] POOL WIDTH > RIFFLE WIDTH [2] EDDIES [1] TORRENTIAL [-1] 6
 0.7-1m [4] POOL WIDTH = RIFFLE WIDTH [1] FAST [1] INTERSTITIAL [-1] Max 12
 0.4-0.7m [2] POOL WIDTH < RIFFLE W. [0] MODERATE [1] INTERMITTENT [-2]
 0.2-0.4m [1] SLOW [1] VERY FAST [1]
 < 0.2m [POOL=0] COMMENTS: Fish observed in stream

CHECK ONE OR CHECK 2 AND AVERAGE
RIFFLE DEPTH RUN DEPTH RIFFLE/RUN SUBSTRATE RIFFLE/RUN EMBEDDEDNESS Riffle/Run
 Best Areas >10 cm [2] MAX > 50 [2] STABLE (e.g., Cobble, Boulder) [2] NONE [2] 0
 Best Areas 5-10 cm [1] MAX < 50 [1] MOD. STABLE (e.g., Large Gravel) [1] LOW [1] Max 8
 Best Areas < 5 cm [RIFFLE=0] UNSTABLE (Fine Gravel, Sand) [0] MODERATE [0] Gradient
 NO RIFFLE [Metric=0] EXTENSIVE [-1] 8
COMMENTS:

6) GRADIENT (ft/mi): 281.6 DRAINAGE AREA (sq.mi.): 1.568 %POOL: 40 %GLIDE: —
%RIFFLE: 30 %RUN: 30

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Distance: _____

Water Clarity: _____

Water Stage: _____

Canopy -% Open _____

Gear: _____

First Sampling Pass _____

Siream Measurements:

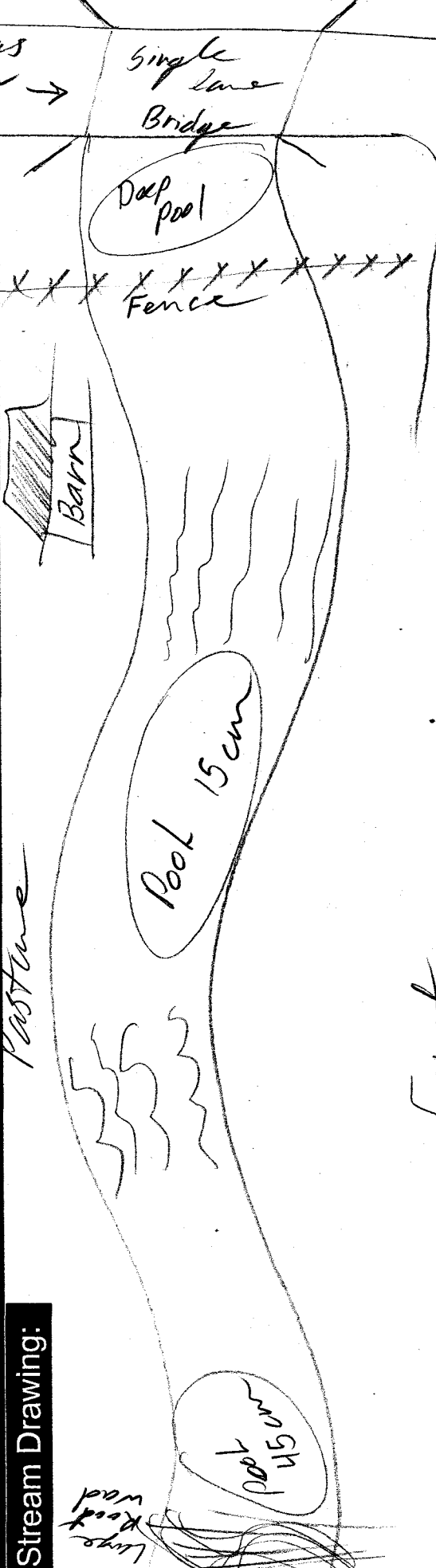
Average Width	Average Depth	Maximum Depth	Bankfull Width	Bankfull Depth	Mean W/D Ratio	Floodprone Area	Entrenchment Ratio
		45 cm					

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Flow →

Yes/NO

Is Stream Ephemeral (no pools totally dry or only damp spots)?

How Far: _____

Is there water upstream?

How Far: _____

Is There Water Close Downstream?

How Far: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

SITE NAME/LOCATION PB-SW 2-SRT 5 SITE NUMBER
Along White Ln. 60ft from Thomas Hollow rd. DRAINAGE AREA (mi²) 0.176
RIVER BASIN Scioto River LAT. LONG. RIVER CODE RIVER MILE
DATE Nov 13 SCORER SCT COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL [X] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [] RECENT OR NO RECOVERY
MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

Table with columns: TYPE, PERCENT. Rows include GREATER THAN 8 INCHES (20 cm) [25 pts], 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts], LESS THAN 4 INCHES (10 cm) [5 pts], NO POOL (no water or moist Channel) [0 pts].

COMMENTS: MAXIMUM POOL DEPTH (inches): 0 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

Table with columns: TYPE, PERCENT. Rows include GREATER THAN 15 FEET [25 pts], 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts], 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts], 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts], LESS THAN 5 FEET (1.5 m) [0 pts].

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 5.25 ft

HHEI Metric:

Substrate Max = 30

16

16

Pool Depth Max = 25

0

0

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

Table with columns: L R (Per Bank). Rows include Wide >10m, Moderate 5-10m, Narrow <5m, None.

FLOODPLAIN QUALITY

Table with columns: L R (Most Predominant per Bank). Rows include Mature Forest, Wetland, Immature Forest, Shrub or Old Field, Residential, Park, New Field, Fenced Pasture, Conservation Tillage, Urban or Industrial, Open Pasture, Row Crop, Mining or Construction.

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Table with columns: TYPE, PERCENT. Rows include Stream Flowing, Interstitial flow with isolated pools, Moist Channel, isolated pools, no flow, Dry channel (no water).

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

Table with columns: TYPE, PERCENT. Rows include None, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, >3.

STREAM GRADIENT ESTIMATE

Table with columns: TYPE, PERCENT. Rows include Flat, Flat to Moderate, Moderate, Moderate to Severe, Severe.

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Scioto River Distance from Evaluated Stream 1.52
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____

County: Scioto Township: Valley
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 8, 01 Quantity: 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 10%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

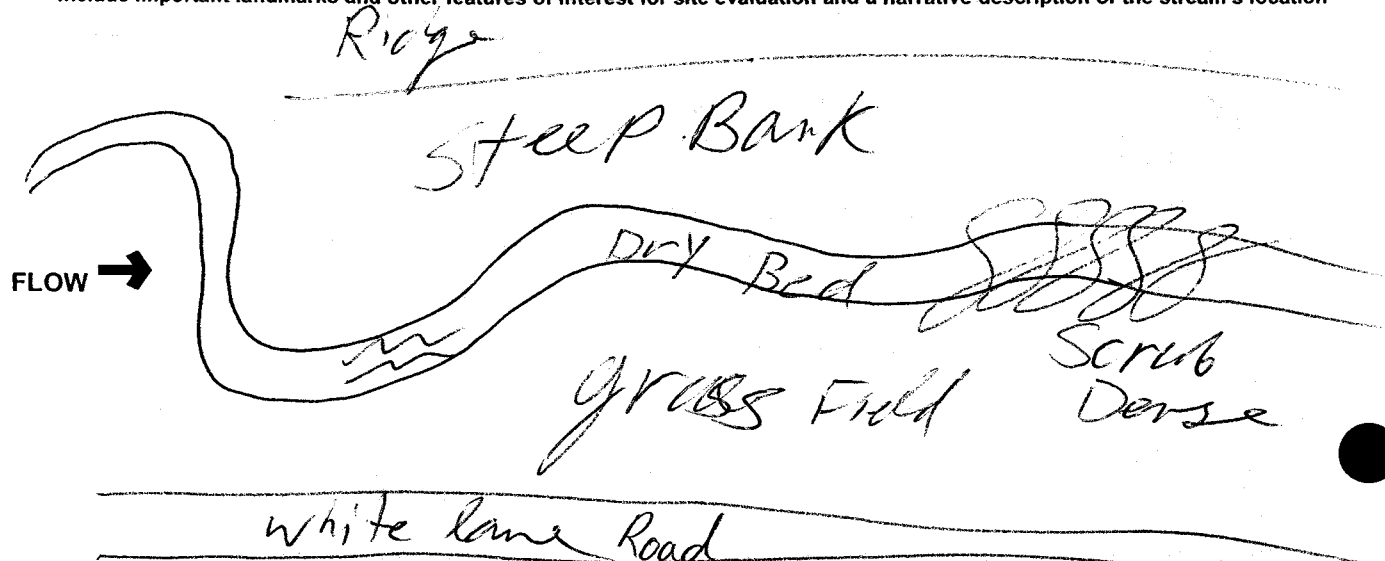
Additional comments/description of pollution impacts: Runs along side of Road; Residential Houses near by; Head of Stream Drains open pasture.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **64.5**

River Code: RM: Stream: PB-W3-SRT1
 Date: Nov 8, 01 Location: upstream of Minford Road culvert. (Perennial Stream)
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> SILT [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT NORMAL [0]
<input checked="" type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> SILT [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> COAL FINES [-2]	<input type="checkbox"/> NESS:	<input type="checkbox"/> MODERATE [-1]

NOTE: Ignore Sludge Originating From Point Sources

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

COMMENTS: _____

Substrate

 Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

COMMENTS: _____

Cover

 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING

COMMENTS: _____

Channel

 Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) P River Right Looking Downstream P

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW <5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]

COMMENTS: _____

Riparian

 Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY [POOLS & RIFFLES!] (Check All That Apply)
<input type="checkbox"/> >1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> MODERATE [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> INTERMITTENT [-2]

COMMENTS: _____

Pool/Current

 Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas >10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]

COMMENTS: _____

Riffle/Run

 Max 8

Gradient

 Max 10

6) GRADIENT (ft/mi): 66 DRAINAGE AREA (sq.mi.): 2.42
 %POOL: %GLIDE:
 %RIFFLE: %RUN:

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) Y If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

- None
- Industrial
- WWTP
- Ag
- Livestock
- Silviculture
- Construction
- Urban Runoff
- CSOs
- Suburban Impacts
- Mining
- Channelization
- Riparian Removal
- Landfills
- Natural
- Dams
- Other Flow Alteration
- Other: _____

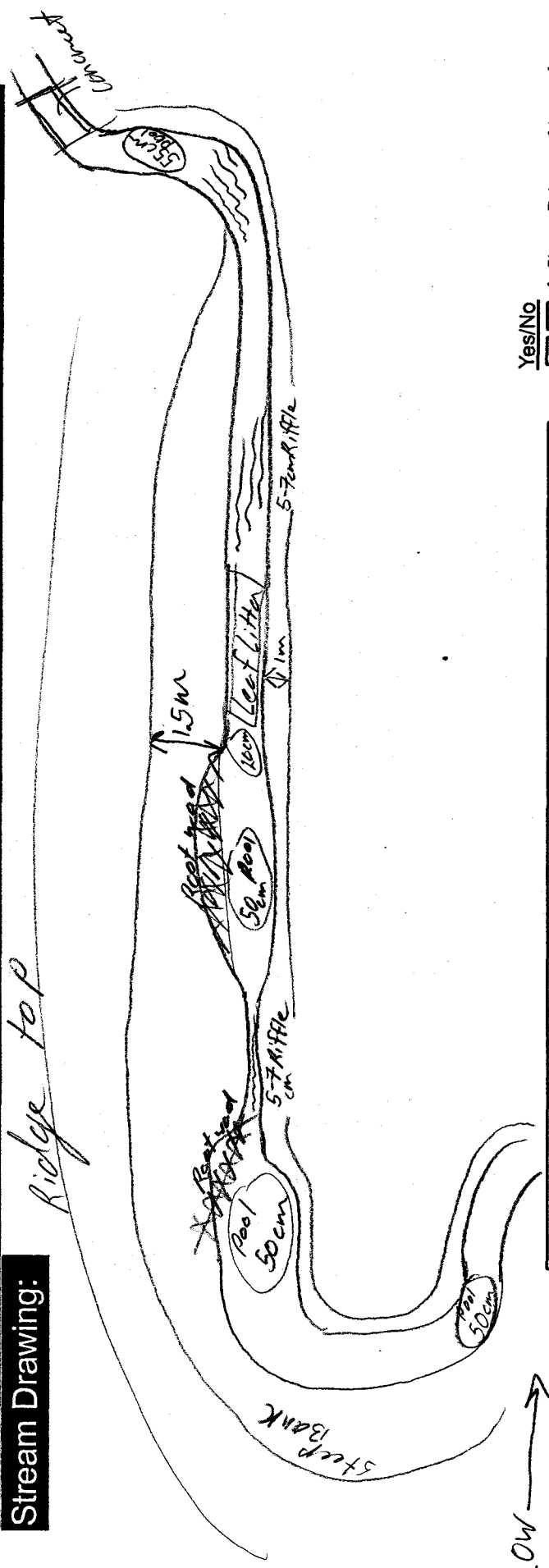
Gear: _____		Distance: _____		Water Clarity: _____		Water Stage: _____		Canopy -% Open _____	
First Sampling Pass									
Stream Measurements:									
Average Width	Average Depth	Maximum Av. Bankfull Width	Bankfull Mean W/D	Bankfull Max Depth	Floodprone Area	Entrenchment Ratio			
1.75m	20cm	60cm	7m	60cm	90cm				

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Yes/No

- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Is there water upstream? How Far: _____
- Is There Water Close Downstream? How Far: _____
- Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

River Code: RM: Stream: PB-W3-SRT3 Date: Nov 8, 01 Location: North of Lucasville-Minford Rd. Intermittent stream

Scorers Full Name: SCS Affiliation:

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

Substrate section with checkboxes for Pool Riffle and Substrate Origin (Gravel, Sand, Limestone, etc.) and Substrate Quality (Silt, Embedded, etc.).

Substrate Max 20 [18]

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

COMMENTS:

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

Instream Cover section with checkboxes for Undercut Banks, Pools, Oxbows, etc. and Amount (Extensive, Moderate, etc.).

Cover Max 20 [5]

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

Channel Morphology section with checkboxes for Sinuosity, Development, Channelization, Stability, and Modifications/Other.

Channel Max 20 [11]

COMMENTS:

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

Riparian Zone and Bank Erosion section with checkboxes for Riparian Width, Flood Plain Quality, and Bank Erosion.

Riparian Max 12 [5]

COMMENTS:

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

Pool/Glide and Riffle/Run Quality section with checkboxes for Max Depth, Morphology, and Current Velocity.

Pool/Current Max 12 [6]

COMMENTS:

CHECK ONE OR CHECK 2 AND AVERAGE

Riffle/Run section with checkboxes for Riffle Depth, Run Depth, Riffle/Run Substrate, and Riffle/Run Embeddedness.

Riffle/Run Max 8 [0]

COMMENTS:

6) GRADIENT (ft/mi): 120.69 DRAINAGE AREA (sq.mi.): 0.458 %POOL: 25 %GLIDE: 10 %RIFFLE: 65 %RUN: 10

Gradient Max 10 [8]

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) N If Not, Explain: Stream Closes
Many culverts before it enters forest

Major Suspected Sources of Impacts (Check All That Apply):

- None
- Industrial
- WWTP
- Ag
- Livestock
- Silviculture
- Construction
- Urban Runoff
- CSOs
- Suburban Impacts
- Mining
- Channelization
- Riparian Removal
- Landfills
- Natural
- Dams
- Other Flow Alteration
- Other: _____

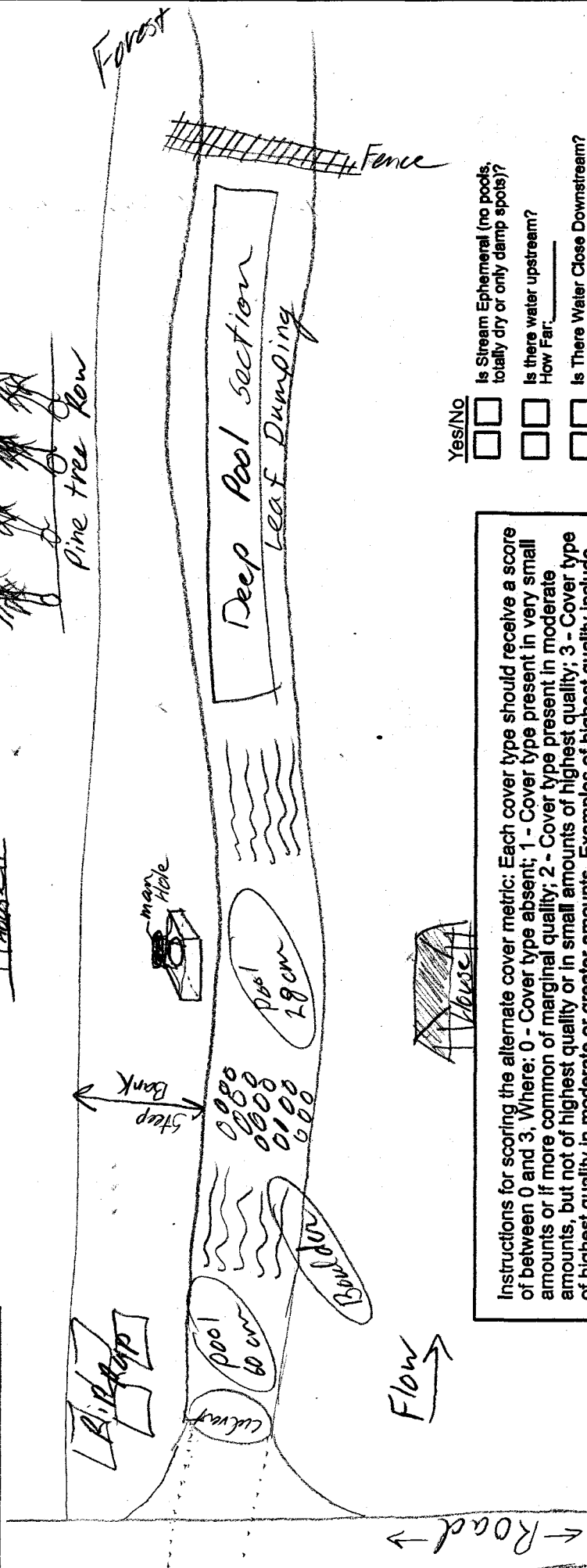
Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

First Sampling Pass

Stream Measurements:

Average Depth	Maximum Depth	Average Width	Bankfull Width	Mean Depth	Bankfull Depth	W/D Ratio	Floodprone Area	Entrenchment Ratio
1m	45cm	60cm	2m	45cm				

Stream Drawing:



Yes/No

- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Is there water upstream? How Far: _____
- Is There Water Close Downstream? How Far: _____
- Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **59.5**

River Code: _____ RM: _____ Stream: PB-W3-SR2 (Intermittent Stream)
 Date: Nov 8, 01 Location: Just upstream confluence with SR + 1
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7] <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> LIMESTONE [1] SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [8] <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input checked="" type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/>	<input type="checkbox"/> SANDSTONE [0] EMBEDDED	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> RIP/RAP [0] NESS:	<input type="checkbox"/> MODERATE [-1]
			<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> NORMAL [0]
			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

COMMENTS: _____

Substrate
13.5
Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<u>1</u> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<u>1</u> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<u>2</u> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
6
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING <input type="checkbox"/> IMPOUND.
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION <input type="checkbox"/> ISLANDS
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL <input type="checkbox"/> LEVEED
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING <input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

COMMENTS: _____

Channel
17
Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream River Left

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> NONE [0]
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> CONSERVATION TILLAGE [1]	
	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	
	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	
	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

COMMENTS: _____

Riparian
9
Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY (POOLS & RIFFLES)
(Check 1 ONLY)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1] <input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1] <input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1] <input type="checkbox"/> INTERMITTENT [-2]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> SLOW [1] <input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: <u>Fish seen in stream</u>	

Pool/Current
6
Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

COMMENTS: _____ NO RIFFLE [Metric=0]

Riffle/Run
0
Max 8
Gradient
8
Max 10

6) GRADIENT (ft/mi): 88 DRAINAGE AREA (sq.mi.): 1.274 %POOL: 25 %GLIDE: —
 %RIFFLE: 60 %RUN: 15

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

First Sampling Pass

Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Stream Measurements:

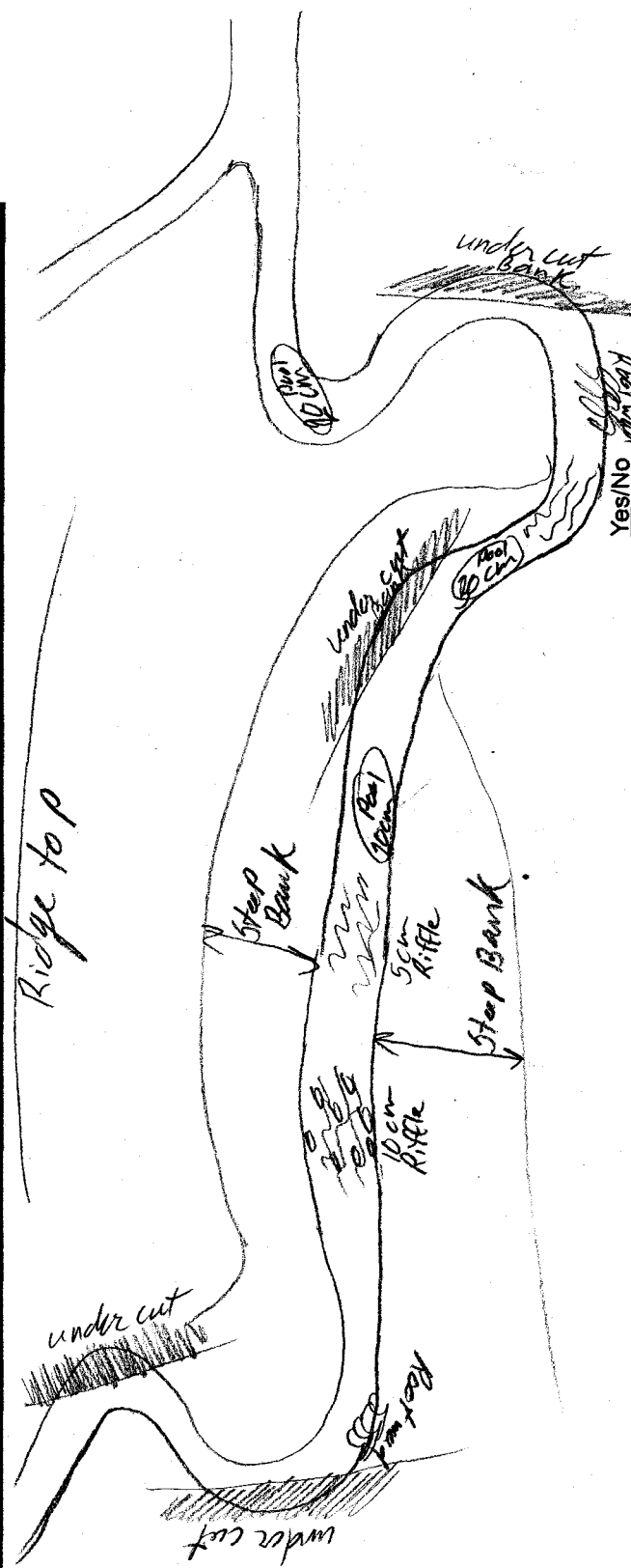
Average Depth	Average Width	Maximum Depth	Av. Bankfull Width	Bankfull Mean W/D Ratio	Bankfull Max Depth	Floodprone Area	Entrenchment Ratio
1 m	15 cm	30 cm	3.5 m	50 cm	60 cm		

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/NO

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

SITE NAME/LOCATION PR-43-SRt2 SITE NUMBER _____
(crosses Thomas Hollow Rd.) (Upper Section of W3)
 DRAINAGE AREA (mi²) 0.916
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE NOV 7, 01 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>30</u>
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>30</u>	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>40</u>
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input checked="" type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 0

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [10 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 5.8

HHEI Metric:

Substrate Max = 30

6

Pool Depth Max = 25

0

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field		<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture		<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m				Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>			Mining or Construction	
None					

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input checked="" type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Scioto River Distance from Evaluated Stream 2.46
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Valley
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 7, 01 Quantity: > 1in
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): _____
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: parts of stream used as a longitudinal Ford.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: This Stream Crosses the Entire Study Area

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SITE NAME/LOCATION PB-W35 STR 2 SITE NUMBER _____
(Lower Section of W3) (crosses Lucasville-Minford Rd) DRAINAGE AREA (mi²) 0.916
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Nov 7, 01 SCORER SCJ COMMENTS Perennial Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 4 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 2 feet

HHEI Metric:

Substrate Max = 30

16

Pool Dept Max = 25

15

Bankfull Width Max=25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L R	(Per Bank)
<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L R	(Most Predominant per Bank)	L R	
<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Scioto River Distance from Evaluated Stream 1.71
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____

County: Scioto Township: Valley
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: < 1 in

Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 90%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X

Is the sampling reach representative of the stream (Y/N) N If not, please explain: Recent Residential Development

Additional comments/description of pollution impacts: Grading upstream, Nutrient in flux

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: This Stream Crosses the Entire Study Area

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SITE NAME/LOCATION W3 SRE4 SITE NUMBER _____
 (Flows Alongside Lucasville-Minford Rd.) DRAINAGE AREA (mi²) 0.352
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/9/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS: _____

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]		SILT [3 pt]	
BOULDER (>256 mm) [12 pts]		LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u> ✓
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>15</u> ✓	FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>25</u> ✓	CLAY or HARDPAN [0 pt]	
SAND (<2 mm) [0 pts]	<u>50</u> ✓	MUCK [0 pts]	
BEDROCK [12 pt]		ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 10 ✓

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 8

HHEI Metrics

Substrate Max = 30

17

Pool Depth Max = 25

25

Bankfull Width Max=25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L R (Per Bank)

- Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

COMMENTS _____

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)

- Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture

L R

- Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- | | | | |
|------|-----|---|-----|
| None | 1.0 | <input checked="" type="checkbox"/> 2.0 | 3.0 |
| 0.5 | 1.5 | 2.5 | >3 |

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

*WWH Name: Scioto River Distance from Evaluated Stream 7625 ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township / Valley
City: Lucyville

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 9 Quantity: > 1 in
Photos (Y/N): X Elevated Turbidity? (Y/N): N Canopy (% open): 5%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (EC) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Head Hd is in Active pasture
Road Drainage

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Y Voucher? (Y/N) N Salamanders Observed? (Y/N) _____ Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Stonefly Caddisfly
isopods gastropods water penny
Decapods

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW "

River Code: _____ RM: _____ Stream: PB-W3-LM#1 (Perennial Stream)
 Date: NOV 01 Location: Upstream of Minford Road, below junction LM#4 & LM#5
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10] _____	<input checked="" type="checkbox"/> GRAVEL [7] <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> SAND [6] _____	<input checked="" type="checkbox"/> LIMESTONE [1] _____	<input type="checkbox"/> SILT HEAVY [-2] _____
<input type="checkbox"/> BOULDER [9] _____	<input type="checkbox"/> BEDROCK [5] _____	<input type="checkbox"/> DETRITUS [3] _____	<input type="checkbox"/> TILLS [1] _____	<input type="checkbox"/> SILT MODERATE [-1] _____
<input checked="" type="checkbox"/> COBBLE [8] <input checked="" type="checkbox"/>	<input type="checkbox"/> ARTIFICIAL [0] _____	<input type="checkbox"/> WETLANDS [0] _____	<input type="checkbox"/> HARDPAN [0] _____	<input checked="" type="checkbox"/> SILT NORMAL [0] _____
<input type="checkbox"/> HARDPAN [4] _____	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> SANDSTONE [0] _____	<input type="checkbox"/> SILT FREE [1] _____
<input type="checkbox"/> MUCK [2] _____			<input type="checkbox"/> RIP/RAP [0] _____	<input type="checkbox"/> EXTENSIVE [-2] _____
<input type="checkbox"/> SILT [2] _____			<input type="checkbox"/> LACUSTRINE [0] _____	<input type="checkbox"/> MODERATE [-1] _____
			<input type="checkbox"/> SHALE [-1] _____	<input type="checkbox"/> NORMAL [0] _____
			<input type="checkbox"/> COAL FINES [-2] _____	<input type="checkbox"/> NONE [1] _____

Check ONE (OR 2 & AVERAGE) for POOL RIFFLE and SUBSTRATE ORIGIN. Check ONE (OR 2 & AVERAGE) for SUBSTRATE QUALITY.

Substrate
7.5
 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2]
 3 or Less [0]

COMMENTS: _____

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1] _____	<input checked="" type="checkbox"/> POOLS > 70 cm [2] _____	<input type="checkbox"/> EXTENSIVE > 75% [1] _____
<input type="checkbox"/> OVERHANGING VEGETATION [1] _____	<input type="checkbox"/> ROOTWADS [1] _____	<input type="checkbox"/> MODERATE 25-75% [7] _____
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] _____	<input type="checkbox"/> BOULDERS [1] _____	<input type="checkbox"/> SPARSE 5-25% [3] _____
<input type="checkbox"/> ROOTMATS [1] _____	COMMENTS: _____	<input checked="" type="checkbox"/> NEARLY ABSENT < 5% [1] _____

Cover
5
 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4] _____	<input type="checkbox"/> EXCELLENT [7] _____	<input type="checkbox"/> NONE [6] _____	<input checked="" type="checkbox"/> HIGH [3] _____	<input type="checkbox"/> SNAGGING _____
<input type="checkbox"/> MODERATE [3] _____	<input type="checkbox"/> GOOD [5] _____	<input type="checkbox"/> RECOVERED [4] _____	<input type="checkbox"/> MODERATE [2] _____	<input type="checkbox"/> RELOCATION _____
<input checked="" type="checkbox"/> LOW [2] _____	<input type="checkbox"/> FAIR [3] _____	<input checked="" type="checkbox"/> RECOVERING [3] _____	<input type="checkbox"/> LOW [1] _____	<input checked="" type="checkbox"/> CANOPY REMOVAL _____
<input type="checkbox"/> NONE [1] _____	<input checked="" type="checkbox"/> POOR [1] _____	<input type="checkbox"/> RECENT OR NO RECOVERY [1] _____		<input type="checkbox"/> LEVEED _____
				<input type="checkbox"/> DREDGING _____
				<input checked="" type="checkbox"/> BANK SHAPING _____
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS _____

Channel
9
 Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) P River Right Looking Downstream P

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> WIDE > 50m [4] _____	<input type="checkbox"/> FOREST, SWAMP [3] _____	<input checked="" type="checkbox"/> NONE/LITTLE [3] _____
<input type="checkbox"/> MODERATE 10-50m [3] _____	<input type="checkbox"/> SHRUB OR OLD FIELD [2] _____	<input type="checkbox"/> MODERATE [2] _____
<input type="checkbox"/> NARROW 5-10 m [2] _____	<input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] _____	<input type="checkbox"/> HEAVY/SEVERE [1] _____
<input checked="" type="checkbox"/> VERY NARROW < 5 m [1] _____	<input type="checkbox"/> FENCED PASTURE [1] _____	
<input checked="" type="checkbox"/> NONE [0] _____		

Riparian
4.5
 Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY (POOLS & RIFFLES!)
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)
<input type="checkbox"/> > 1m [6] _____	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] _____	<input type="checkbox"/> EDDIES [1] _____
<input type="checkbox"/> 0.7-1m [4] _____	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] _____	<input type="checkbox"/> TORRENTIAL [-1] _____
<input checked="" type="checkbox"/> 0.4-0.7m [2] _____	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0] _____	<input type="checkbox"/> FAST [1] _____
<input type="checkbox"/> 0.2-0.4m [1] _____	COMMENTS: _____	<input checked="" type="checkbox"/> MODERATE [1] _____
<input type="checkbox"/> < 0.2m [POOL=0] _____		<input type="checkbox"/> INTERMITTENT [-2] _____
		<input checked="" type="checkbox"/> SLOW [1] _____
		<input type="checkbox"/> VERY FAST [1] _____

Pool/Current
7
 Max 12

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE			
RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2] _____	<input type="checkbox"/> MAX > 50 [2] _____	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2] _____	<input type="checkbox"/> NONE [2] _____
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1] _____	<input checked="" type="checkbox"/> MAX < 50 [1] _____	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] _____	<input checked="" type="checkbox"/> LOW [1] _____
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0] _____		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0] _____	<input type="checkbox"/> MODERATE [0] _____
COMMENTS: _____		<input type="checkbox"/> NO RIFFLE [Metric=0] _____	<input type="checkbox"/> EXTENSIVE [-1] _____

Riffle/Run
4
 Max 8

Gradient
8
 Max 10

6) GRADIENT (ft/mi): 58.65 DRAINAGE AREA (sq.mi.): 4.069
 %POOL: 15 %GLIDE: 20
 %RIFFLE: 50 %RUN: 15

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: Nutrient

First Sampling Pass

Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy - % Open _____

Stream Measurements:

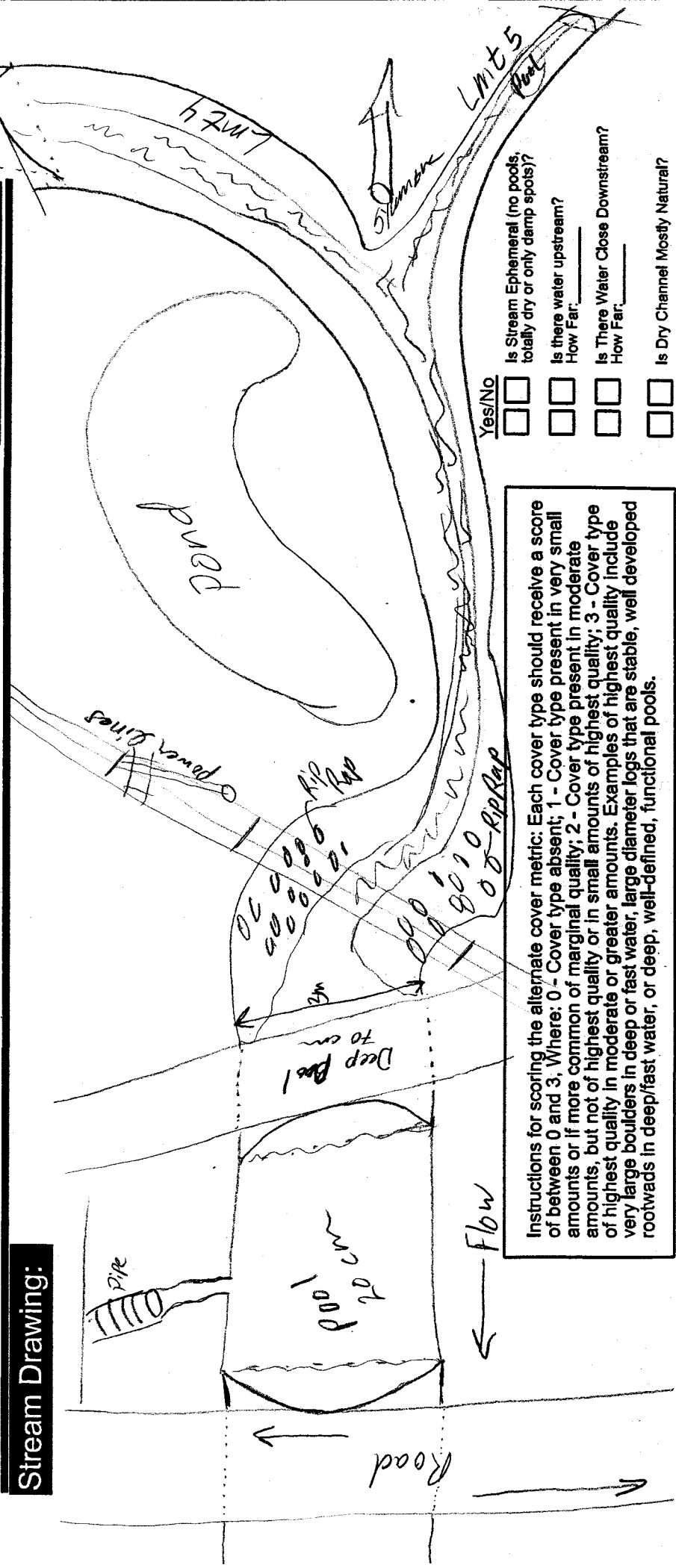
Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	W/D Ratio	Max Floodprone Area	Entrenchment Ratio
1 m	50 cm	70 cm	2 m	40 cm		90 cm	

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/NO

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **62**

Per Code: _____ RM: _____ Stream: W3 Lmt1 *Perennial Stream*
 Date: 5/9/02 Location: West of Prison / Stream Crosses Lucasville-Minford Rd.
 Scorers Full Name: SCT Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR/SLBS [10]	<input checked="" type="checkbox"/>	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/>	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT: <input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/>	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> WETLANDS [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/>	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	<input checked="" type="checkbox"/>	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> LACUSTRINE [0]	NESS:	<input checked="" type="checkbox"/> NORMAL [0]
		<input type="checkbox"/> SHALE [-1]		<input type="checkbox"/> NONE [1]
		<input type="checkbox"/> COAL FINES [-2]		

Substrate
 12
 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2]
 (High Quality Only, Score 5 or >) 3 or Less [0]

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input checked="" type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
 9
 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING
				<input type="checkbox"/> IMPOUND.
				<input type="checkbox"/> ISLANDS
				<input type="checkbox"/> LEVEED
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
 14
 Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) *River Right Looking Downstream*

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

Riparian
 4
 Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY POOLS & RIFFLES!
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input checked="" type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> INTERSTITIAL [-1]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: _____	<input checked="" type="checkbox"/> SLOW [1]
		<input type="checkbox"/> VERY FAST [1]

Pool/Current
 8
 Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input checked="" type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
 7
 Max 8
 Gradient
 8
 Max 10

6] GRADIENT (ft/mi): 60.7 DRAINAGE AREA (sq.mi.): 5.56
 %POOL: 10 %GLIDE:
 %RIFFLE: 6 %RUN: 30

- Impacts (check all that apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

First Sampling Pass

Average Depth: 3 in

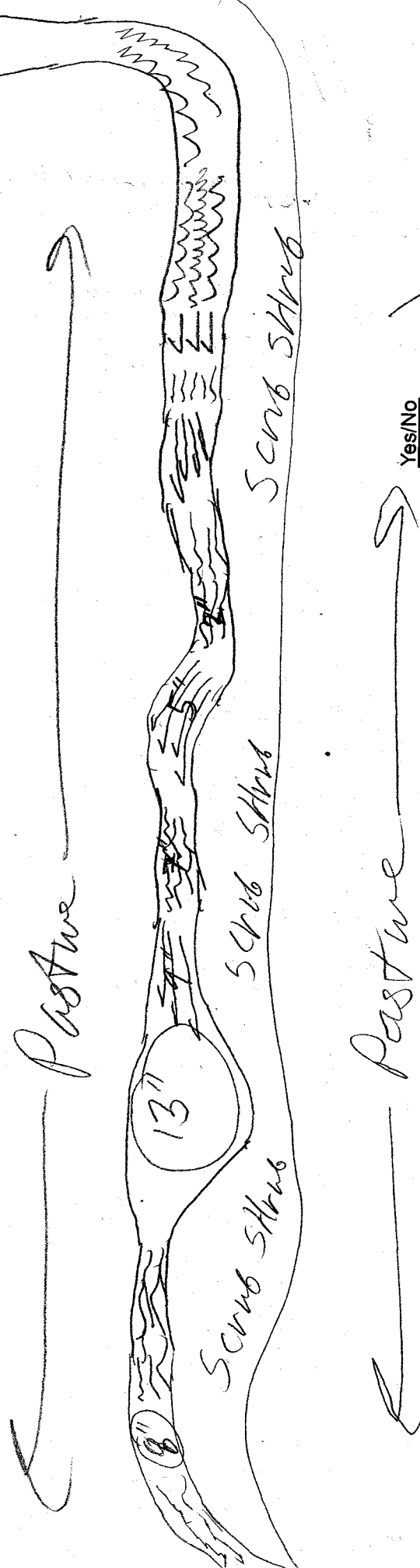
Maximum Depth: 6 in

Stream Measurements:

Bankfull Width	Average Depth	Maximum Depth	Bankfull Mean W/D Ratio	Bankfull Max Depth	Floodprone Area	Entrenchment Ratio
10 ft	3 in	6 in	17	28 in	30 in	

Lucyville - Minter Rd

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3. Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Is there water upstream? How Far: _____
- Is There Water Close Downstream? How Far: _____
- Is Dry Channel Mostly Natural?

Prison

SITE NAME/LOCATION ~~11111~~ PB-W3 - 1 Mt 4 SITE NUMBER _____
 (Mouth is North of Prison) (Lower section of W3) DRAINAGE AREA (mi²) 0.787
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Nov 7, 01 SCORER SCT COMMENTS Flows into Lake Margaret / Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	✓	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	✓
<input type="checkbox"/> SAND (<2 mm) [0 pts]	✓	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input checked="" type="checkbox"/> ARTIFICIAL [3 pts] - Bricks + Rip-Rap	✓

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 7 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6 ft

HHEI Metric:

Substrate Max = 30

7

Pool Depth Max = 25

15

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture		Mining or Construction	
None					

COMMENTS _____

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Scioto River Distance from Evaluated Stream 2.54
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Tombigan Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 7, 01 Quantity: < 1in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 30
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

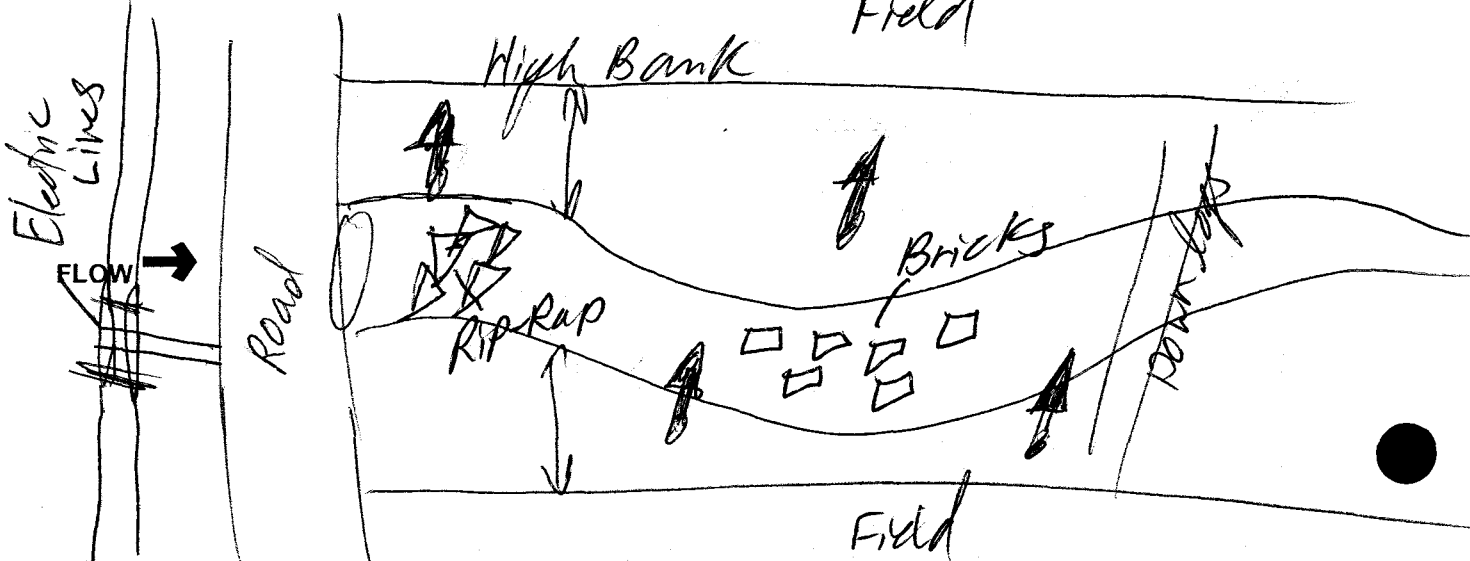
Additional comments/description of pollution impacts: Runoff from Road,
Nutrients coming in to stream,

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



crosses SITE NAME/LOCATION PB-W3-LM+4 SITE NUMBER _____
Thomas Hollow Rd (UPPER SECTION OF W3) DRAINAGE AREA (mi²) 0.787
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Nov 7 SCORER JS COMMENTS Flows into Lake Margaret / Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>40</u>
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>30</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>30</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: Containing concrete Rip-Rap NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [6 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input checked="" type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 0

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 5 feet

HHEI Metric:

Substrate Max = 30

9

Pool Dept Max = 25

0

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY		L R	
<input type="checkbox"/> L	<input type="checkbox"/> R (Per Bank)	<input type="checkbox"/> L	<input type="checkbox"/> R (Most Predominant per Bank)	<input type="checkbox"/> L	<input type="checkbox"/> R
<input type="checkbox"/>	Wide >10m	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	Narrow <5m	<input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	None	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	Mining or Construction

COMMENTS Heavily - scrub, Dense Foliage, Few mature trees

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input checked="" type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE (Look up)

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Scoto River Distance from Evaluated Stream 3.03
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scoto Township: Jefferson
City: Tomlison Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 01 Quantity: < 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 70%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
Is the sampling reach representative of the stream (Y/N): Y If not, please explain: _____

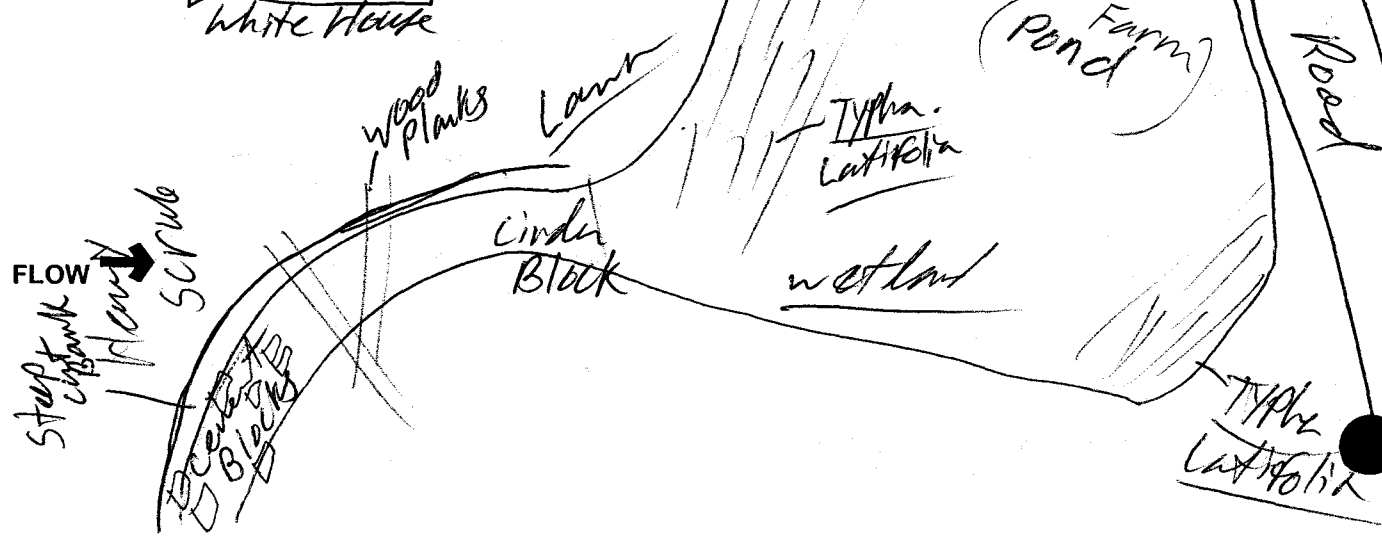
Additional comments/description of pollution impacts: Residential Dumping, possible lawn Nutrient leaching

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: Small Farm pond near by.

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PR - W3 - L81+5 (crosses Thomas Hollow Rd) (Upper section of W3) SITE NUMBER DRAINAGE AREA (mi²) 1.245 RIVER BASIN Scioto River LAT. LONG. RIVER CODE RIVER MILE/ DATE Nov 7, 01 SCORER SGT COMMENTS Flows into Lake Margaret / Intermittent stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [X] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [] RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with 4 columns: TYPE, PERCENT, TYPE, PERCENT. Includes categories like BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]
LESS THAN 4 INCHES (10 cm) [5 pts]
NO POOL (no water or moist channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (inches): 0

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]
5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 8

HHEI Metric:

Substrate Max = 30

6

Pool Depth Max = 25

0

Bankfull Width Max = 25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank)
Wide >10m
Moderate 5-10m
Narrow <5m
None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
Mature Forest, Wetland
Immature Forest, Shrub or Old Field
Residential, Park, New Field
Fenced Pasture

L R

- Conservation Tillage
Urban or Industrial
Open Pasture, Row Crop
Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
Interstitial flow with isolated pools
Moist Channel, isolated pools, no flow
Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
0.5
1.0
1.5
2.0
2.5
3.0
>3

STREAM GRADIENT ESTIMATE (locate grades)

- Flat
Flat to Moderate
Moderate
Moderate to Severe
Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

AWWH Name: Scioto River Distance from Evaluated Stream 3.14
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____

County: Scioto Township: Jefferson
City: Preston Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 3, 01 Quantity: < 1 in

Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 40%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: entire watershed Forested up stream of Any Development

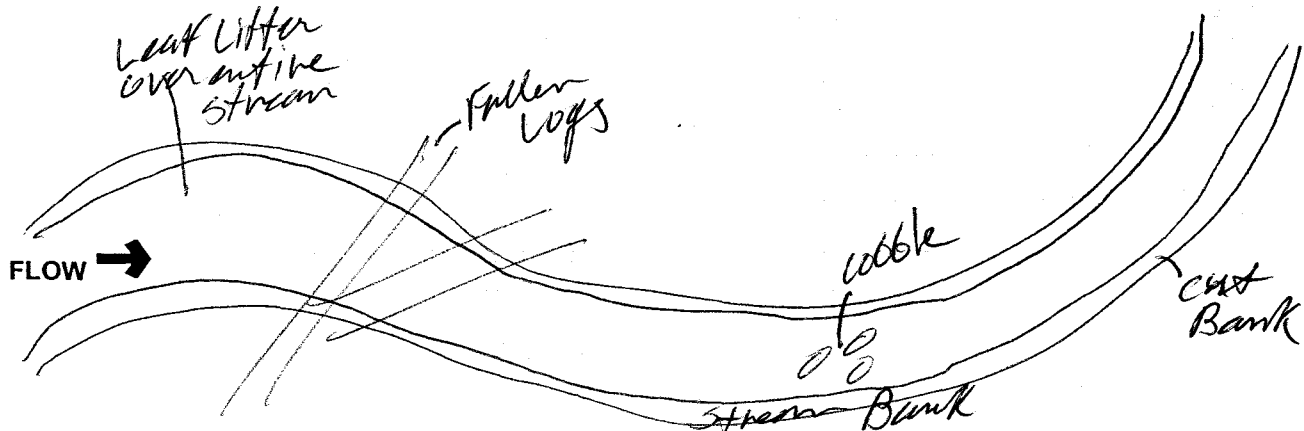
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: typical unimpacted wooded Runoff

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION: PB-W3-LM+5 (Lower section of Mouth is North of Prison) SITE NUMBER: W3
 DRAINAGE AREA (mi²): 0.923
 RIVER BASIN: Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE: Nov 7, 01 SCORER: SCJ COMMENTS: Flows into Lake Margaret / Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS: _____

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<input checked="" type="checkbox"/>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input checked="" type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 4 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 10 feet

HHEI Metric:

Substrate Max = 30

Pool Depth Max = 25

Bankfull Width Max = 25

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture
L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5
		<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Scioto River Distance from Evaluated Stream 2.58
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____

County: Scioto Township: Jefferson
City: Preston Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): X Date of last precipitation: Nov 3, 01 Quantity: < 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 50%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) X If not, please explain: _____

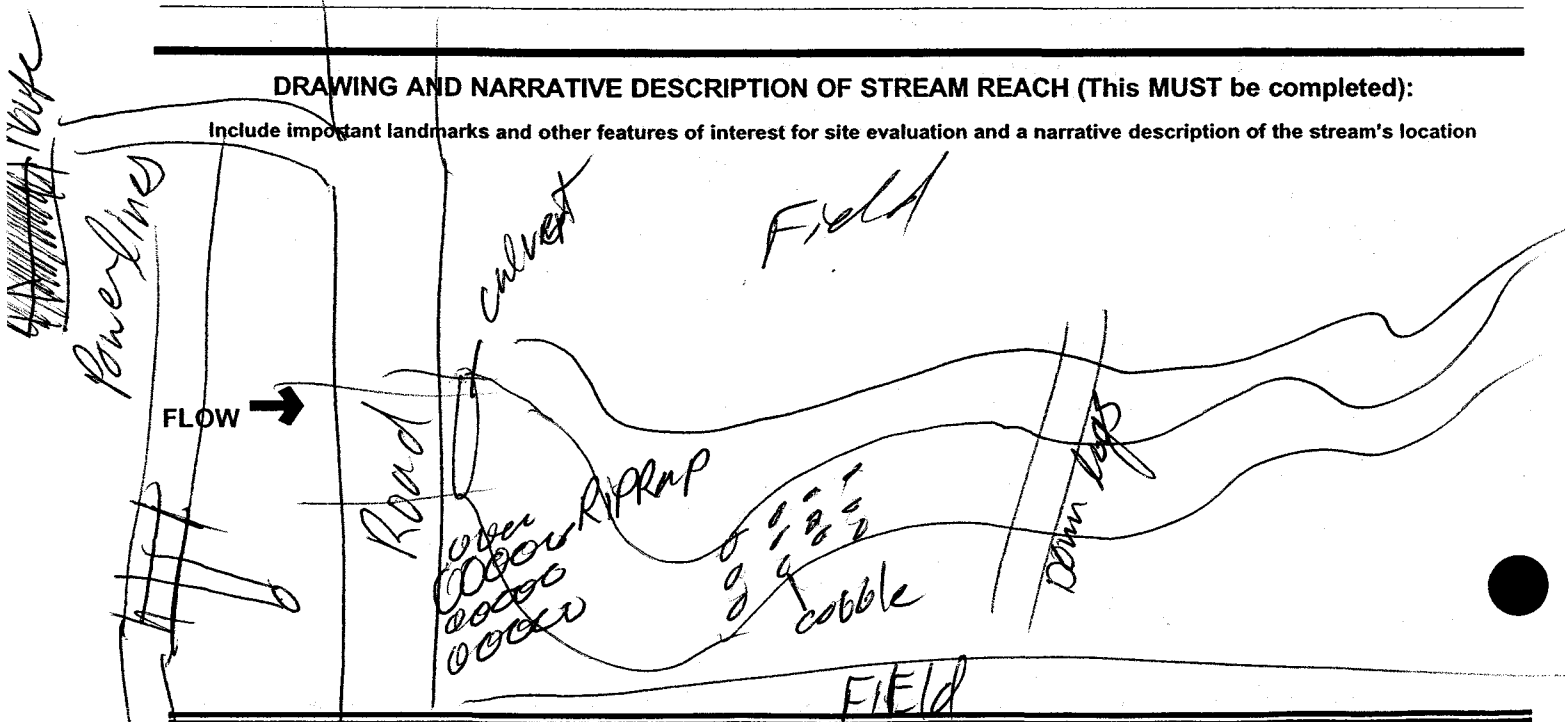
Additional comments/description of pollution impacts: _____

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Fish present in copious amounts

Lucasville Stream

OhioEPA Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **56**

River Code: _____ RM: _____ Stream: Candy Run W4
Date: 6/5/02 Location: Follows Lucasville-Mintford Rd. Through Study Area
Scorers Full Name: SLJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR/SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input checked="" type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> HARDPAN [0]	<input checked="" type="checkbox"/> SANDSTONE [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		NESS: <u>(0.5)</u>	<input type="checkbox"/> EXTENSIVE [-2]
NUMBER OF SUBSTRATE TYPES: <input checked="" type="checkbox"/> 4 or More [2]		<input type="checkbox"/> LACUSTRINE [0]	<input checked="" type="checkbox"/> SHALE [-1]	<input type="checkbox"/> MODERATE [-1]
(High Quality Only, Score 5 or >)		<input checked="" type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NORMAL [0]
COMMENTS: _____				<input checked="" type="checkbox"/> NONE [1]

Substrate
3.5
Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [1]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input checked="" type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
7
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING
				<input type="checkbox"/> IMPOUND.
				<input type="checkbox"/> ISLANDS
				<input type="checkbox"/> LEVEED
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
19
Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ρ River Right Looking Downstream ρ

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input checked="" type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

2.5

Riparian
7.5
Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check All That Apply)	CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> MODERATE [1]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> SLOW [1]
<input type="checkbox"/> < 0.2m [POOL-0]	COMMENTS: _____	<input checked="" type="checkbox"/> TORRENTIAL [-1]
		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input checked="" type="checkbox"/> VERY FAST [1]

Pool/Current
7
Max 12

COMMENTS: _____

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input checked="" type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input checked="" type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
COMMENTS: <u>During Drought conditions</u>			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
0
Max 8

Gradient
6
Max 10

6) GRADIENT (ft/mi): 50.3 DRAINAGE AREA (sq.mi.): 25.734 %POOL: 30 %GLIDE: —
%RIFFLE: 70 %RUN: —

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) Y If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

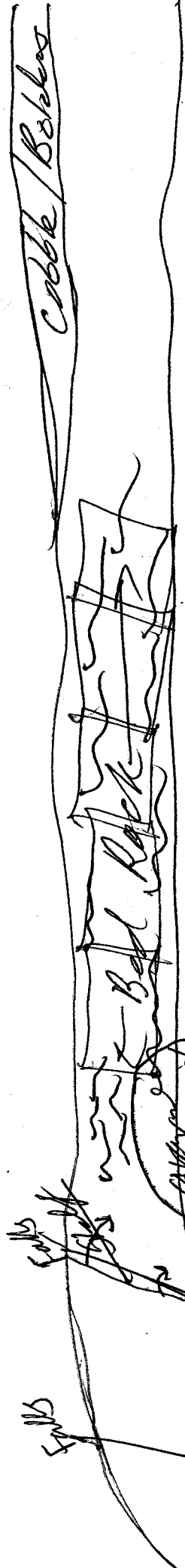
First Sampling Pass _____

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	W/D Ratio	Max Floodprone Area	Entrenchment Ratio
10ft	1.8ft	2.5ft	28ft	1.5ft	1.5		

Stream Drawing:

Immediate Forest on Step Bank



Grass / Resistant

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3. Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

SITE NAME/LOCATION W4 CRT22 SITE NUMBER _____
East of Prison (Crosses Lucasville-Minford Rd.) DRAINAGE AREA (mi²) 0.658
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/10/02 SCORER SLJ COMMENTS Intermittent stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]	_____	SILT [3 pt]	_____
BOULDER (>256 mm) [12 pts]	_____	LEAF PACK/WOODY DEBRIS [3 pts]	<u>5</u> ✓
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>15</u> ✓	FINE DETRITUS [3 pts]	_____
GRAVEL (2-64 mm) [3 pts]	<u>10</u> ✓	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	_____
<input checked="" type="checkbox"/> BEDROCK [12 pt]	<u>70</u> ✓	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 18" +

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 8.5

HHEI Metrics

Substrate Max = 30

26

Pool Depth Max = 25

25

Bankfull Width Max=25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L R (Per Bank)
 Wide >10m
 Moderate 5-10m
 Narrow <5m

None
 COMMENTS _____

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)
 Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 Residential, Park, New Field
 Fenced Pasture

L R

Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	Moist Channel, isolated pools, no flow
Interstitial flow with isolated pools	Dry channel (no water)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

None	1.0	2.0	3.0
<input checked="" type="checkbox"/> 0.5	1.5	2.5	>3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

XWWH Name: Candy Run Distance from Evaluated Stream 1625ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 9, 02 Quantity: 1 in
Photos (Y/N): _____ Elevated Turbidity? (Y/N): N Canopy (% open): 30%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (EC) _____ Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (Fmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: mowing, & other lawn care practices. Residential.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) _____
Comments Regarding Biology: water penny, Peepods (+) caddis (3#)

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW "

River Code: _____ RM: _____ Stream: CRT1
Date: 6/15/02 Location: W4 (Down the Hill) @ Cook Rd. & L-M Road, Columbus
Scorers Full Name: SCA Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> SILT	Check ONE (OR 2 & AVERAGE)
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> SILT [2]	<input type="checkbox"/> COAL FINES [-2]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> SILT FREE [1]
NOTE: Ignore Sludge Originating From Point Sources			<input type="checkbox"/> EMBEDDED	<input type="checkbox"/> EXTENSIVE [-2]
			<input type="checkbox"/> NESS:	<input type="checkbox"/> MODERATE [-1]
			<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> NORMAL [0]
			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> COAL FINES [-2]	

Substrate
5
Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

COMMENTS: _____

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input checked="" type="checkbox"/> POOLS > 70 cm [2]	<input checked="" type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	
<input type="checkbox"/> BOULDERS [1]	
<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	
<input type="checkbox"/> ROOTMATS [1]	
COMMENTS: <u>Good canopy</u>	

Cover
5
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input checked="" type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
9
Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ρ River Right Looking Downstream ρ

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

Riparian
7.5
Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY (POOLS & RIFFLES)
(Check 1 ONLY!)	(Check All That Apply)	(Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> INTERSTITIAL [-1]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> < 0.2m [POOL=0]		<input checked="" type="checkbox"/> SLOW [1]
		<input type="checkbox"/> VERY FAST [1]

Pool/Current
6
Max 12

COMMENTS: _____

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
5.5
Max 8

Gradient
8
Max 10

6) GRADIENT (ft/mi): 88.0 DRAINAGE AREA (sq.mi.): 2.513
% POOL: 10 % GLIDE: ←
% RIFFLE: 80 % RUN: 10

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: _____

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy - % Open _____

Gear: _____

First Sampling Pass _____

Stream Measurements:

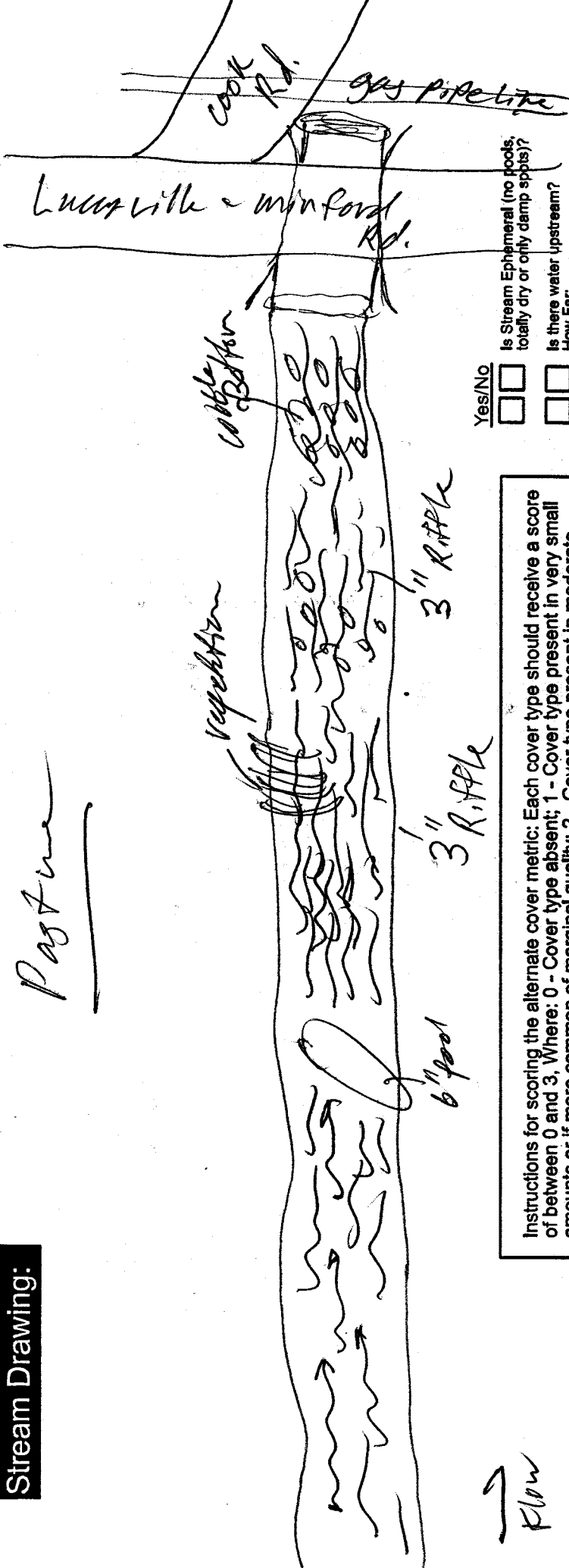
Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	W/D Ratio	Bankfull Max Depth	Floodprone Area	Entrenchment Ratio
5'	2.1'	3.4'	12.2'	1.5'	1.8'		

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Flow

Fish present

Steep Bank

STATE NAME/LOCATION WV CR62 SITE NUMBER _____
 (Near Preston Addition) DRAINAGE AREA (mi²) 0.793
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/4/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]		<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>10%</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>80%</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>10%</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> BEDROCK [12 pt]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [10 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [15 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 7.5

HHEI Metric:

Substrate Max = 30

6

Pool Depth Max = 25

15

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input checked="" type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)	L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Forced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input checked="" type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Candy Run Distance from Evaluated Stream 5800
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: N/A Quantity: N/A
Photos (Y/N): _____ Elevated Turbidity? (Y/N): Y Canopy (% open): 15%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

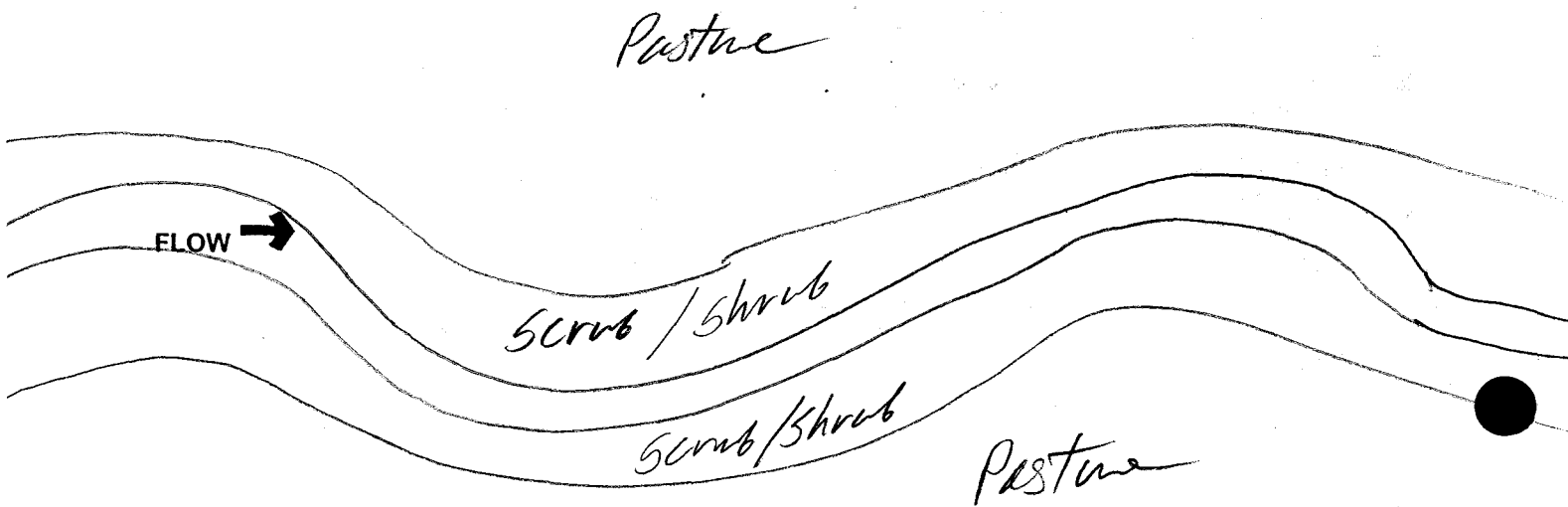
Additional comments/description of pollution impacts: Nutrient enrichment from Fields

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: steep Banks on either side with
native trees along Banks.
only leeches & Flat worms -

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W4 CRT3 (Near Miller Lane) SITE NUMBER _____
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/4/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]		<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input type="checkbox"/> LEAF PACK WOODY DEBRIS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	40 ✓	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	40 ✓	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]	20 ✓	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> BEDROCK [12 pt]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 15"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [15 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6'

HHEI Metric:

Substrate Max = 30

15

Pool Depth Max = 25

25

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank)
- Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
- Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture

- L R
- Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
- 0.5
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0
- >3

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Candy Run Distance from Evaluated Stream 4750'
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: N/A Quantity: N/A
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 25%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

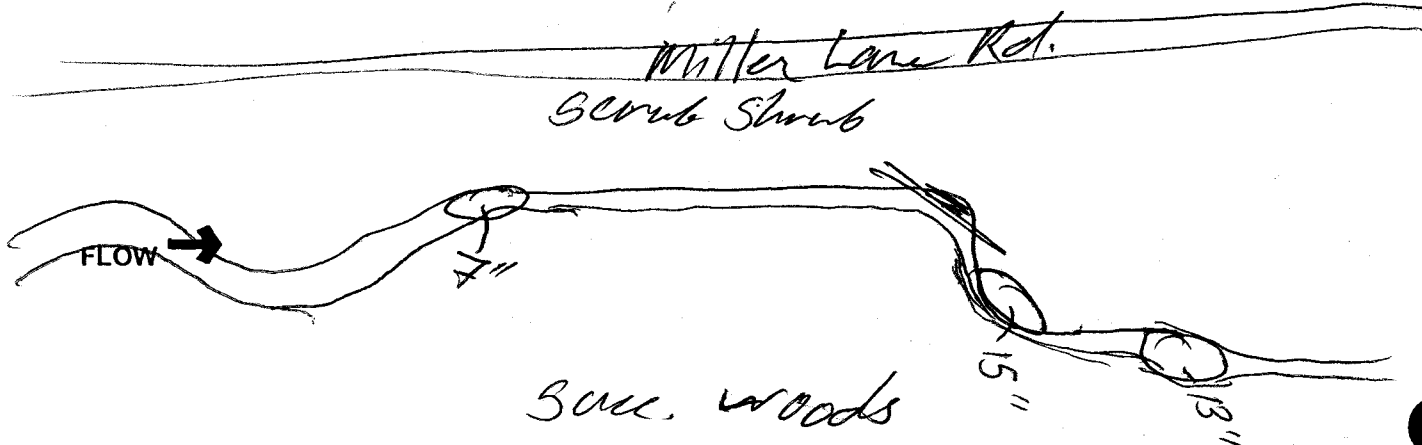
Additional comments/description of pollution impacts: Road side drainage

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) X Voucher? (Y/N) X Salamanders Observed? (Y/N) Y Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: 3 adult southern 2-lined salamanders, water striders, cray fish, May Flies, Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W4 CRT#8 SITE NUMBER _____
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/5/02 SCORER SCJ COMMENTS Intermittent Stream
 DRAINAGE AREA (mi²) 0.458

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]		<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>40</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>15</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> BEDROCK [12 pt]	<u>5</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

HHEI Metric:
Substrate
Max = 30
17

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 7.1

Pool Dept
Max = 25
15

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 8.1

Bankfull
Width
Max=25
10

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wide >10m	<input type="checkbox"/>	<input type="checkbox"/> Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/> Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/> Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/> Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/> Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/>	<input type="checkbox"/> Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/> Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):
 Stream Flowing Moist Channel, isolated pools, no flow
 Interstitial flow with isolated pools Dry channel (no water)
 COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):
 None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE
 Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Candy Run Distance from Evaluated Stream 2000ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
 County: Scioto Township: Jefferson
 City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 6/4/02 Quantity: 7 in
 Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 5%
 Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

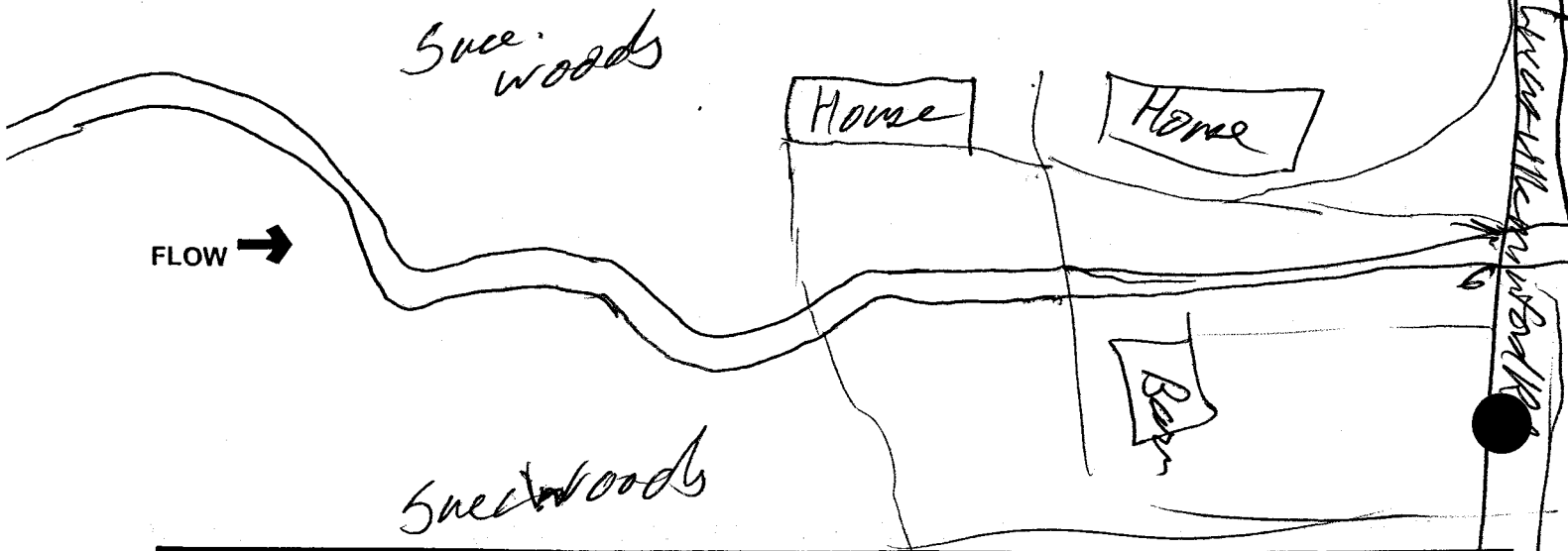
Additional comments/description of pollution impacts: minor Dumping

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
 Comments Regarding Biology: Stoneflies, crayfish, Diptera larvae, Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W4 CRT 13 SITE NUMBER _____
 DRAINAGE AREA (mi²) 3.69
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/5/02 SCORER SCJ COMMENTS Intermittent stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>60</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>

COMMENTS: Heavy Algae NUMBER OF SUBSTRATE TYPES: 3

HHEI Metric:

Substrate Max = 30

15

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 99

Pool Dept Max = 25

25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.3 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 109

Bankfull Width Max=25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank) Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

FLOODPLAIN QUALITY

- | | |
|---|---|
| L R (Most Predominant per Bank) | L R |
| <input type="checkbox"/> Mature Forest, Wetland | <input type="checkbox"/> Conservation Tillage |
| <input checked="" type="checkbox"/> Immature Forest, Shrub or Old Field | <input type="checkbox"/> Urban or Industrial |
| <input type="checkbox"/> Residential, Park, New Field | <input type="checkbox"/> Open Pasture, Row Crop |
| <input type="checkbox"/> Fenced Pasture | <input type="checkbox"/> Mining or Construction |

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
- 0.5
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0
- >3

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Candy Run Distance from Evaluated Stream 1000 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCs Soil Map Page: 21 NRCs Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 6/4/02 Quantity: 7 in
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 50%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) _____ X Dissolved Oxygen (mg/l) _____ X pH (S.U.) _____ X Conductivity (µmhos/cm) _____ X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

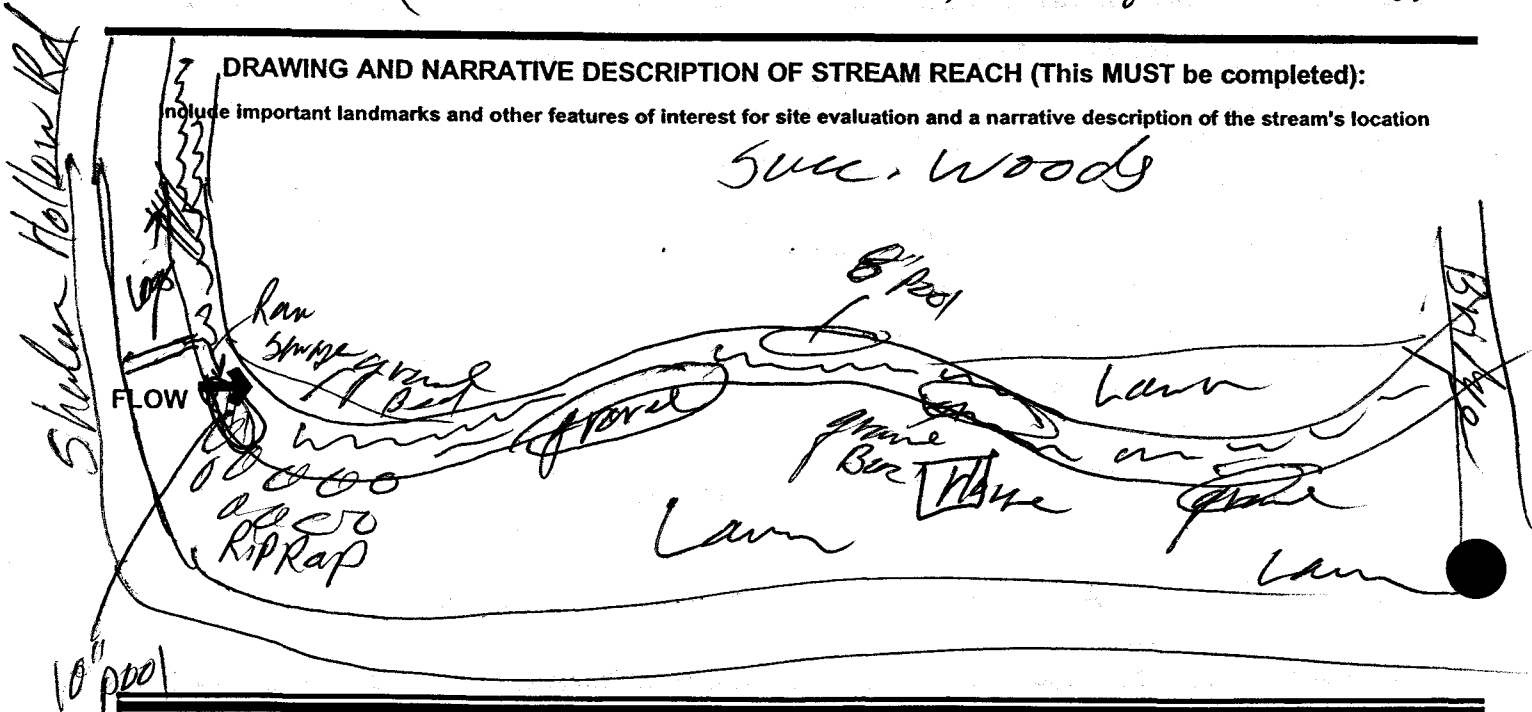
Additional comments/description of pollution impacts: Septic tanks, Raw sewage, High nutrient load, Algae Blooms extensive channelization due to Residential Development

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Y Voucher? (Y/N) X Salamanders Observed? (Y/N) X Voucher? (Y/N) X
Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) X
Comments Regarding Biology: Stoneflies, mayflies, 2 type caddisflies, water pennies, Flatworms (Fish are Abundant) some Aquatic worms.

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION CRT15 W4 (Close to Lucasville-Minford Rd.) SITE NUMBER DRAINAGE AREA (mi²) 0.516
RIVER BASIN Scioto River LAT. LONG. RIVER CODE RIVER MILE
DATE 6/5/07 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [X] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [] RECENT OR NO RECOVERY
MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominant substrate type scores and number of substrate types):

Table with 4 columns: TYPE, PERCENT, TYPE, PERCENT. Includes categories like BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACKWOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- Greater than 8 inches (20 cm) [25 pts]
4 inches (10 cm) to less than 8 inches (20 cm) [15 pts]
Less than 4 inches (10 cm) [5 pts]
No pool (no water or moist channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (inches):

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- Greater than 15 feet [25 pts]
10 feet to less than 15 feet (4.6 m) [20 pts]
7.5 feet (2.3 m) to less than 10 feet (3.1 m) [10 pts]
5 feet (1.5 m) to less than 7.5 feet (2.3 m) [5 pts]
Less than 5 feet (1.5 m) [0 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 4' 10"

HHEI Metric:

Substrate Max = 30

16

Pool Depth Max = 25

15

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank)
[X] Wide >10m
Moderate 5-10m
Narrow <5m
None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
Mature Forest, Wetland
[X] Immature Forest, Shrub or Old Field
Residential, Park, New Field
Forced Pasture
Conservation Tillage
Urban or Industrial
Open Pasture, Row Crop
Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- [X] Stream Flowing
Interstitial flow with isolated pools
Moist Channel, isolated pools, no flow
Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 0.5 1.0 1.5 2.0 2.5 3.0 >3
[X] 2.0

STREAM GRADIENT ESTIMATE

- [] Flat [] Flat to Moderate [X] Moderate [] Moderate to Severe [] Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

DWWH Name: Candy Run Distance from Evaluated Stream 2000'
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
 County: Scraper Township /
 City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 6/4/02 Quantity: >1in
 Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 30%
 Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts:

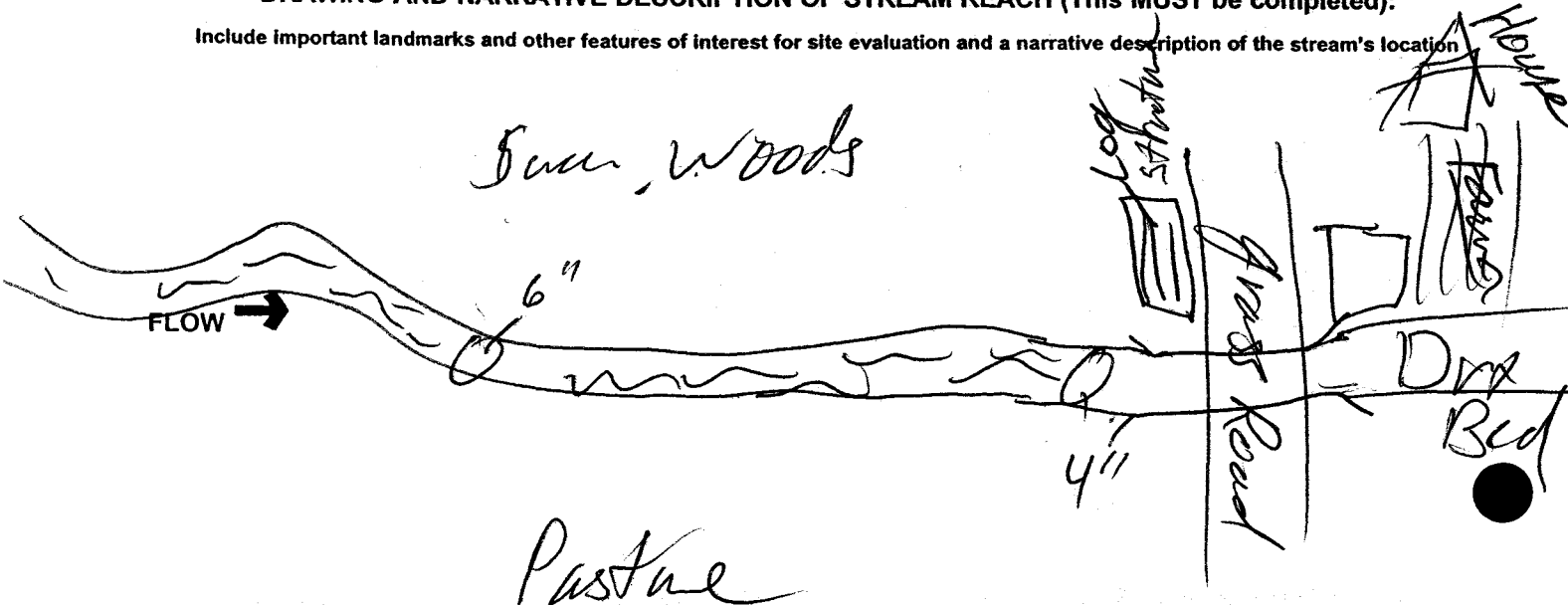
Among Pasture and Near Residential

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) X Voucher? (Y/N) X Salamanders Observed? (Y/N) X Voucher? (Y/N) X
 Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) X Voucher? (Y/N) X
 Comments Regarding Biology: mayflies, stoneflies, caddisflies, isopods, flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W4 (Near Peach Orchard Hill) SITE NUMBER _____
CRT 18 (crosses Lucasville-Mintford Rd.) DRAINAGE AREA (mi²) 0.282
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/6/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS (12 pts)	_____	<input type="checkbox"/> SILT (3 pt)	_____
<input type="checkbox"/> BOULDER (>256 mm) (12 pts)	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS (3 pts)	<u>10</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) (9 pts)	<u>40</u>	<input type="checkbox"/> FINE DETRITUS (3 pts)	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) (3 pts)	<u>30</u>	<input type="checkbox"/> CLAY or HARDSPAN (0 pt)	_____
<input type="checkbox"/> SAND (<2 mm) (0 pts)	<u>20</u>	<input type="checkbox"/> MUCK (0 pts)	_____
<input type="checkbox"/> BEDROCK (12 pt)	_____	<input type="checkbox"/> ARTIFICIAL (3 pts)	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: **4**

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 3 INCHES (7.6 cm) (25 pts)	<input type="checkbox"/> LESS THAN 1 INCH (2.5 cm) (5 pts)
<input checked="" type="checkbox"/> 1 INCHES (2.5 cm) (15 pts) OR LESS THAN 3 INCHES (7.6 cm) (5 pts)	<input type="checkbox"/> NO POOL (no water or moist channel) (0 pts)

COMMENTS Not Base Flow MAXIMUM POOL DEPTH (inches): **7**

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET (4.6 m) (25 pts)	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 10 FEET (3 m) (5 pts)
<input type="checkbox"/> 10 FEET (3 m) TO LESS THAN 15 FEET (4.6 m) (20 pts)	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) (0 pts)
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3 m) (10 pts)	

COMMENTS Not Base Flow AVERAGE BANKFULL WIDTH (feet): **5**

HHEI Metrics

Substrate Max = 30

16

Pool Depth Max = 25

15

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY *NOTE: River Right and Left looking downstream*

RIPARIAN WIDTH		FLOODPLAIN QUALITY		L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wide >10m	<input type="checkbox"/>	<input type="checkbox"/> Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/> Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/> Moderate 5-10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/> Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/> Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/>	<input type="checkbox"/> Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/> Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):
 Stream Flowing Moist Channel, isolated pools, no flow
 Interstitial flow with isolated pools Dry channel (no water)
 COMMENTS Not Base Flow

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):
 None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE
 Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Candy Run Distance from Evaluated Stream 2375
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 22 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: N/A Quantity: < 1 in
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 10%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) X Voucher? (Y/N) X Salamanders Observed? (Y/N) X Voucher? (Y/N) X
Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) X Voucher? (Y/N) X
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SITE NAME/LOCATION W4 CRT1 E-3 SITE NUMBER _____
 RIVER BASIN Scioto River DRAINAGE AREA (mi²) 0.182
 DATE 6/5/02 SCORER SCS COMMENTS Ephemeral Stream
 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input checked="" type="checkbox"/> BLDR SLABS [12 pts]	<u>40</u>	<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>15</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>5</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> BEDROCK [12 pt]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [15 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 7.3'

HHEI Metric:

Substrate Max = 30

26

Pool Depth Max = 25

15

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fericed Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input checked="" type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat	<input type="checkbox"/> Flat to Moderate	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Candy Run Distance from Evaluated Stream 2000 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scrato Township: Jefferson
City: Lucasville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 6/4/02 Quantity: > 1 in
Photos (Y/N): _____ Elevated Turbidity? (Y/N): N Canopy (% open): 5%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) _____ pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

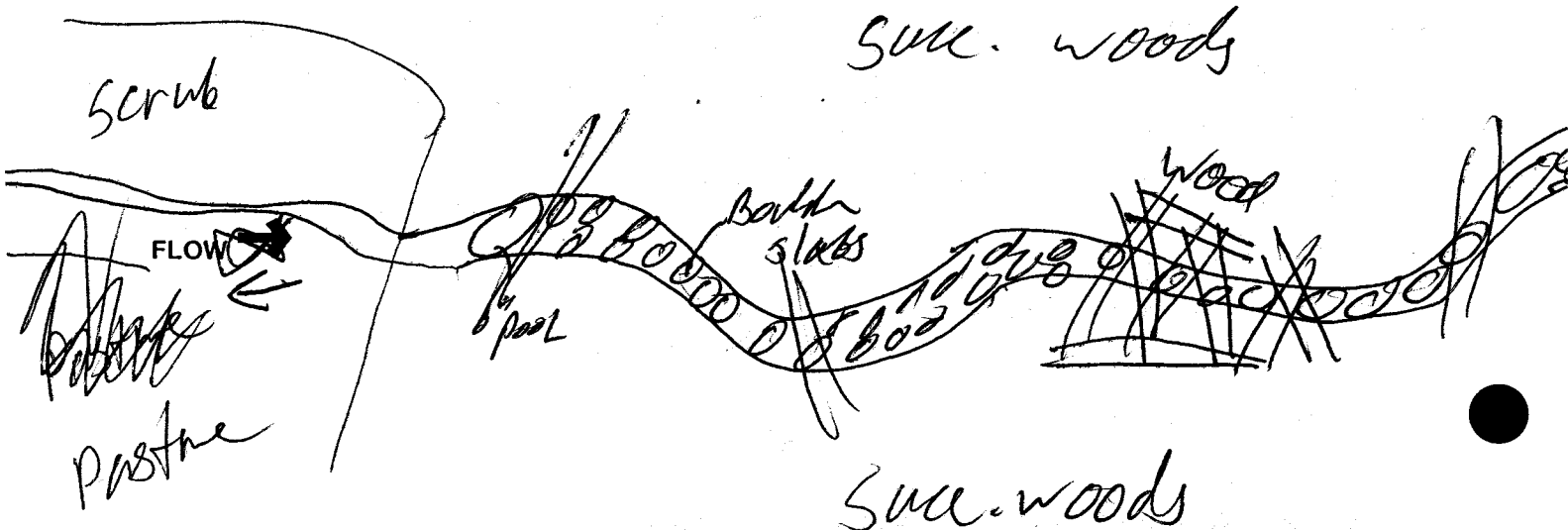
Additional comments/description of pollution impacts: _____

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) X Voucher? (Y/N) X Salamanders Observed? (Y/N) X Voucher? (Y/N) X
Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) X Voucher? (Y/N) X
Comments Regarding Biology: crayfish present

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W4 Candy Run E-19 SITE NUMBER _____
 RIVER BASIN Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/6/02 SCORER SCS COMMENTS Ephemeral Stream
 DRAINAGE AREA (mi²) 0.058

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS (12 pts)		<input type="checkbox"/> SILT (3 pt)	
<input type="checkbox"/> BOULDER (>256 mm) (12 pts)		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS (3 pts)	10
<input checked="" type="checkbox"/> COBBLE (65-256 mm) (9 pts)	30	<input type="checkbox"/> FINE DETRITUS (3 pts)	
<input type="checkbox"/> GRAVEL (2-64 mm) (8 pts)	20	<input type="checkbox"/> CLAY or HARPAN (0 pt)	
<input type="checkbox"/> SAND (<2 mm) (0 pts)		<input type="checkbox"/> MUCK (0 pts)	
<input checked="" type="checkbox"/> BEDROCK (12 pt)	40	<input type="checkbox"/> ARTIFICIAL (3 pts)	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 3 INCHES (7.6 cm) (25 pts)	<input type="checkbox"/> LESS THAN 1 INCHES (2.5 cm) (5 pts)
<input checked="" type="checkbox"/> 1 INCHES (2.5 cm) TO LESS THAN 3 INCHES (7.6 cm) (15 pts)	<input type="checkbox"/> NO POOL (no water or moist channel) (0 pts)

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 7"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET (4.6 m) (25 pts)	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) (5 pts)
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (3.0 m) (20 pts)	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) (0 pts)
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.0 m) (10 pts)	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 4'

HHEI Metrics

Substrate Max = 30

25

Pool Depth Max = 25

15

Bankfull Width Max=25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY *NOTE: River Right and Left looking downstream*

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
<input checked="" type="checkbox"/> L	<input checked="" type="checkbox"/> R (Per Bank)	<input type="checkbox"/> L	<input type="checkbox"/> R (Most Predominant per Bank)
<input checked="" type="checkbox"/>	Wide >10m	<input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	None	<input type="checkbox"/>	Fenced Pasture
		<input type="checkbox"/> L	<input type="checkbox"/> R
		<input type="checkbox"/>	Conservation Tillage
		<input type="checkbox"/>	Urban or Industrial
		<input type="checkbox"/>	Open Pasture, Row Crop
		<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS NOT Base Flow

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat	<input type="checkbox"/> Flat to Moderate	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Canely Run Distance from Evaluated Stream 1125 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 22 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Clarksburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 6/6/07 Quantity: N/A
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 30%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain: _____

Additional comments/description of pollution impacts: (Some 4x4 activity)
(4x4 Activity in vicinity)

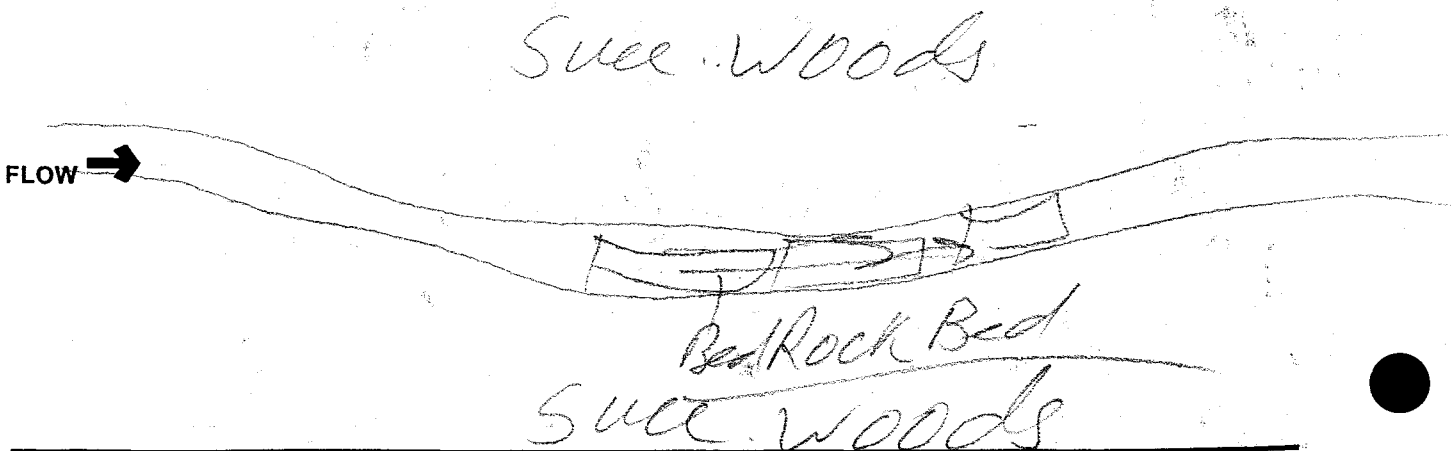
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: Well Developed understory

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **70**

River Code: RM: Stream: Little Scioto River
 Date: 8/9/02 Location: North section - Dan white Hollow & Above
 Scorers Full Name: SCT Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input checked="" type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [8]	<input checked="" type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input checked="" type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> HARDPAN [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> SANDSTONE [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]
<input checked="" type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources	<input type="checkbox"/> RIP/RAP [0]	NESS:	<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> LACUSTRINE [0]		<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> SHALE [-1]		<input checked="" type="checkbox"/> NORMAL [0]
		<input type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NONE [1]

Substrate

 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2]
 (High Quality Only, Score 5 or >) 3 or Less [0]

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions) AMOUNT: (Check ONLY One or check 2 and AVERAGE)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<u>1</u> UNDERCUT BANKS [1]	<u>3</u> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<u>1</u> OVERHANGING VEGETATION [1]	<u>1</u> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<u>1</u> SHALLOWS (IN SLOW WATER) [1]	<u>1</u> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<u>1</u> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover

 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input checked="" type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input checked="" type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input checked="" type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel

 Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream River Left Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<u>2</u> <input checked="" type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

Riparian

 Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input checked="" type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> MODERATE [1]
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: _____	<input checked="" type="checkbox"/> SLOW [1]
		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> VERY FAST [1]

Pool/Current

 Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> Best Areas > 10 cm [2]	<input checked="" type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
COMMENTS: _____			<input type="checkbox"/> EXTENSIVE [-1]
			<input type="checkbox"/> NO RIFFLE [Metric=0]

Riffle/Run

 Max 8
 Gradient

 Max 10

6] GRADIENT (ft/mi): 0.52 DRAINAGE AREA (sq.mi.): 232.6
 % POOL: % GLIDE:
 % RIFFLE: % RUN:

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain: _____

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural Dams
 - Other Flow Alteration
 - Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

First Sampling Pass

Stream Measurements:			
Average Width	Average Depth	Maximum Depth	Bankfull Mean W/D Ratio
92'	1'	2'	100'
Bankfull Width	Bankfull Depth	Bankfull Area	Floodprone Entrenchment Ratio

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: -Low, -Moderate, -High

Stream Drawing:

Yes/NO

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Fair: _____

Is There Water Close Downstream? How Fair: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

River Code: RM: Stream: Little Scioto River
 Date: 8/9/02 Location: South Section - Dan White Hollow + Below
 Scorers Full Name: SEJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input checked="" type="checkbox"/> GRAVEL [7]	_____	Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input checked="" type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	_____	<input checked="" type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT: <input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	_____	<input type="checkbox"/> TILLS [1]	<input checked="" type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	_____	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	_____	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input checked="" type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources	_____	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
NUMBER OF SUBSTRATE TYPES: <input checked="" type="checkbox"/> 4 or More [2]			<input type="checkbox"/> RIP/RAP [0]	NESS: <input checked="" type="checkbox"/> MODERATE [-1]
(High Quality Only, Score 5 or >) <input type="checkbox"/> 3 or Less [0]			<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> NORMAL [0]
COMMENTS: _____			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> COAL FINES [-2]	

Substrate
16
 Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<u>1</u> UNDERCUT BANKS [1]	<u>2</u> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<u>1</u> OVERHANGING VEGETATION [1]	<u>1</u> ROOTWADS [1]	<input checked="" type="checkbox"/> MODERATE 25-75% [7]
<u>2</u> SHALLOWS (IN SLOW WATER) [1]	BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
13
 Max 20

3) CHANNEL MORPHOLOGY (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING <input type="checkbox"/> IMPOUND.
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION <input checked="" type="checkbox"/> ISLANDS
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL <input type="checkbox"/> LEVEED
<input checked="" type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING <input type="checkbox"/> BANK SHAPING
<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS				

Channel
15
 Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream P

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input checked="" type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

Riparian
5
 Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1] <input type="checkbox"/> TORRENTIAL [-1]
<input checked="" type="checkbox"/> 0.7-1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> FAST [1] <input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1] <input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> SLOW [1] <input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: <u>Extremely Drained Down / Low Flow</u>	

Pool/Current
8
 Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]
[RIFFLE=0]			<input type="checkbox"/> EXTENSIVE [-1]
COMMENTS: <u>Extremely Drained Down / Low Flow</u> <input type="checkbox"/> NO RIFFLE [Metric=0]			

Riffle/Run
4
 Max 8
 Gradient
4
 Max 10

6) GRADIENT (ft/mi): 0.52 DRAINAGE AREA (sq.mi.): 232.6 %POOL: 40 %GLIDE: 10
 %RIFFLE: 10 %RUN: 30

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

- None
- Industrial
- WWTP
- Ag
- Livestock
- Silviculture
- Construction
- Urban Runoff
- CSOs
- Suburban Impacts
- Mining
- Channelization
- Riparian Removal
- Landfills
- Natural
- Dams
- Other Flow Alteration
- Other: _____

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10)

Stream Measurements:

Average Width	60"	Average Depth		Maximum Depth		Av. Bankfull Width	92"	Bankfull Depth		W/D Ratio		Floodprone Area		Entrenchment Ratio	
---------------	-----	---------------	--	---------------	--	--------------------	-----	----------------	--	-----------	--	-----------------	--	--------------------	--

Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Distance: _____

Gear: _____

First Sampling Pass _____

Stream Drawing:

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

SITE NAME/LOCATION W5 Blue Run (tributary) 1 SITE NUMBER _____
BREI DRAINAGE AREA (mi²) 0.85
 RIVER BASIN _____ LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 8/8/02 SCORER SCJ COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>30</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	<u>20</u>
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	<u>20</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

HHEI Metric:

Substrate Max = 30

16

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts] LESS THAN 4 INCHES (10 cm) [16 pts]
 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [16 pts] NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 3.5"

Pool Dept Max = 25

5

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts] 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [15 pts]
 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts] LESS THAN 5 FEET (1.5 m) [0 pts]
 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 5.5'

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank) Wide >10m
 Moderate 5-10m
 Narrow <5m
 None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank) Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 Residential, Park, New Field
 Fenced Pasture

L R

- Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing Moist Channel, isolated pools, no flow
 Interstitial flow with isolated pools Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

- Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: _____ Distance from Evaluated Stream _____
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
County: Scioto Township / _____
City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 40%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

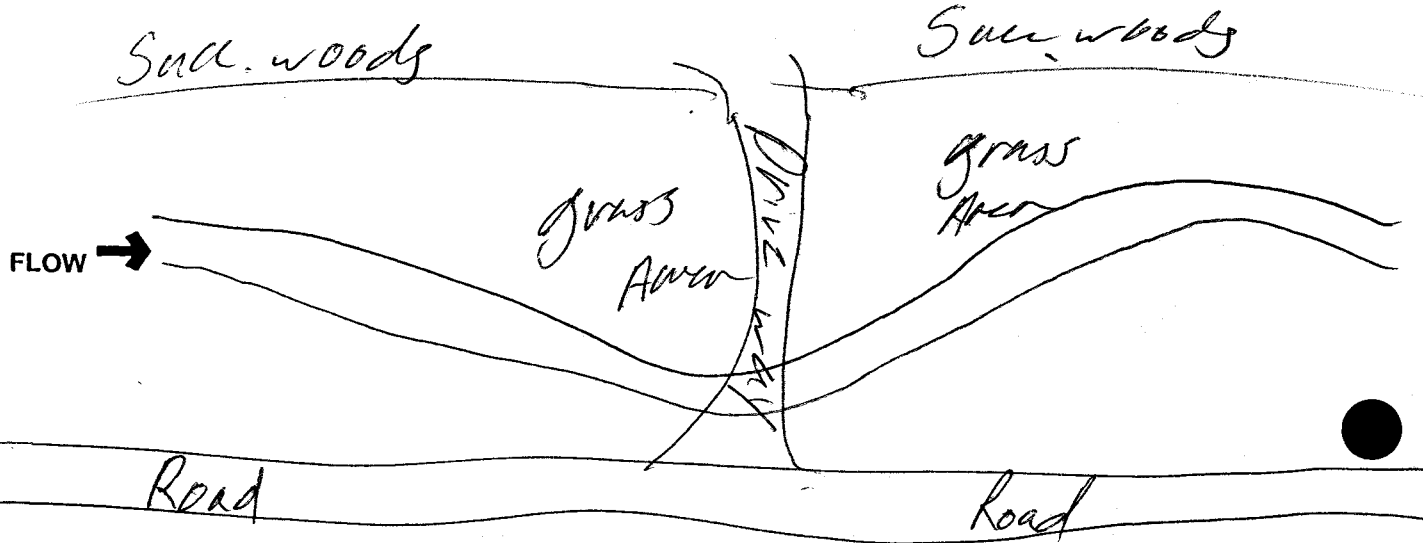
Additional comments/description of pollution impacts: _____

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Y Voucher? (Y/N) _____ Salamanders Observed? (Y/N) Y Voucher? (Y/N) _____
Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) _____
Comments Regarding Biology: (yay-creekchubs) Juvenile & Adult Northern 2 Lined Salamanders, green Frogs, Tipulids

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W5 BRTZ (E-4) (Near Morris Lane) SITE NUMBER _____
 DRAINAGE AREA (mi²) 0.757
 RIVER BASIN Little Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/4/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____ ✓	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____ ✓	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____ ✓	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts] LESS THAN 4 INCHES (10 cm) [5 pts]
- 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts] NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 29

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts] 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
- 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts] LESS THAN 5 FEET (1.5 m) [10 pts]
- 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 91

HHEI Metric:

Substrate Max = 30

16

Pool Depth Max = 25

5

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- (Per Bank) Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

FLOODPLAIN QUALITY

- (Most Predominant per Bank) Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture

- Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing Moist Channel, isolated pools, no flow
- Interstitial flow with isolated pools Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 1.0 2.0 3.0
- 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

- Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Blue Run Distance from Evaluated Stream 2600
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Cumsville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: N/A Quantity: N/A
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 10%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Fenced Pasture on Right

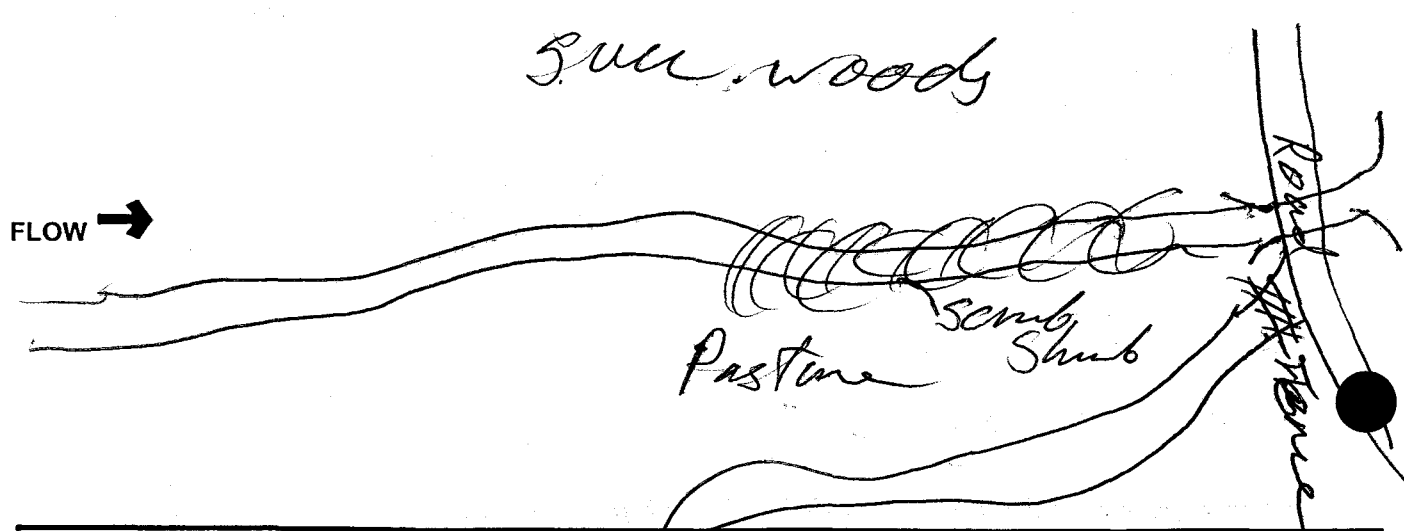
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) X Salamanders Observed? (Y/N) X Voucher? (Y/N) X
Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) X Voucher? (Y/N) X

Comments Regarding Biology: Does not get High Flow) Dry channel No Animals

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W5 BRt3 E-5 (Howards Hollow) SITE NUMBER _____
 DRAINAGE AREA (mi²) 0.728
 RIVER BASIN Little Sande Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/4/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u> ✓	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>10</u> ✓	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>10</u> ✓	<input type="checkbox"/> MUCK [0 pts]	_____
<input checked="" type="checkbox"/> BEDROCK [12 pt]	<u>50</u> ✓	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

HHEI Metric:

Substrate Max = 30

19

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 2 INCHES (40 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6"

Pool Depth Max = 25

15

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET (25 pts)	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.0 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 3.5'

Bankfull Width Max=25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank)
- Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
- Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture

- L R
- Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
- 0.5
- 1.0
- 1.5
- 2.5
- 2.0
- 3.0
- >3

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Blue Run Distance from Evaluated Stream 3400
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 21 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Luccoville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: N/A Quantity: N/A
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 60%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

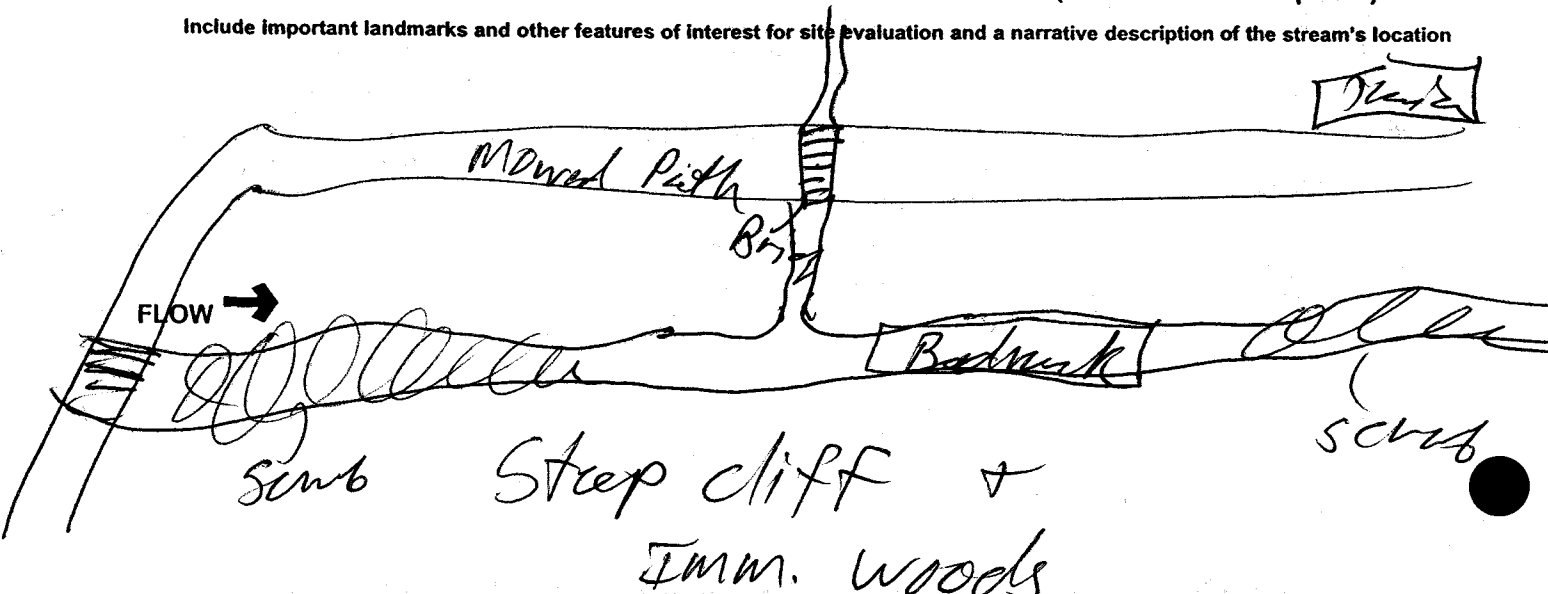
Additional comments/description of pollution impacts: Near trailers + moved lawn
Down Stream of Orchard.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) X Voucher? (Y/N) X Salamanders Observed? (Y/N) X Voucher? (Y/N) X
Frogs or Tadpoles Observed? (Y/N) X Voucher? (Y/N) X Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) X
Comments Regarding Biology: Flatworms, mayflies, Isopods, mosquito larvae

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W5 BR4 SITE NUMBER DRAINAGE AREA (mi²) 0.65 RIVER BASIN Little Scioto LAT. LONG. RIVER CODE RIVER MILE DATE 8/8/02 SCORER SCS COMMENTS Ephraim Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [X] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [] RECENT OR NO RECOVERY MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts]
4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]
LESS THAN 4 INCHES (10 cm) [5 pts]
NO POOL (no water or frost channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (Inches): 0

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]
5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 3.5

HHEI Metric:

Substrate Max = 30

16

Pool Depth Max = 25

0

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY *NOTE: River Right and Left looking downstream*

RIPARIAN WIDTH

- Wide >10m
Moderate 5-10m
Narrow <5m
None

FLOODPLAIN QUALITY

- Mature Forest, Wetland
Immature Forest, Shrub or Old Field
Residential, Park, New Field
Forced Pasture

L R

- Conservation Tillage
Urban or Industrial
Open Pasture, Row Crop
Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
Interstitial flow with isolated pools
Moist Channel, isolated pools, no flow
Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 0.5 1.0 1.5 2.0 2.5 3.0 >3

STREAM GRADIENT ESTIMATE

- Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(S)

WWH Name: Little Scioto River Distance from Evaluated Stream _____
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
County: Scioto Township / _____
City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____

Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 10%

Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X

Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

Additional comments/description of pollution impacts: _____

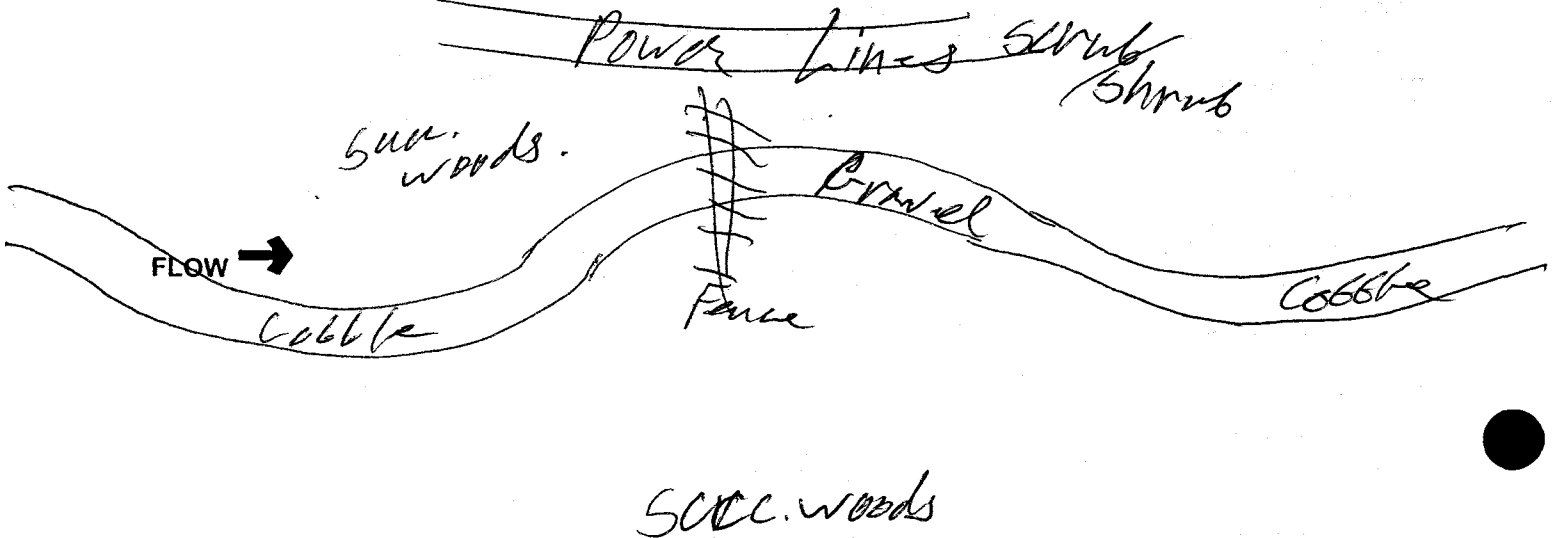
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Per Code: _____ RM: _____ Stream: W 8 Long Run (Peregrine Stream)
 Date: 5/10/02 Location: Follows Rt. 139 within the Study Area
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> -BLDR /SLBS [10]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> -GRAVEL [7]	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> -BOULDER [9]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> -SAND [6]	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> -COBBLE [8]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> -BEDROCK [5]	<input type="checkbox"/> -LIMESTONE [1]
<input type="checkbox"/> -HARDPAN [4]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> -DETRITUS [3]	<input type="checkbox"/> -TILLS [1]
<input type="checkbox"/> -MUCK [2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> -ARTIFICIAL [0]	<input type="checkbox"/> -WETLANDS [0]
<input type="checkbox"/> -SILT [2]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> -SILT [2]	<input type="checkbox"/> -HARDPAN [0]
			NOTE: Ignore Sludge Originating From Point Sources	<input checked="" type="checkbox"/> -SANDSTONE [0]
				<input type="checkbox"/> -RIP/RAP [0]
				<input type="checkbox"/> -LACUSTRINE [0]
				<input type="checkbox"/> -SHALE [-1]
				<input type="checkbox"/> -COAL FINES [-2]

Substrate
 17
 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2]
 (High Quality Only, Score 5 or >) 3 or Less [0]

COMMENTS: _____

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> - EXTENSIVE > 75% [11]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> - MODERATE 25-75% [7]
<input checked="" type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> - SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> - NEARLY ABSENT < 5% [1]

Cover
 7
 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> - HIGH [4]	<input type="checkbox"/> - EXCELLENT [7]	<input type="checkbox"/> - NONE [6]	<input checked="" type="checkbox"/> - HIGH [3]	<input type="checkbox"/> - SNAGGING
<input type="checkbox"/> - MODERATE [3]	<input type="checkbox"/> - GOOD [5]	<input type="checkbox"/> - RECOVERED [4]	<input type="checkbox"/> - MODERATE [2]	<input type="checkbox"/> - IMPOUND.
<input type="checkbox"/> - LOW [2]	<input type="checkbox"/> - FAIR [3]	<input type="checkbox"/> - RECOVERING [3]	<input type="checkbox"/> - LOW [1]	<input type="checkbox"/> - RELOCATION
<input type="checkbox"/> - NONE [1]	<input type="checkbox"/> - POOR [1]	<input type="checkbox"/> - RECENT OR NO RECOVERY [1]		<input checked="" type="checkbox"/> - CANOPY REMOVAL
				<input type="checkbox"/> - LEVEED
				<input type="checkbox"/> - DREDGING
				<input checked="" type="checkbox"/> - BANK SHAPING
				<input type="checkbox"/> - ONE SIDE CHANNEL MODIFICATIONS

Channel
 13
 Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> - WIDE > 50m [4]	<input type="checkbox"/> - FOREST, SWAMP [3]	<input checked="" type="checkbox"/> - NONE/LITTLE [3]
<input type="checkbox"/> - MODERATE 10-50m [3]	<input type="checkbox"/> - SHRUB OR OLD FIELD [2]	<input type="checkbox"/> - MODERATE [2]
<input type="checkbox"/> - NARROW 5-10 m [2]	<input type="checkbox"/> - RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> - HEAVY/SEVERE [1]
<input type="checkbox"/> - VERY NARROW < 5 m [1]	<input type="checkbox"/> - FENCED PASTURE [1]	<input type="checkbox"/> - MINING/CONSTRUCTION [0]
<input type="checkbox"/> - NONE [0]		

Riparian
 6.5
 Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY [POOLS & RIFFLES!]
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)
<input type="checkbox"/> - >1m [6]	<input type="checkbox"/> - POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> - EDDIES [1]
<input type="checkbox"/> - 0.7-1m [4]	<input type="checkbox"/> - POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> - TORRENTIAL [-1]
<input type="checkbox"/> - 0.4-0.7m [2]	<input type="checkbox"/> - POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> - FAST [1]
<input type="checkbox"/> - 0.2-0.4m [1]		<input type="checkbox"/> - MODERATE [1]
<input type="checkbox"/> - < 0.2m [POOL=0]		<input type="checkbox"/> - INTERMITTENT [-2]
		<input checked="" type="checkbox"/> - SLOW [1]
		<input checked="" type="checkbox"/> - VERY FAST [1]

Pool/Current
 8
 Max 12

COMMENTS: _____

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> - Best Areas >10 cm [2]	<input type="checkbox"/> - MAX > 50 [2]	<input type="checkbox"/> - STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> - NONE [2]
<input type="checkbox"/> - Best Areas 5-10 cm [1]	<input type="checkbox"/> - MAX < 50 [1]	<input type="checkbox"/> - MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> - LOW [1]
<input type="checkbox"/> - Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> - UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> - MODERATE [0]
			<input type="checkbox"/> - EXTENSIVE [-1]
			<input type="checkbox"/> - NO RIFFLE [Metric=0]

Riffle/Run
 6
 Max 8
 Gradient
 6
 Max 10

6) GRADIENT (ft/mi): 20.4 DRAINAGE AREA (sq.mi.): 47.921
 % POOL: 25 % GLIDE: -
 % RIFFLE: 50 % RUN: 25

* Best areas must be large enough to support a population of riffle-obligate species

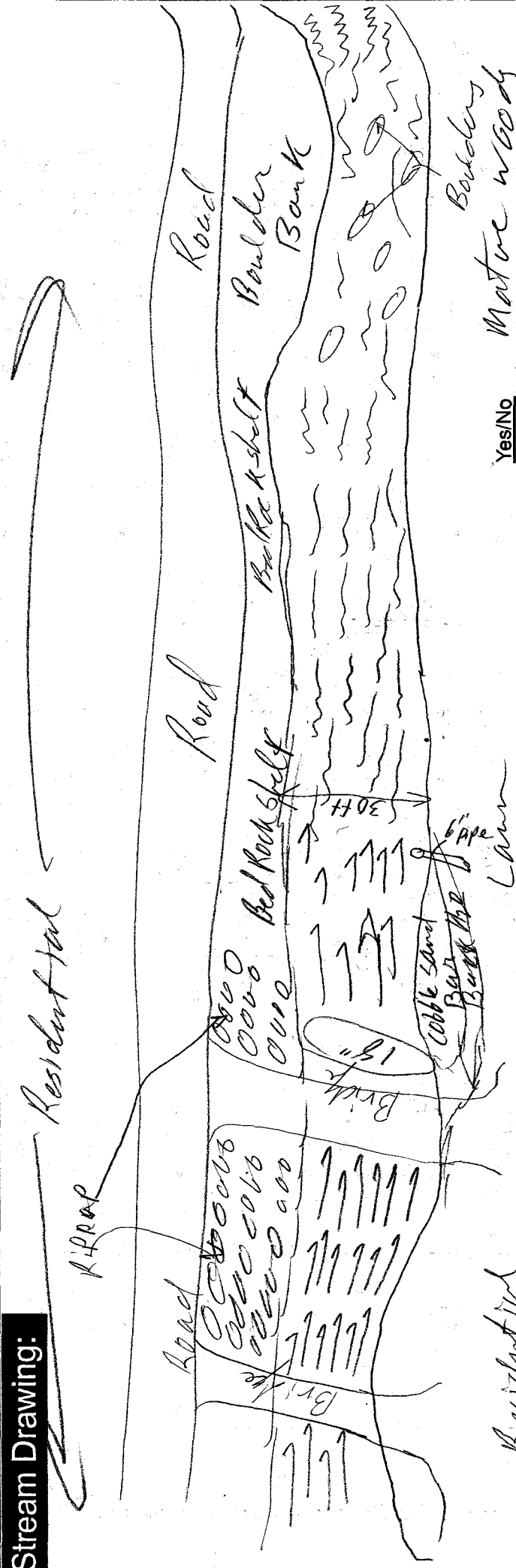
- Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

Gear: _____		Distance: _____		Water Clarity: _____		Water Stage: _____		Canopy -% Open _____	
First Sampling Pass									
Stream Measurements:									
Average Width	Average Depth	Maximum Depth	Average Width	Bankfull Width	Bankfull Depth	Mean W/D Ratio	Floodprone Area	Entrenchment Ratio	
30			40		36 in				
ft									

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10)

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

(Need waddler!!!)

1 taxa caddis 1 stone taxa
150 pods



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **68.5**

Per Code: _____ RM: _____ Stream: WB LRE 15 (Intermittent Stream)
Date: 5/8/02 Location: Stream Crosses Rt. 139, Glendale, and Lucasville - minter Rd.

Scorers Full Name: SCT Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR/SLBS [10]	<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/>	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT: <input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/>	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input checked="" type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
			<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> MODERATE [-1]
			<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> NORMAL [0]
			<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

Substrate
15.9
Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
7
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING

Channel
17
Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> CONSERVATION TILLAGE [1]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	<input type="checkbox"/> MODERATE [2]
<input checked="" type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

Riparian
8
Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> SLOW [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> TORRENTIAL [-1]

Pool/Current
7
Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]

Riffle/Run
6
Max 8
Gradient
8
Max 10

6) GRADIENT (ft/mi): 75.4 DRAINAGE AREA (sq.mi.): 4.574
%POOL: 30 %GLIDE: —
%RIFFLE: 70 %RUN: —

** Best areas must be large enough to support a population of riffle-obligate species

- Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

First Sampling Pass _____

Stream Measurements:

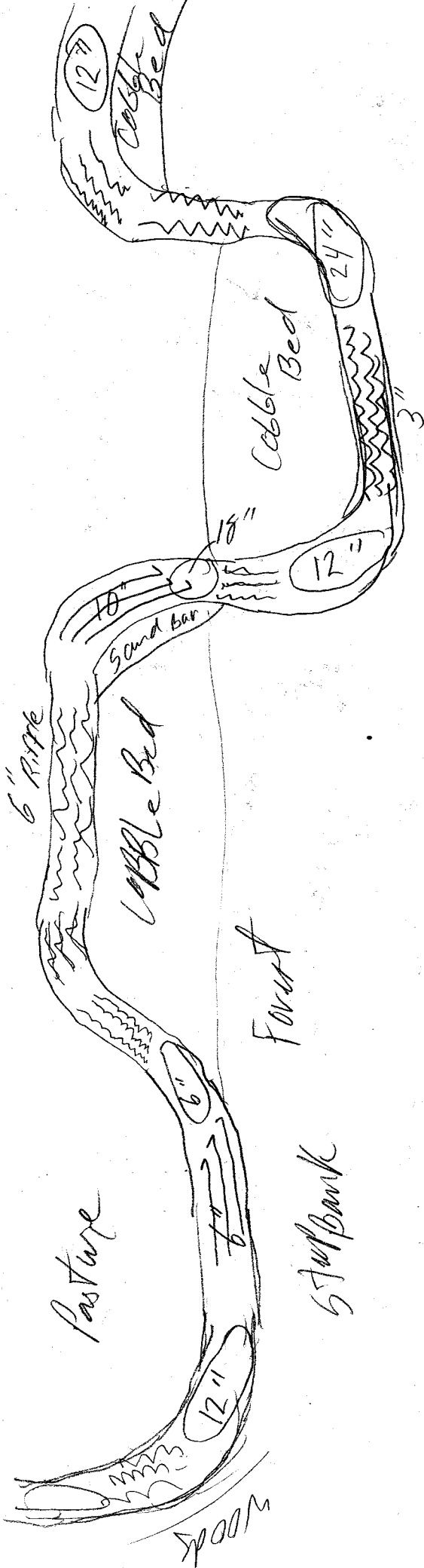
Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Mean Width	W/D Ratio	Bankfull Max Depth	Floodprone Area	Entrenchment Ratio
6.5 ft	3" ft	5" ft	20.5 ft	1.75 ft		2 ft		

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



- Yes/No
- Yes No
 - Yes No
 - Yes No
 - Yes No
 - Yes No

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Is there water upstream? How Far: _____
- Is There Water Close Downstream? How Far: _____
- Is Dry Channel Mostly Natural?

SITE NAME/LOCATION W8 LRT16 SITE NUMBER _____
crosses Entire Study Area (Near Route 139) DRAINAGE AREA (mi²) 0.892
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/10/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL _____ NONE / NATURAL CHANNEL _____ RECOVERED _____ RECOVERING _____ RECENT OR NO RECOVERY _____
 MODIFICATIONS: _____

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BDDR SLABS [12 pts]	_____	SILT [3 pt]	10 ✓
BOULDER (>256 mm) [12 pts]	_____	LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	40	FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	50	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	_____
BEDROCK [12 pt]	_____	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 6 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 7"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input checked="" type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 13'

HHEI Metrics

Substrate Max = 30

15

Pool Depth Max = 25

25

Bankfull Width Max=25

20

RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L R (Per Bank)
 Wide >10m
 Moderate 5-10m
 Narrow <5m
 None
 COMMENTS _____

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)	L R
Mature Forest, Wetland	Conservation Tillage
<input checked="" type="checkbox"/> Immature Forest, Shrub or Old Field	Urban or Industrial
<input checked="" type="checkbox"/> Residential, Park, New Field	Open Pasture, Row Crop
Fenced Pasture	Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Stream Flowing
 Interstitial flow with isolated pools
 COMMENTS Not Base Flow

Moist Channel, isolated pools, no flow
 Dry channel (no water)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

None	1.0	2.0	3.0
0.5	<input checked="" type="checkbox"/> 1.5	2.5	>3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Long Run Distance from Evaluated Stream 2750 ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____
County: Scioto Township: Madison
City: Clarks town

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 5/9/02 Quantity: < 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): Y Canopy (% open): 90%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) _____ pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

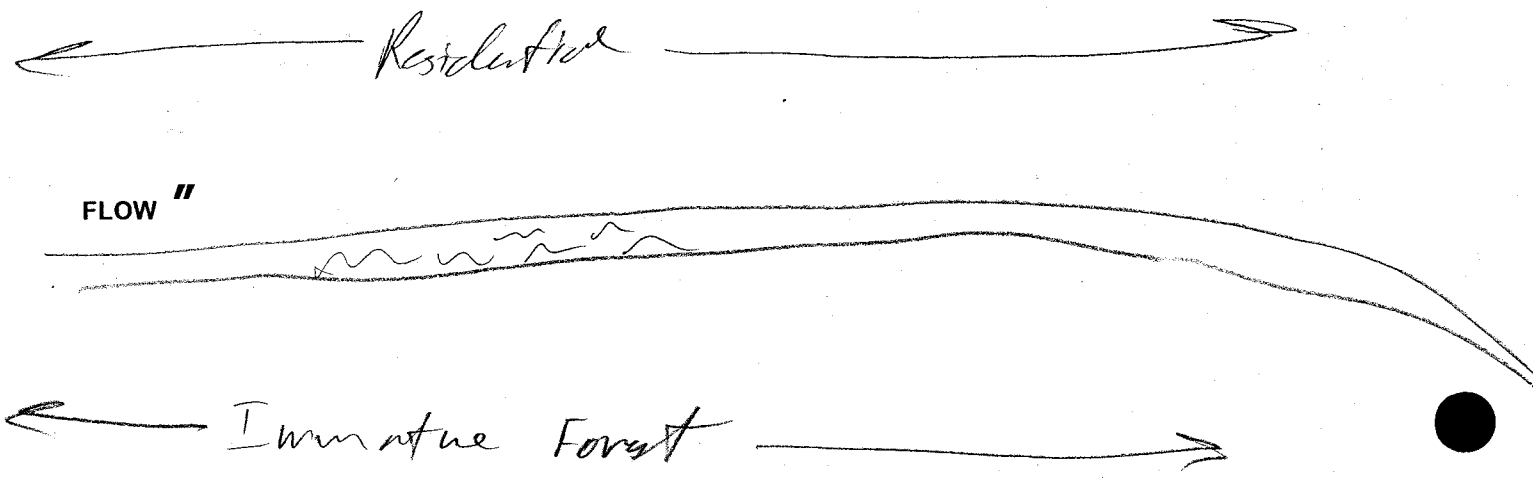
Additional comments/description of pollution impacts: Farm cattle upstream,
Residential impacts Down Stream
Channelization

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) IV Voucher? (Y/N) N
Comments Regarding Biology: I sapods

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION WB Off of Flowers Rd. SITE NUMBER _____
WB LRT 19 (Crosses Lucasville - Minford Rd.) DRAINAGE AREA (mi²) 0.294
 RIVER BASIN Little Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 6/13/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]		<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]	<u>20</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]		<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]		<input type="checkbox"/> MUCK [0 pts]	
<input checked="" type="checkbox"/> BEDROCK [12 pt]	<u>50</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [15 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.0 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 5.17

HHEI Metric:

Substrate Max = 30

21

Pool Depth Max = 25

15

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(S)

WWH Name: Long Run Distance from Evaluated Stream 4800
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 22 NRCS Soil Map Stream Order _____
County: Scioto Township: Madison
City: Mintford

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 6/13/02 Quantity: 7 in
Photos (Y/N): N Elevated Turbidity? (Y/N): Y Canopy (% open): 10%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Down Stream of Residential Areas.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Y Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: 3 Northern Dusky salamanders
Crayfish & Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SITE NAME/LOCATION W 8 LRT 13 SITE NUMBER _____
Crosses Route 139 from Rd. (Flows Between Housing Areas) DRAINAGE AREA (mi²) 0.282
 RIVER BASIN Little Scioto LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/8/02 SCORER SW COMMENTS Intermittent Stream

***NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions**

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. **SUBSTRATE** (Check **ONLY** two substrate **TYPE** boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]	_____	SILT [3 pt]	_____
BOULDER (>256 mm) [12 pts]	_____	LEAF PACKWOODY DEBRIS [3 pts]	<u>10</u>
COBBLE (65-256 mm) [9 pts]	<u>30</u>	FINE DETRITUS [3 pts]	_____
GRAVEL (2-64 mm) [3 pts]	<u>50</u>	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	<u>10</u>	MUCK [0 pts]	_____
BEDROCK [12 pt]	_____	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. **Maximum Pool Depth** (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check **ONLY** one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 11"

3. **BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check **ONLY** one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 7

HHEI Metrics

Substrate Max = 30

16

Pool Depth Max = 25

25

Bankfull Width Max=25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY q NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L R (Per Bank)

Wide >10m

Moderate 5-10m

Narrow <5m

None

COMMENTS _____

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)

Mature Forest, Wetland

Immature Forest, Shrub or Old

Field

Residential, Park, New Field

Fenced Pasture

L R

Conservation Tillage

Urban or Industrial

Open Pasture, Row Crop

Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check **ONLY** one box):

Stream Flowing

Interstitial flow with isolated pools

COMMENTS _____

Moist Channel, isolated pools, no flow

Dry channel (no water)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check **ONLY** one box):

None

1.0

2.0

3.0

0.5

1.5

2.5

>3

STREAM GRADIENT ESTIMATE

Flat

Flat to Moderate

Moderate

Moderate to Severe

Severe

take 5 to 6 inches

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

KWWH Name: Long Run Distance from Evaluated Stream 1000 ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____
County: Scioto Township: Madison
City: minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 8, 02 Quantity: < 1 in
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 30%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (EC) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (Fmhos/cm) K
Is the sampling reach representative of the stream (Y/N) X If not, please explain: _____

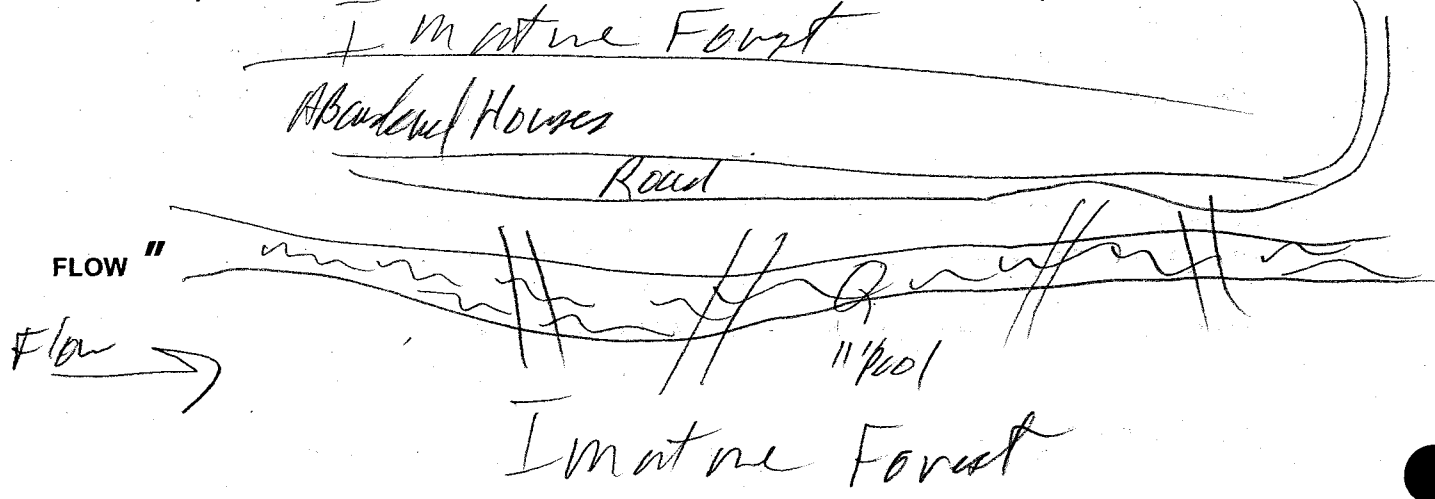
Additional comments/description of pollution impacts: Isolated Dumping up stream

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) X Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION WB LR412 SITE NUMBER _____
crosses Route 139 rd. (Near Area Boundary) DRAINAGE AREA (mi²) 0.528
 RIVER BASIN Little Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/8/02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL _____ NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS: _____

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]	_____	SILT [3 pt]	<u>5</u> ✓
BOULDER (>256 mm) [12 pts]	_____	LEAF PACKWOODY DEBRIS [3 pts]	<u>5</u> ✓
COBBLE (65-256 mm) [9 pts]	<u>20</u> ✓	FINE DETRITUS [3 pts]	_____
GRAVEL (2-64 mm) [3 pts]	<u>70</u> ✓	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	_____
BEDROCK [12 pt]	_____	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 10"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6'

HHEI Metrics

Substrate Max = 30

16

Pool Depth Max = 25

25

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>		Wide >10m
		Moderate 5-10m
<input checked="" type="checkbox"/>		Narrow <5m
		None

COMMENTS _____

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>		Mature Forest, Wetland			Conservation Tillage
		Immature Forest, Shrub or Old Field			Urban or Industrial
<input checked="" type="checkbox"/>		Residential, Park, New Field			Open Pasture, Row Crop
		Fenced Pasture			Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	Moist Channel, isolated pools, no flow
Interstitial flow with isolated pools	Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

None	1.0	<input checked="" type="checkbox"/> 2.0	3.0
0.5	1.5	2.5	>3

STREAM GRADIENT ESTIMATE

Flat	<input checked="" type="checkbox"/> Flat to Moderate	Moderate	Moderate to Severe	Severe
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10/15/05

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Long Run Distance from Evaluated Stream 2125 ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____

County: Scioto Township: Madison
City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 8 Quantity: 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 40%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

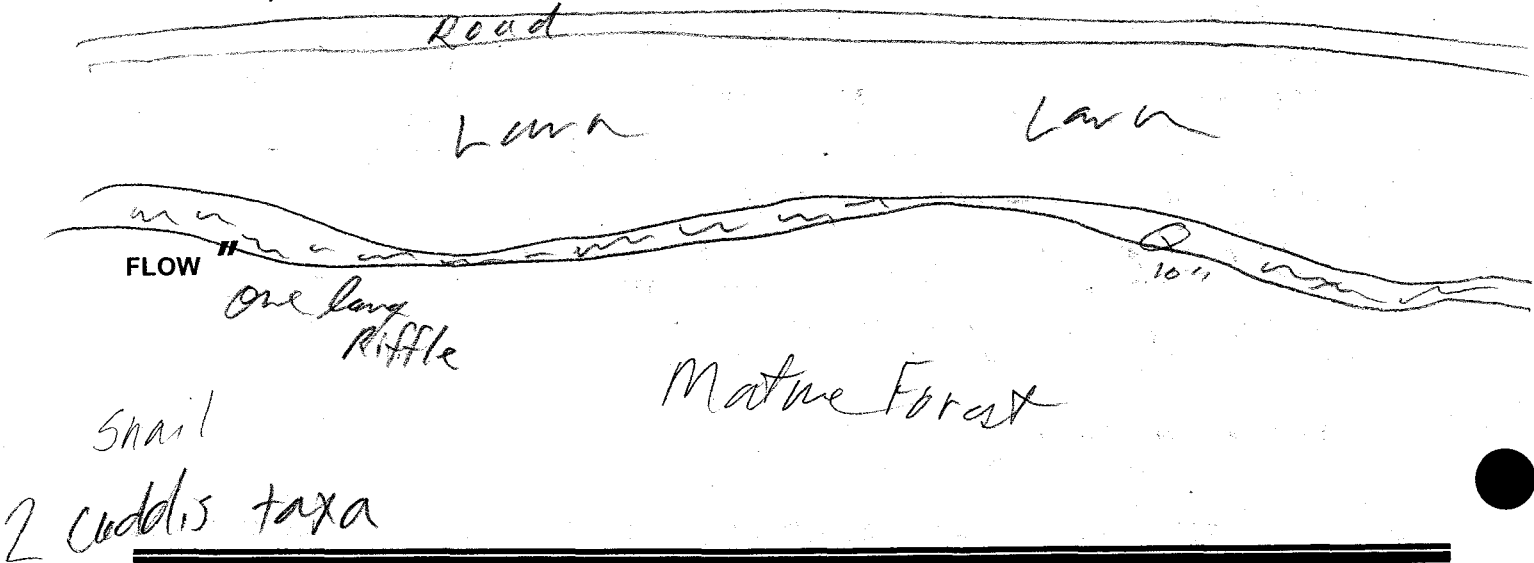
Additional comments/description of pollution impacts: Mowed lawn next to stream

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Stream flows through residential community

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



2 Stone taxa

SITE NAME/LOCATION WB WB LRE10 SITE NUMBER _____
Within RAGE Farm (off of Rt. 139) DRAINAGE AREA (mi²) 0.253
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/9/02 SCORER SCJ COMMENTS Intermittent Stream

* NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS: _____

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BDR SLABS [12 pts]	_____	SILT [3 pt]	<u>5</u> ✓
BOULDER (>256 mm) [12 pts]	_____	LEAF PACKWOODY DEBRIS [3 pts]	_____
COBBLE (65-256 mm) [9 pts]	<u>20</u> ✓	FINE DETRITUS [3 pts]	<u>30</u> ✓
GRAVEL (2-64 mm) [3 pts]	<u>40</u> ✓	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	<u>5</u> ✓
BEDROCK [12 pt]	<u>30</u> ✓	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 5.5

HHEI Metrics

Substrate Max = 30

20

Pool Depth Max = 25

15

Bankfull Width Max=25

5

RIPIARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPIARIAN WIDTH

L R (Per Bank)
 Wide >10m
 Moderate 5-10m
 Narrow <5m
 None

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)
 Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 Residential, Park, New Field
 Fenced Pasture

L R

Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Stream Flowing
 Interstitial flow with isolated pools
 Moist Channel, isolated pools, no flow
 Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

X WWH Name: Long Run River Distance from Evaluated Stream 1625 ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____

County: Scioto Township: Madison
City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 9, 02 Quantity: ???

Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 10%

Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Flows through Active pasture in lower half of stream; Flows through Mature Woods in upper half.

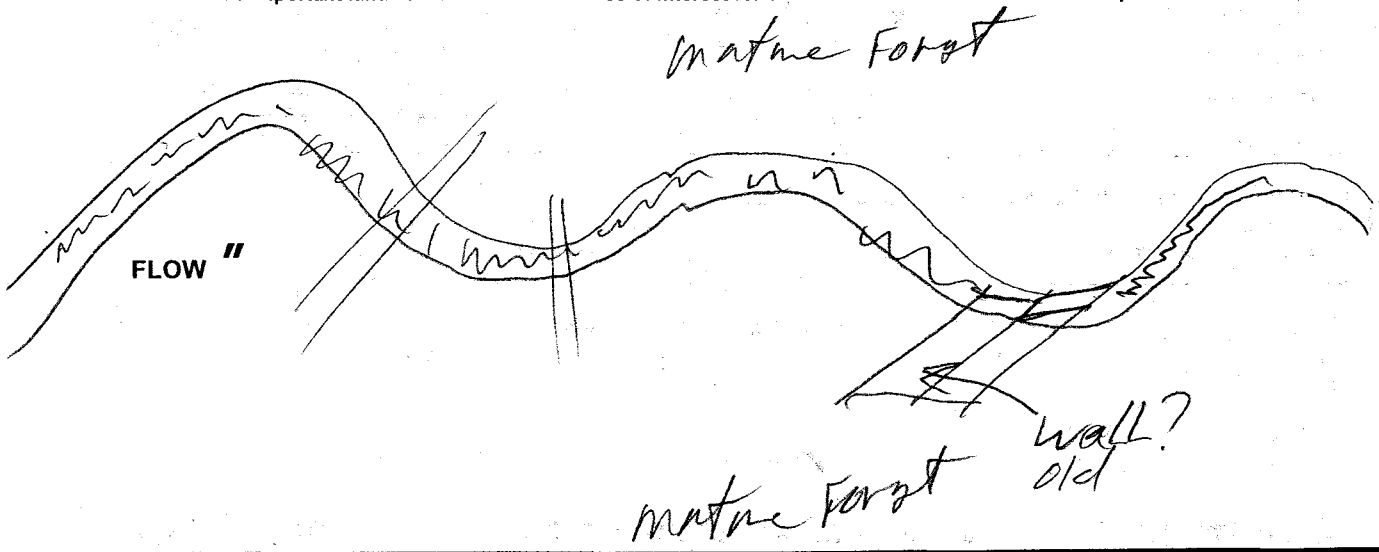
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Y Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Leeches, Stone Flies, isopods

Galamander

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION WB LRP 34 SITE NUMBER _____
within the Rage Farm (off of Rt. 139) DRAINAGE AREA (mi²) 0.458
 RIVER BASIN Little Suoto LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/9/02 SCORER SW COMMENTS Intermittent Stream

* NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BDR SLABS [12 pts]	_____	SILT [3 pt]	_____
BOULDER (>256 mm) [12 pts]	_____	LEAF PACKWOODY DEBRIS [3 pts]	_____ <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u> <input checked="" type="checkbox"/>	FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>70</u> <input checked="" type="checkbox"/>	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	_____
BEDROCK [12 pt]	_____	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6'

HHEI Metrics

Substrate Max = 30

15

Pool Depth Max = 25

15

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY (NOTE: River Right and Left looking downstream)

RIPARIAN WIDTH

L R (Per Bank)

- Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

COMMENTS immediately Rt. 156 Road then Forest

FLOODPLAIN QUALITY

L R (Most Predominant per Bank) L R

- Mature Forest, Wetland Conservation Tillage
- Immature Forest, Shrub or Old Field Urban or Industrial
- Residential, Park, New Field Open Pasture, Row Crop
- Fenced Pasture Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing Moist Channel, isolated pools, no flow
- Interstitial flow with isolated pools Dry channel (no water)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

None	1.0	2.0	3.0
0.5	<input checked="" type="checkbox"/> 1.5	2.5	>3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(S)

WWH Name: Long Run River Distance from Evaluated Stream 4000 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____
 County: Scioto Township: Madison
 City: minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: MM 9, 02 Quantity: > 1 in
 Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 80%
 Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) K
 Is the sampling reach representative of the stream (Y/N) X If not, please explain: _____

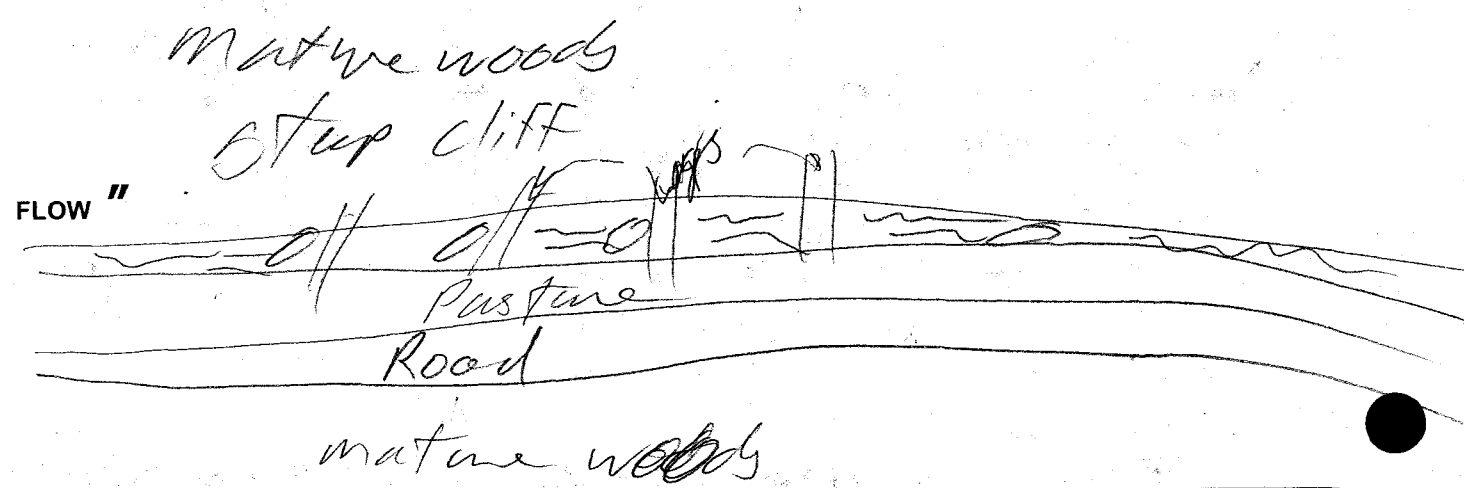
Additional comments/description of pollution impacts: cattle + horse + Horses on Road

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
 Comments Regarding Biology: (2) taxa stone fly, (3) Isopods, 14 taxa caddis (15), belemn water penny

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: 45.5

Per Code: _____ RM: _____ Stream: WB LRT3 (Intermittent Stream)
 Date: 5/9/02 Location: Stream Follows Swanger Valley - Minterel Rd.
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY	
<input type="checkbox"/> BLDR/SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)	Substrate 12 Max 20
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]	
<input type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/> BEDROCK [5]	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]	
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> SILT NORMAL [0]	
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input checked="" type="checkbox"/> SILT FREE [1]	
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		NESS:	<input type="checkbox"/> EXTENSIVE [-2]	
NUMBER OF SUBSTRATE TYPES: <input type="checkbox"/> 4 or More [2]		<input type="checkbox"/> 3 or Less [0]		<input type="checkbox"/> MODERATE [-1]	
COMMENTS:		<input type="checkbox"/> LACUSTRINE [0]		<input type="checkbox"/> NORMAL [0]	
		<input type="checkbox"/> SHALE [-1]		<input checked="" type="checkbox"/> NONE [1]	
		<input type="checkbox"/> COAL FINES [-2]			

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions) AMOUNT: (Check ONLY One or check 2 and AVERAGE)

(Structure)	TYPE: Score All That Occur		Cover
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	2 Max 20
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]	
<input type="checkbox"/> ROOTMATS [1]	COMMENTS:	<input type="checkbox"/> EXTENSIVE > 75% [11]	
		<input type="checkbox"/> MODERATE 25-75% [7]	
		<input type="checkbox"/> SPARSE 5-25% [3]	
		<input checked="" type="checkbox"/> NEARLY ABSENT < 5% [1]	

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	Channel
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING	8 Max 20
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION	
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL	
<input type="checkbox"/> NONE [1]	<input checked="" type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING	
				<input type="checkbox"/> BANK SHAPING	
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS	

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION	Riparian
L R (Per Bank)	L R (Most Predominant Per Bank)	L R	2.5 Max 10
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> CONSERVATION TILLAGE [1]	
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0]	
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input checked="" type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	
<input checked="" type="checkbox"/> NONE [0]			

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY (POOLS & RIFFLES!)	Pool/Current
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)	6 Max 12
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]	
<input type="checkbox"/> 0.7-1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1]	
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1]	
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> SLOW [1]	
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: <u>Not Low Flow</u>	<input checked="" type="checkbox"/> TORRENTIAL [-1]	
		<input type="checkbox"/> INTERSTITIAL [-1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input checked="" type="checkbox"/> VERY FAST [1]	

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS	Riffle/Run
<input checked="" type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input checked="" type="checkbox"/> NONE [2]	7 Max 8
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]	
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]	8 Max 10
COMMENTS:		<input type="checkbox"/> NO RIFFLE [Metric=0]	<input type="checkbox"/> EXTENSIVE [-1]	

6) GRADIENT (ft/mi): 82.8 DRAINAGE AREA (sq.mi.): 2.43

% POOL: 10 % GLIDE: 10
 % RIFFLE: 80 % RUN: 10

- Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

First Sampling Pass

Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Stream Measurements:

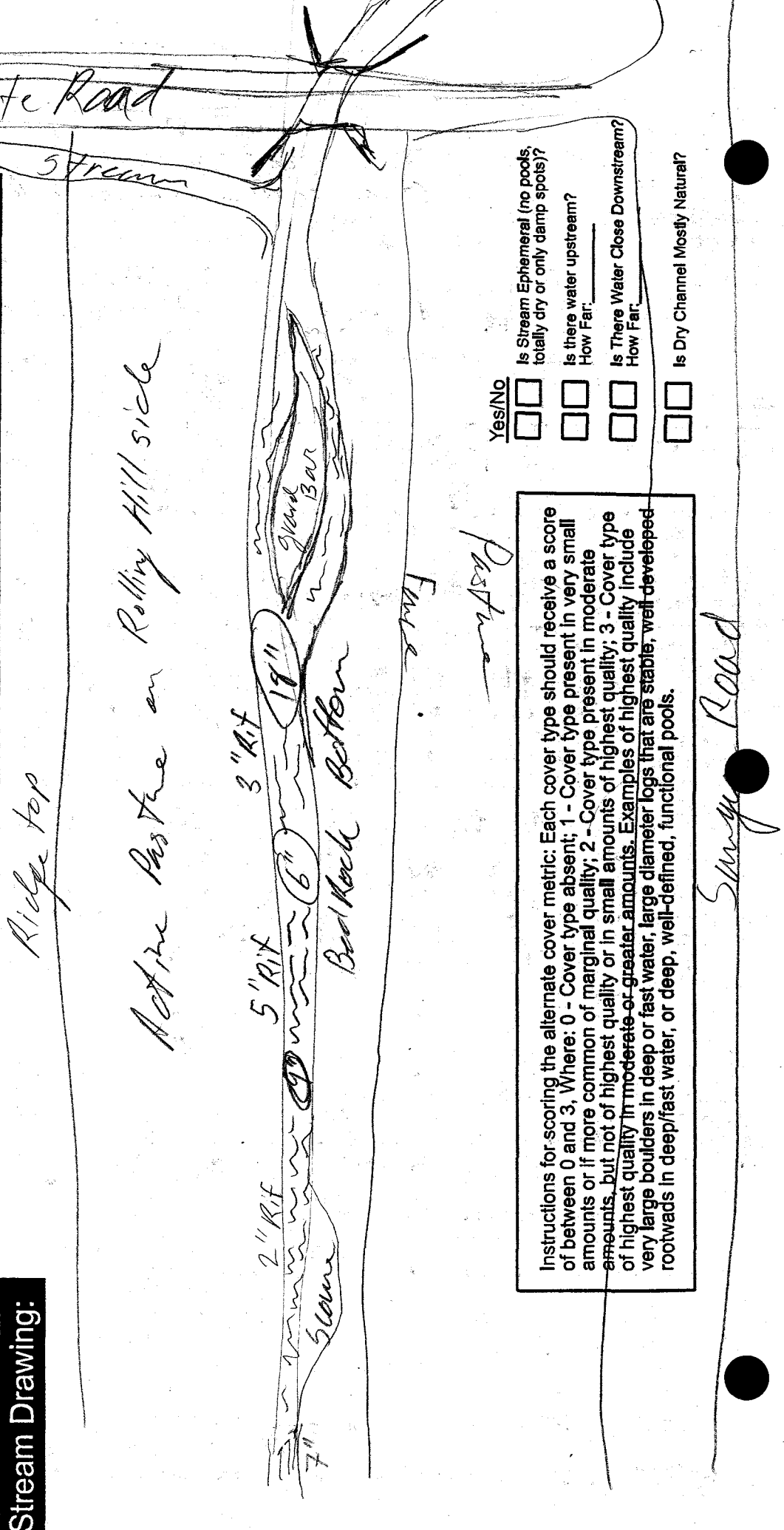
Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	Mean W/D Ratio	Bankfull Area	Maximum Floodprone Area	Entrenchment Ratio
5.5	3"	5"	8.5	12"	1.4	14"		

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: -Low, -Moderate, -High

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well-developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

Sung Road

SITE NAME/LOCATION WB LRT 4 SITE NUMBER _____
(Near Sanger Vally Rd.) (Flows thru Farm) DRAINAGE AREA (mi²) 0.211
 RIVER BASIN Little Scioto LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/9/02 SCORER SCJ COMMENTS Intermittent Stream

* NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]	_____	SILT [3 pt]	_____
BOULDER (>256 mm) [12 pts]	_____	LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>25</u> ✓	FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>40</u> ✓	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	<u>10</u> ✓	MUCK [0 pts]	_____
BEDROCK [12 pt]	<u>25</u> ✓	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 9"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6.1

HHEI Metrics

Substrate Max = 30

16

Pool Depth Max = 25

25

Bankfull Width Max = 25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY

NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L R (Per Bank)
 Wide >10m
 Moderate 5-10m
 → Narrow <5m
 → None
 COMMENTS _____

FLOODPLAIN QUALITY

L R (Most Predominant per Bank)
 Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 → Residential, Park, New Field
 → Fenced Pasture

L R
 Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Stream Flowing
 Interstitial flow with isolated pools
 COMMENTS _____
 Moist Channel, isolated pools, no flow
 Dry channel (no water)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

None	1.0	2.0	<input checked="" type="checkbox"/> 3.0
0.5	1.5	2.5	>3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

X WWH Name: Long Run Distance from Evaluated Stream 2875 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____
 County: Scioto Township: Madison
 City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 8 Quantity: 1"
 Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 95%
 Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

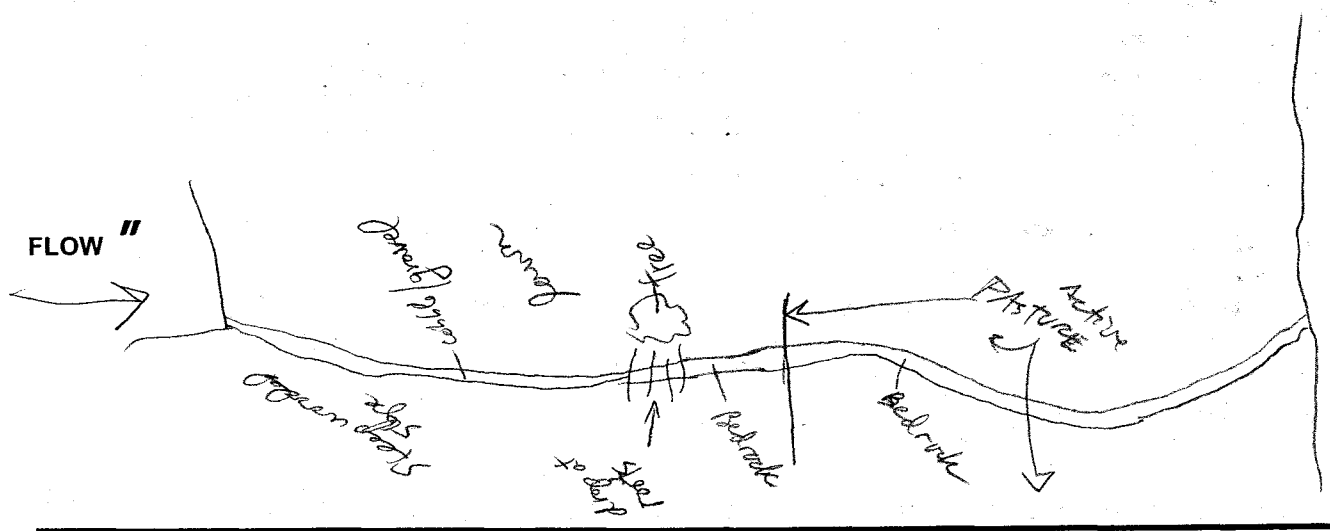
Additional comments/description of pollution impacts: Flows through Fenced + Active Pasture. Cattle on Hills, their Fowl goes down Hill easily

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
 Comments Regarding Biology: Isopods, leeches, mayflies (1 taxon), stonefly (1 taxon)

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W8 LRE#1 SITE NUMBER _____
(Near Viet point + Sampson Hill) DRAINAGE AREA (mi²) 0.505
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE May 6, 02 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pts]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>10%</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>70%</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>20%</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pts]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 2 INCHES (40 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or most of channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 12"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [15 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [10 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 5 FEET TO LESS THAN 10 FEET (3.0 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 7'

HHEI Metric:

Substrate Max = 30

15

Pool Dept Max = 25

25

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)	L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Long Run Distance from Evaluated Stream 3250 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____
County: Swift Township: Madison
City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 6, 02 Quantity: > 1in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 96%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

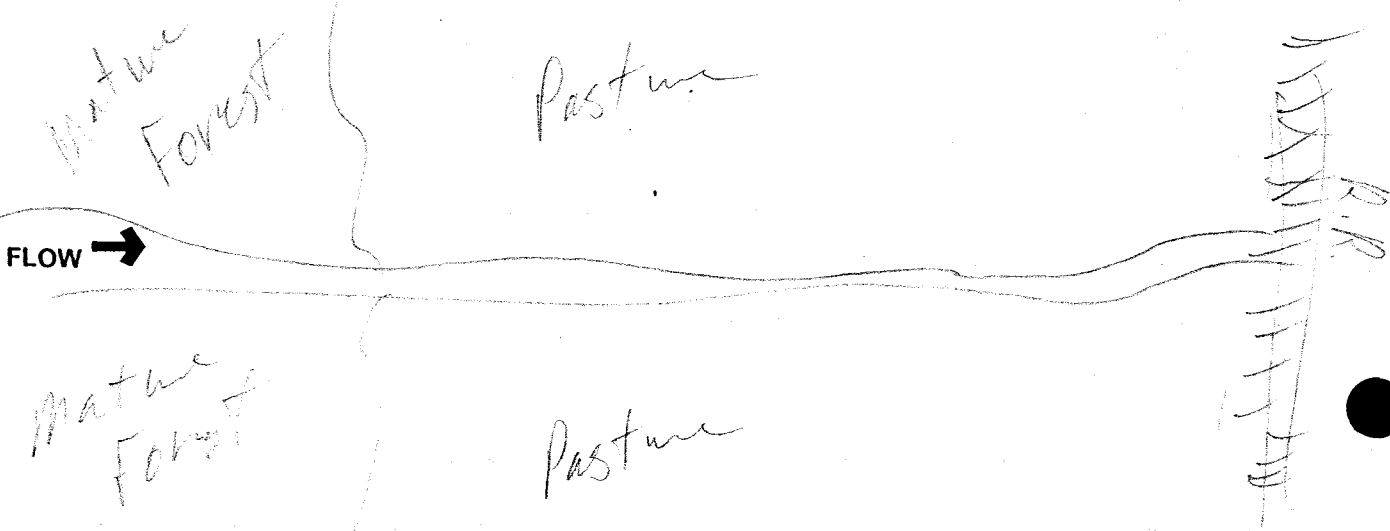
Additional comments/description of pollution impacts: Run off from Pasture

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Frogs seen jumping in stream
Isopods, Stone flies, Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W8 LRT 15 E-3 SITE NUMBER _____
Mouth of Stream is 540ft from Lucasville-Minford Rd. DRAINAGE AREA (mi²) 0.217
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/10/02 SCORER SLT COMMENTS Ephemeral Stream

* NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]	_____	SILT [3 pt]	_____
BOULDER (>256 mm) [12 pts]	_____	LEAF PACKWOODY DEBRIS [3 pts]	<u>10</u> ✓
COBBLE (65-256 mm) [9 pts]	<u>20</u> ✓	FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>30</u> ✓	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	_____
<input checked="" type="checkbox"/> BEDROCK [12 pt]	<u>40</u> ✓	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 14"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 4.5

HHEI Metrics

Substrate Max = 30

21

Pool Depth Max = 25

25

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L R (Per Bank)

- Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

COMMENTS _____

FLOODPLAIN QUALITY

L R (Most Predominant per Bank) L R

- Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture
- Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
- 0.5
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0
- >3

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

X WWH Name: Long Run Distance from Evaluated Stream 4250'
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 22 NRCS Soil Map Stream Order _____
County: Scioto Township: Jefferson
City: Clarks town

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 9, 02 Quantity: ???
Photos (Y/N): N Elevated Turbidity? (Y/N): N Canopy (% open): 10%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) ✓ If not, please explain: _____

Additional comments/description of pollution impacts: Pasture Near by

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: CADDISFLY
Leeches Isopods

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW "

SITE NAME/LOCATION Ephemeral WB+ LRTB E1 SITE NUMBER _____
Near Sanger Valley Rd. DRAINAGE AREA (mi²) 0.141
 RIVER BASIN Little Suoto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/7/02 SCORER SCJ COMMENTS Ephemeral Stream

* NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS: _____

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
BLDR SLABS [12 pts]	_____	SILT [3 pt]	_____
BOULDER (>256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> LEAF PACKWOODY DEBRIS [3 pts]	<u>10</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>30</u>	FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>60</u>	CLAY or HARDPAN [0 pt]	_____
SAND (<2 mm) [0 pts]	_____	MUCK [0 pts]	_____
BEDROCK [12 pt]	_____	ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: **3**

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	LESS THAN 4 INCHES (10 cm) [5 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): **10 1/4**

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	LESS THAN 5 FEET (1.5 m) [0 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): **5 1/2**

HHEI Metrics

Substrate Max = 30

15

Pool Depth Max = 25

25

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY NOTE: River Right and Left looking downstream

RIPARIAN WIDTH		FLOODPLAIN QUALITY		
L	R	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Conservation Tillage
Wide >10m		Mature Forest, Wetland		Urban or Industrial
Moderate 5-10m		Immature Forest, Shrub or Old Field		Open Pasture, Row Crop
Narrow <5m		Residential, Park, New Field		Mining or Construction
None		Fenced Pasture		

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):
 Stream Flowing _____ Moist Channel, isolated pools, no flow _____
 Interstitial flow with isolated pools _____ Dry channel (no water) _____
 COMMENTS Braided Stream Channels

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):
 None _____ 1.0 _____ 2.0 _____ 3.0 _____
 0.5 _____ 1.5 _____ 2.5 _____ >3 _____

STREAM GRADIENT ESTIMATE
 Flat _____ Flat to Moderate _____ Moderate _____ Moderate to Severe _____ Severe _____

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WVWH Name: Long Run River Distance from Evaluated Stream 3625 ft
CWH Name: _____ Distance from Evaluated Stream _____
EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 30 NRCS Soil Map Stream Order _____

County: Scioto Township: Madison
City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: May 7 Quantity: < 1 in

Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 5%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (EC) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

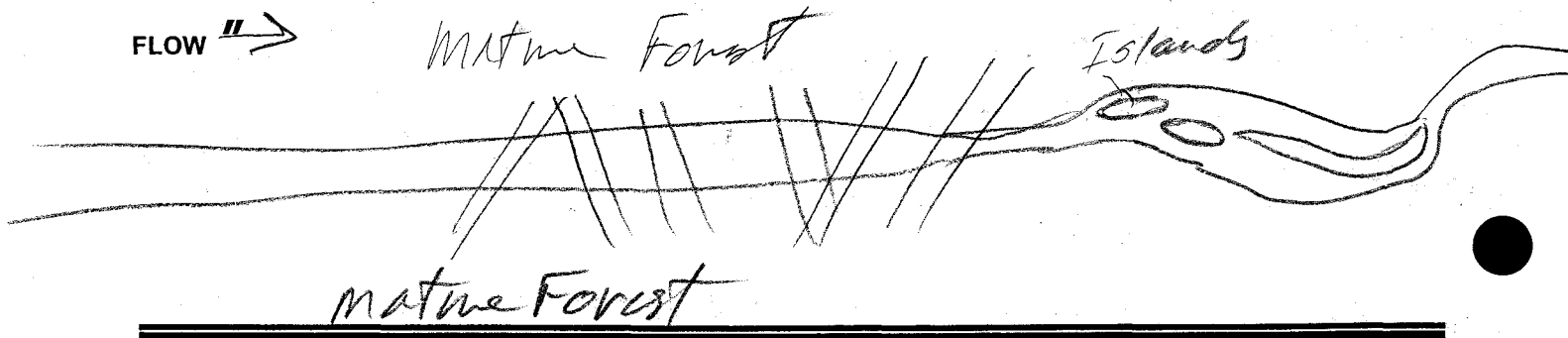
Comments Regarding Biology: lots of woody debris covering stream

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

(Red-Back)
4-toes
Dark Brown color

FLOW →





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **66.5**

Per Code: _____ RM: _____ Stream: W9 L5E1 (Intermittent Stream)
 Date: May 7, 02 Location: Stream follows Shumway Hollow and crosses Rt. 335

Scorers Full Name: GLS Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> B-LDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/>	Check ONE (OR 2 & AVERAGE)	Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/>	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT: <input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input checked="" type="checkbox"/>	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/>	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/>	<input type="checkbox"/> HARDPAN [0]	<input checked="" type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]
			EMBEDDED	<input type="checkbox"/> MODERATE [-1]
			NESS:	<input checked="" type="checkbox"/> NORMAL [0]
			<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> NONE [1]
			<input type="checkbox"/> LACUSTRINE [0]	
			<input type="checkbox"/> SHALE [-1]	
			<input type="checkbox"/> COAL FINES [-2]	

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [1]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input checked="" type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input checked="" type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]
<input type="checkbox"/> COMMENTS:	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	
	<input checked="" type="checkbox"/> LOGS OR WOODY DEBRIS [1]	

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input checked="" type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> IMPOUND.
<input checked="" type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> ISLANDS
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> LEVEED
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]	
	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	
	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input checked="" type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> < 0.2m [POOL=0]		<input checked="" type="checkbox"/> SLOW [1]
		<input type="checkbox"/> VERY FAST [1]

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
[RIFFLE=0]			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

6] GRADIENT (ft/mi): 112.0 DRAINAGE AREA (sq.mi.): 2.454
 % POOL: 30 % GLIDE: 10
 % RIFFLE: 60 % RUN: 10

** Best areas must be large enough to support a population of riffle-obligate species

- Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: Erosion control

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

Stream Measurements:

Average Width	Maximum Depth	Average Depth	Bankfull Width	Bankfull Depth	Bankfull Area	Entrenchment Ratio
15.0	3	8.1	15.4	14	20	1.4

ft

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Yes/No

- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Is there water upstream? How Far: _____
- Is There Water Close Downstream? How Far: _____
- Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

SITE NAME/LOCATION Bluffs Hollow WA SITE NUMBER _____
Lst 2 (Follows Blake Hollow Road) DRAINAGE AREA (mi²) 0.963
 RIVER BASIN Little Scioto Riv LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/6/02 SCORER SLJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]		<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>40</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>5</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>5</u>	<input type="checkbox"/> MUCK [0 pts]	
<input checked="" type="checkbox"/> BEDROCK [12 pt]	<u>50%</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

HHEI Metric:
 Substrate
 Max = 30
25

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 6 INCHES (20 cm) [25 pts]
- 4 INCHES (10 cm) TO LESS THAN 6 INCHES (20 cm) [15 pts]
- LESS THAN 4 INCHES (10 cm) [6 pts]
- NO POOL (no water or no stream channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6 in

Pool Dept
 Max = 25
15

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts]
- 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]
- 5 FEET TO 9 m TO LESS THAN 10 FEET (3.1 m) [10 pts]
- LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 13.5'

Bankfull
 Width
 Max=25
20

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
- 0.5
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0
- >3

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 2625 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 31 NRCS Soil Map Stream Order _____
County: Scioto Township: Harrison
City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: ?? Quantity: > 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 30%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: A
Field Measures: Temp (°C) A Dissolved Oxygen (mg/l) A pH (S.U.) A Conductivity (µmhos/cm) A
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

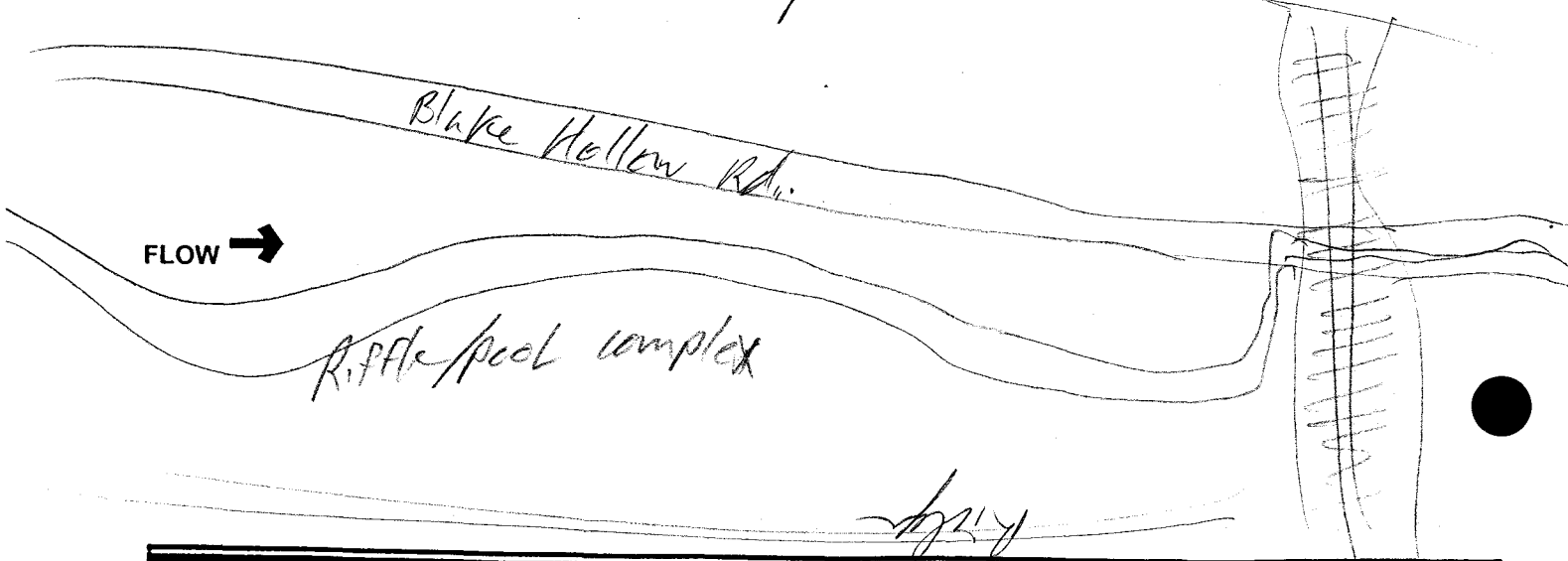
Additional comments/description of pollution impacts: Some minor Dumping along Riparian Area; Drive through Culvert under Rail Road impacts Stream with Daily traffic

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Y Voucher? (Y/N) N Salamanders Observed? (Y/N) Y Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Many Stonefly species
Fish present, 2 Northern Dusky Salamanders
3 taxa Stoneflies, 2 taxa Caddisfly

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION W 10 Little Scioto River E-1 SITE NUMBER _____
(crosses the Rail Road & Route 335) DRAINAGE AREA (mi²) 0.22
 RIVER BASIN Little Scioto LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 5/6/07 SCORER SW COMMENTS Ephemeral Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDG SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>60</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>30</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input checked="" type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 6 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS: _____ MAXIMUM POOL DEPTH (inches): 1 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7 FEET (2.1 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) [10 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.0 m) [10 pts]	

COMMENTS: _____ AVERAGE BANKFULL WIDTH (feet): 3 ft

HHEI Metric:

Substrate Max = 30

15

Pool Dept Max = 25

5

Bankfull Width Max=25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS: _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS: _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Suata RIVER Distance from Evaluated Stream 1750 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 31 NRCS Soil Map Stream Order _____
County: Suata Township: Harrison
City: Minford

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: ?? Quantity: > 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 5%
Were samples collected for water chemistry? (Y/N): Y (Note lab sample no. or id. and attach results) Lab Number: Y
Field Measures: Temp (°C) Y Dissolved Oxygen (mg/l) Y pH (S.U.) Y Conductivity (µmhos/cm) Y
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

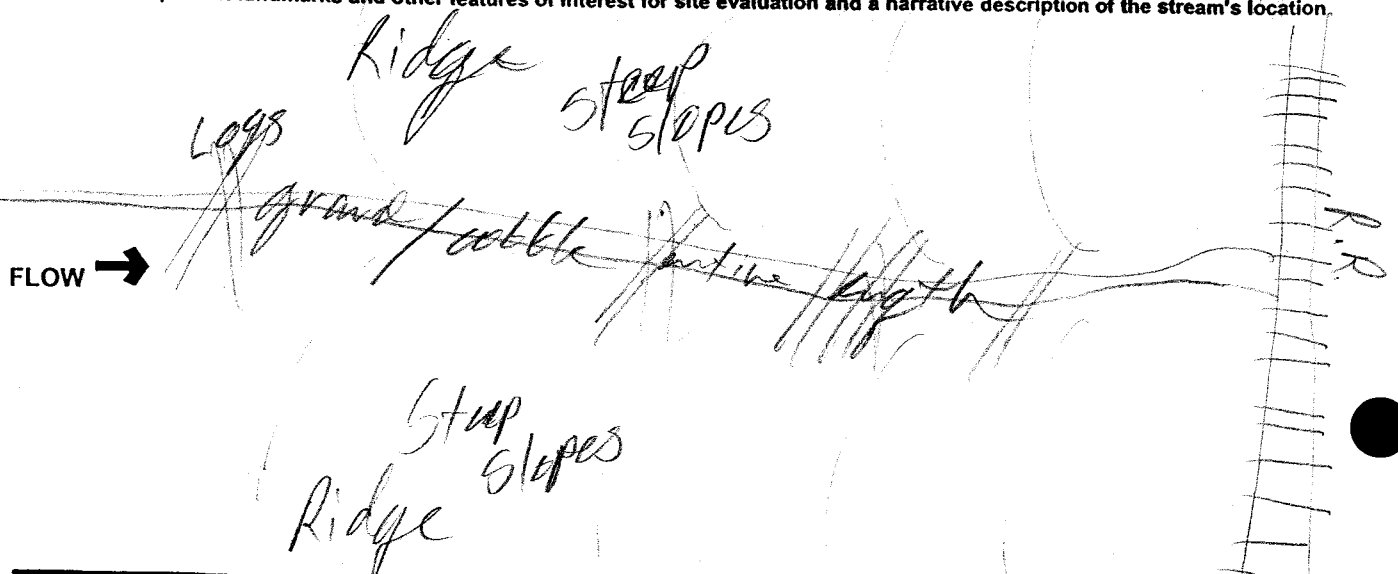
Additional comments/description of pollution impacts: Stream cross Rail Road and Route 335.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Ephemeral Stream.

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location.



SITE NAME/LOCATION PB-WPL-Lst1 SITE NUMBER
700 ft From Little Scioto River within Lays Farm DRAINAGE AREA (mi²) 0.57
RIVER BASIN Little Scioto Rive. LAT. LONG. RIVER CODE RIVER MILE
DATE Jan 23, 03 SCORER SGT COMMENTS Channelized Ditch. (Intermittent)

. NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [X] RECENT OR NO RECOVERY
MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- Greater than 8 inches (20 cm) [25 pts]
Less than 2 inches (10 cm) [15 pts]
1 inch (10 cm) to less than 8 inches (20 cm) [15 pts]
No pool (no water or most channel) [0 pts]

COMMENTS MAXIMUM POOL DEPTH (inches): 5 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- Greater than 15 feet [25 pts]
5 feet (1.5 m) to less than 7 feet (2.1 m) [15 pts]
10 feet to less than 15 feet (4.6 m) [20 pts]
Less than 5 feet (1.5 m) [0 pts]

COMMENTS AVERAGE BANKFULL WIDTH (feet): 3 ft

HHEI Metric:

Substrate Max = 30

7

Pool Depth Max = 25

15

Bankfull Width Max = 25

0

RIPIARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPIARIAN WIDTH

- L R (Per Bank)
Wide >10m
Moderate 5-10m
Narrow <5m
None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
Mature Forest, Wetland
Immature Forest, Shrub or Old Field
Residential, Park, New Field
Fenced Pasture

- L R
Conservation Tillage
Urban or Industrial
Open Pasture, Row Crop
Mining or Construction

COMMENTS

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
Moist Channel, isolated pools, no flow
Interstitial flow with isolated pools
Dry channel (no water)

COMMENTS

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
0.5
1.0
1.5
2.0
2.5
3.0
>3

STREAM GRADIENT ESTIMATE

- Flat
Flat to Moderate
Moderate
Moderate to Severe
Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto Riv. Distance from Evaluated Stream 400ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____
County: Scioto Township / _____
City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

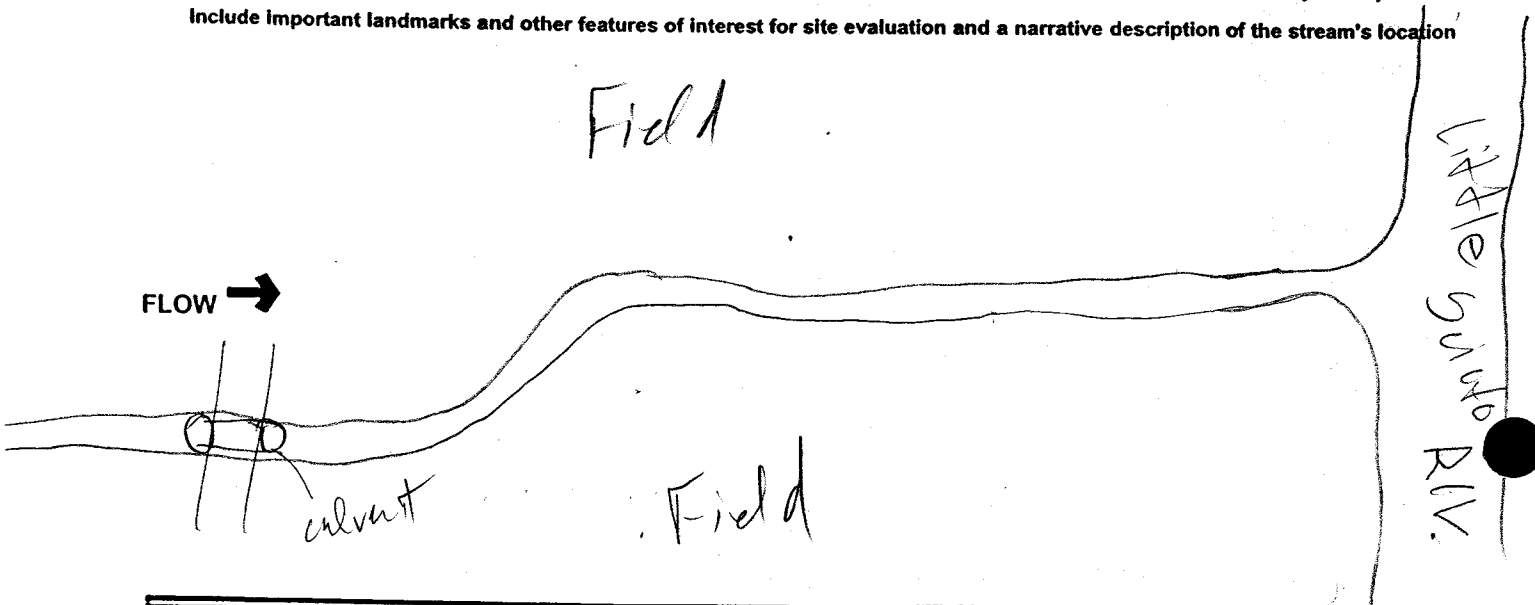
Additional comments/description of pollution impacts: Nutrient influx from Row crops

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



River Code: RM: Stream: PB-W13-SLAB RUN
 Date: Jan 24, 07 Location: Approx. 1000' from Little Sudo River. (Intermittent Stream)
 Scorers Full Name: SOJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input checked="" type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]
<input checked="" type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		NESS:	<input type="checkbox"/> EXTENSIVE [-2]
NUMBER OF SUBSTRATE TYPES: <input checked="" type="checkbox"/> 4 or More [2]		<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> SHALE [-1]	<input checked="" type="checkbox"/> MODERATE [-1]
(High Quality Only, Score 5 or >) <input type="checkbox"/> 3 or Less [0]		<input type="checkbox"/> COAL FINES [-2]		<input checked="" type="checkbox"/> NORMAL [0]
COMMENTS: <u>Not Low Flow</u>				<input type="checkbox"/> NONE [1]

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> OXBOWS, BACKWATERS [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]
<input type="checkbox"/> ROOTWADS [1]	
<input type="checkbox"/> BOULDERS [1]	
<input checked="" type="checkbox"/> LOGS OR WOODY DEBRIS [1]	
COMMENTS: _____	

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input checked="" type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input checked="" type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input checked="" type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> LEVEED
				<input type="checkbox"/> DREDGING
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input checked="" type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input checked="" type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY (POOLS & RIFFLES!)
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> FAST [1]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> MODERATE [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input checked="" type="checkbox"/> SLOW [1]
		<input checked="" type="checkbox"/> VERY FAST [1]

COMMENTS: Not Low Flow

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
CHECK ONE OR CHECK 2 AND AVERAGE			
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input checked="" type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
(RIFFLE=0)			<input type="checkbox"/> EXTENSIVE [-1]
COMMENTS: <u>Not Low Flow</u>		<input type="checkbox"/> NO RIFFLE [Metric=0]	

6) GRADIENT (ft/mi): 117.33 DRAINAGE AREA (sq.mi.): 1.292

% POOL: 40 % GLIDE: —
 % RIFFLE: 50 % RUN: 10

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) Y If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTP

Ag.

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

First Sampling Pass _____

Gear: _____

Distance: _____

Water Clarity: _____

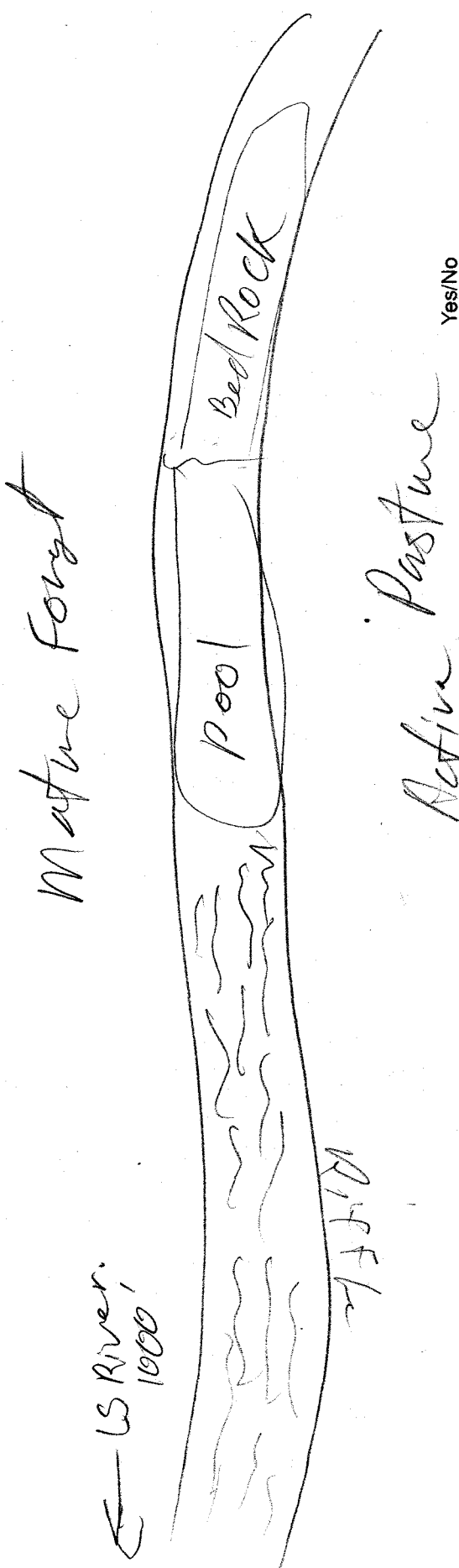
Water Stage: _____

Canopy -% Open _____

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	Mean W/D Ratio	Maximum Depth	Floodprone Area	Entrenchment Ratio
11'	4.5'	9"	16'	12"		19"		

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3. Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

SITE NAME/LOCATION Slab Run Upper Reach 413 SITE NUMBER _____
 DRAINAGE AREA (mi²) 0.77
 RIVER BASIN L. Scioto LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 1/25/21 SCORER DAL/RH COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLD R SLABS [12 pts]	<u>5</u>	<input type="checkbox"/> SILT [3 pt]	
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]		<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>10</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>50</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>30</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>5</u>	<input type="checkbox"/> MUCK [0 pts]	
<input type="checkbox"/> BEDROCK [12 pt]		<input type="checkbox"/> ARTIFICIAL [3 pts]	

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or most channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 9

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7 FEET (2.1 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 10 FEET (3.0 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 4.5

HHEI Metric:

Substrate Max = 30

17

Pool Dept Max = 25

25

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS Heavy rain previous 43 hrs. (not back in)

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 5400 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 40 NRCS Soil Map Stream Order _____
County: Scioto Township: Harrison
City: Whalers Mill

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 1/24/02 Quantity: > 1"

Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 60%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) H Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) _____
Comments Regarding Biology: midge larvae, other arthropods (e.g. isopods)
Isopeods, midges

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION Slab Run Trib SITE NUMBER B-1
W13 SRE5
 RIVER BASIN Slab Run / Little Scioto LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 1/24/02 SCORER RM COMMENTS Typed out 1, 2 + 3 also (Intermittent Stream)

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	10
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	30	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	50	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	10	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 6 INCHES (20 cm) [25 pts] LESS THAN 2 INCHES (10 cm) [5 pts]
- 2 INCHES (10 cm) TO LESS THAN 6 INCHES (20 cm) [15 pts] NO POOL (no water or most channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 5

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts] 5 FEET TO NO LESS THAN 7 FEET (1.5 m) [15 pts]
- 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts] LESS THAN 5 FEET (1.5 m) [10 pts]
- 7 FEET TO NO LESS THAN 10 FEET (3.7 m) [10 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): Range 4 - 8

HHEI Metric:

Substrate Max = 30

16

Pool Dept Max = 25

15

Bankfull Width Max=25

5

RIPIARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPIARIAN WIDTH

- Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

FLOODPLAIN QUALITY

- Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture

- Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing Moist Channel, isolated pools, no flow
- Interstitial flow with isolated pools Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 1.0 2.0 3.0
- 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

- Flat Flat to Moderate Moderate Moderate to Severe Severe

photo 9B

→

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Sub Run / Little Scioto Distance from Evaluated Stream 4000'
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 40 NRCS Soil Map Stream Order _____
 County: Scioto Township: Harrison
 City: Wheeler Mill

MISCELLANEOUS

Base Flow Conditions? (Y/N): No Date of last precipitation: Today Quantity: > 1"
 Photos (Y/N): Y Elevated Turbidity? (Y/N): No Canopy (% open): 20%
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____
Representative of 1, 2, 3 also

Additional comments/description of pollution impacts:

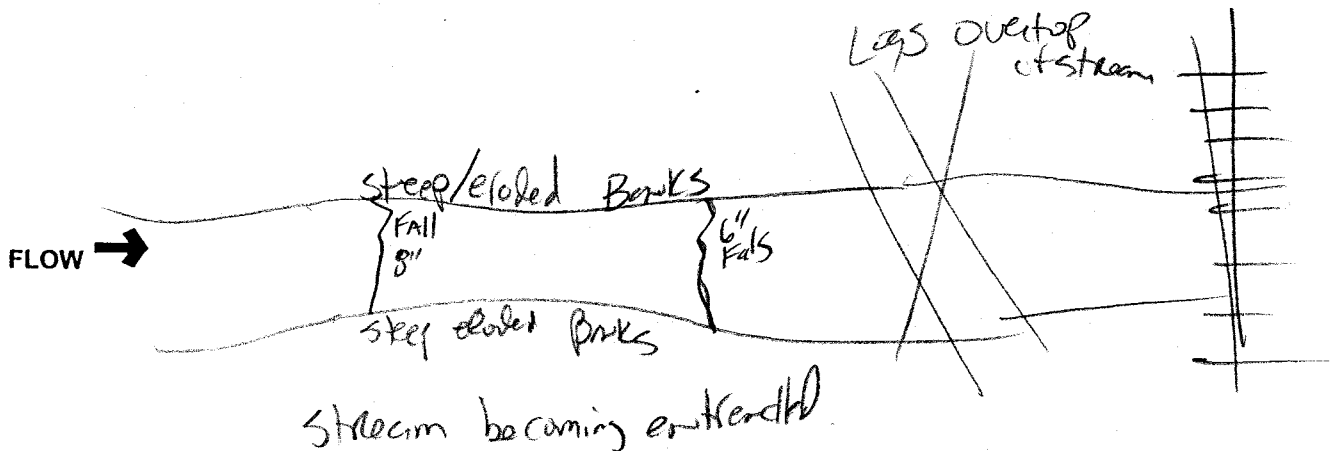
Logging only impact. In some areas logging to stream side
 (Crosses Rail Road + Rt. 335)

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) _____ Salamanders Observed? (Y/N) N Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) _____
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **53**

River Code: RM: Stream: LST-1 - W/4
Date: 1/24/02 Location: At Roadway Fold (Shoumberg Hollow)
Scorers Full Name: RJ Miller Affiliation:

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY	
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)	
<input type="checkbox"/> BOULDER [9]	<input checked="" type="checkbox"/> SAND [6]	<input type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]	Substrate 15 Max 20
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]	
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> HARDPAN [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]	
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> SANDSTONE [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]	
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		NESS:	<input type="checkbox"/> EXTENSIVE [-2]	
	<input type="checkbox"/> 4 or More [2]	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> MODERATE [-1]	
	<input checked="" type="checkbox"/> 3 or Less [0]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> COAL FINES [-2]	<input checked="" type="checkbox"/> NORMAL [0]	
		<input type="checkbox"/> SOILS [0]		<input type="checkbox"/> NONE [1]	

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)	Cover
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]	7 Max 20
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [7]	
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]	
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]	

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER	Channel
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING	11 Max 20
<input checked="" type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input checked="" type="checkbox"/> RELOCATION	
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input checked="" type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL	
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input checked="" type="checkbox"/> DREDGING	
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS	

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION	Riparian
<input type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]	4 Max 10
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]	
<input type="checkbox"/> NARROW 5-10 m [2]	<input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]	
<input checked="" type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]		
<input type="checkbox"/> NONE [0]			

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)	Pool/Current
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]	5 Max 12
<input type="checkbox"/> 0.7-1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1]	
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1]	
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> SLOW [1]	
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> TORRENTIAL [-1]	
		<input type="checkbox"/> INTERSTITIAL [-1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> VERY FAST [1]	

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS	Riffle/Run
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]	3 Max 8
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]	
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]	
			<input type="checkbox"/> EXTENSIVE [-1]	
		<input type="checkbox"/> NO RIFFLE [Metric=0]		

6) GRADIENT (ft/mi): 31.06 DRAINAGE AREA (sq.mi.): 4.02

% POOL: 30 % GLIDE: —
% RIFFLE: 50 % RUN: 20

** Best areas must be large enough to support a population of riffle-obligate species

EPA 4520
Photo = GB

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Lower sketch goes thru Farmettes Mes.

Upper " Relatively undisturbed - some logging, ATV...o

This is At the Break pt. more repetitive of

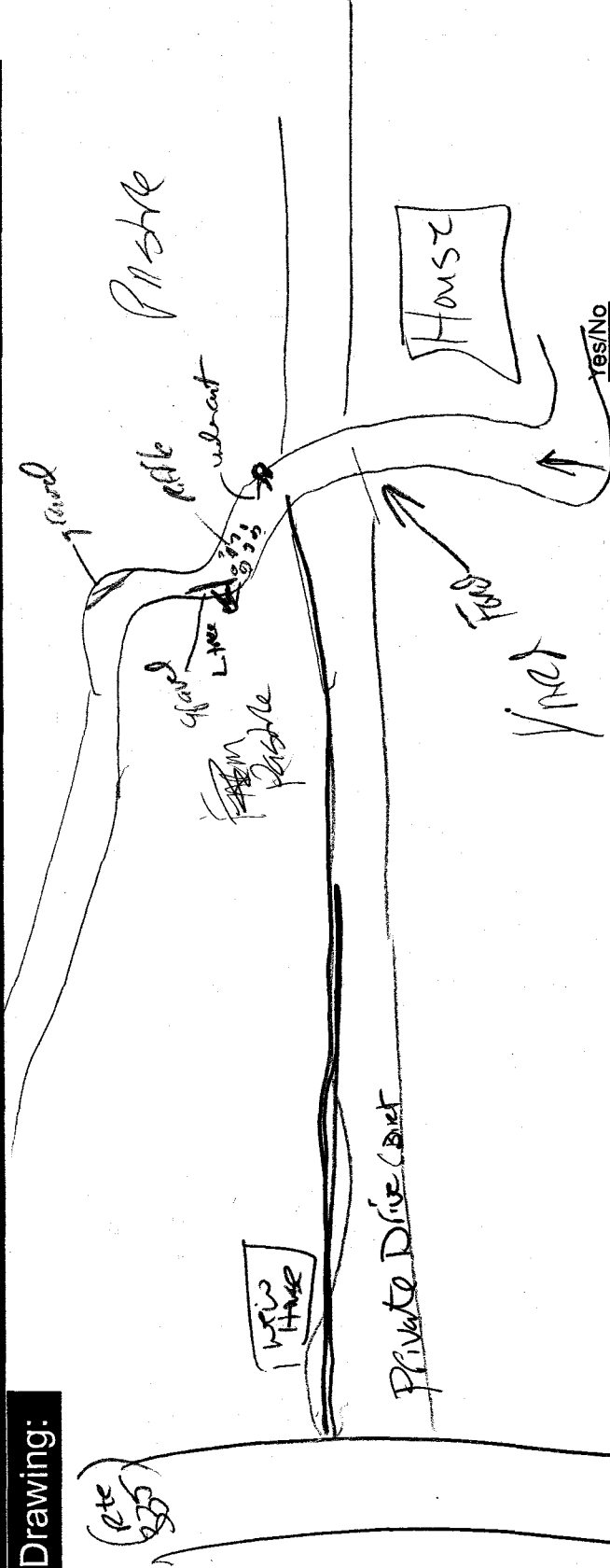
Lower section

<input type="checkbox"/>	<input type="checkbox"/>	Subjective Rating (1-10)	Aesthetic Rating (1-10)	Gradient: <input type="checkbox"/> - Low, <input type="checkbox"/> - Moderate, <input type="checkbox"/> - High
First Sampling Pass	Gear:	Distance:	Water Clarity:	Water Stage:
				Canopy - % Open
Stream Measurements:				
Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Max Floodprone Area
			Ratio	Ratio

Major Suspected Sources of Impacts (Check All That Apply):

None
 Industrial
 WWTP
 Ag
 Livestock
 Silviculture
 Construction
 Urban Runoff
 CSOs
 Suburban Impacts
 Mining
 Channelization
 Riparian Removal
 Landfills
 Natural
 Dams
 Other Flow Alteration
 Other: _____

Stream Drawing:



Yes/No	<input type="checkbox"/>	<input type="checkbox"/>
Is Stream Ephemeral (no pools, totally dry or only damp spots)?	<input type="checkbox"/>	<input type="checkbox"/>
Is there water upstream?	How Far: _____	<input type="checkbox"/>
Is There Water Close Downstream?	How Far: _____	<input type="checkbox"/>
Is Dry Channel Mostly Natural?	<input type="checkbox"/>	<input type="checkbox"/>

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Ohio EPA Qualitative Habitat Evaluation Index Field Sheet QHEI Score: 66.5

River Code: _____ RM: _____ Stream: PB- W14-LS1
Date: Jan 17, 02 Location: within Farm about 1500ft from LSRiv.
Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> BEDROCK [5]	<input checked="" type="checkbox"/> DETRITUS [3]	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> SANDSTONE [0]	<input checked="" type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> COAL FINES [-2]	<input type="checkbox"/> NONE [1]	<input type="checkbox"/> EXTENSIVE [-2]
<input checked="" type="checkbox"/> SILT [2]				<input type="checkbox"/> MODERATE [-1]
				<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> NONE [1]

NOTE: Ignore Sludge Originating From Point Sources

Check ONE (OR 2 & AVERAGE) SUBSTRATE QUALITY (Check ONE (OR 2 & AVERAGE))

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

(High Quality Only, Score 5 or >)

COMMENTS: _____

Substrate
15
Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<u>1</u> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<u>2</u> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<u>2</u> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<u>1</u> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]
<u>1</u> POOLS > 70 cm [2]	
<u>2</u> ROOTWADS [1]	
<u>3</u> BOULDERS [1]	
<u>3</u> LOGS OR WOODY DEBRIS [1]	
<u>1</u> OXBOWS, BACKWATERS [1]	
<u>1</u> AQUATIC MACROPHYTES [1]	

COMMENTS: _____

Cover
8
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input checked="" type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input checked="" type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

COMMENTS: _____

Channel
15
Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
<u>2.5</u> <input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input checked="" type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

COMMENTS: _____

Riparian
7.5
Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY POOLS & RIFFLES! (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input checked="" type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> SLOW [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input type="checkbox"/> TORRENTIAL [-1]
		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> VERY FAST [1]

COMMENTS: _____

Pool/Current
7
Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

COMMENTS: _____

Riffle/Run
6
Max 8

Gradient
8
Max 10

6) GRADIENT (ft/mi): 31.06 DRAINAGE AREA (sq.mi.): 4.02

% POOL: 33 % GLIDE: —
% RIFFLE: 34 % RUN: 33

** Best areas must be large enough to support a population of riffle-obligate species

58.5

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None
 Industrial
 WWTP
 Ag
 Livestock
 Silviculture
 Construction
 Urban Runoff
 CSOs
 Suburban Impacts
 Mining
 Channelization
 Riparian Removal
 Landfills
 Natural
 Dams
 Other Flow Alteration
 Other: _____

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Stream Measurements:

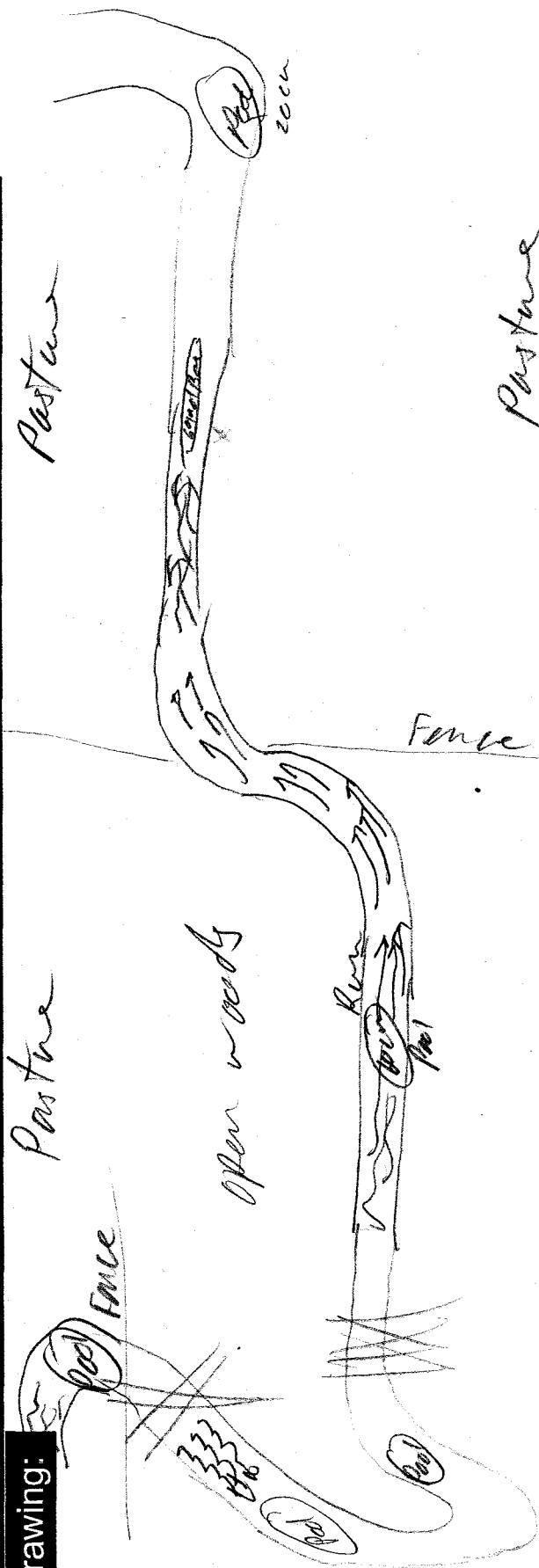
Average Width	6.5'	Maximum Depth	4 in	Average Width	10.5'	Bankfull Depth	18 in
First Sampling Pass		Water Clarity		Water Stage		Canopy	-% Open

Distance: _____

Gear: _____

Gradient: - Low, - Moderate, - High

Stream Drawing:



Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

SITE NAME/LOCATION PB- W14- L5E2 SITE NUMBER 1006 From Rt. 335 (Intermittent Stream) DRAINAGE AREA (mi²) 0.875 RIVER BASIN Little Scioto LAT. LONG. RIVER CODE RIVER MILE DATE Jan 18, 02 SCORER SCJ COMMENTS Flows through recent logging Area

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [X] RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACKWOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

Table with two columns of options: GREATER THAN 8 INCHES (20 cm) [25 pts], 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts], LESS THAN 4 INCHES (10 cm) [5 pts], NO POOL (no water or moist channel) [0 pts].

COMMENTS: MAXIMUM POOL DEPTH (inches): 9 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

Table with two columns of options: GREATER THAN 15 FEET [25 pts], 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts], 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts], 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts], LESS THAN 5 FEET (1.5 m) [0 pts].

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 8 ft

HHEI Metric:

Substrat Max = 30

16

Pool Dept Max = 25

25

Bankfull Width Max = 25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY *NOTE: River Right and Left looking downstream*

RIPARIAN WIDTH

Table with columns: L R (Per Bank), Wide >10m, Moderate 5-10m, Narrow <5m, None.

FLOODPLAIN QUALITY

Table with columns: L R (Most Predominant per Bank), Mature Forest, Wetland, Immature Forest, Shrub or Old Field, Residential, Park, New Field, Fenced Pasture.

Table with columns: L R, Conservation Tillage, Urban or Industrial, Open Pasture, Row Crop, Mining or Construction.

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Table with options: Stream Flowing, Interstitial flow with isolated pools, Moist Channel, isolated pools, no flow, Dry channel (no water).

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

Table with options: None, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, >3.

STREAM GRADIENT ESTIMATE

Table with options: Flat, Flat to Moderate, Moderate, Moderate to Severe, Severe.

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 4800
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 39 NRCS Soil Map Stream Order _____
 County: Scioto Township: Harrison
 City: Riprish Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: 7 in
 Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 100%
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Orange Box in stream, down stream flows through active pasture, flows through a logging event.

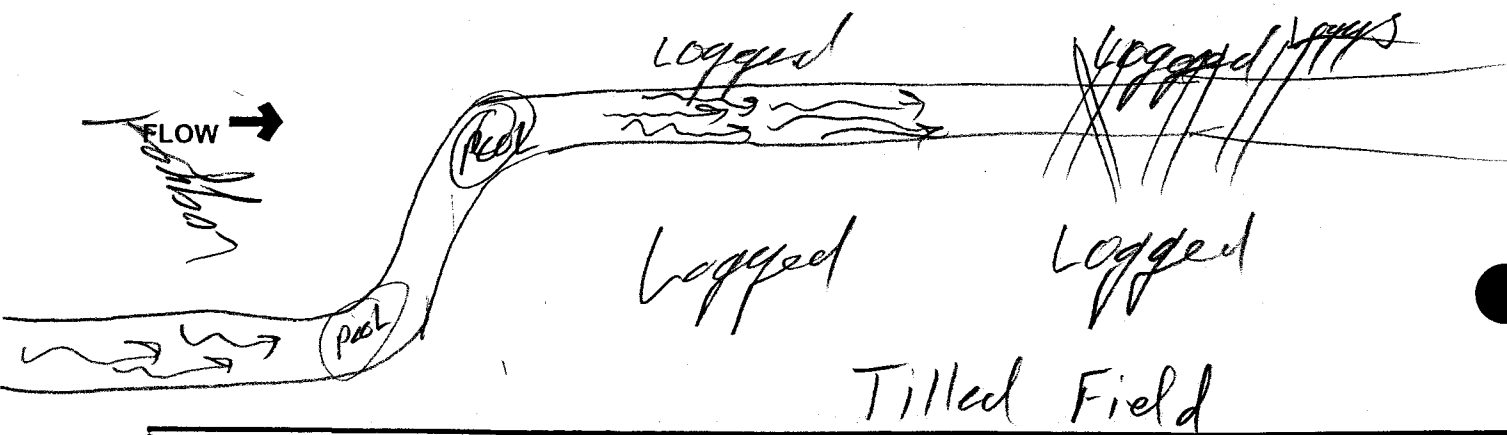
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Tilled Field



SITE NAME/LOCATION PB-W14-Lst3 SITE NUMBER _____
100 ft From Little Scioto Riv DRAINAGE AREA (mi²) 0.335
RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
DATE Jan 23, 2002 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts]
- 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]
- LESS THAN 4 INCHES (10 cm) [6 pts]
- NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET (4.6 m) [25 pts]
- 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]
- 7.5 FEET TO 10 FEET (2.3 m TO 3.0 m) [10 pts]
- 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
- LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 5'

HHEI Metric:

Substrate Max = 30

10

Pool Dept Max = 25

15

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank) Wide >10m
- Moderate 5-10m
- Narrow <5m
- None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank) Mature Forest, Wetland
- Immature Forest, Shrub or Old Field
- Residential, Park, New Field
- Fenced Pasture

- L R Conservation Tillage
- Urban or Industrial
- Open Pasture, Row Crop
- Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
- Interstitial flow with isolated pools
- Moist Channel, isolated pools, no flow
- Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
- 0.5
- 1.0
- 1.5
- 2.0
- 2.5
- 3.0
- >3

STREAM GRADIENT ESTIMATE

- Flat
- Flat to Moderate
- Moderate
- Moderate to Severe
- Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto Riv. Distance from Evaluated Stream 100'
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 39 NRCS Soil Map Stream Order _____
County: Scioto Riv Township: Harrison
City: Ripsh Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: _____ Quantity: _____
Photos (Y/N): Elevated Turbidity? (Y/N): Canopy (% open): 80%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain: _____

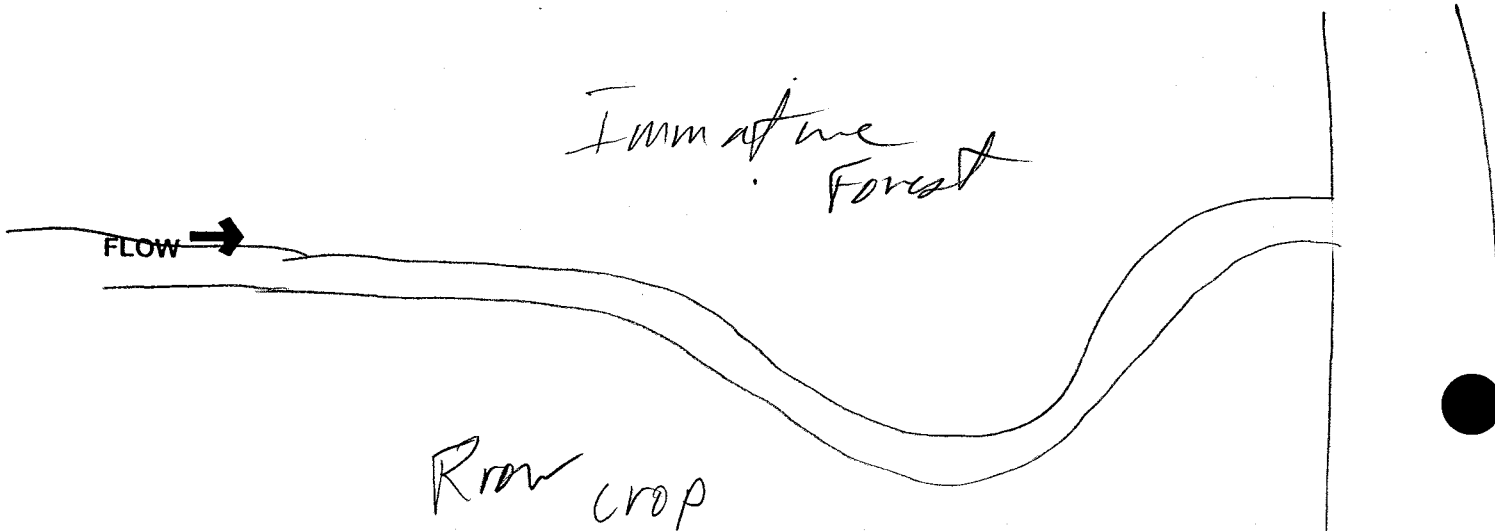
Additional comments/description of pollution impacts: Nutrient Input from Farming

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB-414-L5E8 SITE NUMBER _____
100 ft From Rail Road + crosses Rt. 335 DRAINAGE AREA (mi²) 0.916
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Jan 17, 02 SCORER SCJ COMMENTS Perennial Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>✓</u>
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>✓</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>✓</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input checked="" type="checkbox"/> BEDROCK [12 pt]	<u>✓</u>	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input checked="" type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [10 pts]	<input type="checkbox"/> NO POOL (no water or most of channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 75 FEET (25 pts)	<input type="checkbox"/> 10 FEET TO LESS THAN 75 FEET (25 pts)
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 15 FEET TO LESS THAN 40 FEET (3 and 140)	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 8

HHEI Metric:

Substrate Max = 30

19

Pool Depth Max = 25

15

Bankfull Width Max = 25

10

RIPIARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPIARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input checked="" type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 1800 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 39 NRCS Soil Map Stream Order _____
County: Scioto County Township: Penton
City: Riprish Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: > 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 70%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Rail Road crossing
Heavily culverted under industrial site

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Isopods, Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

mature Forest

Bed Rock (paved) 

mature Forest



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **66**

River Code: _____ RM: _____ Stream: P13-W16-L5E2
 Date: Jan 16, 02 Location: Camp Bennett Addition - 1000 ft from Little Scioto Riv
 Scorers Full Name: SCS Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input checked="" type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]
<input checked="" type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources	<input type="checkbox"/> LACUSTRINE [0]	NESS:	<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> SHALE [-1]		<input checked="" type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> NONE [1]

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) 4 or More [2] 3 or Less [0]

Substrate

 Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<u>1</u> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<u>2</u> OVERHANGING VEGETATION [1]	<input checked="" type="checkbox"/> MODERATE 25-75% [7]
<u>1</u> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<u>1</u> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover

 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input checked="" type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input checked="" type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING

Channel

 Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

Riparian

 Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input checked="" type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> MODERATE [1]
<input checked="" type="checkbox"/> < 0.2m [POOL=0]		<input checked="" type="checkbox"/> SLOW [1]

Pool/Current

 Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Riffle/Run

 Max 8

Gradient

 Max 10

6) GRADIENT (ft/mi): 10.13 DRAINAGE AREA (sq.mi.): 1.55
 % POOL: % GLIDE:
 % RIFFLE: % RUN:

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None
 Industrial
 WWTP
 Ag
 Livestock
 Silviculture
 Construction
 Urban Runoff
 CSOs
 Suburban Impacts
 Mining
 Channelization
 Riparian Removal
 Landfills
 Natural
 Dams
 Other Flow Alteration
 Other: _____

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

First Sampling Pass

Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Average Width 4 ft, Average Depth 2 in, Maximum Depth 2 in, Bankfull Width 11.5 ft, Bankfull Depth 18 in, W/D Ratio 20 in

Stream Measurements: Average Width, Average Depth, Maximum Depth, Bankfull Width, Bankfull Depth, W/D Ratio, Floodprone Area, Entrenchment Ratio

Stream Drawing:

*See FHEI Form

- Prominent aquatic habitat.
- Less than 1 mile Drainsage Area. But close

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: 100 ft

Is Dry Channel Mostly Natural?

SITE NAME/LOCATION 115- W16- L5E2 SITE NUMBER _____
Camp Bennett Addition - 700 ft From Little Scioto Riv. DRAINAGE AREA (mi²) 1.20
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Jun 16, 02 SCORER SCJ COMMENTS Intermittent stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [6 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 9"

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 7 FEET (2.1 m) TO LESS THAN 15 FEET (4.6 m) [15 pts]
<input checked="" type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 5 FEET TO 10 FEET (3.0 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 12 feet

HHEI Metric:

Substrate Max = 30

10

Pool Dept Max = 25

25

Bankfull Width Max=25

20

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Sycato Riv. Distance from Evaluated Stream 700ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
 County: Sioux Township: Porter
 City: Camp Bennett Addition

MISCELLANEOUS

#10 Base Flow Conditions? (Y/N): Y Date of last precipitation: _____ Quantity: _____
 Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 50%
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
 Is the sampling reach representative of the stream (Y/N) _____ If not, please explain: _____

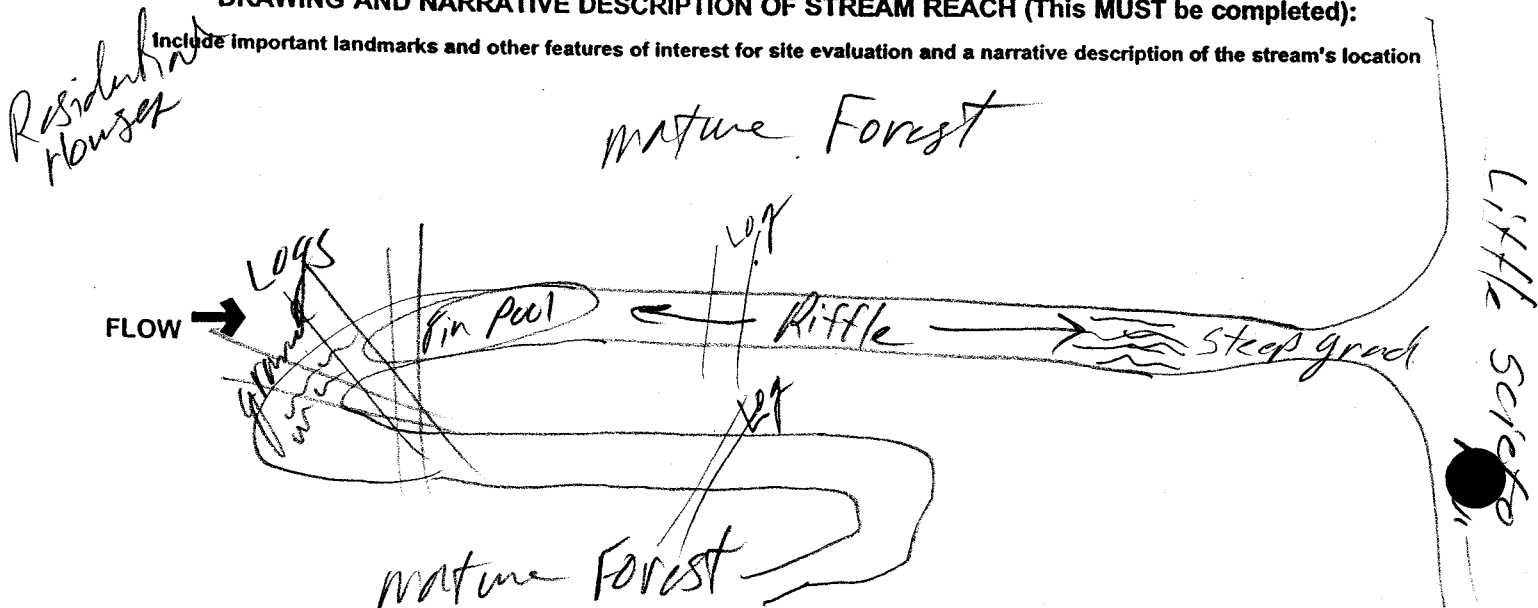
Additional comments/description of pollution impacts: some runoff within residential area, some dumping

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
 Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB - W16 - L5 & 5 SITE NUMBER _____
200 ft from Stout Hollow Rd. DRAINAGE AREA (mi²) 0.810
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Jan 16, 08 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
 MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 5

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input checked="" type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or no channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 9 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input checked="" type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.0 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 8 ft

HHEI Metric:

Substrat Max = 30

17

Pool Dept Max = 25

25

Bankfull Width Max = 25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input checked="" type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This information must also be completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(S)

WWH Name: Little Scioto River Distance from Evaluated Stream 1500 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Camp Bennett Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: N/A Quantity: N/A
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 90%
Were samples collected for water chemistry? (Y/N): X (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Residential area
Potentially channelized for residential development

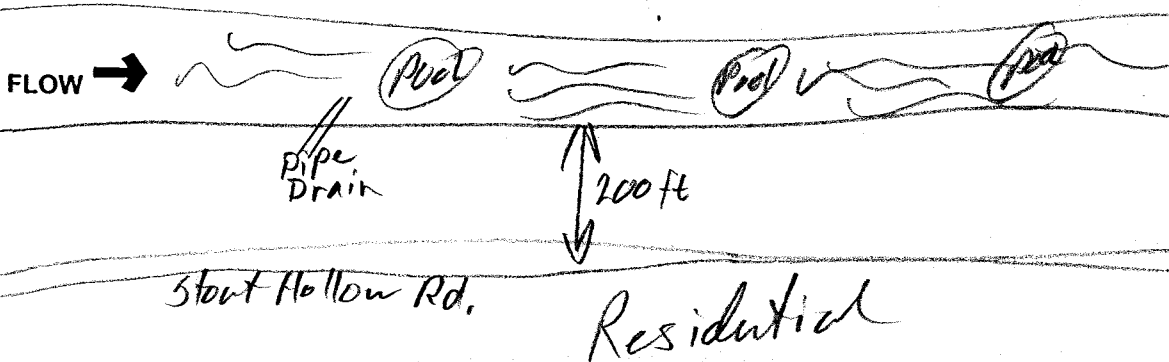
BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

steep Beech/Maple Forest



SITE NAME/LOCATION PB-W21-L5E1 SITE NUMBER _____
1000ft upstream from Little Scioto River DRAINAGE AREA (mi²) 0.32
 RIVER BASIN Little Scioto River LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Dec 11, 01 SCORER SCJ COMMENTS (Intermittent Stream)

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input checked="" type="checkbox"/>
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<input checked="" type="checkbox"/>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input checked="" type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input checked="" type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 3 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) [10 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 4ft

HHEI Metric:

Substrate Max = 30

7

Pool Depth Max = 25

5

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input checked="" type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 1000 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Happy Hours Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 29, 01 Quantity: 1 in
Photos (Y/N): _____ Elevated Turbidity? (Y/N): N Canopy (% open): 60%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) N/A Conductivity (µmhos/cm) N/A
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

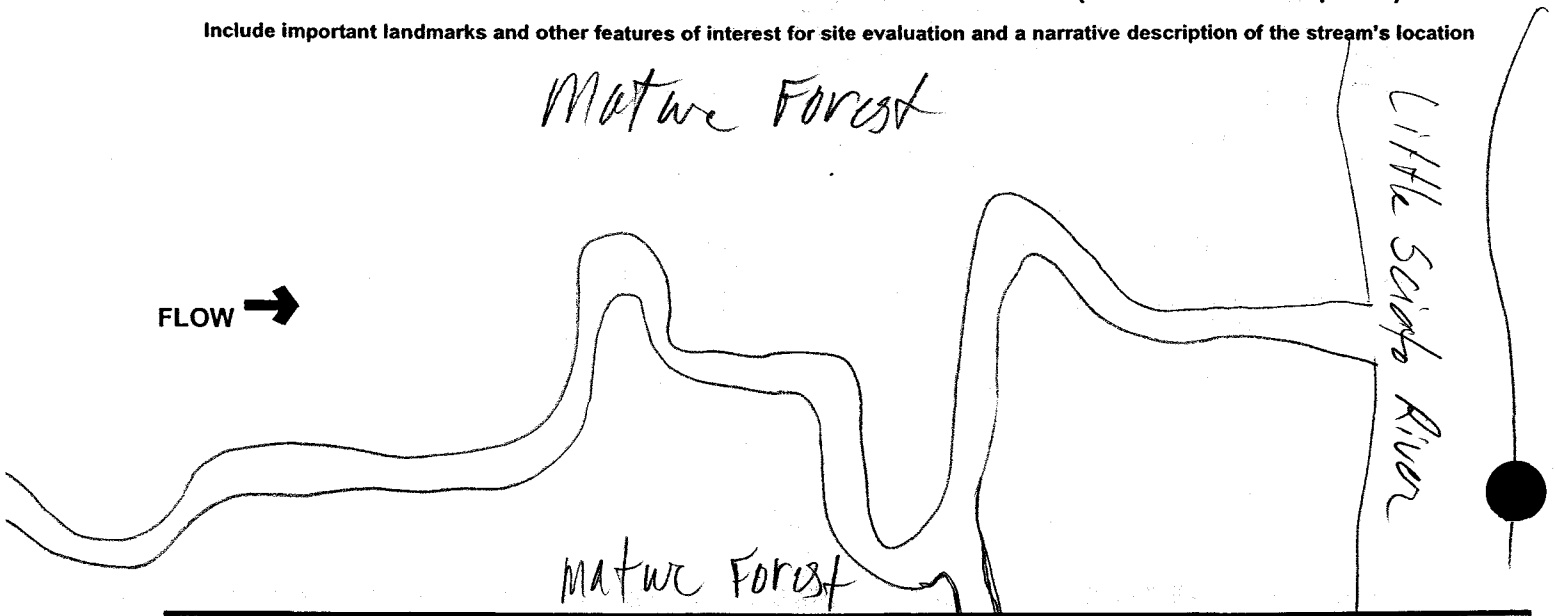
Additional comments/description of pollution impacts: High silt in stream bed, Heavy Erosion of Banks.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: possible Habitat for midges

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB-W21-L5E7 (Intermittent Stream) SITE NUMBER _____
Between Residential site & Highland Bend Road DRAINAGE AREA (mi²) 0.434
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Dec 11, 01 SCORER SCS COMMENTS Upstream of Little Scioto River

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input checked="" type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input checked="" type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input type="checkbox"/> COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	<input checked="" type="checkbox"/>
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input checked="" type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 3 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input checked="" type="checkbox"/> LESS THAN 5 FEET (1.5 m) [10 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 4 ft

HHEI Metric:

Substrate Max = 30

9

Pool Depth Max = 25

5

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

L	R	(Per Bank)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Wide >10m
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m
<input type="checkbox"/>	<input type="checkbox"/>	None

FLOODPLAIN QUALITY

L	R	(Most Predominant per Bank)
<input type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture

L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS Extremely slow, barely flowing

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input checked="" type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 150 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCs Soil Map Page: 48 NRCs Soil Map Stream Order _____
 County: Scioto Township: Porter
 City: Happy Hens Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 29, 01 Quantity: < 1 in
 Photos (Y/N): _____ Elevated Turbidity? (Y/N): N Canopy (% open): 40%
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

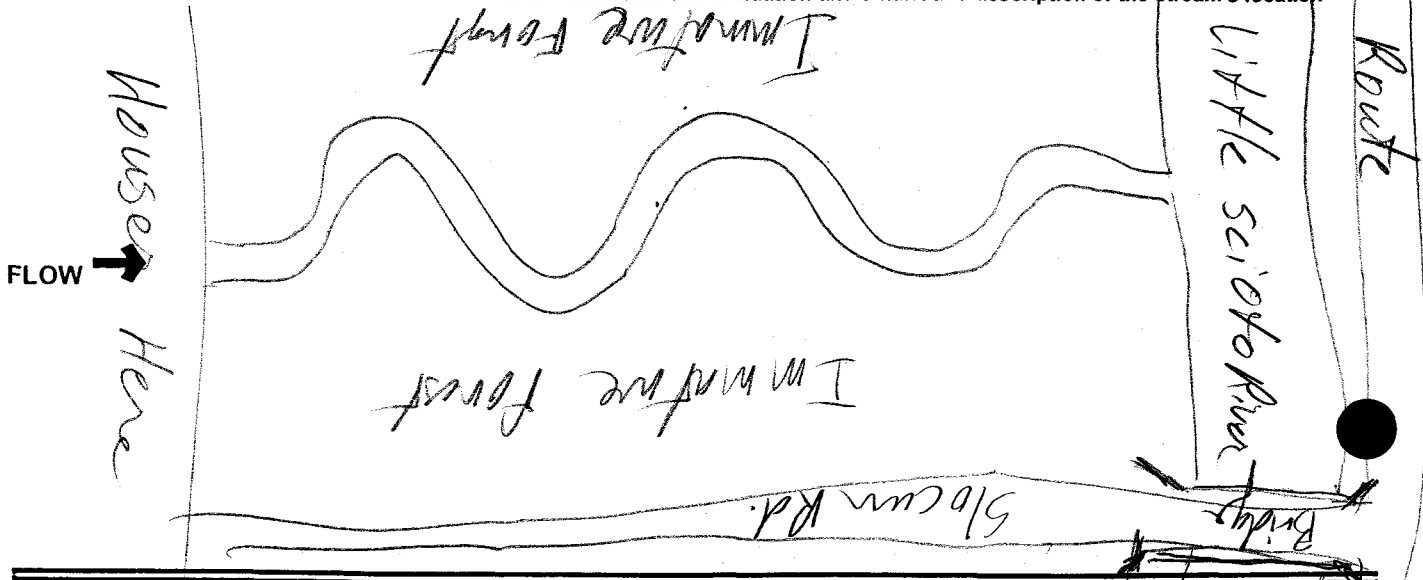
Additional comments/description of pollution impacts: Down stream of Residential Area. Might receive Road Run-off; localized Dumping in some spots. Nursery across Street.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
 Comments Regarding Biology: lots of woody debris Removal.

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB-W 22-Little Scioto River E-1 SITE NUMBER _____
 Stream is culverted under Rail Road / Rail Road is 300ft From mouth DRAINAGE AREA (mi²) 0.2054
 RIVER BASIN Little Scioto Riv. LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE 1/19/01 SCORER SCJ COMMENTS Ephemeral Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE		PERCENT	TYPE	PERCENT
<input type="checkbox"/>	BLDR SLABS [12 pts]	_____	<input type="checkbox"/>	SILT [3 pt]
<input type="checkbox"/>	BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/>	LEAF PACK/WOODY DEBRIS [3 pts]
<input checked="" type="checkbox"/>	COBBLE (65-256 mm) [9 pts]	_____	<input type="checkbox"/>	FINE DETRITUS [3 pts]
<input checked="" type="checkbox"/>	GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/>	CLAY or HARDPAN [0 pt]
<input type="checkbox"/>	SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/>	MUCK [0 pts]
<input type="checkbox"/>	BEDROCK [12 pt]	_____	<input type="checkbox"/>	ARTIFICIAL [3 pts]

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: **3**

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/>	GREATER THAN 8 INCHES (20 cm) [25 pts]	<input checked="" type="checkbox"/>	LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/>	4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/>	NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): **3in**

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/>	GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/>	5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/>	10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/>	LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/>	7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]		

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): **6ft**

HHEI Metric:

Substrate Max = 30

15

Pool Depth Max = 25

5

Bankfull Width Max=25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wide >10m		Mature Forest, Wetland		Conservation Tillage	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field		Urban or Industrial	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field		Open Pasture, Row Crop	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture		Mining or Construction	

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):
 Stream Flowing Moist Channel, isolated pools, no flow
 Interstitial flow with isolated pools Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):
 None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 1000ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Sciotoville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 19 Quantity: 7in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 40%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

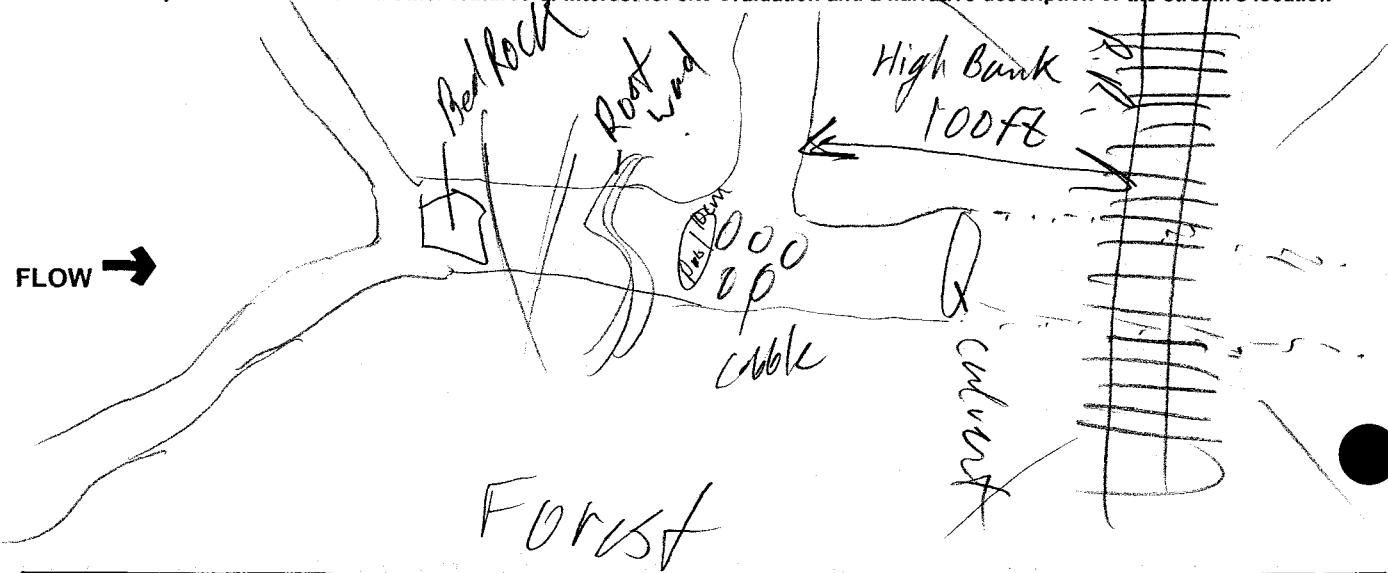
Additional comments/description of pollution impacts: Rail Road Near by

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB - W22 - Little Scioto River E-2 SITE NUMBER
UP Stream From R.R. + rocks DRAINAGE AREA (mi²) 0.159
RIVER BASIN Little Scioto Riv LAT. LONG. RIVER CODE RIVER MILE
DATE NOV 20, 01 SCORER SCJ COMMENTS Ephemeral Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Includes categories like BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts]
4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts]
LESS THAN 4 INCHES (10 cm) [5 pts]
NO POOL (no water or moist channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (inches): -

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts]
10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]
7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]
5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 6ft

HHEI Metric:

Substrate Max = 30

15

Pool Depth Max = 25

0

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- Wide >10m
Moderate 5-10m
Narrow <5m
None

FLOODPLAIN QUALITY

- Mature Forest, Wetland
Immature Forest, Shrub or Old Field
Residential, Park, New Field
Fenced Pasture

L R

- Conservation Tillage
Urban or Industrial
Open Pasture, Row Crop
Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
Interstitial flow with isolated pools
Moist Channel, isolated pools, no flow
Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 0.5 1.0 1.5 2.0 2.5 3.0 >3

STREAM GRADIENT ESTIMATE

- Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Little Scioto River Distance from Evaluated Stream 800 Ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Sciotoville

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 19, 01 Quantity: 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 20%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

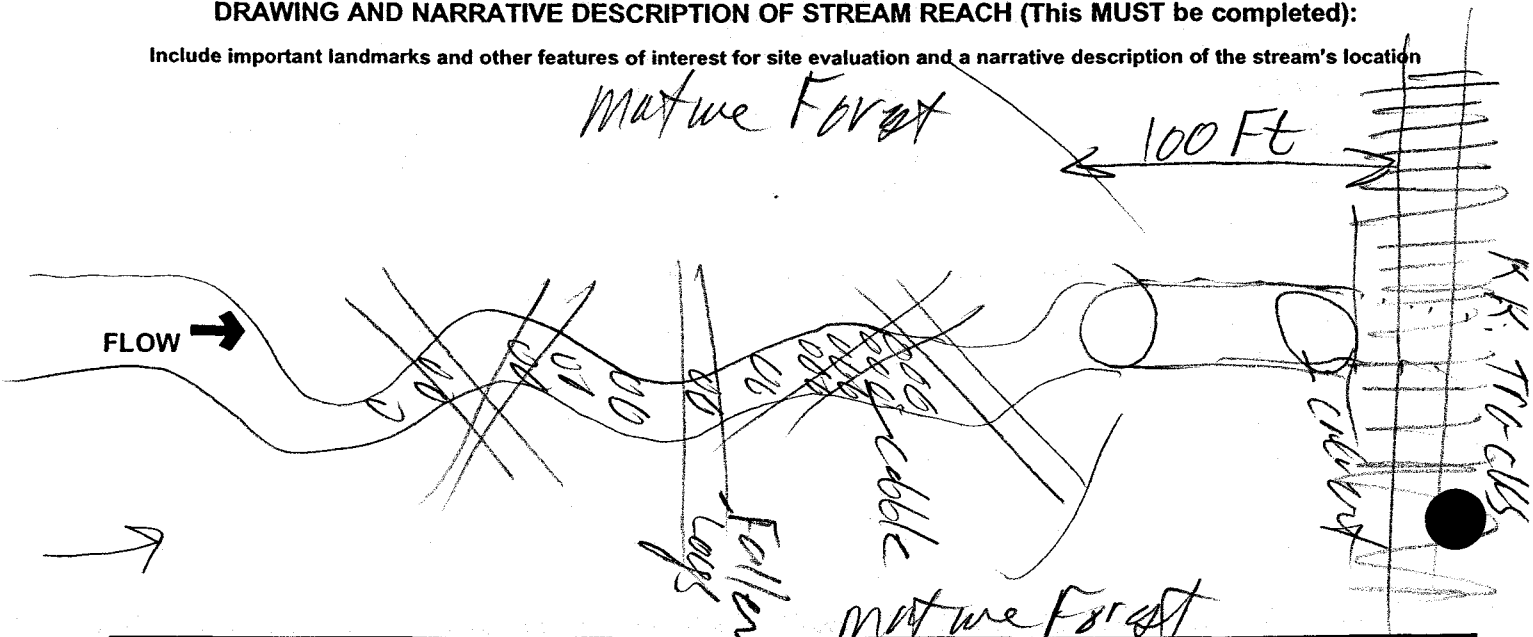
Additional comments/description of pollution impacts: R.R. Tracks Near by

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Y Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: 1 Adult Northern 2-lined Salamander

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **695**

River Code: RM: Stream: PB-W15-Wards Run (Aka: Plum fork)
Date: Jan 8, 2002 Location: at the confluence of Oven Lick and Wards Run
Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two SubstrateTYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> COBBLE [8]	<input checked="" type="checkbox"/> BEDROCK [5]	<input checked="" type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input checked="" type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources	<input type="checkbox"/> LACUSTRINE [0]	NESS:	<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> SHALE [-1]		<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NORMAL [0]
				<input checked="" type="checkbox"/> NONE [1]

NUMBER OF SUBSTRATE TYPES: (High Quality Only, Score 5 or >) 4 or More [2] 3 or Less [0]

COMMENTS: _____

Substrate
13
Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<u>1</u> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<u>1</u> OVERHANGING VEGETATION [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<u>2</u> SHALLOWS (IN SLOW WATER) [1]	<input checked="" type="checkbox"/> SPARSE 5-25% [3]
<u>1</u> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

COMMENTS: _____

Cover
9
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING <input type="checkbox"/> IMPOUND.
<input checked="" type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION <input type="checkbox"/> ISLANDS
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL <input type="checkbox"/> LEVEED
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING <input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

COMMENTS: Bedrock extends "step-like" up Banks

Channel
17
Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ^R River Right Looking Downstream ^L

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input checked="" type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW <5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

COMMENTS: _____

Riparian
8.5
Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY POOLS & RIFFLES! (Check All That Apply)
<input type="checkbox"/> >1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1] <input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.7-1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1] <input type="checkbox"/> INTERSTITIAL [-1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1] <input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> SLOW [1] <input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> < 0.2m [POOL=0]		

COMMENTS: Unable to get accurate max pool Depth; Due to Thick ice.

Pool/Current
6
Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas >10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input checked="" type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

COMMENTS: _____

Riffle/Run
6
Max 8

6) GRADIENT (ft/mi): 17.6 DRAINAGE AREA (sq.mi.): 10.08
%POOL: 20 %GLIDE: -
%RIFFLE: 70 %RUN: 10

Gradient
10
Max 10

** Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Gear: _____

First Sampling Pass _____

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Bankfull Width	Bankfull Depth	Mean W/D Ratio	Floodprone Area	Entrenchment Ratio
23 ft	3 in	3 in	29.5 ft	24 in		26 in	

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **74.5**

River Code: _____ RM: _____ Stream: PB-W20-Shell Creek
 Date: Dec 19, 01 Location: Upstream of John Deere & Marathon gas on Rt. 140
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	<input checked="" type="checkbox"/> SAND [6]	<input checked="" type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> BEDROCK [5]	<input checked="" type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> ARTIFICIAL [0]	<input checked="" type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> HARDPAN [4]	NOTE: Ignore Sludge Originating From Point Sources	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> MUCK [2]		<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> SANDSTONE [0] EMBEDDED	<input type="checkbox"/> EXTENSIVE [-2]
<input type="checkbox"/> SILT [2]		<input type="checkbox"/> SHALE [-1]	NESS:	<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> NONE [1]

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

Substrate
18.5
Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

(Structure)	TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
7
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS
				<input type="checkbox"/> IMPOUND.
				<input type="checkbox"/> ISLANDS
				<input type="checkbox"/> LEVEED
				<input type="checkbox"/> BANK SHAPING

Channel
18
Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	
<input type="checkbox"/> NONE [0]	<input type="checkbox"/> MINING/CONSTRUCTION [0]	

Riparian
9.5
Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (POOLS & RIFFLES!) (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> MODERATE [1]
<input checked="" type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> SLOW [1]
<input type="checkbox"/> < 0.2m [POOL=0]	COMMENTS: _____	<input type="checkbox"/> TORRENTIAL [-1]
		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> VERY FAST [1]

Pool/Current
6
Max 12

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

COMMENTS: Stone Flies & Caddis Flies in Stream!!! NO RIFFLE (Metric=0)

Riffle/Run
7.5
Max 8

Gradient
8
Max 10

6) GRADIENT (ft/mi): 64.97 DRAINAGE AREA (sq.mi.): 1.28
 %POOL: 30 %GLIDE: —
 %RIFFLE: 50 %RUN: 20

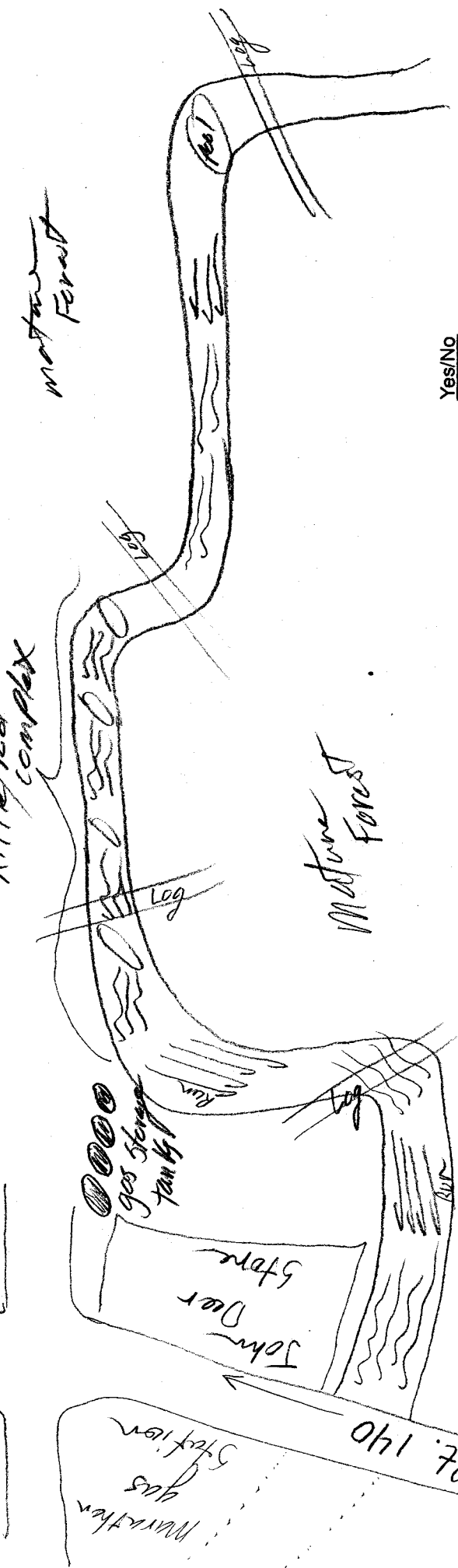
Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other: _____

Subjective Rating (1-10) Aesthetic Rating (1-10) Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open: _____
 First Sampling Pass

Stream Measurements:
 Average Width: 6 ft | Average Depth: 4.5 in | Maximum Depth: 7 in | Av. Bankfull Width: 11.4 ft | Bankfull Depth: 9 in | W/D Ratio: 13 in

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

- Yes/No
- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
 - Is there water upstream? How Far: _____
 - Is There Water Close Downstream? How Far: _____
 - Is Dry Channel Mostly Natural?

River Code: RM: Stream: PB-W20-Over Lick
Date: Dec 11, 01 Location: Upstream of Wards Run; North of and Near Rt. 140
Scorers Full Name: SCJ Affiliation:

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)
TYPE POOL RIFFLE POOL RIFFLE SUBSTRATE ORIGIN SUBSTRATE QUALITY
Check ONE (OR 2 & AVERAGE) Check ONE (OR 2 & AVERAGE)
Substrate Max 20

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)
TYPE: Score All That Occur AMOUNT: (Check ONLY One or check 2 and AVERAGE)
Cover Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)
SINOUSITY DEVELOPMENT CHANNELIZATION STABILITY MODIFICATIONS/OTHER
Channel Max 20

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank)
RIPARIAN WIDTH FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN) BANK EROSION
Riparian Max 10

5) POOL/GLIDE AND RIFFLE/RUN QUALITY
MAX. DEPTH MORPHOLOGY CURRENT VELOCITY (POOLS & RIFFLES!)
Pool/Current Max 12

RIFFLE DEPTH RUN DEPTH RIFFLE/RUN SUBSTRATE RIFFLE/RUN EMBEDDEDNESS
CHECK ONE OR CHECK 2 AND AVERAGE
Riffle/Run Max 8

6) GRADIENT (ft/mi): 27.25 DRAINAGE AREA (sq.mi.): 3.58
% POOL: 25 % GLIDE: 10
% RIFFLE: 40 % RUN: 25
Riffle/Run Max 10

** Best areas must be large enough to support a population of riffle-obligate species

This QHEI is part 1 of 2 for this stream.

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

- None
- Industrial
- WWTP
- Ag
- Livestock
- Silviculture
- Construction
- Urban Runoff
- CSOs
- Suburban Impacts
- Mining
- Channelization
- Riparian Removal
- Landfills
- Natural
- Dams
- Other Flow Alteration
- Other: _____

First Sampling Pass

Gear: _____ Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy -% Open _____

Stream Measurements:

Average Width	Average Depth	Maximum Depth	Average Bankfull Width	Bankfull Depth	Bankfull Width/Depth Ratio	Maximum Bankfull Width	Bankfull Area	Entrenchment Ratio
9.5ft	10in	5in	13ft	18.5in		21in		

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:

Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3, Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)? Yes No

Is there water upstream? Yes No
How Far: _____

Is There Water Close Downstream? Yes No
How Far: _____

Is Dry Channel Mostly Natural? Yes No



Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **74.5**

River Code: _____ RM: _____ Stream: PB-WRO-Oven Lick
 Date: Dec 12, 01 Location: Upstream of First QHEI; South of Rt. 140
 Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7] ✓	<input checked="" type="checkbox"/> SAND [6] ✓	<input checked="" type="checkbox"/> LESTONE [1] ✓	<input type="checkbox"/> SILT HEAVY [-2]
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> SILT MODERATE [-1]
<input checked="" type="checkbox"/> COBBLE [8] ✓	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> HARDPAN [0]	<input checked="" type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> HARDPAN [4]	NOTE: Ignore Sludge Originating From Point Sources	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> MUCK [2]		<input type="checkbox"/> LACUSTRINE [0]	<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> EXTENSIVE [-2]
<input checked="" type="checkbox"/> SILT [2] ✓		<input type="checkbox"/> COAL FINES [-2]	<input type="checkbox"/> COAL FINES [-2]	<input type="checkbox"/> MODERATE [-1]
				<input type="checkbox"/> NORMAL [0]
				<input type="checkbox"/> NONE [1]

Check ONE (OR 2 & AVERAGE) for SUBSTRATE ORIGIN and SUBSTRATE QUALITY.

Substrate

 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]

COMMENTS: _____

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)

TYPE: Score All That Occur	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input checked="" type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input checked="" type="checkbox"/> MODERATE 25-75% [7]
<input checked="" type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> NEARLY ABSENT < 5% [1]

COMMENTS: Large logs cross stream

Cover

 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING <input type="checkbox"/> IMPOUND.
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> RELOCATION <input type="checkbox"/> ISLANDS
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> CANOPY REMOVAL <input type="checkbox"/> LEVEED
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> DREDGING <input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel

 Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) P River Right Looking Downstream P

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> NONE/LITTLE [3]
<input type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> HEAVY/SEVERE [1]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		

Riparian

 Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input checked="" type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> FAST [1]
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> MODERATE [1]
<input type="checkbox"/> < 0.2m [POOL=0]		<input checked="" type="checkbox"/> SLOW [1]
		<input type="checkbox"/> INTERSTITIAL [-1]
		<input type="checkbox"/> INTERMITTENT [-2]
		<input type="checkbox"/> VERY FAST [1]

Pool/Current

 Max 12

COMMENTS: _____

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input checked="" type="checkbox"/> Best Areas 5-10 cm [1]	<input checked="" type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
			<input type="checkbox"/> NO RIFFLE [Metric=0]

Riffle/Run

 Max 8

Gradient

 Max 10

6) GRADIENT (ft/mi): 27.25 DRAINAGE AREA (sq.mi.): 3.58
 % POOL: % GLIDE:
 % RIFFLE: % RUN:

* Best areas must be large enough to support a population of riffle-obligate species

This QHEI is part 2 of 2 for this stream.

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None
 Industrial
 WWTP
 Ag
 Livestock
 Silviculture
 Construction
 Urban Runoff
 CSOs
 Suburban Impacts
 Mining
 Channelization
 Riparian Removal
 Landfills
 Natural
 Dams
 Other Flow Alteration
 Other: _____

Subjective Rating (1-10) Aesthetic Rating (1-10)

Stream Measurements:

Average Width	8 ft	Average Depth	4.25 in	Maximum Bankfull Width	22 ft	Bankfull Depth	12 in	W/D Ratio	17 in	Maximum Floodprone Area	Width	Ratio
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Distance: _____ Water Clarity: _____ Water Stage: _____ Canopy - % Open _____

Gear: _____

First Sampling Pass _____

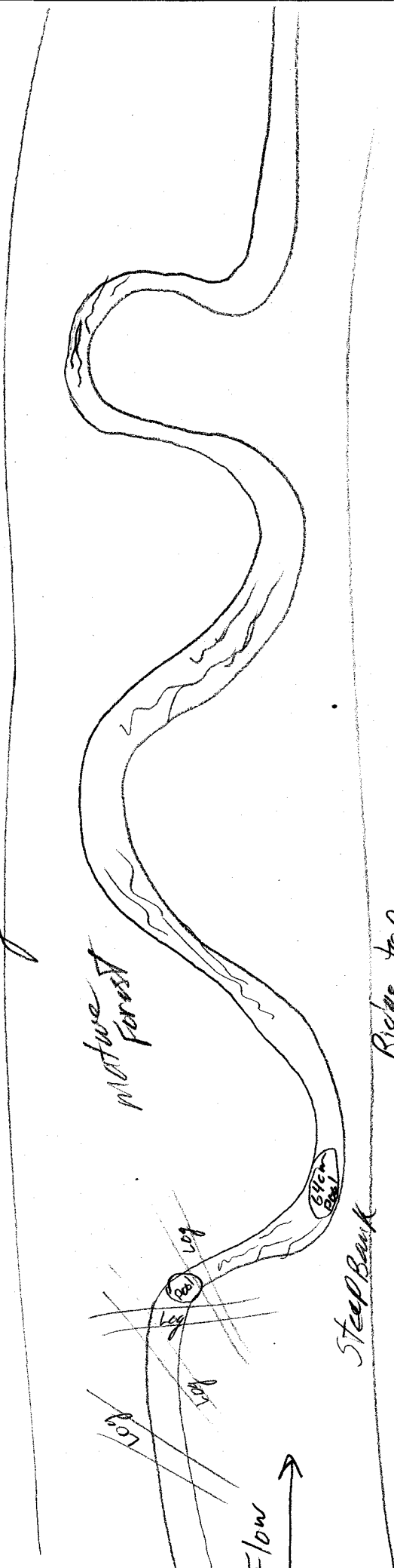
Stream Drawing:

Ridge Top

Mature Forest

Ridge top

Steep Bank



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3. Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

SITE NAME/LOCATION PB-WH-Ovenlick E-1 SITE NUMBER _____
 DRAINAGE AREA (mi²) 0.36
 RIVER BASIN Little Scioto River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE Dec 18, 01 SCORER SCJ COMMENTS Ephemeral Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>✓</u>
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>✓</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	_____	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	<u>✓</u>	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input type="checkbox"/> ARTIFICIAL [3 pts]	_____

COMMENTS: _____ NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- GREATER THAN 8 INCHES (20 cm) [25 pts] LESS THAN 4 INCHES (10 cm) [5 pts]
 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts] NO POOL (no water or most channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (inches): 6 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- GREATER THAN 15 FEET [25 pts] 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [15 pts]
 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts] LESS THAN 5 FEET (1.5 m) [0 pts]
 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6 ft

HHEI Metric:

Substrate Max = 30

21

Pool Dept Max = 25

15

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank)
 Wide >10m
 Moderate 5-10m
 Narrow <5m
 None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
 Mature Forest, Wetland
 Immature Forest, Shrub or Old Field
 Residential, Park, New Field
 Fenced Pasture

- L R
 Conservation Tillage
 Urban or Industrial
 Open Pasture, Row Crop
 Mining or Construction

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing Moist Channel, isolated pools, no flow
 Interstitial flow with isolated pools Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None 1.0 2.0 3.0
 0.5 1.5 2.5 >3

STREAM GRADIENT ESTIMATE

- Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: oven lick Distance from Evaluated Stream 1200
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 49 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Scioto Dale

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Dec 17, 01 Quantity: _____
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 30%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

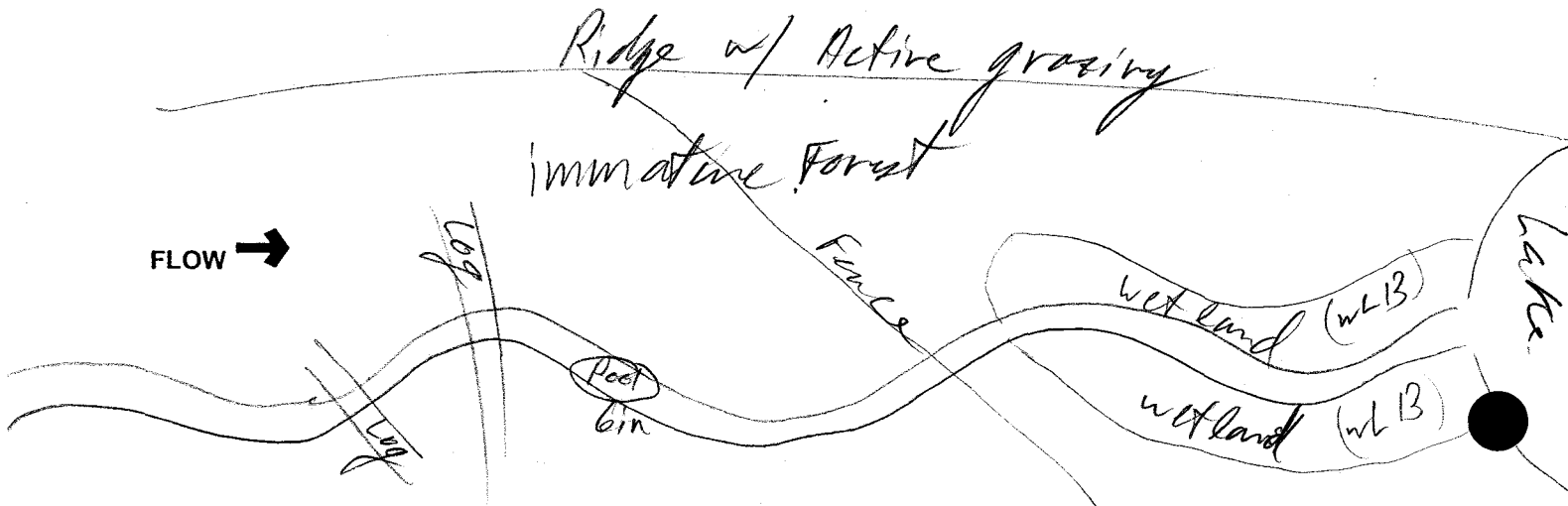
Additional comments/description of pollution impacts: Active Grazing Nearby;
Some Bank Erosion

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB- W20- Oven Lick E-1 SITE NUMBER
150 ft From Route 140 DRAINAGE AREA (mi²) 0.200
RIVER BASIN Little Scioto Rm. LAT. LONG. RIVER CODE RIVER MILE
DATE Dec 10, 01 SCORER SCJ COMMENTS Ephemeral Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [] NONE / NATURAL CHANNEL [] RECOVERED [X] RECOVERING [] RECENT OR NO RECOVERY
MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACKWOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- Greater than 8 inches (20 cm) [25 pts]
4 inches (10 cm) to less than 8 inches (20 cm) [15 pts]
Less than 4 inches (10 cm) [5 pts]
No pool (no water or moist channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (inches): 4.5 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- Greater than 15 feet [25 pts]
10 feet to less than 15 feet (4.6 m) [20 pts]
7.5 feet (2.3 m) to less than 10 feet (3.1 m) [10 pts]
5 feet (1.5 m) to less than 7.5 feet (2.3 m) [5 pts]
Less than 5 feet (1.5 m) [0 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 4.8

HHEI Metric:
Substrate Max = 30
6
Pool Dept Max = 25
15
Bankfull Width Max = 25
0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- L R (Per Bank)
Wide >10m
Moderate 5-10m
Narrow <5m
None

FLOODPLAIN QUALITY

- L R (Most Predominant per Bank)
Mature Forest, Wetland
Immature Forest, Shrub or Old Field
Residential, Park, New Field
Fenced Pasture

- L R
Conservation Tillage
Urban or Industrial
Open Pasture, Row Crop
Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- Stream Flowing
Interstitial flow with isolated pools
Moist Channel, isolated pools, no flow
Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- None
0.5
1.0
1.5
2.0
2.5
3.0
>3

STREAM GRADIENT ESTIMATE

- Flat
Flat to Moderate
Moderate
Moderate to Severe
Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Oven Lick Distance from Evaluated Stream 1000ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Happy Haus Addition

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: NOV 29, 01 Quantity: < 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 70%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) N/A Conductivity (µmhos/cm) N/A
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Down stream from Bubbling Pipe; Strong Petroleum smell from pipe; smells like Peanut Butter in general Area. Some garbage in Area. Near a Road.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N
Comments Regarding Biology: Isopods & Flatworms

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SITE NAME/LOCATION PB-W22-ORE1 SITE NUMBER
Down Stream From School Next to Rt. 140 DRAINAGE AREA (mi²) 0.546
RIVER BASIN Ohio River LAT. LONG. RIVER CODE RIVER MILE
DATE Nov 19, 01 SCORER SCS COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [X] NONE / NATURAL CHANNEL [] RECOVERED [] RECOVERING [] RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with 4 columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

Table with 2 columns: [X] GREATER THAN 8 INCHES (20 cm) [25 pts], [] LESS THAN 4 INCHES (10 cm) [5 pts], [] 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts], [] NO POOL (no water or moist Channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (Inches): 10 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

Table with 2 columns: [] GREATER THAN 15 FEET [25 pts], [] 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts], [X] 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts], [] LESS THAN 5 FEET (1.5 m) [0 pts], [] 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 12 ft

HHEI Metric:

Substrate Max = 30

28

Pool Depth Max = 25

25

Bankfull Width Max=25

20

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

Table with 2 columns: L R (Per Bank), [X] Wide >10m, [] Moderate 5-10m, [] Narrow <5m, [] None

FLOODPLAIN QUALITY

Table with 2 columns: L R (Most Predominant per Bank), [X] Mature Forest, Wetland, [] Immature Forest, Shrub or Old Field, [] Residential, Park, New Field, [] Fenced Pasture

Table with 2 columns: L R, [] Conservation Tillage, [X] Urban or Industrial, [] Open Pasture, Row Crop, [] Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Table with 2 columns: [X] Stream Flowing, [] Moist Channel, isolated pools, no flow, [] Interstitial flow with isolated pools, [] Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

Table with 4 columns: [] None, [] 0.5, [] 1.0, [] 1.5, [] 2.0, [] 2.5, [X] 3.0, [] >3

STREAM GRADIENT ESTIMATE

Table with 4 columns: [] Flat, [] Flat to Moderate, [X] Moderate, [] Moderate to Severe, [] Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Ohio River Distance from Evaluated Stream: 400 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 48 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Scioto Dale

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: NOV 19, 01 Quantity: _____
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 60%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

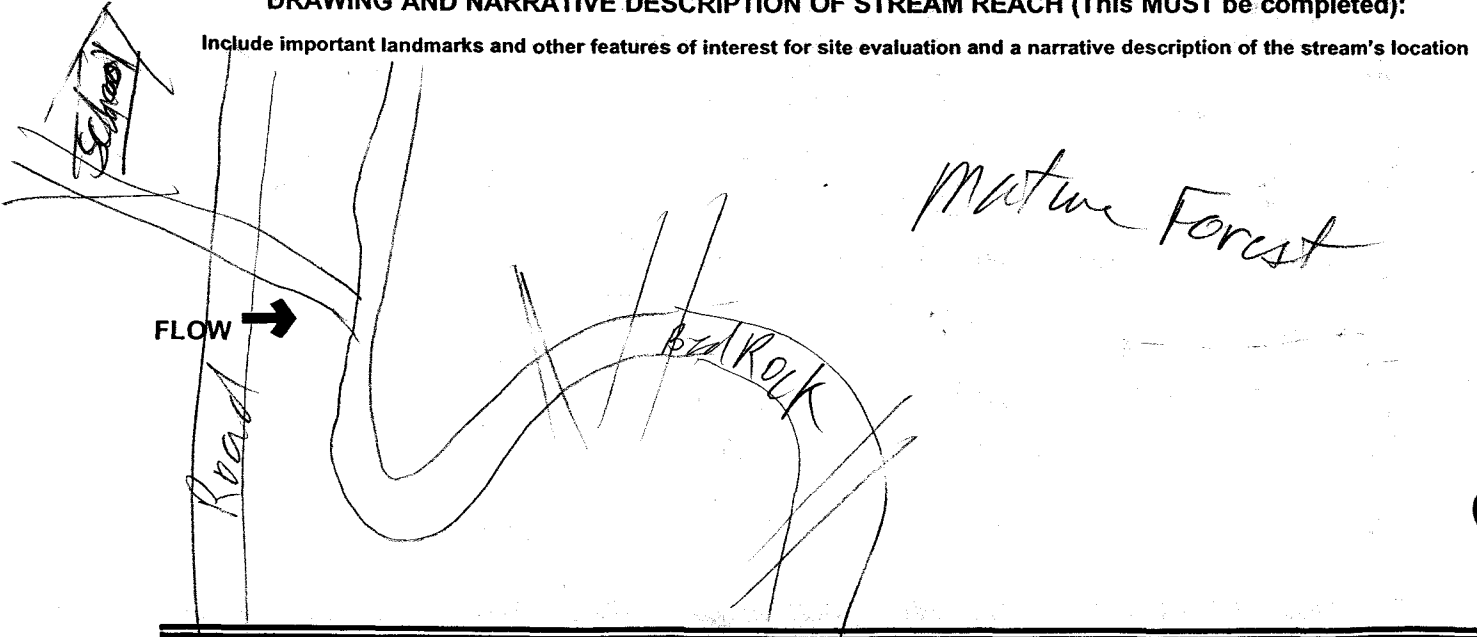
Additional comments/description of pollution impacts: Next to a major Road

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) Y
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION: P16# w/23 - ORT1
Road side off Hastings Hill Rd & Rt. 251
SITE NUMBER:
DRAINAGE AREA (mi²): 0.188
RIVER BASIN: Ohio River
DATE: Nov 28, 01
SCORER: SCS
COMMENTS: Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL: [] NONE / NATURAL CHANNEL [X] RECOVERED [] RECOVERING [] RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with 4 columns: TYPE, PERCENT, TYPE, PERCENT. Includes categories like BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: Some Rip-Rap NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

Table with 2 columns: [] GREATER THAN 8 INCHES (20 cm) [25 pts], [X] LESS THAN 4 INCHES (10 cm) [5 pts], [] 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts], [] NO POOL (no water or moist channel) [0 pts]

COMMENTS: Hardly any pools at all MAXIMUM POOL DEPTH (inches): 2 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

Table with 2 columns: [] GREATER THAN 15 FEET [25 pts], [] 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts], [] 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts], [] 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts], [X] LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS: very consistent 4 ft with AVERAGE BANKFULL WIDTH (feet): 4 ft

HHEI Metric:

Substrate Max = 30

16

Pool Depth Max = 25

5

Bankfull Width Max = 25

0

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

Table with 3 columns: RIPARIAN WIDTH (L R), FLOODPLAIN QUALITY (L R), and other categories like Conservation Tillage, Urban or Industrial, Open Pasture, Row Crop, Mining or Construction.

COMMENTS: Road on left, House on Rd.

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Table with 2 columns: [X] Stream Flowing, [] Moist Channel, isolated pools, no flow, [] Interstitial flow with isolated pools, [] Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

Table with 4 columns: [X] None, [] 0.5, [] 1.0, [] 1.5, [] 2.0, [] 2.5, [] 3.0, [] >3

STREAM GRADIENT ESTIMATE

Table with 4 columns: [] Flat, [] Flat to Moderate, [X] Moderate, [] Moderate to Severe, [] Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Ohio River Distance from Evaluated Stream 1200 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 57 NRCS Soil Map Stream Order _____
 County: Scioto Township: Porter
 City: Scioto Dale

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: _____ Quantity: _____
 #14 → Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 98%
 Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
 Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
 Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

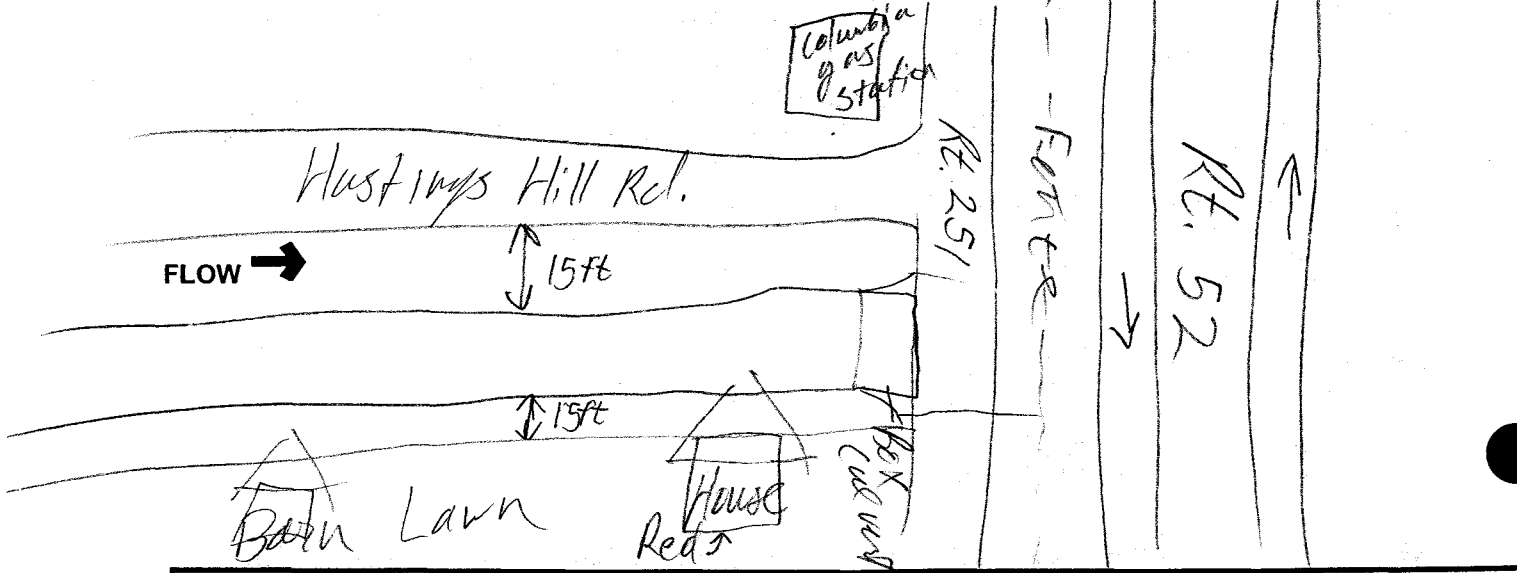
Additional comments/description of pollution impacts: Deeply entrenched stream Use to collect Heavy Run-off in Heavy Rain conditions

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

No } Fish Observed? (Y/N) _____ Voucher? (Y/N) _____ Salamanders Observed? (Y/N) _____ Voucher? (Y/N) _____
 Frogs or Tadpoles Observed? (Y/N) _____ Voucher? (Y/N) _____ Aquatic Macroinvertebrates Observed? (Y/N) _____ Voucher? (Y/N) _____
 Comments Regarding Biology: Possible spring feed at its head.

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Qualitative Habitat Evaluation Index Field Sheet QHEI Score: **32**

River Code: RM: Stream: PB-W23-ORE2 *(Intermittent Stream)*
 Date: Nov 14, 01 Location: Down stream of Stewart Hollow; 300ft from Ohio River

Scorers Full Name: SCJ Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> -BLDR /SLBS [10]	<input type="checkbox"/> -GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> -BOULDER [9]	<input type="checkbox"/> -SAND [6]	<input type="checkbox"/> -LIMESTONE [1]	SILT:	<input type="checkbox"/> -SILT HEAVY [-2]
<input type="checkbox"/> -COBBLE [8]	<input type="checkbox"/> -BEDROCK [5]	<input type="checkbox"/> -TILLS [1]	<input type="checkbox"/> -WETLANDS [0]	<input type="checkbox"/> -SILT MODERATE [-1]
<input type="checkbox"/> -HARDPAN [4]	<input type="checkbox"/> -DETRITUS [3]	<input type="checkbox"/> -HARDPAN [0]	<input type="checkbox"/> -SANDSTONE [0]	<input type="checkbox"/> -SILT NORMAL [0]
<input type="checkbox"/> -MUCK [2]	<input type="checkbox"/> -ARTIFICIAL [0]	<input type="checkbox"/> -RIP/RAP [0]	EMBEDDED	<input type="checkbox"/> -SILT FREE [1]
<input checked="" type="checkbox"/> -SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		NESS:	<input type="checkbox"/> -EXTENSIVE [-2]
		<input type="checkbox"/> -LACUSTRINE [0]		<input type="checkbox"/> -MODERATE [-1]
		<input type="checkbox"/> -SHALE [-1]		<input type="checkbox"/> -NORMAL [0]
		<input type="checkbox"/> -COAL FINES [-2]		<input type="checkbox"/> -NONE [1]

Substrate

 Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2]
 (High Quality Only, Score 5 or >) 3 or Less [0]

COMMENTS: 8 feet of silt

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)
 (Structure) TYPE: Score All That Occur

TYPE	SCORE	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70 cm [2]	<input type="checkbox"/> - EXTENSIVE > 75% [11]
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> - MODERATE 25-75% [7]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input type="checkbox"/> - SPARSE 5-25% [3]
<input type="checkbox"/> ROOTMATS [1]		<input type="checkbox"/> - NEARLY ABSENT < 5% [1]
		<input type="checkbox"/> - LOGS OR WOODY DEBRIS [1]

Cover

 Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> - HIGH [4]	<input type="checkbox"/> - EXCELLENT [7]	<input type="checkbox"/> - NONE [6]	<input type="checkbox"/> - HIGH [3]	<input type="checkbox"/> - SNAGGING
<input type="checkbox"/> - MODERATE [3]	<input type="checkbox"/> - GOOD [5]	<input type="checkbox"/> - RECOVERED [4]	<input type="checkbox"/> - MODERATE [2]	<input type="checkbox"/> - RELOCATION
<input type="checkbox"/> - LOW [2]	<input type="checkbox"/> - FAIR [3]	<input type="checkbox"/> - RECOVERING [3]	<input type="checkbox"/> - LOW [1]	<input type="checkbox"/> - CANOPY REMOVAL
<input type="checkbox"/> - NONE [1]	<input type="checkbox"/> - POOR [1]	<input type="checkbox"/> - RECENT OR NO RECOVERY [1]		<input type="checkbox"/> - DREDGING
				<input type="checkbox"/> - BANK SHAPING
				<input type="checkbox"/> - ONE SIDE CHANNEL MODIFICATIONS

Channel

 Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) ρ River Right Looking Downstream ρ

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input type="checkbox"/> - WIDE > 50m [4]	<input type="checkbox"/> - FOREST, SWAMP [3]	<input type="checkbox"/> - CONSERVATION TILLAGE [1]
<input type="checkbox"/> - MODERATE 10-50m [3]	<input type="checkbox"/> - SHRUB OR OLD FIELD [2]	<input type="checkbox"/> - URBAN OR INDUSTRIAL [0]
<input type="checkbox"/> - NARROW 5-10 m [2]	<input type="checkbox"/> - RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> - OPEN PASTURE, ROWCROP [0]
<input type="checkbox"/> - VERY NARROW < 5 m [1]	<input type="checkbox"/> - FENCED PASTURE [1]	<input type="checkbox"/> - MINING/CONSTRUCTION [0]
<input type="checkbox"/> - NONE [0]		

Riparian

 Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH (Check 1 ONLY!)	MORPHOLOGY (Check 1 or 2 & AVERAGE)	CURRENT VELOCITY (Check All That Apply)
<input type="checkbox"/> - > 1m [6]	<input type="checkbox"/> - POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> - EDDIES [1]
<input type="checkbox"/> - 0.7-1m [4]	<input type="checkbox"/> - POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> - TORRENTIAL [-1]
<input type="checkbox"/> - 0.4-0.7m [2]	<input type="checkbox"/> - POOL WIDTH < RIFFLE W. [0]	<input type="checkbox"/> - FAST [1]
<input type="checkbox"/> - 0.2-0.4m [1]		<input type="checkbox"/> - MODERATE [1]
<input type="checkbox"/> - < 0.2m [POOL=0]		<input type="checkbox"/> - INTERSTITIAL [-1]
		<input type="checkbox"/> - INTERMITTENT [-2]
		<input type="checkbox"/> - SLOW [1]
		<input type="checkbox"/> - VERY FAST [1]

Pool/Current

 Max 12

COMMENTS: Water was not flowing at all at time of Document.

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> - Best Areas > 10 cm [2]	<input type="checkbox"/> - MAX > 50 [2]	<input type="checkbox"/> - STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> - NONE [2]
<input type="checkbox"/> - Best Areas 5-10 cm [1]	<input type="checkbox"/> - MAX < 50 [1]	<input type="checkbox"/> - MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> - LOW [1]
<input type="checkbox"/> - Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> - UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> - MODERATE [0]
			<input type="checkbox"/> - EXTENSIVE [-1]
		<input type="checkbox"/> - NO RIFFLE [Metric=0]	

Riffle/Run

 Max 8

Gradient

 Max 10

COMMENTS: _____

6) GRADIENT (ft/mi): 75.4 DRAINAGE AREA (sq.mi.): 0.153
 %POOL: 50 %GLIDE: _____
 %RIFFLE: 50 %RUN: _____

** Best areas must be large enough to support a population of riffle-obligate species
 EPA 4520

*
 This QHEI is one of 2 for this Stream.

Is Sampling Reach Representative of the Stream (Y/N) ___ If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

None

Industrial

WWTP

Ag

Livestock

Silviculture

Construction

Urban Runoff

CSOs

Suburban Impacts

Mining

Channelization

Riparian Removal

Landfills

Natural

Dams

Other Flow Alteration

Other: _____

Subjective Rating (1-10)

Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

First Sampling Pass _____

Gear: _____

Distance: _____

Water Clarity: _____

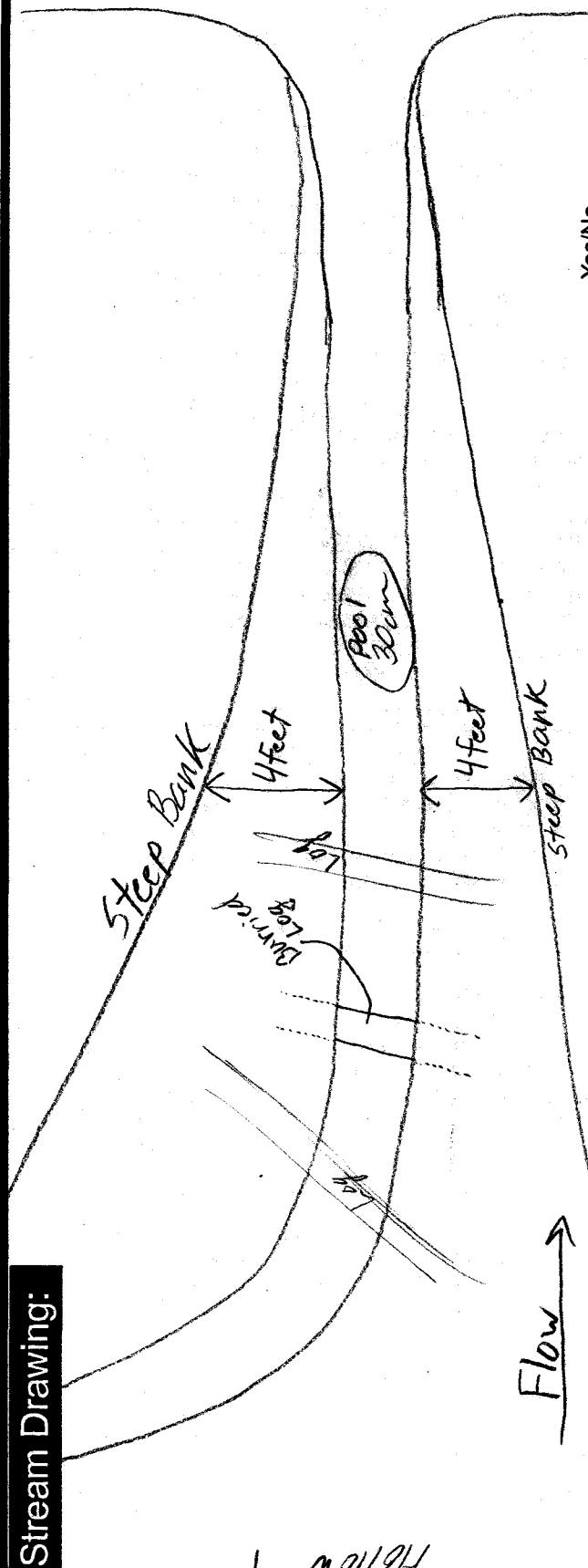
Water Stage: _____

Canopy -% Open _____

Stream Measurements:

Average Width	50 cm	Average Depth	0 cm	Maximum Depth	30 cm	Av. Bankfull Width	1 m	Bankfull Depth	50 cm	W/D Ratio	1 m	Floodprone Area	1 m	Entrenchment Ratio
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Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3. Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

Is Stream Ephemeral (no pools, totally dry or only damp spots)?

Is there water upstream? How Far: _____

Is There Water Close Downstream? How Far: _____

Is Dry Channel Mostly Natural?

OHIO River

Stewart
Hollow

River Code: RM: Stream: PB-W23-OR24 Intermittent Stream
Date: Nov 14, 01 Location: Up stream of Ohio River; Right at Rt. 52 over Pass

Scorers Full Name: SGT Affiliation: _____

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

TYPE	POOL RIFFLE	POOL RIFFLE	SUBSTRATE ORIGIN	SUBSTRATE QUALITY
<input type="checkbox"/> BLDR /SLBS [10]	<input type="checkbox"/> GRAVEL [7]	Check ONE (OR 2 & AVERAGE)		Check ONE (OR 2 & AVERAGE)
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> SAND [6]	<input type="checkbox"/> LIMESTONE [1]	SILT:	<input type="checkbox"/> SILT HEAVY [-2]
<input checked="" type="checkbox"/> COBBLE [8]	<input type="checkbox"/> BEDROCK [5]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> SILT MODERATE [-1]
<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> SILT NORMAL [0]
<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	EMBEDDED	<input type="checkbox"/> SILT FREE [1]
<input type="checkbox"/> SILT [2]	NOTE: Ignore Sludge Originating From Point Sources		NESS:	<input type="checkbox"/> EXTENSIVE [-2]
		<input type="checkbox"/> LACUSTRINE [0]		<input type="checkbox"/> MODERATE [-1]
		<input type="checkbox"/> SHALE [-1]		<input type="checkbox"/> NORMAL [0]
		<input type="checkbox"/> COAL FINES [-2]		<input type="checkbox"/> NONE [1]

Substrate
8
Max 20

NUMBER OF SUBSTRATE TYPES: 4 or More [2] 3 or Less [0]
(High Quality Only, Score 5 or >)

COMMENTS: _____

2) INSTREAM COVER (Give each cover type a score of 0 to 3; see back for instructions)
(Structure) TYPE: Score All That Occur

UNDERCUT BANKS [1]	POOLS > 70 cm [2]	OXBOWS, BACKWATERS [1]	AMOUNT: (Check ONLY One or check 2 and AVERAGE)
<input checked="" type="checkbox"/> OVERHANGING VEGETATION [1]	<input checked="" type="checkbox"/> ROOTWADS [1]	<input type="checkbox"/> AQUATIC MACROPHYTES [1]	<input type="checkbox"/> EXTENSIVE > 75% [11]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]	<input checked="" type="checkbox"/> LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/> MODERATE 25-75% [7]
<input type="checkbox"/> ROOTMATS [1]	COMMENTS: _____		<input type="checkbox"/> SPARSE 5-25% [3]
			<input type="checkbox"/> NEARLY ABSENT < 5% [1]

Cover
8
Max 20

3) CHANNEL MORPHOLOGY: (Check ONLY One PER Category OR check 2 and AVERAGE)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	MODIFICATIONS/OTHER
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	<input type="checkbox"/> SNAGGING
<input checked="" type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	<input type="checkbox"/> IMPOUND.
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	<input type="checkbox"/> RELOCATION
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		<input type="checkbox"/> CANOPY REMOVAL
				<input type="checkbox"/> DREDGING
				<input type="checkbox"/> BANK SHAPING
				<input type="checkbox"/> ONE SIDE CHANNEL MODIFICATIONS

Channel
11
Max 20

COMMENTS: _____

4) RIPARIAN ZONE AND BANK EROSION (check ONE box per bank or check 2 and AVERAGE per bank) River Right Looking Downstream River Left

RIPARIAN WIDTH	FLOOD PLAIN QUALITY (PAST 100 Meter RIPARIAN)	BANK EROSION
L R (Per Bank)	L R (Most Predominant Per Bank)	L R (Per Bank)
<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> CONSERVATION TILLAGE [1]
<input checked="" type="checkbox"/> MODERATE 10-50m [3]	<input type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]
<input type="checkbox"/> NARROW 5-10 m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]
<input type="checkbox"/> VERY NARROW < 5 m [1]	<input type="checkbox"/> FENCED PASTURE [1]	<input type="checkbox"/> MINING/CONSTRUCTION [0]
<input type="checkbox"/> NONE [0]		<input type="checkbox"/> NONE/LITTLE [3]
		<input type="checkbox"/> MODERATE [2]
		<input checked="" type="checkbox"/> HEAVY/SEVERE [1]

Riparian
8.5
Max 10

COMMENTS: _____

5) POOL/GLIDE AND RIFFLE/RUN QUALITY

MAX. DEPTH	MORPHOLOGY	CURRENT VELOCITY	POOLS & RIFFLES!
(Check 1 ONLY!)	(Check 1 or 2 & AVERAGE)	(Check All That Apply)	
<input checked="" type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> EDDIES [1]	<input type="checkbox"/> TORRENTIAL [-1]
<input type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> FAST [1]	<input type="checkbox"/> INTERSTITIAL [-1]
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE W. [0]	<input checked="" type="checkbox"/> MODERATE [1]	<input type="checkbox"/> INTERMITTENT [-2]
<input type="checkbox"/> 0.2-0.4m [1]		<input checked="" type="checkbox"/> SLOW [1]	<input type="checkbox"/> VERY FAST [1]
<input type="checkbox"/> < 0.2m [POOL=0]			

Pool/Current
11
Max 12

COMMENTS: Most of channel Dry Save for the pool at culvert

CHECK ONE OR CHECK 2 AND AVERAGE

RIFFLE DEPTH	RUN DEPTH	RIFFLE/RUN SUBSTRATE	RIFFLE/RUN EMBEDDEDNESS
<input type="checkbox"/> Best Areas > 10 cm [2]	<input type="checkbox"/> MAX > 50 [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> Best Areas 5-10 cm [1]	<input type="checkbox"/> MAX < 50 [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input checked="" type="checkbox"/> Best Areas < 5 cm [RIFFLE=0]		<input type="checkbox"/> UNSTABLE (Fine Gravel, Sand) [0]	<input type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]
		<input type="checkbox"/> NO RIFFLE [Metric=0]	

Riffle/Run
0
Max 8

Gradient
8
Max 10

COMMENTS: _____

6) GRADIENT (ft/mi): 75.4 DRAINAGE AREA (sq.mi.): 1.69
% POOL: 100 % GLIDE: —
% RIFFLE: — % RUN: —

* Best areas must be large enough to support a population of riffle-obligate species

Is Sampling Reach Representative of the Stream (Y/N) If Not, Explain:

Major Suspected Sources of Impacts (Check All That Apply):

- None
- Industrial
- WWTP
- Ag
- Livestock
- Silviculture
- Construction
- Urban Runoff
- CSOs
- Suburban Impacts
- Mining
- Channelization
- Riparian Removal
- Landfills
- Natural
- Dams
- Other Flow Alteration
- Other:

Distance: Water Clarity: Water Stage: Canopy -% Open

Gear:

First Sampling Pass

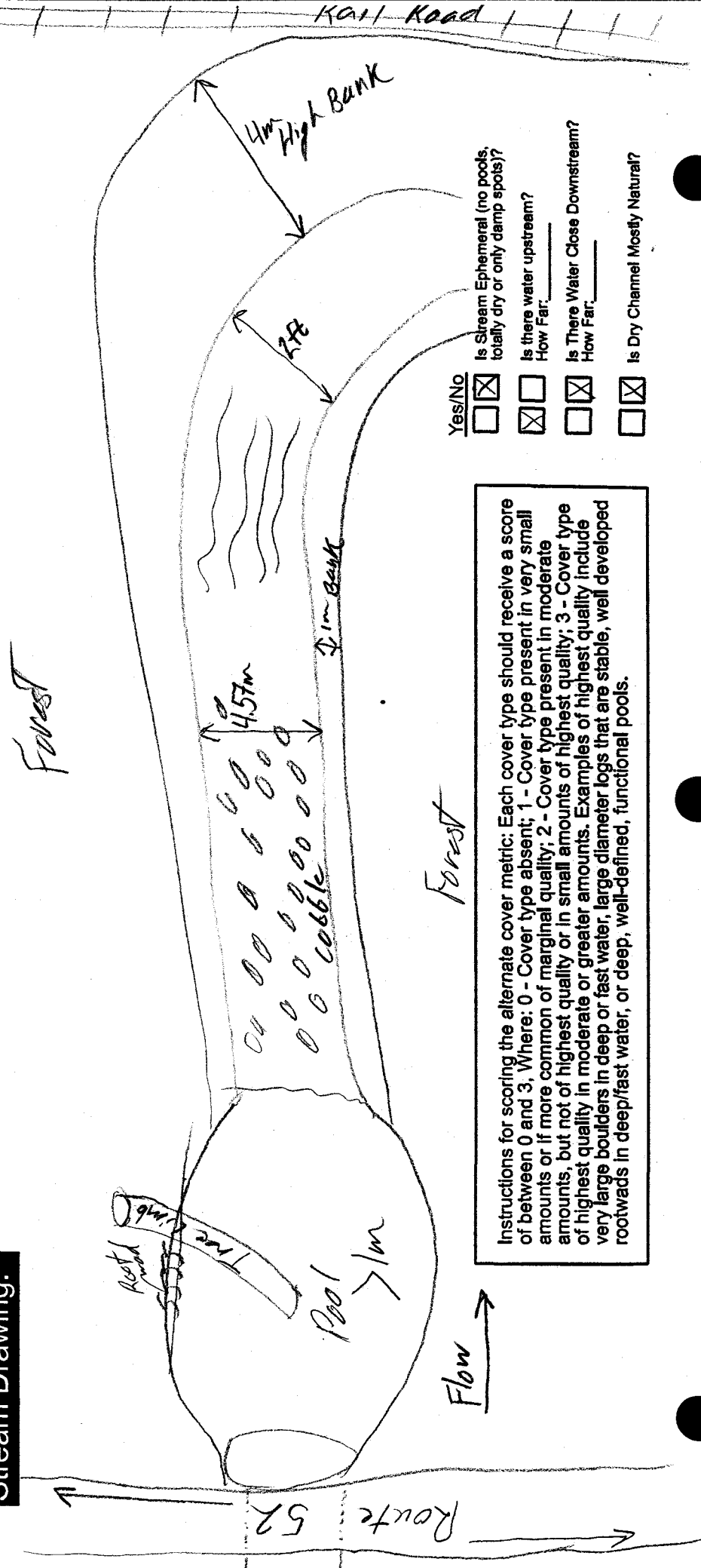
Stream Measurements:

Average Width	Average Depth	Maximum Depth	Av. Bankfull Width	Bankfull Depth	W/D Ratio	Floodprone Area	Entrenchment Ratio
<u>7m</u>	<u>4.57m</u>	<u>30cm</u>	<u>4.57m</u>	<u>40cm</u>	<u> </u>	<u> </u>	<u> </u>

Subjective Rating (1-10) Aesthetic Rating (1-10)

Gradient: - Low, - Moderate, - High

Stream Drawing:



Instructions for scoring the alternate cover metric: Each cover type should receive a score of between 0 and 3. Where: 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

- Yes No
- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Yes No
- Is there water upstream? How Far:
- Yes No
- Is There Water Close Downstream? How Far:
- Yes No
- Is Dry Channel Mostly Natural?

SITE NAME/LOCATION: PB-W23-OR4 Stream crosses Rt. 52 and Rail Road
SITE NUMBER:
DRAINAGE AREA (mi^2): 0.147
RIVER BASIN: Ohio River
DATE: Nov 20, 01
SCORER: SCJ
COMMENTS: Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL: [] NONE / NATURAL CHANNEL [] RECOVERED [X] RECOVERING [] RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 4

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

Table with 2 columns of options: GREATER THAN 8 INCHES (20 cm) [25 pts], 4 INCHES (10 cm) to LESS THAN 8 INCHES (20 cm) [15 pts], LESS THAN 4 INCHES (10 cm) [5 pts], NO POOL (no water or moist Channel) [0 pts].

COMMENTS: MAXIMUM POOL DEPTH (Inches): 10 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

Table with 2 columns of options: GREATER THAN 15 FEET [25 pts], 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts], 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts], 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts], LESS THAN 5 FEET (1.5 m) [0 pts].

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 10 ft

HHEI Metric:

Substrate Max = 30

16

Pool Depth Max = 25

25

Bankfull Width Max = 25

20

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

Table with 2 columns: L, R (Per Bank). Options: Wide >10m, Moderate 5-10m, Narrow <5m, None.

COMMENTS:

FLOODPLAIN QUALITY

Table with 3 columns: L, R (Most Predominant per Bank), L, R. Options: Mature Forest, Wetland, Immature Forest, Shrub or Old Field, Residential, Park, New Field, Fenced Pasture, Conservation Tillage, Urban or Industrial, Open Pasture, Row Crop, Mining or Construction.

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

Table with 2 columns of options: Stream Flowing, Interstitial flow with isolated pools, Moist Channel, isolated pools, no flow, Dry channel (no water).

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

Table with 4 columns of options: None, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, >3.

STREAM GRADIENT ESTIMATE

Table with 5 options: Flat, Flat to Moderate, Moderate, Moderate to Severe, Severe.

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

DWH Name: Ohio River Distance from Evaluated Stream 1400 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 57 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Scioto Dale

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: Nov 19, 01 Quantity: 7 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 30%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) ~~N~~ Y not, please explain: _____

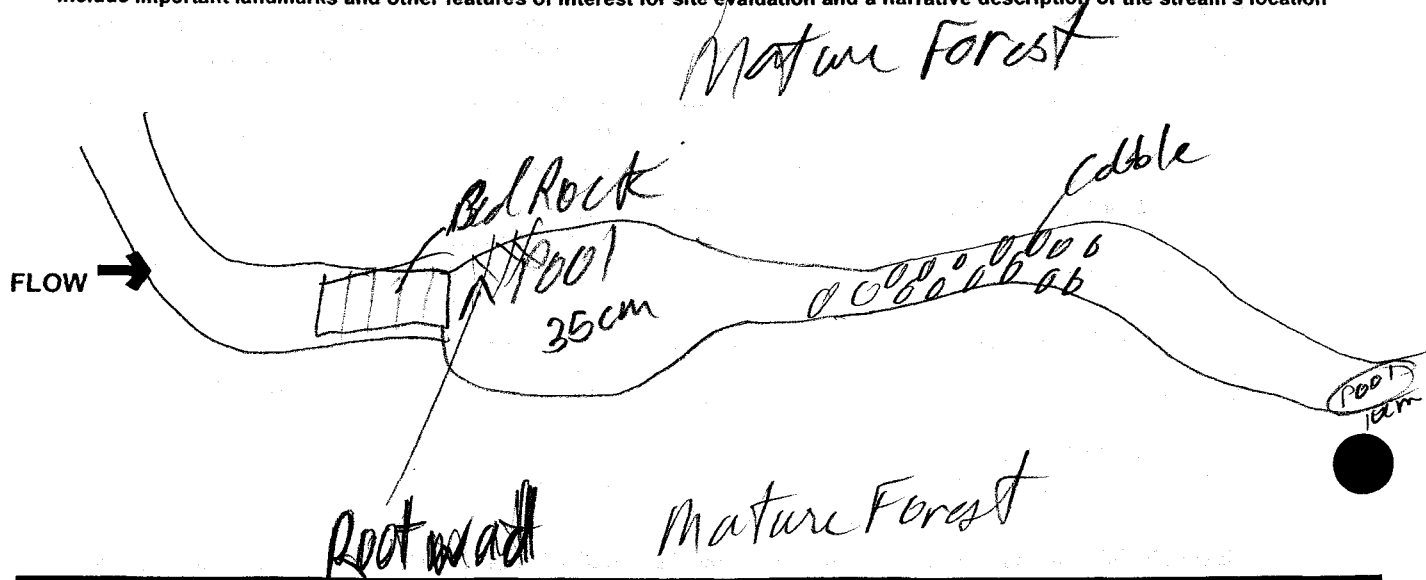
Additional comments/description of pollution impacts: Possible sewage out Fall,

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB-W23-0pt.5 SITE NUMBER _____
Beside Stewart Hollow Rd. DRAINAGE AREA (mi²) 0.258
 RIVER BASIN Ohio River LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____
 DATE NOV 28, 01 SCORER SCJ COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> BLDR SLABS [12 pts]	_____	<input type="checkbox"/> SILT [3 pt]	_____
<input type="checkbox"/> BOULDER (>256 mm) [12 pts]	_____	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	_____
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [9 pts]	<u>✓</u>	<input type="checkbox"/> FINE DETRITUS [3 pts]	_____
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [3 pts]	<u>✓</u>	<input type="checkbox"/> CLAY or HARDPAN [0 pt]	_____
<input type="checkbox"/> SAND (<2 mm) [0 pts]	_____	<input type="checkbox"/> MUCK [0 pts]	_____
<input type="checkbox"/> BEDROCK [12 pt]	_____	<input checked="" type="checkbox"/> ARTIFICIAL [3 pts]	<u>✓</u>

COMMENTS: Stream Bed laid w/ Bassett NUMBER OF SUBSTRATE TYPES: 3
aggregates

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 8 INCHES (20 cm) [25 pts]	<input checked="" type="checkbox"/> LESS THAN 4 INCHES (10 cm) [5 pts]
<input type="checkbox"/> 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]	<input type="checkbox"/> NO POOL (no water or moist Channel) [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (Inches): 4 in

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> GREATER THAN 15 FEET [25 pts]	<input checked="" type="checkbox"/> 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
<input type="checkbox"/> 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]	<input type="checkbox"/> LESS THAN 5 FEET (1.5 m) [0 pts]
<input type="checkbox"/> 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (feet): 6 ft

HHEI Metric:

Substrate Max = 30

9

Pool Depth Max = 25

5

Bankfull Width Max = 25

5

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L R (Per Bank)		L R (Most Predominant per Bank)	L R
<input checked="" type="checkbox"/> Wide >10m		<input checked="" type="checkbox"/> Mature Forest, Wetland	<input type="checkbox"/> Conservation Tillage
<input type="checkbox"/> Moderate 5-10m		<input type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/> Narrow <5m		<input checked="" type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/> Open Pasture, Row Crop
<input checked="" type="checkbox"/> None		<input type="checkbox"/> Fenced Pasture	<input type="checkbox"/> Mining or Construction

COMMENTS very close to Road; (used as roadside ditch)

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow
<input type="checkbox"/> Interstitial flow with isolated pools	<input type="checkbox"/> Dry channel (no water)

COMMENTS _____

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat Flat to Moderate Moderate Moderate to Severe Severe

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Ohio River Distance from Evaluated Stream 4400 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 57 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Scioto Dale

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: NOV 28 Quantity: 1 in
#13 -> Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 60%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: Stream Has Recently Been Laid with Bassalt Aggregates; Near Road;

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: Appears that Flow occurs only when it Rains,

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



SITE NAME/LOCATION PB-W23-ORT7 SITE NUMBER
Right off of Egbert Rd. next to Home DRAINAGE AREA (mi²) 0.41
RIVER BASIN Ohio River LAT. LONG. RIVER CODE RIVER MILE
DATE Nov 28, 01/ SCORER SCS COMMENTS Intermittent Stream

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL [] NONE / NATURAL CHANNEL [] RECOVERED [X] RECOVERING [] RECENT OR NO RECOVERY

MODIFICATIONS:

1. SUBSTRATE (Check ONLY two substrate TYPE boxes; Estimate % of every type present; Add total number of substrate types (Max of 5); Add the two predominate substrate type scores and number of substrate types):

Table with 4 columns: TYPE, PERCENT, TYPE, PERCENT. Rows include BLDR SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, SILT, LEAF PACK/WOODY DEBRIS, FINE DETRITUS, CLAY or HARDPAN, MUCK, ARTIFICIAL.

COMMENTS: NUMBER OF SUBSTRATE TYPES: 3

2. Maximum Pool Depth (Measure the maximum pool depth within the 200 ft evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

- [] GREATER THAN 8 INCHES (20 cm) [25 pts]
[X] LESS THAN 4 INCHES (10 cm) [5 pts]
[] 4 INCHES (10 cm) TO LESS THAN 8 INCHES (20 cm) [15 pts]
[] NO POOL (no water or moist Channel) [0 pts]

COMMENTS: MAXIMUM POOL DEPTH (inches): 3

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

- [] GREATER THAN 15 FEET [25 pts]
[] 5 FEET (1.5 m) TO LESS THAN 7.5 FEET (2.3 m) [5 pts]
[] 10 FEET TO LESS THAN 15 FEET (4.6 m) [20 pts]
[X] 7.5 FEET (2.3 m) TO LESS THAN 10 FEET (3.1 m) [10 pts]
[] LESS THAN 5 FEET (1.5 m) [0 pts]

COMMENTS: AVERAGE BANKFULL WIDTH (feet): 8

HHEI Metric:

Substrate Max = 30

15

Pool Dept Max = 25

5

Bankfull Width Max = 25

10

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Right and Left looking downstream☆

RIPARIAN WIDTH

- [X] Wide >10m
[] Moderate 5-10m
[] Narrow <5m
[] None

FLOODPLAIN QUALITY

- [X] Mature Forest, Wetland
[] Immature Forest, Shrub or Old Field
[] Residential, Park, New Field
[] Fenced Pasture

- [] Conservation Tillage
[] Urban or Industrial
[] Open Pasture, Row Crop
[] Mining or Construction

COMMENTS:

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

- [X] Stream Flowing
[] Interstitial flow with isolated pools
[] Moist Channel, isolated pools, no flow
[] Dry channel (no water)

COMMENTS:

SINUOSITY (Number of bends per 200 ft (61 m) of channel) (Check ONLY one box):

- [] None
[] 0.5
[] 1.0
[] 1.5
[X] 2.0
[] 2.5
[] 3.0
[] >3

STREAM GRADIENT ESTIMATE

- [] Flat
[] Flat to Moderate
[X] Moderate
[] Moderate to Severe
[] Severe

ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USES(s)

WWH Name: Ohio River Distance from Evaluated Stream 2600 ft
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: _____ NRCS Soil Map Page: 57 NRCS Soil Map Stream Order _____
County: Scioto Township: Porter
City: Scioto Dale

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: Nov 29 Quantity: 1 in
Photos (Y/N): Y Elevated Turbidity? (Y/N): N Canopy (% open): 50%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____
Field Measures: Temp (°C) X Dissolved Oxygen (mg/l) X pH (S.U.) X Conductivity (µmhos/cm) X
Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

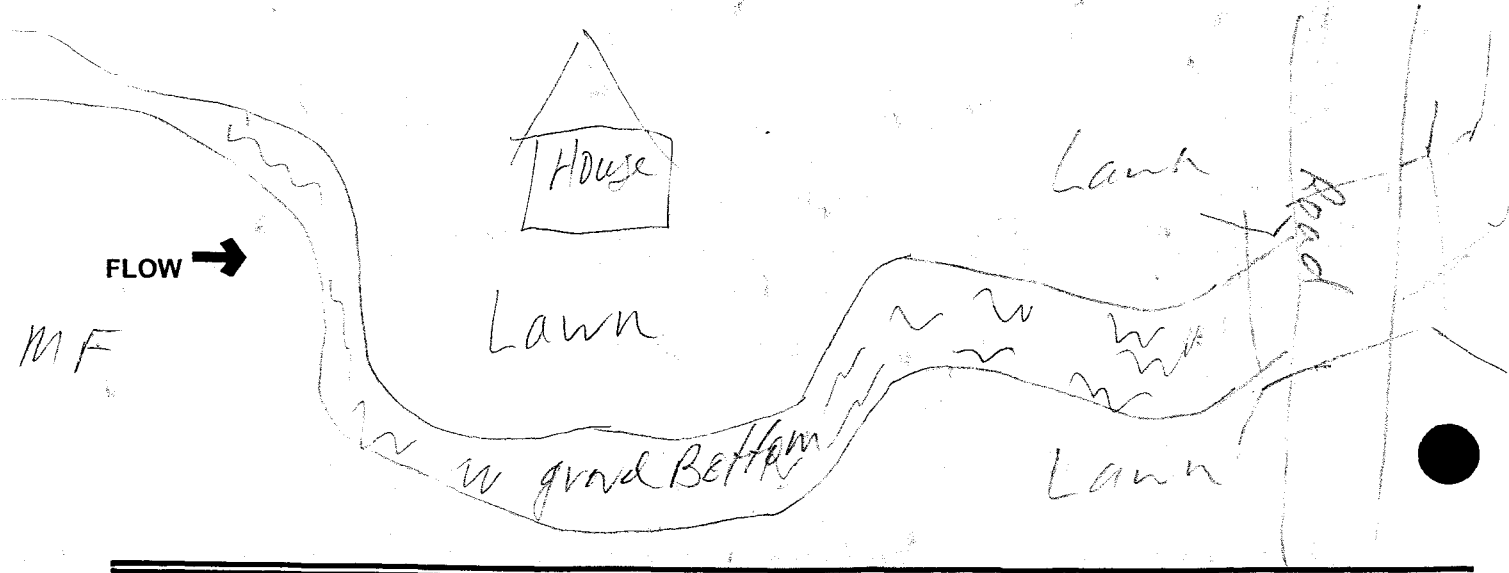
Additional comments/description of pollution impacts: Right next to a Residential Lawn.

BIOLOGICAL EVALUATION (Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology: very steep Bank on the left side
20ft

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This MUST be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Appendix E - Wetland Determination Data Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W1 WL 8</u>

VEGETATION

30'w - 35'w x 1000'± swale/linear wetland

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha latifolia</u>	<u>50% H</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Echinochloa walteri?</u>	<u>H</u>	<u>FACW+</u>	10. _____	_____	_____
3. <u>Polygonum sp.</u>	<u>H</u>	<u>—</u>	11. _____	_____	_____
4. <u>Carex frankii</u>	<u>H</u>	<u>Obl</u>	12. _____	_____	_____
5. <u>Cyperus oryzoides</u>	<u>H</u>	<u>Obl</u>	13. _____	_____	_____
6. <u>Acorus calamus</u>	<u>H</u>	<u>Obl</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>100%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>> 16</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Remarks: <u>Dry, cracked surface soil.</u> <u>Standing water observed on subsequent dates (numerous).</u> <u>Wide depressional area/swale.</u></p>

SOILS

SPD - somewhat poorly drained

Map Unit Name (Series and Phase): FcA - Fitchville silt loam Drainage Class: 0-3% slopes

Taxonomy (Subgroup): Aeric Ochraqualfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 4/2			sch
12+		10YR 3/1			sch

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: *Area in Question is Rather Narrow, but extremely long. Falls along side Route 23. When looking at the soil maps this Area is very close to 2 other soil types and may cross over into these soils.*

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Parkmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>DDOT</u>	County: <u>Scioto</u>
Investigator: <u>Hack/Jennings</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W1WL8 2</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Glycine max</u>	<u>100% H</u>	<u>UP1</u>	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>0%</u>		
Remarks: <u>Tilled field.</u>					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: <u>No indicators.</u>	

SOILS

Map Unit Name (Series and Phase): <u>HU - Huntington silt loam</u>		Drainage Class: <u>occasionally Flooded</u>	
Taxonomy (Subgroup): <u>Fluventic Hapludolls</u>		Field Observations Confirm Mapped Type? Yes No	
<u>Profile Description</u>			
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)
Hydric Soil Indicators:			
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions	
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils	
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils	
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List	
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List	
<input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)	
Remarks: <u>Non-hydric or non-hydric inclusion soil.</u>			

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No
Wetland Hydrology Present?	Yes	<input type="radio"/> No	
Hydric Soils Present?	Yes	<input type="radio"/> No	
Remarks: <u>No criteria met.</u>			

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	11/14/01
Applicant / Owner	ODOT	County	Scioto
Investigator	Hook/Jennings	State	OH
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	W1 WL9

90' l x 40' w, oblong - at edge of new fill

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Salix nigra	T 20%	FACW+			
2 Fraxinus pennsylvanica	T 40%	FACW			
3 Acer saccharinum	T 20%	FACW			
4 Phalaris arundinacea(?)	H 50%	FACW			
5					
6					
7					
8					

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

marks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated (partial) <input checked="" type="checkbox"/> Saturated in Upper 12 Inches (partial) <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	< 1	cat lowest point (in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	18	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil		(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)

SOILS

WD - well Drained

Map Unit Name (Series and Phase): <i>No - Nolin Silt loam</i>			Drainage Class: <i>occasionally flooded</i>		
Taxonomy (Subgroup) <i>Dystric Fluventic</i>			Field Observations Confirm Mapped Type? YES (NO)		
<i>Eutrochrepts</i> PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-18</i>		<i>2.5Y 4/2</i>	<i>7.5YR 4/6</i>		<i>silt loam</i>
<i>> 9 (at lowest spot)</i>		<i>5Y 4/1</i>			<i>silt loam</i>

HYDRIC SOIL INDICATORS:

- | | |
|--|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|--|--|

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	
Remarks		
<p><i>Area in Question is very close to Miller Run and Route 23.</i></p> <p><i>All criteria met. Appears to be a remnant of a larger depression now partially filled to south.</i></p>		

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	11/14/01
Applicant / Owner	ODOT	County	Scioto
Investigator	Hook/Jennings	State	OH
Do Normal Circumstances exist on the site?	YES NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	W1 WL 10

old ^{Miller Run} oxbow? 20-30' wide

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Salix nigra	T	FACW+			
2 Acer saccharinum	T	FACW			
3 Phalaris arundinacea	<5% H	FACW			
4 Salix sp.	Sh	FACW/OBL			
5					
6					
7					
8					

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

marks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	0-3	(in)	<p>Secondary Indicators (2 or more Required):</p> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	<1	(in)	
Depth to Saturated Soil		(in)	

SOILS

Map Unit Name (Series and Phase): <i>FcA - Fitchville silt loam</i>			Drainage Class: <i>0-3% slopes</i>		
Taxonomy (Subgroup) <i>Aeric Ochraqualfs</i>		Field Observations Confirm Mapped Type? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-12</i>	<i>A</i>	<i>5Y 3/1</i>			<i>silt</i>
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol			<input type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon			<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input checked="" type="checkbox"/> Sulfidic Odor			<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime			<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions			<input type="checkbox"/> Listed on National Hydric Soils List		
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Other (Explain in Remarks)		
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Wetland Hydrology Present?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
Hydric Soils Present?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
Remarks			
<p><i>Area in Question could possibly be an old OX Bow of Miller Run. While looking at the soil maps This Area could cross over into a different soil type (No).</i></p> <p><i>All criteria met.</i></p>			

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>RH/SJ</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>WIWL10</u> ✓

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Ulmus americana</u>	<u>20%</u>	<u>T</u>	9. _____	_____	_____
2. <u>Acer saccharinum</u>	<u>30%</u>	<u>T</u>	10. _____	_____	_____
3. <u>Populus deltoides</u>	<u>10%</u>	<u>T</u>	11. _____	_____	_____
4. <u>Acer negundo</u>	<u>5%</u>	<u>T</u>	12. _____	_____	_____
5. <u>Equisetum hymale</u>	<u>75%</u>	<u>H</u>	13. _____	_____	_____
6. <u>Lysim. nummularia</u>	<u>10%</u>	<u>H</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): _____			<u>100%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>18</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: <u>No indicators.</u>	

SOILS

Map Unit Name (Series and Phase) <u>No - Nolin silt loam</u>		Drainage Class: <u>WD - Well Drained</u> <u>occasionally Flooded</u>			
Taxonomy (Subgroup): <u>Dystric Fluventic Entrochrypts</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A</u>	<u>2.5Y 4/3</u>			<u>silt loam</u>
<u>12+</u>	<u>B</u>	<u>2.5Y 5/4</u>	<u>10YR 4/6</u>	<u>c/m/d</u>	<u>silt loam</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol			<input type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon			<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor			<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime			<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions			<input type="checkbox"/> Listed on National Hydric Soils List		
<input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Other (Explain in Remarks)		
Remarks: <u>No indicators</u>					


WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Hydric Soils Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Remarks: <u>Soil and hydrology criteria not met.</u>			

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	11/14/01
Applicant / Owner	ODOT	County	Scioto
Investigator	Rob Hook	State	OH
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	W2 W1

 probably partially farmed

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Typha latifolia	40% H	Obl			
2 Echinochloa walteri	25% H	Facw+			
3 Carex frankii (?)	10% H	Obl			
4 Alisma subcordata	<5% H	Obl			
5 Rumex verticillatus	<5% H	Obl			
6					
7					
8					

(Shipe)

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks) 	
FIELD OBSERVATIONS			
Depth of Surface Water	0	(in)	
Depth to Free Water in Pit	718	(in)	
Depth to Saturated Soil	18 ±	(in)	

Dry, cracked soil surface. Observed to be inundated on numerous dates thereafter.

SOILS

WD - well Drained

Map Unit Name (Series and Phase): *EKB - Elkinsville silt loam* Drainage Class: *1-8% slopes*

Taxonomy (Subgroup) *Urtic Hapludalts* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-6</i>	<i>A1</i>	<i>2.5Y 4/2</i>			<i>silt</i>
<i>6-18</i>	<i>A2</i>	<i>2.5Y 4/2</i>	<i>2.5Y 5/1</i>		<i>silt</i>
<i>18+</i>	<i>B</i>	<i>2.5Y 3/2</i>	<i>10YR 4/4</i>	<i>c/m/d</i>	<i>sch</i>

HYDRIC SOIL INDICATORS:

- | | |
|---|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer, in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks

All criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>RH/SJ</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse)	Plot ID: <u>W2 W61</u> V

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Glycine max</u>	<u>100% H</u>	<u>UPL</u>	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	
<p>Remarks: <u>No indicators</u></p>	

SOILS

1-8% Slopes

Map Unit Name <u>Ek13- Elkinsville silt loam</u>		Drainage Class: <u>WD - Well Drained</u>	
Taxonomy (Subgroup): <u>Ultic Hapludalfs</u>		Field Observations Confirm Mapped Type? Yes No	
Profile Description			
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)
Hydric Soil Indicators:			
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List		
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)		
Remarks: <u>Mapped non-hydric soil type. Appears well drained for agriculture.</u>			

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	
Remarks: <u>No criteria met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hock/Jennings</u>	State: <u>Ohio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse)	Plot ID: <u>W2WL2</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharinum</u>	<u>Sh</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Lysim. numm.</u>	<u>H</u>	<u>OBL</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Carex sp.</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>100%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u>23</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: <u>Abundant recent rainfall</u>	

SOILS

Map Unit Name (Series and Phase): Ge-Genesee silt loam Drainage Class: WD

Taxonomy (Subgroup): Typic Udi Fluvent Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
0-12		2.5Y4/2	10YR4/6	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: mapped wetland on soil survey

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: <u>All criteria met</u>		

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook/Jennings</u>	State: <u>Ohio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W2WL22</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Dipsacus sylvestris</u>	<u>H</u>	<u>NL</u>	9. _____	_____	_____
2. <u>Solidago spp.</u>	<u>H</u>	<u>—</u>	10. _____	_____	_____
3. <u>Andropogon Virg.</u>	<u>H</u>	<u>FAC U</u>	11. _____	_____	_____
4. <u>Poa sp.</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. <u>Acer saccharinum</u>	<u>Sh</u>	<u>FACW</u>	13. _____	_____	_____
6. <u>Tox. radicans</u>	<u>V</u>	<u>FAC</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>50%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	
Remarks: <u>No indicators.</u>	

SOILS

Map Unit Name (Series and Phase): No - Nolin silt loam Drainage Class: WD

Taxonomy (Subgroup): Dystric Fluventic Entrocept Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9	A	2.5Y5/4			scl
9+	B	10YR5/6			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R Hook / S Jenning</u>	State: <u>Ohio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W2WL4</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Rumex orbiculatus(?)</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Salix nigra</u>	<u>Sh</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Leersia oryzoides</u>	_____	<u>OBL</u>	11. _____	_____	_____
4. <u>Acer saccharinum</u>	<u>Sh</u>	<u>FACW</u>	12. _____	_____	_____
5. <u>Cephalanthus occidentalis</u>	<u>Sh</u>	<u>OBL</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>12+</u> (in.) (<u>pond area</u>) Depth to Free Water in Pit: <u>712</u> (in.) (<u>adj. to pond</u>) Depth to Saturated Soil: _____ (in.)	

Remarks: Area adjacent to pond and partially including pond. (borrow pit)

SOILS

Map Unit Name (Series and Phase): <u>Genessee silt loam</u>		Drainage Class: <u>WD</u>			
Taxonomy (Subgroup): _____		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A-B</u>	<u>2.5Y4/1</u>			<u>silt loam</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/08/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W3 WL1</u>

VEGETATION

avg 2' m wide Dry meander near SRT-1

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum sp.</u>	<u>H</u>	<u>—</u>	9. _____	_____	_____
2. <u>Ulmus americana</u>	<u>T</u>	<u>FACW-</u>	10. _____	_____	_____
3. <u>Platanus occidentalis</u>	<u>T</u>	<u>FACW-</u>	11. _____	_____	_____
4. <u>Lycopus sp. (?)</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>100%</u>		
Remarks:					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> (in.)</p> <p>Depth to Free Water in Pit: <u>2</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
Remarks:	

SOILS

(Very steep)

Map Unit Name *SFE-*
 (Series and Phase): *5 helecta - Wharton - Latham Assoc.* Drainage Class: *MWD - Moderately well Dr.*

Taxonomy (Subgroup): *Typic Hapludults* Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR3/1			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: <i>All criteria met.</i>		

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W3 W2 1 2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Alliaria petiolata</u>	<u>H</u>	<u>FACU</u>	9. <u>Geum canadense</u>	<u>H</u>	<u>FACU+</u>
2. <u>Platanus occidentalis</u>	<u>T</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Acer negundo</u>	<u>T</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Polygonum virginianum</u>	<u>H</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Viola sp.</u>	<u>H</u>	<u>—</u>	13. _____	_____	_____
6. <u>Rosa multiflora</u>	<u>Sh</u>	<u>FACU</u>	14. _____	_____	_____
7. <u>Acer saccharum</u>	<u>Sh</u>	<u>FACU</u>	15. _____	_____	_____
8. <u>Celtis occidentalis</u>	<u>Sh</u>	<u>FACU</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

$\frac{3}{8} = 38\%$

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>> 12</u> (in.) <u>NOT FOUND</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): Shelocta-Wharton-Latham Drainage Class: MWD
 Taxonomy (Subgroup): Typic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR3/2			silt loam
6+	B	2.5Y 5/4	10YR2/6	c/m/Q	silt loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No	
Hydric Soils Present? Yes <input checked="" type="radio"/> No	

Remarks:

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/8/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R. Hood</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W3W63</u>

VEGETATION

(at edge of pond)
 30' w x 50' l - Δ @ edge of pond -

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex sp.</u>	<u>H</u>	<u>—</u>	9. _____	_____	_____
2. <u>Scirpus sp.</u>	<u>H</u>	<u>FACW/OBL</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>ND/H</u>	<u>FACW+</u>	11. _____	_____	_____
4. <u>Salix sp.</u>	<u>SH</u>	<u>FACW/OBL</u>	12. _____	_____	_____
5. <u>Poa sp. (?)</u>	<u>H</u>	<u>—</u>	13. _____	_____	_____
6. <u>Vernonia (?)</u>	<u>H</u>	<u>—</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks: ND = Non dominant

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: _____	

SOILS

1-8% Slopes

Map Unit Name ^{OMB}: Omulga silt loam Drainage Class: mwd - moderately well Drained
 (Series and Phase):
 Taxonomy (Subgroup): Typic Fragiuclalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		2.5Y4/2	7.5YR4/6	c/m/d	silt loam.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/8/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R. Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W3WLY</u>

VEGETATION

30' W x 150' L - man made?

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
<input checked="" type="checkbox"/> 1. <u>Juncus effusus</u> 50%	<u>H</u>	<u>FACWT</u>	9. <u>Salix exigua</u>	<u>SH</u>	<u>OBL</u> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> 2. <u>Epilobium coloratum</u> 5%	<u>H</u>	<u>OBL</u>	10. <u>Panicum clandestinum</u> 10%	<u>H</u>	<u>FACW</u>
3. <u>Carex sp.</u> 20%	<u>H</u>	<u>—</u>	11. _____	_____	_____
4. <u>Polygonum sp.</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. <u>Echinodloa walteri</u> 5%	<u>H</u>	<u>FACWT</u>	13. _____	_____	_____
6. <u>Typha angustifolia</u> <5%	<u>H</u>	<u>OBL</u>	14. _____	_____	_____
7. <u>Sambucus canadensis</u> 5%	<u>SH</u>	<u>FACW</u>	15. _____	_____	_____
8. <u>Setaria faberii</u> 10%	<u>H</u>	<u>UPL</u>	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): <u>100%</u>					
Remarks: <u>Carex not identifiable to species. Most non-dominants are FACW/OBL</u>					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>____ Oxidized Root Channels in Upper 12 Inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC-Neutral Test</p> <p>____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (spots) (in.)</p> <p>Depth to Free Water in Pit: <u>11</u> (in.)</p> <p>Depth to Saturated Soil: <u>10</u> (in.)</p>	<p>Remarks:</p>

SOILS

8-15% slopes

Map Unit Name ^{OMC} - Omurga Silt loam Drainage Class: MWD - Moderately well Drained
 Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4		2.5Y 4/4	7.5Y 2.4/6	c/m/d	scl
4-12		2.5Y 4/1	7.5Y 2.4/6	c/m/d	scl

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	

Remarks:

All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/08/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R. Hood</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input checked="" type="radio"/> Yes <input type="radio"/> No (If needed, explain on reverse) <u>Possible manmade condition</u>	Plot ID: <u>W3WLS</u>

VEGETATION

45' x 30' w Δ - wide to south

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Scirpus cyperinus</u> 20	H	FACWT	9. _____		
2. <u>Juncus effusus</u> 70	H	FACWT	10. _____		
3. <u>Carex sp.</u> 10	H	—	11. _____		
4. <u>Typha latifolia</u> <10	H	Obl	12. _____		
5. <u>Scirpus atrovirens</u> <5	H	obl	13. _____		
6. Scirpus ^{Ludwigia} <u>alterniflora</u> <5	H	FACWT	14. _____		
7. <u>Agrimonia parviflora</u> <5	H	Fae	15. _____		
8. _____			16. _____		
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>100%</u>		
Remarks:					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: <u>Only one secondary indicator</u>	

SOILS

8-20% Slopes

Map Unit Name ^{wkd-} Wharton - Urban land ^{complex} Drainage Class: MWD - Moderately well Drained
 Taxonomy (Subgroup): Aquic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y4/2	7.5YR4/6		sd
6+	B	2.5Y4/6			sd

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Low matrix chroma not present below A horizon.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

Remarks: Hydrology and soil criteria not met. Man made partial condition.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/08/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R. Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W3WL47</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
<i>mineral</i> → 2. <u>Eichhornia crass.</u>	<u>H</u>	<u>OBL</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW+</u>	11. _____	_____	_____
4. <u>Eleocharis sp.</u>	<u>H</u>	<u>FACW-OBL</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): _____ Stream, Lake or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs _____ Other _____ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12 Inches _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-24"</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil _____ (in.)	
Remarks: <u>old farm pond</u>	

SOILS

1-8% Slopes

Map Unit Name (Series and Phase): Op B- Omulga - Urban land complex Drainage Class: MWD - Moderately Well Drained

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Farm pond - distinct boundaries, dominated by OBL species

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: <u>All criteria met</u>		

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hoch</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W3W27, 8 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Mowed lawn grass</u>	<u>H</u>	<u>-</u>	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: Typical grass/herb components of sloping mowed lawn.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.) <u>NOT FOUND</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Omaha-Urban Land complex Drainage Class: MWD

Taxonomy (Subgroup): TYPIC Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 5/6			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/08/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R. Hoops</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W3 WL8</u>

VEGETATION

30' 50' Downstream and recently graded.

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha latifolia</u>	<u>H</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Epilobium coloratum</u>	<u>H</u>	<u>Obl</u>	10. _____	_____	_____
3. <u>Ludwigia alternifolia</u>	<u>H</u>	<u>FACW+</u>	11. _____	_____	<u>L</u>
4. <u>Polygonum sagittatum</u>	<u>H</u>	<u>OBL</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
Remarks: _____	

SOILS

(1-5% Stokes)

Map Unit Name (Series and Phase): OPB - Omulga - Urban Land ^{Complex} Drainage Class: mwd - moderately well drained
 Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
0-1		2.5Y 3/1			silt loam
1+		2.5Y 4/2			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input checked="" type="checkbox"/> Other (Explain in Remarks)

Remarks: Dominated by FACW/OBC plants with abrupt boundaries.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W3 WL13</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha latifolia</u>	<u>H</u>	<u>obb</u>	9. _____		
2. <u>Acorus calamus</u>	<u>H</u>	<u>obl</u>	10. _____		
3. <u>Juncus effusus</u>	<u>H</u>	<u>Facw</u>	11. _____		
4. <u>Carex spp.</u>	<u>H</u>	<u>-</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	
Remarks:	

SOILS

Map Unit Name (Series and Phase): <u>OmB - Omulga silt loam</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fragindalfs</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-6</u>		<u>5Y4/2</u>	<u>10YR4/6</u>	<u>c/m/d</u>	<u>scl</u>
<u>6+</u>		<u>5Y4/2</u>			
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Gleyed or Low-Chroma Colors
<input type="checkbox"/> Concretions	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils	<input type="checkbox"/> Organic Streaking in Sandy Soils	<input type="checkbox"/> Listed on Local Hydric Soils List	<input type="checkbox"/> Listed on National Hydric Soils List	<input type="checkbox"/> Other (Explain in Remarks)
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks:			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W3 WL13 25</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Houstonia caerulea</u>	<u>H</u>	<u>FACU</u>	9. _____	_____	_____
2. <u>Festuca rubra</u>	<u>H</u>	<u>UPL</u>	10. _____	_____	_____
3. <u>Plantago lanceolata</u>	<u>H</u>	<u>FACU</u>	11. _____	_____	_____
4. <u>Vernonia gigantea</u>	<u>H</u>	<u>FAC</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 25%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): <u>OmB- Omulga Silt loam</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fragiuclats</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>	<u>A</u>	<u>2.5Y 5/3</u>			
<u>8+</u>	<u>B</u>	<u>10YR 5/6</u>	<u>10YR 6/8</u>	<u>c/m/d</u>	
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="checkbox"/> No	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes	<input checked="" type="checkbox"/> No	
Hydric Soils Present?	Yes	<input checked="" type="checkbox"/> No	
Remarks:			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 W/L1</u>

Misc. Notes wet veg along shallow drainage - 10' W ± to 20' W ±

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acorus calamus</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Sambucus canadensis</u>	<u>SH</u>	<u>FACW</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>4/</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks:	

SOILS

Map Unit Name (Series and Phase): <u>MoC2 - Monongahela</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fraginudals</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A</u>	<u>5Y 4/2</u>	<u>5Y 4/3</u>		<u>silt loam</u>
<u>12+</u>	<u>B</u>	<u>7.5BG? 4/2</u>	<u>10YR 5/6</u>		<u>silt loam / concretions</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 WL1 v</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Poa sp.</u>	<u>H</u>	<u>—</u>	9.		
2. <u>Festuca sp</u>	<u>H</u>	<u>—</u>	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: Mowed field south of wetland. Plants not identifiable to species.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): MOC2-Monongahela silt loam Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 4/3			
5+		10YR 4/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W4 WL2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus sp.</u>	<u>H</u>	<u>FACW/OBL</u>	9. _____		
2. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	10. _____		
3. <u>Poa compressa</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-)	<u>66%</u>
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Remarks: Dense Juncus and Carex not identifiable to species, but presumed FACW/OBL based on habit/habitat (hydro/soils)

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> (in.)</p> <p>Depth to Free Water in Pit: <u>3</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: Possible pond seepage.

SOILS

Map Unit Name (Series and Phase): <u>MoC2 - Mononachela silt</u>		Drainage Class: <u>mwd</u>			
Taxonomy (Subgroup): <u>Typic ^{lean} Argicudalfs</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9		10YR 5/1			scl
9+					stone
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol			<input checked="" type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon			<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor			<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime			<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions			<input type="checkbox"/> Listed on National Hydric Soils List		
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Other (Explain in Remarks)		
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No	
Remarks: <u>All criteria met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W4 W22 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Poa compressa</u>	<u>H</u>	<u>FACV</u>	9. _____		
2. <u>Festuca rubra</u>	<u>H</u>	<u>FACU</u>	10. _____		
3. <u>Erigeron annua</u>	<u>H</u>	<u>FACV</u>	11. _____		
4. <u>Stellaria media</u>	<u>H</u>	<u>UPL</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): MoC2-Monongahela silt loam Drainage Class: mod
 Taxonomy (Subgroup): Typic Fluvisols Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 4/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 WL3</u>

Misc. Notes possibly created/expanded by recent grading.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW+</u>	9. _____	_____	_____
2. <u>Carex spp.</u>	<u>H</u>	<u>FACW/OB</u>	10. _____	_____	_____
3. <u>Poa compressa</u>	<u>H</u>	<u>FACU</u>	11. _____	_____	_____
4. <u>Juncus sp.</u>	<u>H</u>	<u>FACW/OB</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 75%

Remarks: None Juncus & Carex not identifiable to species, but presumed FACW/OBL based on habit/habitat (hydro/soils)

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated <u>partial</u></p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
Remarks:	

SOILS

Map Unit Name (Series and Phase): OmB- omudga silt loam Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y 4/2	2.5Y 5/4	cl/r/d on ped surfaces	silt loam
6-12	B	5Y 4/2	5Y 5/3	f/r/f	scd
			7.5YR 4/6	on ped surfaces	

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 WL 3 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	9. _____	_____	_____
2. <u>Rubus allegheniensis</u>	<u>Sh</u>	<u>FACU</u>	10. _____	_____	_____
3. <u>Juncus effrus us</u>	<u>H</u>	<u>FACWT</u>	11. _____	_____	_____
4. <u>Allium sp.</u>	<u>H</u>	<u>FACU</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): OmB - Omulga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudolls Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y4/3			scl
6+	B	10YR 5/6			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 WLG</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW+</u>	9. _____	_____	_____
2. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	10. _____	_____	_____
3. <u>Onoclea sensibilis</u>	<u>H</u>	<u>OBL</u>	11. _____	_____	_____
4. <u>Panicum sp.</u>	<u>H</u>	<u>-</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.) <u>puddle</u></p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated <u>partial</u></p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: groundwater spring driven

SOILS

Map Unit Name (Series and Phase): <u>MOC2-^{lean} mononogate silt</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fragindults</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9	A	2.5Y4/3	10YR4/6		silt loam
9+	B	10YR6/1	10YR6/6	c/r/d	scl
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <p style="text-align:center; font-size: 1.2em;"><i>All criteria met</i></p>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W4W6/7/8 V</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pectica sp.</u>	<u>H</u>	<u>—</u>	9.		
2. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	10.		
3. <u>Panicum sp.</u>	<u>H</u>	<u>—</u>	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: Although unidentifiable to species, genera are typical of upland field/pasture.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
Remarks: <u>No indicators</u>	

SOILS

Map Unit Name (Series and Phase): <u>MoC2-monongahda silt</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fraginudults</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 4/6			
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: <u>No indicators.</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	Yes	<input type="radio"/> No	
Hydric Soils Present?	Yes	<input type="radio"/> No	
Remarks: <u>No criteria met</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W4WL7</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW+</u>	9. _____	_____	_____
2. <u>Carex w/pinosilka</u>	<u>H</u>	<u>O61</u>	10. _____	_____	_____
3. <u>Panicum sp.</u>	<u>H</u>	<u>---</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>100%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>____ Oxidized Root Channels in Upper 12 Inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC-Neutral Test</p> <p>____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>< 2</u> (in.) <i>puddles</i></p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
Remarks: _____	

SOILS

Map Unit Name (Series and Phase): <u>OmB - Omulga silt</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fraginudalts</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
<u>Profile Description</u>					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-6</u>		<u>10YR4/1</u>			<u>sd</u>
<u>6+</u>		<u>10YR6/1</u>	<u>10YR4/6</u>		<u>sd</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol			<input checked="" type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon			<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor			<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime			<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions			<input type="checkbox"/> Listed on National Hydric Soils List		
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Other (Explain in Remarks)		
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met.</u> <u>Small ephemeral connection to stream</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 WL8</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW+</u>	9. _____		
2. <u>Onoclea sensibilis</u>	<u>H</u>	<u>Obl</u>	10. _____		
3. <u>Cyperus sp.</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Sambucus canadensis</u>	<u>Sh</u>	<u>FACW-</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>41</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	

Remarks: groundwater spring driven.

SOILS

Map Unit Name (Series and Phase): MOC2 - Menongahela Drainage Class: MWD

Taxonomy (Subgroup): Typic Fraginudalts^{silt loam} Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y5/2	10Y2/6		sel

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: upland soils are very similar to (wL4,5,6) since they are in close proximity to one another.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/5/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 W69</u>

Misc. Notes: <u>30' x 40'</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Glyceria striata</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Impatiens capensis</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Carex vulpinoidea</u>	<u>H</u>	<u>OBL</u>	11. _____		
4. <u>Salix exigua</u>	<u>SH</u>	<u>OBL</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):	<u>100%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>12</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: <u>Water draining through in shallow channels</u>
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SOILS

Map Unit Name (Series and Phase): <u>Sct-Shelcta-Brownsville</u> ^{Asso.}		Drainage Class: <u>WD - well Drained</u> <u>Very Steep</u>			
Taxonomy (Subgroup): <u>Typic Hapludalts</u>		Field Observations Confirm Mapped Type? Yes <input type="radio"/> No <input checked="" type="radio"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A</u>	<u>5Y4/1</u>			<u>silt loam</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/5/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jemning</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W4 WL9 v</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharum</u>	<u>T</u>	<u>FACU-</u>	9. _____		
2. <u>Liriodendron tulip.</u>	<u>T</u>	<u>FACU</u>	10. _____		
3. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC</u>	11. _____		
4. <u>Lindera benzoin</u>	<u>Sh</u>	<u>FACW</u>	12. _____		
5. <u>Polygonum quin.</u>	<u>V</u>	<u>FACU</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 40%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Sct-Shadoack-Brownsville H₂so Drainage Class: WD - well Drained very steep

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR3/3			silt loam
9+	B	10YR4/4			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W5 W61</u>
34	

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Scirpus atrovirens</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Mentha spicata</u>	<u>H</u>	<u>FACW+</u>	10. _____		
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW-</u>	11. _____		
4. <u>Festuca sp</u>	<u>H</u>	<u>—</u>	12. _____		
5. <u>Impatiens capensis</u>	<u>H</u>	<u>FACW</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>100%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.) <u>(center)</u></p> <p>Depth to Free Water in Pit: <u>11</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	

Remarks:

SOILS

Map Unit Name (Series and Phase): SFE-Shelota-steinbury Assoc Drainage Class: WD

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	5Y4/1	10YR4/4		scl
6+	B	2.5Y4/2	10YR 4/4		scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W5 W1 J</u>
	34

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Solidago spp.</u>	<u>H</u>	<u>—</u>	9. _____		
2. <u>Festuca sp.</u>	<u>H</u>	<u>—</u>	10. _____		
3. <u>Vernonia gigantea</u>	<u>H</u>	<u>Fac</u>	11. _____		
4. <u>Daucus carota</u>	<u>H</u>	<u>UPL</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks: Although some vegetation not identifiable to species, Festuca & Solidago are typical upland field components.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): SPE-Sheleeta-Steinburg Aso. Drainage Class: WD

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR4/3			silt loam
5+	B	10YR4/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:

No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL1</u>

Misc. Notes 40' wide, narrow to small swale/ditch to east.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acorus calamus</u>	<u>50%</u>	<u>H</u>	9. _____		
2. <u>Agrimonia parviflora</u>		<u>H</u>	10. _____		
3. <u>Snoclea sensibitlis</u>		<u>H</u>	11. _____		
4. <u>Carex vulpinoidea</u>	<u>30%</u>	<u>H</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.) <u>center swale</u></p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

Appears groundwater discharge driven - out flow to east via small swale.

SOILS

Map Unit Name (Series and Phase): <u>OmB - Omudga silt loam</u>		Drainage Class: <u>MWD</u>			
Taxonomy (Subgroup): <u>Typic Fragiuudalfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>		<u>10YR 5/1</u>	<u>10YR 4/6</u>	<u>c/f/d</u>	<u>sd, concretions</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennige</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL-1 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	9. _____		
2. <u>Pasture grasses</u>	<u>H</u>	<u>—</u>	10. _____		
3. <u>Potentilla simplex</u>	<u>H</u>	<u>Fac V</u>	11. _____		
4. <u>Senecio glabellus</u>	<u>H</u>	<u>Fac V</u>	12. _____		
5. <u>Andropogon virginicus</u>	<u>H</u>	<u>Fac U</u>	13. _____		
6. <u>Trifolium repens</u>	<u>H</u>	<u>Fac U-</u>	14. _____		
7. <u>Houstonia caerulea</u>	<u>N/D H</u>	<u>FACU</u>	15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

No indicators.

SOILS

Map Unit Name (Series and Phase): Omb- omulga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>		<u>2.5Y4/3</u>		<u>f/f/f</u>	

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="radio"/> Yes <input type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 - W62</u>

Misc. Notes Former pond - now mostly vegetated

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharinum</u>	<u>SK</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Typha latifolia</u>	<u>H</u>	<u>obl</u>	10. _____	_____	_____
3. <u>Cyperus oryzoides</u>	<u>H</u>	<u>obl</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>2-3</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: Appears to have no outlet.

SOILS

Map Unit Name (Series and Phase): OmB - Omulga Silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuolals Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-2	A	2.5Y4/0			silt loam
2-6	B1	10YR5/6			clay loam
6-12	B2	10YR5/6	10YR5/3	c/m/d	clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: All dominant species are FACW/OBL with an abrupt boundary.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL2 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lonicera japonica</u>	<u>✓</u>	<u>Fac</u>	9. _____		
2. <u>Andropogon virginicus</u>	<u>H</u>	<u>FacV</u>	10. _____		
3. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Festuca sp.</u>	<u>H</u>	<u>—</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks: Although Solidago & Festuca not identifiable to species, they are typical components of upland fields.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>—</u> (in.)</p> <p>Depth to Free Water in Pit: <u>10</u> (in.)</p> <p>Depth to Saturated Soil: <u>9</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: Frequent rain showers preceding 48 hours.

SOILS

Map Unit Name (Series and Phase): OmB- Omduga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9		2.5Y4/3			scl, concretions
9+		2.5Y 5/4	10YR4/6	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks: Vegetation and soil criteria not met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WLS</u>

Misc. Notes 20' wide x 30' long, oblong

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpinoidea</u>	<u>H</u>	<u>Obl</u>	9. _____		
2. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Carex oxyzoides</u>	<u>H</u>	<u>Obl</u>	11. _____		
4. <u>Poa compressa</u>	<u>H</u>	<u>FACW</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

75%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>upto 8</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

Fed by surface water along drainage ditch from adjacent slope.

SOILS

Map Unit Name (Series and Phase): MoC2-Menongahela silt loam Drainage Class: MW1D

Taxonomy (Subgroup): Typic Fragindults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y4/2	10YR4/4		

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>WP WLS 25</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Eutroca sp.</u>	<u>H</u>	<u>FACU</u>	9. _____		
2. <u>Ranunculus abortivus</u>	<u>H-NID</u>	<u>FACW</u>	10. _____		
3. <u>Trifolium repens</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):	<u>0%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> (in.)</p> <p>Depth to Free Water in Pit: <u>3</u> (in.)</p> <p>Depth to Saturated Soil: <u>2</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: <u>Frequent rain preceding 48 hrs.</u>

SOILS

Map Unit Name (Series and Phase): MoC2 - Monongahela Drainage Class: MWD
silt loam
 Taxonomy (Subgroup): Typic Fragiuvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR4/3			silt loam
6+		10YR4/6			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL 6</u>

Misc. Notes: <u>25' wide x 75' long</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Leersia oryzoides</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Poa sp.</u>	<u>H</u>		11. _____		
4. <u>Polygonum sagittatum</u>	<u>H</u>	<u>OBL</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):	<u>100%</u>
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Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	---

Remarks: Ground water discharge @ up slope end. Drains through shallow gully in field.

SOILS

Map Unit Name (Series and Phase): MoC2 - Monongahela silt loam Drainage Class: MWD
 Taxonomy (Subgroup): TYPIC Fragiuloamdults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	5Y4/1			silt loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:

All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL6 25</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Trifolium pratense</u>	<u>H</u>	<u>Fac V</u>	9. _____		
2. <u>Erigeron annuus</u>	<u>H</u>	<u>Fac V</u>	10. _____		
3. <u>Stellaria media</u>	<u>H</u>	<u>UPL</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators. Surface water from slope due to recent rainfall.

SOILS

Map Unit Name (Series and Phase): MoC2- Monongahela Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuudults Field Observations Confirm Mapped Type? Yes No
silt loam

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3	A	10YR4/3			silt loam
3+	B	10YR5/6		f/f/f	silt loam.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL7</u>

Misc. Notes Wetland developing along drainage ditch - 30' wide, triangular.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Phalaris arundinacea</u>	<u>H</u>	<u>FACW</u>	9. _____		
2. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Carex sp. assumed FACW/OBL given habitat (hydro/soil).

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-6</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	--

Remarks: Located along drainage ditch.

SOILS

Map Unit Name (Series and Phase): Ha - Haymond silt loam Drainage Class: WD

Taxonomy (Subgroup): Typic Udifluvents Field Observations Confirm Mapped Type? Yes ? No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Silt deposited over/between riprap.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met. Wetland developed along stream channel.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Sennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL-8</u>

Misc. Notes Stream becomes braided in grass field, creating wetland. 10'-15' wide.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. _____			11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-6</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: _____

SOILS

Map Unit Name (Series and Phase): MoC2-Monongahela Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuults ^{silt loam} Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4	A	5Y4/1			sandy loam
4+	B	5Y4/2	5Y9/1	c/m/f	clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: <u>All criteria met</u>	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/8/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL-8 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Trifolium repens</u>	<u>H</u>	<u>FACU-</u>	9. _____		
2. <u>Taraxacum officinale</u>	<u>H</u>	<u>FACV</u>	10. _____		
3. <u>Solidago spp.</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Allium sp.</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. <u>Stellaria media</u>	<u>H</u>	<u>FACU</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>0%</u>		
Remarks:					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p><input checked="" type="checkbox"/> _____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: <u>No indicators</u>	

SOILS

Map Unit Name (Series and Phase): MoC2-Monongahela silt loam Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuudults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR4/4			sd

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input checked="" type="radio"/> No	Plot ID: <u>WB WL 9</u>

Misc. Notes Woody debris/ soil disturbance

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Polygonum sp.</u>	<u>(ND) H</u>	<u>FACW/OBL</u>	10. _____	_____	_____
3. <u>Carex sp.</u>	<u>(ND) H</u>	<u>FACW/OBL</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Polygonum & Carex spp. assumed FACW/OBL based on habitat (hydro/soils)

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: seeping from pond upslope

SOILS

Map Unit Name (Series and Phase): SFE-shelata-Wharton-Lanthorn Drainage Class: WD
 Taxonomy (Subgroup): TYPIC Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR5/1	10YR6/8 10YR6/6	f/m/D c/m/D	cl. loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: <u>All criteria met</u>		

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL9 25</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pasture grasses (grazed)</u>	<u>H</u>	<u>-</u>	9. _____		
2. <u>Oxalis grandis</u>	<u>H</u>	<u>UPL</u>	10. _____		
3. <u>Plantago major</u>	<u>H</u>	<u>FAC U</u>	11. _____		
4. <u>Stellaria media</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. <u>Trifolium alleghen.</u>	<u>sh</u>	<u>FACU</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>0%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

No indicators.

SOILS

Map Unit Name (Series and Phase): <i>SFE-shalecta-wharton-leather 1554</i>		Drainage Class: <i>WD</i>			
Taxonomy (Subgroup): <i>Typic Hapludalfs</i>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
<i>0-12</i>	<i>A/B</i>	<i>10YR 4/4</i>			<i>scl</i>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks: <i>No indicators</i>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	Yes	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Remarks: <i>No criteria met.</i>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>WB WL10</u>

Misc. Notes triangular shaped - 10-12' wide max

VEGETATION

veg extends along outlet stream - ± 8' wide.

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Carex sp. assumed FACW/OBL based on habitat (hydro/soils)

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><u>8</u> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-3</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: Flowing water confluence.

SOILS

Map Unit Name (Series and Phase): SfE-shelata-waithan-waithan ^{Asso.} Drainage Class: WD
 Taxonomy (Subgroup): Typic Hapladults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	M/B	5Y 3/1	5Y 3/2	c/f/f	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:
All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>WB WL10 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pasture grasses - grazed</u>	<u>H</u>	<u>-</u>	9. _____		
2. <u>Stellaria media</u>	<u>H</u>	<u>FACU</u>	10. _____		
3. <u>Trifolium repens</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	

Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): SFE-shelbota-warten-luntha Drainage Class: WD
 Taxonomy (Subgroup): Typic Hapludalts^{Asso.} Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR4/3			silt loam
10+	B	10YR4/4	10YR4/6	f/f/d	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hark/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>WB</u> <u>WL-11</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	_____	_____	_____
2. <u>Vernonia gigantea</u>	<u>H</u>	<u>—</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Platanus occidentalis</u>	<u>T</u>	<u>FACW</u>	12. _____	_____	_____
5. <u>Polygonum sp.</u>	<u>H</u>	<u>FACW/OBL</u>	13. _____	_____	_____
6. <u>sd</u>	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks: Carex and Polygonum sp. assumed FACW/OBL based on habitat (hydro/soils)

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	

Remarks: out fall/seepage from pond. Diffuse flows.

SOILS

Map Unit Name (Series and Phase): EKE - Elkinsville silt loam Drainage Class: WD

Taxonomy (Subgroup): Ultic Hap Ludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y 4/2	2.5Y 4/4		silt loam
6+	B	2.5Y 4/2	10YR 4/6		silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hack / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>WB WL 11 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Tritolium repens</u>	<u>H</u>	<u>FACU</u>	9. _____		
2. <u>Pasture grass (grazed)</u>	<u>H</u>	<u>—</u>	10. _____		
3. <u>Plantago lanceolata</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): EKE - Elkinsville silt loam Drainage Class: WD

Taxonomy (Subgroup): Ubtic Hapludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4	A1	10YR 4/4			
4-12	A2(?)	10YR 5/4			

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hack / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL12</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Sambucus canadensis</u>	<u>Sh</u>	<u>Facw</u>	9. _____		
2. <u>Poa compressa</u>	<u>H</u>	<u>FacV</u>	10. _____		
3. <u>Carex vulpinoidea</u>	<u>H</u>	<u>Obl</u>	11. _____		
4. <u>Impatiens capensis</u>	<u>H</u>	<u>Facw</u>	12. _____		
5. <u>Typha latifolia</u>	<u>H</u>	<u>Obl</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>80%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	

Remarks:

SOILS

Map Unit Name (Series and Phase): Oml - Omulga Silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR 5/1	10YR 4/6	c/m/D	SCl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL12 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Toxicodendron radicans</u>	<u>V</u>	<u>Fac</u>	9. _____		
2. <u>Rubus allegheniensis</u>	<u>Sh</u>	<u>Fac V</u>	10. _____		
3. <u>Conococlea japonica</u>	<u>V</u>	<u>Fac-</u>	11. _____		
4. <u>Sassafras albidum</u>	<u>Sh</u>	<u>Fac V</u>	12. _____		
5. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	13. _____		
6. <u>Rosa multiflora</u>	<u>Sh</u>	<u>Fac V</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>40%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: <u>No indicators</u>

SOILS

Map Unit Name (Series and Phase): Omc - Omidga Silt loam Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuudults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10YR4/4			silt loam
5+	B	10YR4/6			sch

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8</u> <u>W13</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Leersia oryzoides</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Impatiens capensis</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	11. _____		
4. <u>Poa compressa</u>	<u>H</u>	<u>FACV</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 66%

Remarks: Carex sp. assumed FACW/OBL based on habitat (hydro/soils)

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: Possible seepage from pond upslope.

SOILS

Map Unit Name (Series and Phase): Omc - Omulga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic FragindalB Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	5B9 ^(?) 4/2			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <u>Yes</u> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <u>No</u>	Transect ID: _____
Is the area a potential Problem Area? Yes <u>No</u>	Plot ID: <u>WB W132</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lawn grasses</u>	<u>H</u>	<u>—</u>	9. _____	_____	_____
2. <u>Viola sp.</u>	<u>H</u>	<u>—</u>	10. _____	_____	_____
3. <u>Achillea millefolium</u>	<u>H</u>	<u>Fac U</u>	11. _____	_____	_____
4. <u>Plantago major</u>	<u>H</u>	<u>Fac U</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: Mowed lawn

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): <u>Omc - Omulga silt loam</u>		Drainage Class: <u>mwd</u>			
Taxonomy (Subgroup): <u>Typic Fraginudalfs</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-6</u>		<u>2.5Y4/3</u>	<u>10YR4/6</u>	<u>c/m/d</u>	<u>sd</u>
<u>6+</u>		<u>10YR5/6</u>			<u>sd</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks: <p style="text-align:center;"><u>No indicators</u></p>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	
Remarks: <p style="text-align:center;"><u>No criteria met</u></p>			

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>WB WLV4</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer negundo</u>	<u>T</u>	<u>Fac+</u>	9. _____		
2. <u>Azorus calamus</u>	<u>H</u>	<u>Obl</u>	10. _____		
3. <u>Sambucus canadensis</u>	<u>Sk</u>	<u>Fac+</u>	11. _____		
4. <u>Oxoclea sensibilis</u>	<u>H</u>	<u>Obl</u>	12. _____		
5. <u>Lonicera japonica</u>	<u>V</u>	<u>Fac-</u>	13. _____		
6. <u>Poa compressa</u>	<u>H</u>	<u>FacU</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

83%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u> </u> (in.)</p> <p>Depth to Free Water in Pit: <u> 2 </u> (in.)</p> <p>Depth to Saturated Soil: <u> 0 </u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
Remarks:	

SOILS

Map Unit Name (Series and Phase): Omb- Omulga Silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	5Y 5/2	10YR 5/6	c/l/p	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/10/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W18</u> <u>WL14U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Prunus serotina</u>	<u>T</u>	<u>FacV</u>	9. _____		
2. <u>Cornus florida</u>	<u>T</u>	<u>FacV-</u>	10. _____		
3. <u>Lonicera japonica</u>	<u>V</u>	<u>Fac-</u>	11. _____		
4. <u>Toxicodendron radicans</u>	<u>V</u>	<u>Fac</u>	12. _____		
5. <u>Colostrotus scandens</u>	<u>V</u>	<u>FacV-</u>	13. _____		
6. <u>Potentilla simplex</u>	<u>H</u>	<u>FACV-</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 16%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	

Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): OmB-Omaha silt loam Drainage Class: mwd
 Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR 4/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/6/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL 15</u>

Misc. Notes Wetland at upper end of large pond.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	9. _____		
2. <u>Carex lurida</u>	<u>H</u>	<u>OBL</u>	10. _____		
3. <u>Carex vulpinoidea</u>	<u>H</u>	<u>OBL</u>	11. _____		
4. <u>Scirpus atrovirens</u>	<u>H</u>	<u>FACW+</u>	12. _____		
5. <u>Mentha spicata</u>	<u>H</u>	<u>FACW+</u>	13. _____		
6. <u>Holcus lanatus</u>	<u>H</u>	<u>FACU</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

5/6 = 83%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>4</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): SfE - Shelata - Wharton - Lohan Asso. Drainage Class: WD - Well Drained
Very Steep

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>		<u>2.5Y4/2</u>	<u>10YR4/6</u>	<u>c/m/d</u>	<u>silt loam</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/6/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL15 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca sp.</u>	<u>H</u>	<u>FACU</u>	9. _____		
2. <u>Holcus lanatus</u>	<u>H</u>	<u>FACU</u>	10. _____		
3. <u>Trifolium pratense</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. <u>Plantago lanceolata</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>0</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: <u>No indicators, despite recent rain.</u>

SOILS

Map Unit Name (Series and Phase): SFE - Shelata - Wharton - Lathan 1988 Drainage Class: WD - well Drained very steep

Taxonomy (Subgroup): Typic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/3			silt loam
3+		10YR 4/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/6/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WC16</u>

Misc. Notes: Wetland along ditch line. 30' l x 20' wide

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Salix nigra</u>	<u>T</u>	<u>FACW+</u>	9. _____		
2. <u>Ilex oryzoides</u>	<u>H</u>	<u>OBL</u>	10. _____		
3. <u>Scirpus sp.</u>	<u>H</u>	<u>OBL</u>	11. _____		
4. <u>Mentha spicata</u>	<u>H</u>	<u>OBL</u>	12. _____		
5. <u>Poa trivialis</u>	<u>H</u>	<u>FACW</u>	13. _____		
6. <u>Festuca sp.</u>	<u>H</u>	<u>FACW</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 5/6 = 83%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: _____

SOILS

Map Unit Name (Series and Phase): SFE-Sheloda-Wharton-Lothan ^{1550.} Drainage Class: WD - well Drained
Very steep

Taxonomy (Subgroup): Typic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		2.5Y 4/2			silt loam
6+		10YR 4/1	10YR 4/4	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:

All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/6/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL16 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca sp.</u>	<u>H</u>	<u>FACU</u>	9. _____		
2. <u>Viola sp.</u>	<u>H</u>	<u>-</u>	10. _____		
3. <u>Potentilla simplex</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. <u>Holcus lanatus</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. <u>Ambrosia artemis.</u>	<u>H</u>	<u>FACU</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>0%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: <u>No indicators</u>

SOILS

Map Unit Name (Series and Phase): SFE-Sheleota-Wharton-Lathrop asso. Drainage Class: WD - well Drained
very steep

Taxonomy (Subgroup): Typic Haplodults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-6</u>		<u>10YR3/3</u>			<u>silt loam</u>
<u>6+</u>		<u>10YR4/6</u>			<u>sc</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/6/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 WL17</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex lurida</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Onoclea sensibilis</u>	<u>H</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Lysimachia numm.</u>	<u>H</u>	<u>OBL</u>	11. _____	_____	_____
4. <u>Impatiens capensis</u>	<u>H</u>	<u>FACW</u>	12. _____	_____	_____
5. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): S_{te} - Shelata - Wharton - Latham ^{Asso.} Drainage Class: WD - well Drained very steep

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		2.5Y 4/2	10YR 5/3	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: <u>All criteria met.</u>	

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/6/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>HOOK/JENNINGS</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL17 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Penstemon digitalis</u>	<u>H</u>	<u>FAC</u>	9. _____		
2. <u>Liriodendron tulip.</u>	<u>T</u>	<u>FACV</u>	10. _____		
3. <u>Sambucus canad.</u>	<u>Sh</u>	<u>FACW</u>	11. _____		
4. <u>Poa trivialis</u>	<u>H</u>	<u>FACW</u>	12. _____		
5. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	13. _____		
6. <u>Senecio aureus</u>	<u>H</u>	<u>FACW</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 80%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>6</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: Ample recent rains

SOILS

Map Unit Name (Series and Phase): <u>Stc - Sheketa - Martin Lathan Assoc.</u>		Drainage Class: <u>WD - well drained very steep</u>			
Taxonomy (Subgroup): <u>Typic Kaptadulite</u>		Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>		<u>10YR 2/3/4</u>			<u>silt loam</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Remarks:			
<u>Soil criteria not met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hack/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No <input type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL18</u>
35	

Misc. Notes: wetland developing at ends of pond, linked by wetland veg. perimeter.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex lunida</u>	<u>H</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Typha latifolia</u>	<u>H</u>	<u>Obl</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW-</u>	11. _____	_____	_____
4. <u>Ursinia oryzoides</u>	<u>H</u>	<u>Obl</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: _____

SOILS

Map Unit Name (Series and Phase): Mo62 - Monongahela silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4	A	10YR 4/1			silt
4+	B	10YR 5/6			scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: *well defined abrupt boundary - vegetation dominated by FACW/OBL species*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	

Remarks: *All criteria met.*

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL18U</u>
	35

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Robinia hispida</u>		<u>UPL</u>	9.		
2. <u>Trifolium repens</u>		<u>FACU</u>	10.		
3. <u>Pinus (scotch)</u>		<u>UPL</u>	11.		
4. <u>Rhus copallina</u>		<u>UPL</u>	12.		
5. <u>Festuca sp.</u>		<u>-</u>	13.		
6. <u>Andropogon virginicus</u>		<u>FACU</u>	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: No indicators.

SOILS

Map Unit Name (Series and Phase): MoC2 - Monongahela silt loam Drainage Class: mwd

Taxonomy (Subgroup): Typic Fragiuvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A/B</u>	<u>10YR 5/4</u>			

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hack / Jearings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL 19</u>
	38

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FacWt</u>	9. _____		
2. <u>Carex lupulina</u>	<u>H</u>	<u>Ob1</u>	10. _____		
3. <u>Leersia oryzoides</u>	<u>H</u>	<u>Ob1</u>	11. _____		
4. <u>Carex vulpinoidea</u>	<u>H</u>	<u>Ob1</u>	12. _____		
5. <u>Scirpus atrovirens</u>	<u>H</u>	<u>Ob1</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>100%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>11</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: <u>possible leaching from pond - surface saturation</u>
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SOILS

Map Unit Name (Series and Phase): SFE-shaloda-Steinburg Assoc. Drainage Class: WD
 Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 4/1	7.5YR 4/4		silt loam
6-12+	B	10YR 5/1	10YR 4/6		silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 W/L 190</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Plantago major</u>	<u>H</u>	<u>FacV</u>	9. _____		
2. <u>Trifolium repens</u>	<u>H</u>	<u>FACV</u>	10. _____		
3. <u>Lawn grasses</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Sassafras albidum</u>	<u>T</u>	<u>FacV-</u>	12. _____		
5. <u>Acer saccharum</u>	<u>T</u>	<u>FacW</u>	13. _____		
6. <u>Acer Rubrum</u>	<u>T</u>	<u>Fac</u>	14. _____		
7. <u>Fraxinus americanum</u>	<u>T</u>	<u>FacV</u>	15. _____		
8. <u>Polygonum acrostichoides</u>	<u>H</u>	<u>FacV-</u>	16. _____		
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>33%</u>		

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	

Remarks:

No indicators.

SOILS

Map Unit Name (Series and Phase): SFE - Shelocta Steinburg Mso, Drainage Class: WD

Taxonomy (Subgroup): Typic Maplaudults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10y 4.4			silty clay loam
5+	B	2.5y 4/3			silty clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hoke</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL 20</u>
	<u>37</u>

Misc. Notes: wet developing along channel from pipe to pond 12' wide

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpinoidea</u>	<u>H</u>	<u>OB1</u>	9. _____		
2. <u>Festuca sp.</u>	<u>H</u>	<u>-</u>	10. _____		
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	11. _____		
4. <u>Leersia oryzoides</u>	<u>H</u>	<u>OB1</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>10</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: _____	

SOILS

Map Unit Name (Series and Phase): <u>SPE - Shelocka - Startbug Assoc</u>	Drainage Class: <u>WD</u>
Taxonomy (Subgroup): <u>Type Hapludults</u>	Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>		<u>2.5Y4/2</u>	<u>7.5Y2/4</u>		<u>silt</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: All criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL20V</u>
	37

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca sp.</u>	<u>H</u>	<u>—</u>	9. _____		
2. <u>Carduus nutans</u>	<u>H</u>	<u>UPL</u>	10. _____		
3. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Allium sp.</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: Although Festuca & Solidago sp. could not be identified, they are typical components of upland fields.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other _____</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators.

SOILS

Map Unit Name (Series and Phase): MoC2 - monongahela silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-7	A	10YR 5/1	10YR 4/6	c/n/d	silt loam
7+	B	2.5 Y 5/3	10YR 4/6	c/n/d	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Remarks: <u>All criteria met</u>					

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL 21 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Solidago canadensis</u>	<u>H</u>	<u>Fac V</u>	9. _____		
2. <u>Chrys. Leucanth.</u>	<u>H</u>	<u>UPL</u>	10. _____		
3. <u>Conium japonica</u>	<u>H</u>	<u>Fac-</u>	11. _____		
4. <u>Anthoxanthum odoratum</u>	<u>H</u>	<u>Fac U</u>	12. _____		
5. <u>Andropogon virginicus</u>	<u>H</u>	<u>Fac U</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): MoC₂-Monongahela silt loam Drainage Class: mwd

Taxonomy (Subgroup): Typic Fragiuvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-9</u>	<u>A</u>	<u>10YR4/4</u>			<u>scd</u>
<u>9+</u>	<u>B</u>	<u>2.5Y4/3</u>	<u>10YR4/4</u>	<u>c/m/d</u>	<u>scd</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/12/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Heck / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL22</u>
32	

Misc. Notes: at upstream end of large pond

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpinoidea</u>	<u>H</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Carex lurida</u>	<u>H</u>	<u>Obl</u>	10. _____	_____	_____
3. <u>Juncus tenuis</u>	<u>H</u>	<u>FACW</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>> 12</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	

Remarks: possible occasional backwater from small stream.

SOILS

Map Unit Name (Series and Phase): <u>SFE-shelocka-steinburg A550</u>		Drainage Class: <u>WD</u>			
Taxonomy (Subgroup): <u>Typic Haploids</u>		Field Observations Confirm Mapped Type? Yes <input type="radio"/> No <input checked="" type="radio"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A/B</u>	<u>5Y 3/1</u>	<u>10YR 4/4</u>		<u>sc</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Remarks: <u>All criteria met</u>					

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/12/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL22U</u>
32	

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Rubus allegheniensis</u>	<u>Sh</u>	<u>FACU</u>	9. _____		
2. <u>Robinia pseudoacacia</u>	<u>T</u>	<u>FACU-</u>	10. _____		
3. <u>Viola sp.</u>	<u>H</u>	<u>-</u>	11. _____		
4. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC-</u>	12. _____		
5. <u>Potentilla simplex</u>	<u>H</u>	<u>FAU-</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>0%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: <u>No indicators</u>

SOILS

Map Unit Name (Series and Phase): SfE- shelbota stem bury A550. Drainage Class: WD

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR4/4			scl

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/12/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL23</u>
	<u>30</u>

Misc. Notes Wetland at upper end of pond.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	9. _____		
2. <u>Scirpus atrovirens</u>	<u>H</u>	<u>Obl</u>	10. _____		
3. <u>Dichanthelium clandest. (?)</u>	<u>H</u>	<u>FAC+</u>	11. _____		
4. <u>Anthoxanthum odoratum</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. <u>Hobbes lanatus</u>	<u>H</u>	<u>FACU</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 60%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.) <u>(same areas)</u></p> <p>Depth to Free Water in Pit: <u>7/2</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	
Remarks: _____	

SOILS

Map Unit Name (Series and Phase): Sf E-shubuta steinburg ^{Asso.} Drainage Class: WD

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3	A	5Y5/2	10YR4/6	c/f/d	
3-12	B	5Y6/2	10YR4/6	c/r/d	

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input checked="" type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:

All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/12/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL24</u>
	31

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW-</u>	9. _____		
2. <u>Juncus tenuis</u>	<u>H</u>	<u>FAC-</u>	10. _____		
3. <u>Carex vulpinoidea</u>	<u>H</u>	<u>Obl</u>	11. _____		
4. <u>Holcus lanatus</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. <u>Agrimonia parviflora</u>	<u>H</u>	<u>FAC</u>	13. _____		
6. <u>Scirpus atrovirens</u>	<u>H</u>	<u>Obl</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 66%

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="padding-left: 20px;"><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p style="padding-left: 20px;"><input type="checkbox"/> Aerial Photographs</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>12</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	

Remarks:

SOILS

Map Unit Name (Series and Phase): OmC - omulga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	5Y4/1	10YR4/6	c/l/d	

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/12/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL24 V</u>
31	

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca rubra</u>	<u>H</u>	<u>FACU</u>	9. _____		
2. <u>Holcus lanatus</u>	<u>H</u>	<u>FACU</u>	10. _____		
3. <u>Rubus alleghen.</u>	<u>Sh</u>	<u>FACU</u>	11. _____		
4. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	12. _____		
5. <u>Erigeron annua</u>	<u>H</u>	<u>FACU</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>12</u> (in.) (not found)</p> <p>Depth to Saturated Soil _____ (in.)</p>	

Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Omc-omulga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuvalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A</u>	<u>2.5Y4/3</u>			

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL25</u>
	33

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex lurida</u>	<u>H</u>	<u>Obl</u>	9. _____		
2. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Scirpus atrovirens</u>	<u>H</u>	<u>Obl</u>	11. _____		
4. <u>Verbena sp (?)</u>	<u>H</u>	<u>—</u>	12. _____		
5. <u>Juncus canadensis (?)</u>	<u>H</u>	<u>Obl</u>	13. _____		
6. <u>Ludwigia alternifolia</u>	<u>H</u>	<u>Obl</u>	14. _____		
7. <u>Polygonum sp.</u>	<u>H</u>	<u>FACW/OBL</u>	15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>11</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: Appears Groundwater discharge driven

SOILS

Map Unit Name (Series and Phase): OmB- omulga silt loam Drainage Class: MWD

Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12+		2.5Y4/2	10YR4/6	c/m/d	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W8 WL 25 V</u>
33	

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lonicera japonica</u>	<u>✓</u>	<u>Fac-</u>	9. _____	_____	_____
2. <u>Sambucus canadensis</u>	<u>Sh</u>	<u>FacW</u>	10. _____	_____	_____
3. <u>Trifolium repens</u>	<u>H</u>	<u>FACV</u>	11. _____	_____	_____
4. <u>Lawn grasses (Mowed)</u>	_____	_____	12. _____	_____	_____
5. <u>Rosa multiflora</u>	<u>Sh</u>	<u>FacV</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).

25%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>712</u> (in.) <u>(not found)</u></p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): OmB-Omulga silt loam Drainage Class: MWD
 Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR 4/3			silt loam
9+	B	2.5Y 6/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<u>No</u>	Is this Sampling Point Within a Wetland?	Yes	<u>No</u>
Wetland Hydrology Present?	Yes	<u>No</u>			
Hydric Soils Present?	Yes	<u>No</u>			

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W8 WL26</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lysimachia numm.</u>	<u>H</u>	<u>O61</u>	9. _____		
2. <u>Carex sp.</u>	<u>H</u>	<u>—</u>	10. _____		
3. <u>Lawn grasses</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Mentha spicata</u>	<u>H</u>	<u>Fac Wt</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: occasionally mowed

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>2</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: wetland developed along drainage ditch/channelized stream

SOILS

Map Unit Name (Series and Phase): SK - Skidmore silt loam Drainage Class: WD - occasionally Flooded

Taxonomy (Subgroup): Dystric Fluventic Eutrochrepts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		5y 4/2	7.5YR 4/4	C/m/d	silt loam
6+		5y 4/2	5Y 5/3	F/F/F	"

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Remarks: <u>All criteria met. Wetland approximately 12-15 feet wide</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>6/13/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W8 W626v</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Fescue sp.</u>	<u>H</u>	<u>FACW</u>	9. _____		
2. <u>plantago major</u>	<u>H</u>	<u>FACV</u>	10. _____		
3. <u>Trifolium pratense</u>	<u>H</u>	<u>FACD-</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>12</u> (in.) <u>(not found)</u></p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): SK - Skidmore silt loam Drainage Class: WD - occasionally flooded
 Taxonomy (Subgroup): Dystric Fluventic Eutrochrepts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		10yR 4/4			silt loam
6+		2.5y 4/3			sel

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W-9 () WL-1</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpinoidea</u>	<u>H</u>	<u>OBI</u>	9. _____	_____	_____
2. <u>Onoclea sensibilis</u>	<u>H</u>	<u>OBI</u>	10. _____	_____	_____
3. <u>Leersia oryzoides</u>	<u>H</u>	<u>OBI</u>	11. _____	_____	_____
4. <u>Alnus serrulata</u>	<u>Sh</u>	<u>OBL</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u>1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>6</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

Storm overnight/rain previous day.

SOILS

Map Unit Name (Series and Phase): Sk - Skidmore silt loam Drainage Class: WD

Taxonomy (Subgroup): Dystric Fluventic Entrochrepts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A1	2.5Y 3/2	2.5Y 3/0	c/l/d	silt loam
6-9	A2	2.5Y 4/3			silt loam
9-15	B	5Y 4/1	2.5Y 4/3	c/m/p	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W-9 WL-1 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Barbarea vulgaris</i>	H	FacU	9.		
2. <i>Impatiens capensis</i>	H	FacW	10.		
3. <i>Solidago sp.</i>	H	—	11.		
4. <i>Erigeron annuus</i>	H	FacU	12.		
5. <i>Ulmus americana</i>	sh	Fac	13.		
6. <i>Arctium minus</i>	H	UPL	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

40%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>12</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

Storms overnight / rain previous day

SOILS

Map Unit Name (Series and Phase): <u>Sk - Skidmore silt loam</u>		Drainage Class: <u>WD</u>			
Taxonomy (Subgroup): <u>Dystric Fluventic Eutrocept</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR 4/3	10YR 4/4	f/f/f	silt loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: <p style="text-align: center; font-size: 1.2em;">No indicators</p>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes No	
Hydric Soils Present? Yes <input checked="" type="radio"/> No	
Remarks: <p style="text-align: center; font-size: 1.2em;">Vegetation & soil criteria not met.</p>	

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / JENNING</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W9 WL2</u>

Misc. Notes	<u>25' WT</u>
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VEGETATION

Dominant Plant Species	Stratum	Indicator	
1. <u>Carex vulpinoides</u>	<u>H</u>	<u>Obl</u>	9. _____
2. <u>Juncus effusus</u>	<u>H</u>	<u>FacWt</u>	10. _____
3. <u>Leersia oryzoides</u>	<u>H</u>	<u>Obl</u>	11. _____
4. <u>Poa sp.</u>	<u>H</u>	<u>—</u>	12. _____
5. <u>Boehmeria cylindrica</u>	<u>H</u>	<u>FacWt</u>	13. _____
6. _____	_____	_____	14. _____
7. _____	_____	_____	15. _____
8. _____	_____	_____	16. _____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other _____</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>6["]</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

out fall pipe from pond.

SOILS

Map Unit Name (Series and Phase): <u>Omb - Omduga silt loam</u>		Drainage Class: <u>MwD</u>	
Taxonomy (Subgroup): <u>Typic Fragiuudalfs</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Profile Description			
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)
0-6	A/B	10YR3/1	10YR5/6
6+			
		Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
		c/r/d	Stony
Hydric Soil Indicators:			
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List		
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)		
Remarks:			

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No	
Remarks:			
<u>All criteria met</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse)	Plot ID: <u>W9 WL2V</u>

VEGETATION

<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>	<u>Dominant Plant Species</u>	<u>Stratum</u>	<u>Indicator</u>
1. <u>Rubus allegh.</u>	<u>SH</u>	<u>FAC V</u>	9. _____	_____	_____
2. <u>Podophyllum peltat.</u>	<u>H</u>	<u>FAC V</u>	10. _____	_____	_____
3. <u>Juglans nigra</u>	<u>T</u>	_____	11. _____	_____	_____
4. <u>Claytonia virginica</u>	<u>H</u>	<u>FAC V</u>	12. _____	_____	_____
5. <u>Festuca sp.</u>	<u>H</u>	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: <u>No indicators. Sloping topography</u>	

SOILS

Map Unit Name (Series and Phase): <u>Omb - Ombulga silt loam</u>		Drainage Class: <u>mwd</u>			
Taxonomy (Subgroup): <u>Typic Fragipudalts</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-6</u>		<u>10YR 5/6</u>	<u>10YR 5/3</u>	<u>c/r/d</u>	<u>sch</u>
<u>6+</u>		<u>10YR 5/6</u>			<u>sch</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol			<input type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon			<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor			<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime			<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions			<input type="checkbox"/> Listed on National Hydric Soils List		
<input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Other (Explain in Remarks)		
Remarks: <u>No indicators</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	Yes	<input type="radio"/> No	
Hydric Soils Present?	Yes	<input type="radio"/> No	
Remarks: <u>No criteria met</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Sennige</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W9 WL3</u>

Misc. Notes: old farm pond only partially drained - now mostly vegetated.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpinoidea?</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Sagittaria sp.</u>	<u>H</u>	<u>OBL</u>	10. _____		
3. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	11. _____		
4. <u>Scirpus sp.</u>	<u>H</u>	<u>FACW/OB</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Abundant algal growth

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-6</u> (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: <u>No distinct outlet.</u>	

SOILS

Map Unit Name (Series and Phase): S6D - Shelectasilt loam Drainage Class: WD
 Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	B	10YR 5/1	10YR 6/6		sel-cl

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input checked="" type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

Well defined boundary, dominated by FACU/OBL species.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:

All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook/Jennings</u>	State: <u>Ohio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W9WLG</u>

VEGETATION

up to 30' wide.

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpina</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Juncus sp.</u>	<u>H</u>	<u>—</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>21</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
<p>Remarks: <u>possibly fed by seepage from pond.</u></p>	

SOILS

Map Unit Name (Series and Phase): S6D-Sheleeta silt loam Drainage Class: wD

Taxonomy (Subgroup): Typic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	5Y5/2	2.5Y5/3	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input checked="" type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>5/7/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W9WL3,4v</u>

Misc. Notes: <u>Field south of WL3</u>
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VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca sp.</u>	<u>H</u>	<u>—</u>	9. _____	_____	_____
2. <u>Poa sp.</u>	<u>H</u>	<u>—</u>	10. _____	_____	_____
3. <u>Solidago sp (?)</u>	<u>H</u>	<u>—</u>	11. _____	_____	_____
4. <u>Achillea millef.</u>	<u>H</u>	<u>FACV</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: Festuca/Poa/Solidago assemblage typical for upland field.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): 56D - Shelectasilt loam Drainage Class: WD

Taxonomy (Subgroup): Typic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	A	10YR 4/4	10YR 4/6	c/m/d	clay loam
8+	B	10YR 4/2	10YR 4/6	c/m/d	clay loam

Hydric Soil Indicators:

Histosol Concretions black

Histic Epipedon High Organic Content in Surface Layer in Sandy Soils

Sulfidic Odor Organic Streaking in Sandy Soils

Aquic Moisture Regime Listed on Local Hydric Soils List

Reducing Conditions Listed on National Hydric Soils List

Gleyed or Low-Chroma Colors Other (Explain in Remarks)

Remarks: upland points for (WL3,4) are very similar since they are next to each other.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Is this Sampling Point Within a Wetland?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>		Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soils Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>		Yes <input type="radio"/> No <input checked="" type="radio"/>

Remarks: Vegetation and hydrology criteria not met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W9 WL5</u>

Misc. Notes Depression in pasture below pond.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum spp.</u>	<u>H</u>	<u>—</u>	9. _____		
2. <u>Acorus calamus</u>	<u>ND/H</u>	<u>OBL</u>	10. _____		
3. <u>Bidens frondosa</u>	<u>H</u>	<u>FACW</u>	11. _____		
4. <u>Cyperus strigosus</u>	<u>H</u>	<u>FACW</u>	12. _____		
5. <u>Cerastium virginicus</u>	<u>H</u>	<u>FACW</u>	13. _____		
6. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: _____

HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches (<u>partial</u>) <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	

Remarks: Seepage at upper end of area - groundwater or seepage from pond. Also, stock watering cistern overflow to wet area... Catch basin with drain to river at lower end.

SOILS

Map Unit Name (Series and Phase): Haymond silt loam Drainage Class: WD
 Taxonomy (Subgroup): Typic Udifluvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y4/2	7.5YR3/4	c/l/p	sandy loam
12+	B	2.5Y4/2	7.5YR3/4	c/l/p	sandy loam
			2.5Y3/0	c/m/p	

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks:

All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W9 WL5 2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Vernonia gigantea</u>	<u>H</u>	<u>FAC</u>	9. _____		
2. <u>Trifolium repens</u>	<u>H</u>	<u>FACV</u>	10. _____		
3. <u>Solanum carolinense</u>	<u>H</u>	<u>UPL</u>	11. _____		
4. <u>Pasture grasses (grazed)</u>	<u>H</u>	<u>—</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 33%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>7/2</u> (in.) <u>NOT FOUND</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators.

SOILS

Map Unit Name (Series and Phase): Haymond silt loam Drainage Class: WD
 Taxonomy (Subgroup): Typic Udifluvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A/B</u>	<u>10YR4/4</u>			<u>sandy loam</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W9 W66</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Leersia oryzoides</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Impatiens capensis</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Pilea pumila</u>	<u>H</u>	<u>FACW</u>	11. _____		
4. <u>Scutellaria</u>	<u>H</u>	<u>—</u>	12. _____		
5. <u>Typha latifolia</u>	<u>ND/H</u>	<u>OBL</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: Receives drainage from railroad R/W ditches.

SOILS

Map Unit Name (Series and Phase): <u>Shelockta-Brownsville Assoc</u>		Drainage Class: <u>WD</u>	
Taxonomy (Subgroup): <u>Typic Hapludults</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Profile Description			
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)
		Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>A</u>	<u>Black</u>	<u>Silt, high OM content</u>
Hydric Soil Indicators:			
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions		
<input checked="" type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List		
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)		
Remarks:			

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W9W260</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Platanus occidentalis</i>	T	FACW	9.		
2. <i>Rosa multiflora</i>	Sh	Fac V	10.		
3. <i>Lonicera japonica</i>	V	Fac -	11.		
4. <i>Loportea canadensis</i>	H	Fac W	12.		
5. <i>Eupatorium maculatum</i>	H	Fac V-	13.		
6. <i>Pilea pumila</i>	H	Fac W	14.		
7. <i>Liriodendron tulipifera</i>	Sh	Fac V	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 57%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>712</u> (in.) ^{NOT} FOUND</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Shelocka-Brownsville Assoc Drainage Class: WD

Taxonomy (Subgroup): TYPIC Hapludalts Field Observations Confirm Mapped Type? Yes No (probably fill mat.)

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>	<u>-</u>	<u>10YR2/1</u>			<u>Probably old railroad slag - gravelly.</u>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Hydric Soils Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks: No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/23/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook/S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W12 W11</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Leersia oryzoides</u>	<u>10</u>	<u>OB1</u>	9. _____	_____	_____
2. <u>Juncus effusus</u>	<u>25</u>	<u>FACW+</u>	10. _____	_____	_____
3. <u>Polygonum sp.</u>	<u>40</u>	<u>—</u>	11. _____	_____	_____
4. <u>Sambucus canadensis</u>	<u>5</u>	<u>FACW-</u>	12. _____	_____	_____
5. <u>Epilobium ciliatum</u>	<u>30</u>	<u>OB1</u>	13. _____	_____	_____
6. <u>Cardamine pennsylvanica</u>	<u>30</u>	<u>OB1</u>	14. _____	_____	_____
7. <u>Typha latifolia</u>	<u>25</u>	<u>OB1</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><u>X</u> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>4/</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0-12</u> (in.) <i>(depends on location)</i></p> <p>Depth to Saturated Soil: <u>0-11</u> (in.)</p>	

Remarks:

Spring house with flowing water at upstream end

SOILS

Map Unit Name (Series and Phase): St-Stendel silt loam Drainage Class: SPD - Somewhat Poorly Drained occasionally Floeal

Taxonomy (Subgroup): Aeric Fluvaquents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-2		2.5Y4/2	7.5Y2/4	c/m/p	silt loam
2-6		2.5Y3/1			
6-12+		2.5Y4/1	2.5Y4/3	f/f/f	loam
			2.5Y4/2	c/m/f	

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	No	Is this Sampling Point Within a Wetland? <u>Yes</u> No
Wetland Hydrology Present?	<u>Yes</u>	No	
Hydric Soils Present?	<u>Yes</u>	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/23/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W12 WL 12</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca sp. ?</u>		<u>—</u>	9. _____		
2. <u>Solidago spp.</u>		<u>—</u>	10. _____		
3. <u>Setaria glauca</u>		<u>FAC</u>	11. _____		
4. <u>Rubus allegh.</u>		<u>FACU</u>	12. _____		
5. <u>Aster sp.</u>		<u>—</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

50%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
Remarks:	

SOILS

Map Unit Name (Series and Phase): St-Stendal silt loam Drainage Class: SDD - Somewhat Poorly Drained
occasionally Flooded

Taxonomy (Subgroup): Aeric Fluvaquents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		2.5 Y4/4			silt loam
6-12+		2.5 Y5/6	2.5 Y5/2	c/f/d	sch

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W12 WL 2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Leersia oryzoides</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Cyperus strigosus</u>	<u>H</u>	<u>FACW</u>	10. _____		
3. <u>Eupatorium purpureum</u>	<u>NO/H</u>	<u>FAC</u>	11. _____		
4. <u>Sambucus canadensis</u>	<u>SH</u>	<u>FACW</u>	12. _____		
5. <u>Erechtia hieracifolia</u>	<u>NO/H</u>	<u>FACU</u>	13. _____		
6. <u>Carex lupulina</u>	<u>NO/H</u>	<u>OBL</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: NO = non dominant

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: Apparent groundwater discharge.

SOILS

Map Unit Name (Series and Phase): Wyatt silt loam Drainage Class: WD
 Taxonomy (Subgroup): Aquic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 4/1			sandy loam
6+	B	5Y 2.5/1			sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes	No	Is this Sampling Point Within a Wetland?	<input checked="" type="checkbox"/> Yes	No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes	No			
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes	No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input checked="" type="radio"/> Yes <input type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W12 WL 2 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Ambrosia artemisiifolia</u>	<u>H</u>	<u>FACU</u>	9. _____	_____	_____
2. <u>Solidago sp.</u>	<u>H</u>	<u>-</u>	10. _____	_____	_____
3. <u>Ambrosia trifida</u>	<u>H</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Rubus allegh.</u>	<u>Sh</u>	<u>FACU</u>	12. _____	_____	_____
5. <u>Juncus tenuis</u>	<u>H</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Daucus carota</u>	<u>H</u>	<u>UPL</u>	14. _____	_____	_____
7. <u>Phytolacca americana</u>	<u>H</u>	<u>FACU</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).			<u>33%</u>		

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>7/2</u> (in.) <u>NOT FOUND</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Wyatt silt loam Drainage Class: WD
 Taxonomy (Subgroup): Aquic Haplodalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	2.5Y 5/4			sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W12 WL3</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharinum</u>	<u>T</u>	<u>FACW</u>	9. <u>Mimulus ringens</u>	<u>NO/H</u>	<u>OBL</u>
2. <u>Lysimachia nummularia</u>	<u>H</u>	<u>OBL</u>	10. <u>Toxicodendron radicans</u>	<u>✓</u>	<u>FAC</u>
3. <u>Cyperus strigosus</u>	<u>H</u>	<u>FACW</u>	11. <u>Erechtites hieracifolia</u>	<u>H</u>	<u>FACU</u>
4. <u>Juncus sp.</u>	<u>H</u>	<u>—</u>	12. _____		
5. <u>A. depina incarnata</u>	<u>H</u>	<u>OBL</u>	13. _____		
6. <u>Apocynum cannabinum</u>	<u>H</u>	<u>FACU</u>	14. _____		
7. <u>Fraxinus pennsylvanica</u>	<u>Sa</u>	<u>FACW</u>	15. _____		
8. <u>Lycopus americanus</u>	<u>H</u>	<u>OBL</u>	16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 7/9 = 78%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>12</u> (in.) ^{NOT FOUND}</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): Standal silt loam *occasionally flooded*
 Drainage Class: SPD
 Taxonomy (Subgroup): Aeric Fluvaquents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B1	2.5Y 5/2	10YR 4/6	c/m/d	scl
12+	B/2	10YR 5/1	10YR 5/6	c/r/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/09/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W12 WL3 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Solidago canadensis</u>	<u>H</u>	<u>FACU</u>	9. _____		
2. <u>Eupatorium purpureum</u>	<u>H</u>	<u>FAC</u>	10. _____		
3. <u>Asclepias syriaca</u>	<u>H</u>	<u>FACU</u>	11. _____		
4. <u>Eupatorium coelestinum</u>	<u>H</u>	<u>FAC</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>712</u> (in.) ^{NOT} FOUND</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name - (Series and Phase): Stendal silt loam Drainage Class: occasionally flooded SPD

Taxonomy (Subgroup): Aeric Fluvaquents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR3/1			silt loam, apparent high OM content

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Hydric Soils Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: Vegetation and hydrology criteria not met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/24/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W13 WL1</u>

Misc. Notes Narrow drainage way through active cattle farm 15-20' wide
small ephemeral stream

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Cirsia oryzoides</u>	<u>40% 4</u>	<u>OB1</u>	9. _____		
2. <u>Bidens sp.</u>	<u><5 4</u>	<u>-</u>	10. _____		
3. <u>Xanthium strumarium</u>	<u>5 4</u>	<u>FAC</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	

Remarks:

Thunderstorms overnight. Some groundwater discharge.

SOILS

Map Unit Name (Series and Phase): DoA-Doles silt loam SPD- Somewhat Poorly Drained
 Drainage Class: 0-3% Slopes
 Taxonomy (Subgroup): Aeric Fragiaqualfs Field Observations
 Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		2.5Y4/2	5YR3/4	c/m/p	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/24/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W13 W11 25</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Pasture grasses</u>		<u>2</u>	9. _____		
2. <u>Trifolium sp.</u>		<u>1</u>	10. _____		
3. _____			11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): DoA - Doles silt loam 5PD - Somewhat Poorly Drained
 Drainage Class: 0-3% slopes
 Taxonomy (Subgroup): Aeric Fragiaqualfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR4/3			silt loam
8-12+		10YR5/6			sc

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/24/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W13 WLS</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum sagittatum</u>	<u>40%</u>	<u>H</u>	9. _____		
2. <u>Carex sp.</u>	<u>10%</u>	<u>H</u>	10. _____		
3. <u>Leersia oryzoides</u>	<u>50%</u>	<u>H</u>	11. _____		
4. <u>Juncus effusus</u>	<u>10%</u>	<u>H</u>	12. _____		
5. <u>Cephalanthus occidentalis</u>	<u>10%</u>	<u>SH</u>	13. _____		
6. <u>Alnus rugosa</u>	<u>10%</u>	<u>SH</u>	14. _____		
7. <u>Rosa multiflora</u>	<u>5%</u>	<u>SH</u>	15. _____		
8. _____			16. _____		
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>100%</u>		

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	---

Remarks: <u>Groundwater discharge apparent along slope. Drainage through narrow ditch / extension of wetland to Slab Run.</u>

SOILS

Map Unit Name (Series and Phase): <u>Sk-Skidmore silt loam</u>		Drainage Class: <u>WD - well Drained</u> <u>occasionally Flooded</u>			
Taxonomy (Subgroup): <u>Dystric Fluviatic Entrochrepts</u>		Field Observations Confirm Mapped Type? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-4</u>		<u>7.5Y 4/1 ?</u>			<u>silt loam</u>
<u>4-12+</u>		<u>5Y 4/1</u>			<u>scl</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol			<input type="checkbox"/> Concretions		
<input type="checkbox"/> Histic Epipedon			<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils		
<input type="checkbox"/> Sulfidic Odor			<input type="checkbox"/> Organic Streaking in Sandy Soils		
<input type="checkbox"/> Aquic Moisture Regime			<input type="checkbox"/> Listed on Local Hydric Soils List		
<input type="checkbox"/> Reducing Conditions			<input type="checkbox"/> Listed on National Hydric Soils List		
<input type="checkbox"/> Gleyed or Low-Chroma Colors			<input type="checkbox"/> Other (Explain in Remarks)		
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	No	Is this Sampling Point Within a Wetland? <u>Yes</u> No
Wetland Hydrology Present?	<u>Yes</u>	No	
Hydric Soils Present?	<u>Yes</u>	No	
Remarks:			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/24/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W13 WLS V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	
1. <u>Betula nigra</u>	<u>T</u>	<u>FACW</u>	9. _____
2. <u>Acer saccharum</u>	<u>T</u>	<u>FACW</u>	10. _____
3. <u>Unk. grass (Agrostis?)</u>	<u>H</u>	<u>—</u>	11. _____
4. <u>Verbesina alternifolia</u>	<u>H</u>	<u>FAC</u>	12. _____
5. <u>Polystichum acrostichoides</u>	<u>H</u>	<u>FACU-</u>	13. _____
6. _____	_____	_____	14. _____
7. _____	_____	_____	15. _____
8. _____	_____	_____	16. _____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>83.5%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): Sk-Skidmore silt loam Drainage Class: WD - Well Drained
occasionally Flooded

Taxonomy (Subgroup): Dystric Fluventic Eutrochrypt Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8		2.5Y4/4			silt loam
8-12+		2.5Y5/4			silt loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

Remarks:

DATA FORM
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 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/24/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W13 WL6</u>

Misc. Notes 125' l (parallel to slope) x 25' w

VEGETATION

Dominant Plant Species	Stratum	Indicator	
1. <u>Taxodium distichum</u>	<u>T</u>	<u>Obl</u>	9. _____
2. <u>Acer saccharinum</u>	<u>T</u>	<u>FACW</u>	10. _____
3. <u>Poa sp.</u>	<u>60% H</u>	<u>—</u>	11. _____
4. <u>Polygonum sp.</u>	<u>30% H</u>	<u>—</u>	12. _____
5. _____	_____	_____	13. _____
6. _____	_____	_____	14. _____
7. _____	_____	_____	15. _____
8. _____	_____	_____	16. _____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
---	---

Remarks: _____

Groundwater discharge along slope. Slab Run adjacent down slope.

SOILS

very steep

Map Unit Name SCT-^{Association} Shelocta-Brownsville Drainage Class: WD - Well Drained
 Taxonomy (Subgroup): Typic Haplochelites + Dystrachnepts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	2.5Y 3/1	7.5Y 2/6		Sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: All criteria met.

DATA FORM
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Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/24/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook / S Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W13 WL6 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liriodendron tulipifera</u>	<u>T</u>	<u>FACV</u>	9. _____	_____	_____
2. <u>Rosa multiflora</u>	<u>Sh</u>	<u>FACV</u>	10. _____	_____	_____
3. <u>Fraxinus pennsylvanica</u>	<u>T</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Unknown grasses</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

33%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

No indicators

SOILS

very steep

Map Unit Name *ScF-*
 (Series and Phase): *Shelata-Brownville Assoc.* Drainage Class: *WD - Well Drained*
 Taxonomy (Subgroup): *Typic Hapludalfs + Dystrudalfs* Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<i>0-1</i>		<i>10YR 3/2</i>			<i>silt loam</i>
<i>1-12</i>		<i>2.5Y 4/6</i>			<i>silt loam</i>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: *No indicators.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: *No criteria met.*

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/17/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. H. Hahn</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 WL 1</u>

Misc. Notes: <u>Sand bar adjacent LST1 near PHEI site</u> <u>10' x 70'</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum sp.</u>	<u>40 H</u>	<u>—</u>	9. _____	_____	_____
2. <u>Leersia oryzoides</u>	<u>20 H</u>	<u>Obl</u>	10. _____	_____	_____
3. <u>Polygonum sagittatum</u>	<u>10 H</u>	<u>Obl</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>18</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: Adjacent to stream below floodplain elevation.

SOILS

Map Unit Name (Series and Phase): <u>Ha - Haymond silt loam</u>		WD - Well Drained			
		Drainage Class: <u>Occasionally Flooded</u>			
Taxonomy (Subgroup): <u>Typic Udifluvents</u>		Field Observations Confirm Mapped Type? Yes <input type="radio"/> No <input checked="" type="radio"/>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-9	1	2.5Y 4/3			sandy loam, leaf litter
9+		2.5Y 4/2	2.5Y 2 3/4		sandy loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks: <u>Soil type is on Scioto Co. list for hydric components/inclusions.</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	No	Is this Sampling Point Within a Wetland? <u>Yes</u> No
Wetland Hydrology Present?	<u>Yes</u>	No	
Hydric Soils Present?	<u>Yes</u>	No	
Remarks:			

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/17/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 W11 ✓</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Leriz darda talipifera</u>	<u>T</u>	<u>FacU</u>	9. _____		
2. <u>Ulmus Americana</u>	<u>T</u>	<u>FacW</u>	10. _____		
3. <u>Carpinus Caroliniana</u>	<u>T</u>	<u>Fac</u>	11. _____		
4. <u>Rosa MultiFlora</u>	<u>SH</u>	<u>FacU</u>	12. _____		
5. <u>Acer sp.</u>	<u>SH</u>	<u>—</u>	13. _____		
6. <u>Alnus sp.</u>	<u>H</u>	<u>—</u>	14. _____		
7. <u>Cornus sp.</u>	<u>H</u>	<u>—</u>	15. _____		
8. <u>Wing stem</u>	<u>H</u>	<u>Fac</u>	16. _____		
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>33%</u>		

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): <u>Ha-Haymond silt loam</u>		WD - well Drained			
		Drainage Class: <u>occasionally flooded</u>			
Taxonomy (Subgroup): <u>Typic Udi Fluvents</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3	A	10YR 3/3			Sandy loam
3-12	B	10YR 4/6			Sandy loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks: <u>Soil type is on Scioto List for Hydric components/Inclusions</u> <u>No indicators.</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	
Remarks: <u>No indicators.</u>			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/17/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hank/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14WL2</u>

Misc. Notes	<u>30' ϕ depression</u>
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VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Alisma plantago-aquatica</u>	<u>H</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Leersia virginica</u>	<u>H</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Polygonum sp</u>	<u>H</u>	<u>—</u>	11. _____	_____	_____
4. <u>Unknown grass sp.</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>12</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p>_____ Drift Lines</p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks:	

SOILS

Map Unit Name (Series and Phase): Ha - Haymond silt loam ^{WD - well Drained} Drainage Class: Occasionally Flooded

Taxonomy (Subgroup): Typic Udi Fluvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4		2.5Y4/2			silt loam
4+		5Y4/2	2.5YR 3/4	c/m/p	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Scioto Co. Hydric component/Inclusion List

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No			
Remarks:					

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/17/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No <input type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W14 WL2 v</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juglans nigra</u>	<u>T</u>	<u>Fac V</u>	9. _____		
2. <u>Platanus occidentalis</u>	<u>T</u>	<u>Fac V</u>	10. _____		
3. <u>Carya ovata</u>	<u>T</u>	<u>Fac V</u>	11. _____		
4. <u>Pasture grasses</u>			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 33%

Remarks: Active pasture

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Ha - Haymond silt loam Drainage Class: occasionally flooded WP - well Drained

Taxonomy (Subgroup): Typic Uolifluvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR4/3			sandy loam
6-12+		10YR4/6			sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Soil type is on Scioto Co. List of Hydric components / Inches.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? <input type="radio"/> Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hoch / S. Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W14 WL6</u>

Misc. Notes: up to 50' wide wet depression

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Carex vulpinoidea</u>	<u>30% H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Typha latifolia</u>	<u>5% H</u>	<u>OBL</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>10% H</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Grass-unknown</u>	<u>20% H</u>	<u>—</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: Receiving water @ roadside from pipe.

SOILS

Map Unit Name (Series and Phase): OmbB - Omulga silt loam MWD - moderately well Drained
 Drainage Class: 1-8% slopes

Taxonomy (Subgroup): Typic Fraginudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	5Y 4/2	7.5Y 2 4/6	c/f/p	sd
10-12	B1	2.5Y 5/2	10Y 2 4/6	c/m/d	sd
12+	B2	10Y 2 6/1	10Y 2 6/6	c/r/d	sd

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Scioto Co. Hydric component/Inclusion List.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hoob</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 WL 7</u>

Misc. Notes	<u>40' φ depression w extension to east.</u>
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VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>40%</u>	<u>H FACW+</u>	9. _____		
2. <u>Carex sp.</u>	<u>30%</u>	<u>H -</u>	10. _____		
3. _____			11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-2</u> ^{in roots} (in.)</p> <p>Depth to Free Water in Pit: <u>2</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
Remarks:	

SOILS

Map Unit Name (Series and Phase): OmB - Omulga silt loam Drainage Class: MwD - Moderately well Drained 1-8% Slopes

Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	5Y 3/1	7.5YR 3/4	c/m/p	cl. loam
6-12+	A+	10YR 6/1	10YR 4/6	c/r/d	cl. loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Sioto co. Hydric component/Inclusion List

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	No	Is this Sampling Point Within a Wetland? <u>Yes</u> No
Wetland Hydrology Present?	<u>Yes</u>	No	
Hydric Soils Present?	<u>Yes</u>	No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hack / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 W6, 7 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Festuca rubra(?)</u>	<u>95% H</u>	<u>Fae U</u>	9. _____		
2. <u>Carex sp</u>	<u>5%</u>	<u>—</u>	10. _____		
3. _____			11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

0%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): OmB - Omulga Silt loam Drainage Class: MWD - Moderately well Drained
1-8% slopes

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes Yes No

Profile Description Bellow 12 in

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y 5/3			common sl. concretions, scl
12+	B	10YR 5/6	10YR 5/3	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Scioto Co. Hydric Component/Inclusion List

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input type="radio"/> No
Wetland Hydrology Present?	Yes	<input type="radio"/> No			
Hydric Soils Present?	Yes	<input type="radio"/> No			

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hoek</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 W40</u>

Misc. Notes: Partially logged. Drained by shallow ditch to stream. 50'w x 150'l

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharinum</u>	<u>T</u>	<u>FACW</u>	9. _____		
2. <u>Rosa multiflora</u>	<u>SH</u>	<u>FACU</u>	10. _____		
3. <u>Toxicod. radicans</u>	<u>V</u>	<u>FAC</u>	11. _____		
4. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC</u>	12. _____		
5. <u>Lindera benzoin</u>	<u>SH</u>	<u>FACW</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

80%

Remarks:

Sphagnum moss.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): SbD-Shelcta silt loam Drainage Class: WD - well Drained
15-25% Slopes

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y 5/2			concretions silt loam
6+	B	10YR 5/2	10YR 4/6	c/m/d	sc

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Hook / Jennings</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 WL10 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liriodendron tulipifera</u>	<u>T</u>	<u>Fac V</u>	9. _____		
2. <u>Rosa multiflora</u>	<u>Sh</u>	<u>Fac V</u>	10. _____		
3. <u>Lonicera japonica</u>	<u>V</u>	<u>Fac</u>	11. _____		
4. <u>Carya ovata</u>	<u>T</u>	<u>Fac V</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 25%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): <u>SbD-Skeletal silt loam</u>		Drainage Class: <u>WD - well Drained</u>		Slope: <u>15-25% slopes</u>	
Taxonomy (Subgroup): <u>Typic Hapludults</u>		Field Observations Confirm Mapped Type?		<input checked="" type="radio"/> Yes <input type="radio"/> No	
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-8</u>		<u>10YR 3/3</u>			<u>silt loam</u>
<u>8+</u>		<u>10YR 4/6</u>			<u>silt loam</u>
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	
Remarks:			

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 WL11</u>

Misc. Notes	<u>20'w x 75'l</u>
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VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Sambucus canadensis</u>	<u>sh</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Glyceria striata (?)</u>	<u>H</u>	<u>obl</u>	10. _____	_____	_____
3. <u>Poa sp ?</u>	<u>H</u>	<u>—</u>	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

Vegetation largely removed for logging

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-2</u> (in.) <u>in tracks</u></p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
<p>Remarks:</p>	

SOILS

Map Unit Name (Series and Phase): Ha - Haywood silt loam ^{WD - Well Drained} Drainage Class: occasionally flooded

Taxonomy (Subgroup): Typic - Udi Fluvents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		2.5Y3/2	10YR 4/6		silt loam
6+		5Y4/2	10YR 4/6		

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Scioto Co. Hydric component / Inclusion List.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes	No	Is this Sampling Point Within a Wetland?	<input checked="" type="checkbox"/> Yes	No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes	No			
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/18/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W14 W6 U 2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Quercus rubra</u>	<u>T</u>	<u>FACU</u>	9. _____		
2. <u>Prunus serotina</u>	<u>T</u>	<u>FACU</u>	10. _____		
3. <u>Robinia pseudoacacia</u>	<u>T</u>	<u>FACU</u>	11. _____		
4. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

25%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	

Remarks:

No indicators

SOILS

Map Unit Name (Series and Phase): *Ha - Haymond silt loam* *WD - well Drained*
 Drainage Class: *occasionally Flooded*
 Taxonomy (Subgroup): *Typic Udifluvents* Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<i>0-8</i>	<i>A</i>	<i>10YR3/3</i>			<i>silt loam</i>
<i>8+</i>	<i>B</i>	<i>10YR4/6</i>			<i>silt loam</i>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: *Scioto Co. Hydric Component/Inclusion List.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>1/18/02</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>Hook / Jennings</i>	State <i>Ohio</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID <i>W14 WL12</i>

Active grazing

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Juncus effusus</i>	<i>30% H</i>	<i>FACW</i>	9		
2 <i>Alnus (spiculated)</i>	<i>5% Sh</i>	<i>—</i>	10		
3 <i>Acer saccharinum</i>	<i>T</i>	<i>FACW</i>	11		
4 <i>Carex sp.</i>	<i>S H</i>	<i>—</i>	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *100%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators:	
Depth of Surface Water	<i>0-2</i> (in)	<input checked="" type="checkbox"/> Inundated	
Depth to Free Water in Pit	<i>0</i> (in)	<input checked="" type="checkbox"/> Saturated in Upper 12 Inches	
Depth to Saturated Soil	<i>0</i> (in)	<input type="checkbox"/> Water Marks	
		<input type="checkbox"/> Drift Lines	
		<input type="checkbox"/> Sediment Deposits	
		<input type="checkbox"/> Drainage Patterns in Wetlands	
		Secondary Indicators (2 or more Required):	
		<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches	
		<input type="checkbox"/> Water-Stained Leaves	
		<input type="checkbox"/> Local Soil Survey Data	
		<input type="checkbox"/> FAC-Neutral Test	
		<input type="checkbox"/> Other (Explain in Remarks)	

Likely seasonal groundwater discharge

SOILS

MWD - Moderately Well Drained

Map Unit Name (Series and Phase): <i>Om B - Omdga silt loam</i>	Drainage Class: <i>1-8% Slopes</i>
Taxonomy (Subgroup) <i>Typic Fragiuudalfs</i>	Field Observations Confirm Mapped Type? YES <input type="radio"/> NO <input checked="" type="radio"/>

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-6</i>		<i>5Y4/2</i>	<i>5Y5/3</i>	<i>faint</i>	<i>silt loam</i>
<i>6-12+</i>		<i>5Y4/1</i>			<i>sc</i>

HYDRIC SOIL INDICATORS:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input checked="" type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks: *Scioto Co. Hydric Component Inclusion List.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is this Sampling Point Within a Wetland? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Wetland Hydrology Present?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
Hydric Soils Present?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	

Remarks

All criteria met

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	1/18/02
Applicant / Owner	ODOT	County	Scioto
Investigator	Hook / Jennings	State	OH
Do Normal Circumstances exist on the site?	YES NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	W14WL13

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Juncus effusus	20% H	FACW+	9		
2 Pasture grasses	20% H	—	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators:	
Depth of Surface Water	0-2 (in)	<input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
Depth to Free Water in Pit	0 (in)	Secondary Indicators (2 or more Required):	
Depth to Saturated Soil	0 (in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	

Likely seasonal groundwater discharge

SOILS

MWD - moderately well Drained

Map Unit Name (Series and Phase): *OmB - Omulpa silt loam* Drainage Class: *1-8 % slopes*
 Taxonomy (Subgroup) *Typic Fraguidalfs* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-9</i>		<i>2.5Y4/1</i>	<i>7.5YR4/6</i>	<i>c/m/p</i>	<i>silt loam</i>
<i>9-12+</i>		<i>5Y4/1</i>	<i>10YR4/6</i>	<i>c/f/p</i>	<i>sd</i>

HYDRIC SOIL INDICATORS:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: *Scioto Co. Hydric Component Inclusion List.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks: *All criteria met.*

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>1/18/02</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>Hook/Jennings</i>	State <i>OH</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID <i>W14 W14</i>

VEGETATION

20' w x 60' l

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Juncus effusus</i>		<i>FACW1</i>	9		
2 <i>Poa sp.</i>		<i>—</i>	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *100%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators:	
Depth of Surface Water	<i>< 1</i> (in)	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
Depth to Free Water in Pit	<i>0</i> (in)	Secondary Indicators (2 or more Required):	
Depth to Saturated Soil	<i>0</i> (in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	

SOILS

mwd - moderately well Drain

Map Unit Name (Series and Phase): <i>OmB - Omulga silt loam</i>			Drainage Class: <i>1-8% Slopes</i>		
Taxonomy (Subgroup) <i>Typic Fraguidalfs</i>		Field Observations Confirm Mapped Type? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-3</i>		<i>5Y 2.5/1</i>	<i>7.5YR 3/4</i>	<i>c/m/p</i>	<i>silt loam</i>
<i>3-12</i>		<i>10YR 4/1</i>	<i>10YR 4/6</i>	<i>c/m/d</i>	<i>"</i>
<i>12+</i>		<i>10YR 5/1</i>	<i>10YR 4/6</i>	<i>c/m/d</i>	<i>"</i>
HYDRIC SOIL INDICATORS:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: <i>Scioto Co. Hydric component / Inclusion LIST.</i>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<i>YES</i>	NO	Is this Sampling Point Within a Wetland? <i>YES</i> NO
Wetland Hydrology Present?	<i>YES</i>	NO	
Hydric Soils Present?	<i>YES</i>	NO	
Remarks <i>All criteria met</i>			

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	<i>Portsmouth Bypass</i>	Date	<i>1/18/02</i>
Applicant / Owner	<i>ODOT</i>	County	<i>Scioto</i>
Investigator	<i>Hook / Jennings</i>	State	<i>OH</i>
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	<input checked="" type="radio"/> YES <input type="radio"/> NO	Plot ID	<i>W14 WL12, 13, 14</i> ✓

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	<i>Pasture grasses</i>	<i>90%</i>	<i>—</i>	9			
2	<i>Aster sp.</i>		<i>—</i>	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *0%*

Remarks
Active grazing - most vegetation unidentifiable.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators:	
Depth of Surface Water	(in)	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
Depth to Free Water in Pit	(in)	Secondary Indicators (2 or more Required):	
Depth to Saturated Soil	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	

SOILS

MWD - moderately well Drained

Map Unit Name (Series and Phase): *OmB-Omudg silt loam* Drainage Class: *1-8% slopes*
 Taxonomy (Subgroup) *Typic Fragindallic* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-8</i>		<i>10YR 3/4</i>			<i>silt loam</i>
<i>8+</i>		<i>10YR 4/6</i>			<i>sc</i>

HYDRIC SOIL INDICATORS:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: *Scioto Co. Hydric component/Inclusion List.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <input checked="" type="radio"/> NO <input checked="" type="radio"/>	Is this Sampling Point Within a Wetland? YES <input type="radio"/> NO <input checked="" type="radio"/>
Wetland Hydrology Present?	YES <input checked="" type="radio"/> NO <input checked="" type="radio"/>	
Hydric Soils Present?	YES <input checked="" type="radio"/> NO <input checked="" type="radio"/>	

Remarks: *No criteria met.*

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	1/18/02
Applicant / Owner	ODOT	County	Scioto
Investigator	Hook/Jennings	State	OH
Do Normal Circumstances exist on the site?	YES NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	W14 W16

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Juncus effusus	25% H	FACW1	9			
2	Carex sp	10% H	—	10			
3	fern? ?	20% H	—	11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other 		WETLAND HYDROLOGY INDICATORS	
<input checked="" type="checkbox"/> No Recorded Data Available		Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands 	
FIELD OBSERVATIONS			
Depth of Surface Water	< 2 (inputs)	(in)	Secondary Indicators (2 or more Required): <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	0	(in)	
Depth to Saturated Soil	0	(in)	

Spring @ upper end - Lower end is an excavated pond - shallow - largely vegetated

SOILS

mwd - moderately well Drained

Map Unit Name (Series and Phase): *MoC2-Monongahela silt loam* Drainage Class: *8-15 to slopes*
 Taxonomy (Subgroup) *Typic FragiuudultB* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-12+</i>	<i>A</i>	<i>2.5Y 4/2</i>	<i>7.5YR 4/6</i>	<i>c/m/p</i>	

HYDRIC SOIL INDICATORS:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks:

All criteria met

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>1/18/02</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>Hook / Jennings</i>	State <i>OHIO</i>
Do Normal Circumstances exist on the site? YES NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES NO	Plot ID <i>W14 WL16 V</i>

VEGETATION

Active grazing

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	<i>Pasture grasses (Fescue?)</i>	<i>95% H</i>	<i>-</i>	9			
2	<i>Aster sp.</i>	<i><5% H</i>	<i>-</i>	10			
3	<i>Rosa multiflora</i>	<i><5% H</i>	<i>FACV</i>	11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *0%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators: <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands 	
Depth of Surface Water	(in)	Secondary Indicators (2 or more Required): <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) 	
Depth to Free Water in Pit	(in)		
Depth to Saturated Soil	(in)		

SOILS

Map Unit Name (Series and Phase): *MOC2-monongahela silt* Drainage Class: *8-15% slopes* *mwd - moderately well drained*

Taxonomy (Subgroup) *Typic Fraginudalfs* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR 3/3			silt loam
9+	B	10YR 4/4			sc

HYDRIC SOIL INDICATORS:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Wetland Hydrology Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Hydric Soils Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

Remarks:

No criteria met

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>1/03/02</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>R Hook</i>	State <i>OH</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES <input checked="" type="radio"/> NO	Plot ID <i>W15 W21</i>

wetland veg. mostly peripheral in old pond.

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
<i>1 Typha angustifolia</i>	<i>30%</i>	<i>OBL</i>	<i>9</i>		
<i>2 Juncus effusus</i>	<i>15%</i>	<i>FACW</i>	<i>10</i>		
<i>3</i>			<i>11</i>		
<i>4</i>			<i>12</i>		
<i>5</i>			<i>13</i>		
<i>6</i>			<i>14</i>		
<i>7</i>			<i>15</i>		
<i>8</i>			<i>16</i>		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *100%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
FIELD OBSERVATIONS	
Depth of Surface Water	<i>>6</i> (in)
Depth to Free Water in Pit	(in)
Depth to Saturated Soil	(in)
	<p>Secondary Indicators (2 or more Required):</p> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)

SOILS

mwrD - moderately well Drained

Map Unit Name (Series and Phase): <i>OmB - Omulgo silt loam</i>	Drainage Class: <i>1-8% slopes</i>
Taxonomy (Subgroup) <i>Typic Fragiuudalfs</i>	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-6</i>	<i>B1</i>	<i>5Y5/2</i>	<i>10YR5/6</i>	<i>c/r/p</i>	<i>clay</i>
<i>6+</i>	<i>B2</i>	<i>5Y6/1</i>	<i>10YR5/6</i>	<i>c/r/p</i>	<i>clay</i>

HYDRIC SOIL INDICATORS:

- | | |
|--|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|--|--|

Remarks: *Soil does appear on the Scioto Co. list of soils that have Hydric components/Inclusions.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES NO	Is this Sampling Point Within a Wetland? YES NO
Wetland Hydrology Present?	YES NO	
Hydric Soils Present?	YES NO	

Remarks: *All criteria met. Wetland developing in old pond.*

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>1/03/02</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>R. Hook</i>	State <i>OH</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID <i>W15 WL-12</i>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Fragaria rubra</i>	60% H	FACU	9		
2 <i>Daucus carota</i>	5% H	UPL	10		
3 <i>Solidago canadensis</i>	5% H	FACU	11		
4 <i>Andropogon virginicus</i>	5% H	FACU	12		
5 <i>Lonicera japonica</i>	20% V	FAC	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *20%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators:	
Depth of Surface Water	_____ (in)	<input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
Depth to Free Water in Pit	_____ (in)	Secondary Indicators (2 or more Required):	
Depth to Saturated Soil	_____ (in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	

No indicators.

SOILS

MWD - moderately well drain

Map Unit Name (Series and Phase): *OmB - Omulga Silt loam* Drainage Class: *1-8% slopes*
 Taxonomy (Subgroup) *Typic Fraginudalfs* Field Observations Confirm Mapped Type? **YES** NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR 3/3			loam
> 9+	B	2.5Y 5/4	2.5Y 5/3	f/f/f	clay loam

HYDRIC SOIL INDICATORS:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: *Soil is on Scioto Co. List for soils that have hydric components/indicators. No indicators*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES NO	Is this Sampling Point Within a Wetland? YES NO
Wetland Hydrology Present?	YES NO	
Hydric Soils Present?	YES NO	

Remarks

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>1/03/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? <u>Manmade pond area</u> <input checked="" type="radio"/> Yes <input type="radio"/> No (If needed, explain on reverse)	Plot ID: <u>W15 WL-2</u>

VEGETATION 6-8' w. wet. veg. peripheral to pond

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha angustifolia</u>	<u>10%</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Ursaria oryzoides</u>	<u>5%</u>	<u>Obl</u>	10. _____	_____	_____
3. <u>Juncus effusus</u>	<u>5%</u>	<u>FACW+</u>	11. _____	_____	_____
4. <u>Salix exigua</u>	<u>5% Sh</u>	<u>Obl</u>	12. _____	_____	_____
5. <u>Scirpus cyperinus</u>	<u>5</u>	<u>FACW+</u>	13. _____	_____	_____
6. <u>Agrostis sp.</u>	<u>10</u>	<u>-</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated <u>pond area</u></p> <p>_____ Saturated in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks - <u>perimeter in wet veg area</u></p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>76</u> (in.) <u>(in pond)</u></p> <p>Depth to Free Water in Pit: <u>712</u> (in.) <u>(at edge w/ wet veg)</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Remarks: <u>Pond appears drawdown from ordinary level.</u></p>

SOILS

Map Unit Name (Series and Phase): OMB - Omulga Silt loam *MWD - moderately well Drainage*
 Drainage Class: 1-8% Slopes
 Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4		2.5Y 5/3	10YR 4/6	c/m/p	silt loam
4+		2.5Y 5/4	10YR 4/6		clay

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: *Aquic moisture regime inferred from dominance by SBL/FAW spp. and adjacency to pond. Mammaries, therefore soils are not naturally hydric.*

Soil is on the Scioto Co. List of soils that have hydric components/Inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks: *All criteria met.*

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>1/03/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R. Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W-15 WL-22</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Lonicera japonica</u>	<u>60%</u>	<u>FAC-</u>	9. _____	_____	_____
2. <u>Tridens flavus</u>	<u>5</u>	<u>FAC V</u>	10. _____	_____	_____
3. <u>Andropogon virgin.</u>	<u>20</u>	<u>FAC U</u>	11. _____	_____	_____
4. <u>Solidago sp.</u>	<u>10</u>	<u>—</u>	12. _____	_____	_____
5. <u>Pycnanthemum sp.</u>	<u>5</u>	<u>—</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: <u>No indicators</u>	

SOILS

Map Unit Name (Series and Phase): OmB-Omulga Silt loam MWD - Modestly Well Drained
 Drainage Class: 1-8% Slopes

Taxonomy (Subgroup): Typic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Size/Contrast	Texture, Concretions, Structure, etc.
0-4	A	10YR 4/3			silt loam
4+	B	10YR 5/8			clay

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators
Soil is on the Scioto Co List of soils that have Hydric components/Indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/16/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>Rob miller</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: <u>w16 wL3</u>
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>wetland</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer rubrum</u>	<u>T</u>	<u>Fac</u>	9. _____	_____	_____
2. <u>Platanus occidentalis</u>	<u>T</u>	<u>FacW</u>	10. _____	_____	_____
3. <u>Nyssa sylvatica</u>	<u>T</u>	<u>Fac</u>	11. _____	_____	_____
4. <u>Acer rubrum</u>	<u>SH</u>	<u>Fac</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>—</u> (in.)</p> <p>Depth to Free Water in Pit: <u>6</u> (in.)</p> <p>Depth to Saturated Soil: <u>6</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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Remarks:

SOILS

occasionally flooded

Map Unit Name *Ha- Haymond silt loam* Drainage Class: *WD- Well Drained*
 (Series and Phase):
 Taxonomy (Subgroup): *Typic Udifluvents* Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 6/2	10YR 5/3	Faint 50/50%	clay loam
6-15	B	10YR 6/2	10YR 5/3	Abundant distinct	clay loam

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks: *Hydric soil - low chroma matrix, Distinct mottling w/ Root zone.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: *Small patch work of wetland islands within Little Scioto River Flood Plain.*

50' x 50' ; similar conditions exist throughout this area

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>1/16/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W16 WL 3 U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharinum</u>	<u>40% T</u>	<u>FacW</u>	9. _____	_____	_____
2. <u>Ulmus americana</u>	<u>40% T</u>	<u>FacW</u>	10. _____	_____	_____
3. <u>Acer negundo</u>	<u>20% Sh</u>	<u>FacT</u>	11. _____	_____	_____
4. <u>Cornus amomum</u>	<u>20% Sh</u>	<u>FacW</u>	12. _____	_____	_____
5. <u>Elymus riparius(?)</u>	<u>H</u>	<u>FacW</u>	13. _____	_____	_____
6. <u>Glechoma hederacea</u>	<u>40% H</u>	<u>Obl</u>	14. _____	_____	_____
7. <u>Cryptotaenia canadensis</u>	<u>20% H</u>	<u>FAC</u>	15. _____	_____	_____
8. <u>Solidago sp.</u>	<u>5% H</u>	<u>—</u>	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>15</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

Below 12"

SOILS

occasionally Flooded

Map Unit Name *Ha - Haymond silt loam* Drainage Class: *WD - Well Drained*
 (Series and Phase):
 Taxonomy (Subgroup): *Typic Udifluvents* Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<i>0-2</i>	<i>A</i>	<i>10YR3/2</i>			<i>silt loam</i>
<i>2-16</i>	<i>B</i>	<i>10YR4/3</i>			<i>silt loam</i>

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Wetland Hydrology Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			
Hydric Soils Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No			

Remarks:
Soil and hydrology criteria not met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	12/5/01
Applicant / Owner	ODOT	County	Scioto
Investigator	Rob Hook	State	OHIO
Do Normal Circumstances exist on the site?	YES NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	W21 WL1A

± 100' W near culvert end

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Leersia oryzoides</i>	75% H	Obl			9
2 <i>Juncus effusus</i>	20% H	Facw ⁺			10
3 <i>Carex squarrosa</i> (?)	20% H	Obl / Facw			11
4 <i>Polygonum sagittatum</i>	20% H	Obl			12
5 <i>Cephalanthus occidentalis</i>	<5 Sh	Obl			13
6 <i>Eup. perfoliatum</i>	<5 H	Facw ⁺			14
7					15
8					16

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

marks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	0-3	(in)	<p>Secondary Indicators (2 or more Required):</p> <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	0	(in)	
Depth to Saturated Soil		(in)	

possible groundwater springing from toe of slope

SOILS

SPD - Somewhat Poorly Drained

Map Unit Name (Series and Phase): *Stendal silt loam* Drainage Class: *Occasionally Flooded*

Taxonomy (Subgroup) *Aeric Fluvaquents* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		2.5Y4/1	10YR 3/1	c/b/d	
			10YR 4/6	f/m/d	
6+		Black			

HYDRIC SOIL INDICATORS:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input checked="" type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks *All criteria met.*
Area in Question was once Damed by Beavers. Residents destroyed the Beaver lodge. Beavers then moved across the street to W21 W25. This was a verbal Account by Resident.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	12/10/01
Applicant / Owner	ODOT	County	Scioto
Investigator	Rob Hook	State	OHIO
Do Normal Circumstances exist on the site?	YES NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	W21 W1-B

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Solidago canadensis	20	FAC U	9		
2 Juncus effusus	40	FAC W+	10		
3 Epilobium coloratum	10	OBL	11		
4 Boehmeria cylindrica	5	FAC W+	12		
5 Polygonum sagittatum	10	OBL	13		
6 Phalaris arundinaria	10	FAC W+	14		
7 Carex sp.	—	—	15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 83%

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		WETLAND HYDROLOGY INDICATORS	
FIELD OBSERVATIONS		Primary Indicators:	
Depth of Surface Water	— (in)	<input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
Depth to Free Water in Pit	11 (in)	Secondary Indicators (2 or more Required):	
Depth to Saturated Soil	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	

SOILS

SPD - Somewhat poorly Drained

Map Unit Name (Series and Phase): <i>Stendal silt loam</i>	Drainage Class: <i>occasionally Flooded</i>
Taxonomy (Subgroup) <i>Aeric Fluvaquents</i>	Field Observations Confirm Mapped Type? <input checked="" type="radio"/> YES <input type="radio"/> NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	<i>A ?</i>	<i>2.5Y 5/2</i>	<i>2.5Y 5/6</i>		
6-12	<i>B ?</i>	<i>2.5Y 5/2</i>	<i>7.5YR 4/4</i>		<i>silt loam</i>

HYDRIC SOIL INDICATORS:

- | | |
|--|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|--|--|

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	

Remarks

old Beaver Dam site.

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	12/10/01
Applicant / Owner	ODOT	County	Scioto
Investigator	Rob Hook	State	OHIO
Do Normal Circumstances exist on the site?	YES NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	W21 W61 25

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Conium maculatum</i>	H	FACW	9		
2 <i>Rubus allegheniensis</i>	Sh	FAC U	10		
3 <i>Solidago canadensis</i>	H	FAC U	11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)			33%		
Remarks					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) 	
FIELD OBSERVATIONS			
Depth of Surface Water		(in)	
Depth to Free Water in Pit		(in)	
Depth to Saturated Soil		(in)	

No INDICATORS

SOILS

SPD - Somewhat Poorly Drained

Map Unit Name (Series and Phase): <i>Stendal silt loam</i>	Drainage Class: <i>occasionally flooded</i>
Taxonomy (Subgroup): <i>Aeric Fluvaquents</i>	Field Observations Confirm Mapped Type? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
6"		10YR 9/4			

HYDRIC SOIL INDICATORS:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Wetland Hydrology Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Hydric Soils Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

Remarks:

No criteria met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>12/10/01</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>Hook / Jennings</i>	State <i>OHIO</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES <input type="radio"/> <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) YES <input type="radio"/> <input checked="" type="radio"/> NO	Plot ID <i>W21 W22</i>

VEGETATION

Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1 <i>Acer saccharinum</i>	T	Fac W+	9			
2 <i>Cinna arundinaria</i>	25% H	Fac W+	10			
3 <i>Onoclea sensibilis</i>	5	obl	11			
4 <i>Carex sp.</i>	10	—	12			
5 <i>Boehmeria cylindrica</i>	25	Fac W+	13			
6 <i>Sambucus canadensis</i>	Sh	Fac W-	14			
7 <i>Polygonum sp.</i>	20% H	—	15			
8 <i>Poa sp.</i>	20%	—	16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *100%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		<p style="text-align: center;">WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) 	
FIELD OBSERVATIONS			
Depth of Surface Water		(in)	
Depth to Free Water in Pit	<i>18</i>	(in)	
Depth to Saturated Soil		(in)	

SOILS

1-8% slopes

Map Unit Name (Series and Phase): <i>OpB-Omulga-Urban land</i>	Drainage Class: <i>MWD - moderately well Drain</i>
Taxonomy (Subgroup) <i>Typic Fragiuclats</i>	Field Observations Confirm Mapped Type? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 4/1	7.5YR 4/6	c/m/p.	silt loam
10+		10YR 5/1	7.5YR 4/6	c/m/p	"
			2.5Y 6/4	f/r/p.	"
18					Sandy

HYDRIC SOIL INDICATORS:

- | | |
|---|---|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input checked="" type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|---|

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is this Sampling Point Within a Wetland? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Wetland Hydrology Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Hydric Soils Present?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	

Remarks

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/10/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W21 W44</u>

Misc. Notes Wet area extends 75' ± from toe of slope, 300' long

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Liquidambar styraciflua</u>	<u>T</u>	<u>FAC</u>	9. _____		
2. <u>Polygonum sagittatum</u>	<u>25% H</u>	<u>OBL</u>	10. _____		
3. <u>Dicentra clandestinum</u>	<u>20% H</u>	<u>FAC+</u>	11. _____		
4. <u>Boehmeria cylindrica</u>	<u>15% H</u>	<u>FACW+</u>	12. _____		
5. <u>Carex sp.</u>	<u>15% H</u>	<u>-</u>	13. _____		
6. <u>Rosa multiflora</u>	<u>10% SK</u>	<u>FACU</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>24</u> (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

SOILS

Map Unit Name (Series and Phase): OpB-Omulga-Urban Land complex Drainage Class: MWD - moderately well Drained 1-8% slopes

Taxonomy (Subgroup): Typic Fragiuvalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 5/3	7.5YR 4/6	f/l/d	silt loam
10-12+	B	10YR 5/1	7.5YR 4/6	c/m/d	sd

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Wetland Hydrology Present?	<input type="radio"/> Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/10/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hoob</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W21 W24 V</u> <u>w23, w22</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer negundo</u>	<u>T</u>	<u>FAC</u>	9. _____	_____	_____
2. <u>Rosa multiflora</u>	<u>Sh</u>	<u>FACU</u>	10. _____	_____	_____
3. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC</u>	11. _____	_____	_____
4. <u>Glechoma hederacea</u>	<u>H</u>	<u>FACU</u>	12. _____	_____	_____
5. <u>Pod sp.</u>	<u>H</u>	<u>-</u>	13. _____	_____	_____
6. <u>Geum sp.</u>	<u>H</u>	<u>-</u>	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 50%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	

Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): OpB-Omulga-Urban Land complex Drainage Class: MWD - moderately well drained 1-8% slopes

Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR4/4	10YR5/3	f/f/f	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/10/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W21 WL5</u>

Misc. Notes: <u>Large ox bow</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>60% H</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Scirpus cyperinus</u>	<u><5 H</u>	<u>FACW+</u>	10. _____	_____	_____
3. <u>Fraxinus pennsylvanica</u>	<u>10% Sh</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Cephalanthus occid.</u>	<u>10% Sh</u>	<u>OBL</u>	12. _____	_____	_____
5. <u>Rosa palustris</u>	<u><5 Sh</u>	<u>OBL</u>	13. _____	_____	_____
6. <u>Leersia oryzoides</u>	<u>5 H</u>	<u>OBL</u>	14. _____	_____	_____
7. <u>Ludwigia alternifolia</u>	<u><5 H</u>	<u>OBL</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

100%

Remarks:

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="padding-left: 20px;"><input type="checkbox"/> Stream, Lake or Tide Gauge</p> <p style="padding-left: 20px;"><input checked="" type="checkbox"/> Aerial Photographs</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: <u>3</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
Remarks:	

SOILS

SPD - somewhat poorly drained

Map Unit Name (Series and Phase): Stendal silt loam Drainage Class: OF - occasionally flooded
 Taxonomy (Subgroup): Aeric Fluvaquents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	5Y4/2	2.5Y5/6	f/m/d	scl
6-12+	B	2.5Y5/2	10YR5/6	c/m/d	clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks:

All criteria met

Area in question is Beaver Dammed.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/10/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>WZ1 WLS 2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Andropogon virginicus</u>	<u>H</u>	<u>FACU</u>	9. _____	_____	_____
2. <u>Solidago sp.</u>	<u>H</u>	<u>—</u>	10. _____	_____	_____
3. <u>Spiraea tomentosa</u>	<u>Sh</u>	<u>FACW</u>	11. _____	_____	_____
4. <u>Rubus allegheniensis</u>	<u>Sh</u>	<u>FACU</u>	12. _____	_____	_____
5. <u>Setaria faberii</u>	<u>H</u>	<u>FAC</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>50%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: <u>No indicators</u>

SOILS

Map Unit Name (Series and Phase): Standal silt loam SPD - Somewhat poorly Drained
 Drainage Class: OF - occasionally Flooded
 Taxonomy (Subgroup): Aeric Fluvaquents Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	B (A removed?)	10YR4/6			sch

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/11/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input checked="" type="radio"/> No	Plot ID: <u>W21 WL 6</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
✓ 1. <i>Fraxinus pennsylvanica</i>	T ^{x1} SH	FACW	✓ 9. <i>Rosa multiflora</i>	25% SH	FACU
2. <i>Ulmus americana</i>	T ^{x1}	FACW	10. <i>Boehmeria cylindrica</i>	<5 H	FACW
3. <i>Platanus occidentalis</i>	T ^{x1}	FACW-	11. <i>Carex sp</i>	10% H	—
✓ 4. <i>Sambucus canadensis</i>	10% SH	FACW	12. _____		
5. <i>Cinna arundinacea</i>	10% H	FACW+	13. _____		
6. <i>Aster sp.</i>	20% H	—	14. _____		
7. <i>Impatiens capensis</i>	30% H	FACW	15. _____		
8. <i>Oxoclea sensibilis</i>	5% H	FACW	16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

4/5 = 80%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>✓ No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>6</u> (in.)</p> <p>Depth to Saturated Soil: <u>5</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>✓ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>✓ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

Small drainage entering wetland from south.

SOILS

Map Unit Name (Series and Phase): Sciotoville silt loam 1-8% slopes
 Drainage Class: MWD - moderately well drained
 Taxonomy (Subgroup): Aquic Fragiuudalts Field Observations
 Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	2.5Y4/2	2.5YR4/6	f/m/p	silt loam
10-12+	B	10YR3/1	2.5Y4/6	f/f/p	sc

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No			

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/11/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W21 WL 7</u>

Misc. Notes

VEGETATION

Upstream

Near Road

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Aster sp.</i>	30% H	—	9. <i>Salix nigra</i>	T	FACW
2. <i>Polygonum sagittatum</i>	10% H	OBL	10. <i>Onoclea sensibilis</i>	H	FACW
3. <i>Sambucus canadensis</i>	10% Sh	FACW	11. <i>Phalaris arundinacea</i>	H	FACW
4. <i>Glechoma hederacea</i>	40% H	FACU	12. <i>Sambucus canadensis</i>	Sh	FACW
5. <i>Boehmeria cylindrica</i>	5% H	FACW+	13. <i>Rosa multiflora</i>	Sh	FACU
6. <i>Carex sp.</i>	5% H	—	14. _____	_____	_____
7. <i>Fragaria virginiana</i>	10% H	FACW	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

4/5 = 80%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>14</u> (in.)</p> <p>Depth to Saturated Soil: <u>12</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks:	

SOILS

Map Unit Name (Series and Phase): Sciotoville silt loam 1-8% slopes
 Drainage Class: MWD - moderately well Drained

Taxonomy (Subgroup): Aquic Fragiuudalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR 3/3			silt loam
10-12+	B	2.5Y 4/2	7.5YR 4/4	c/l/p	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No	

Remarks:
All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>12/11/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W21 WLG7U</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	
1. <u>Sambucus canadensis</u>	<u>20% SK</u>	<u>FACW-</u>	9. _____
2. <u>Glechoma hederacea</u>	<u>40% H</u>	<u>FACU.</u>	10. _____
3. <u>Verberna alternifolia</u>	<u>20% H</u>	<u>FAC</u>	11. _____
4. <u>Rosa multiflora</u>	<u>10% SK</u>	<u>FACU</u>	12. _____
5. <u>Toxicodend. radicans</u>	<u>✓</u>	<u>FAC</u>	13. _____
6. <u>Polygonum cuspidatum</u>	<u>10% H</u>	<u>FACU-</u>	14. _____
7. <u>Geum sp.</u>	<u><5</u>	<u>-</u>	15. _____
8. _____			16. _____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):

50%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks:

No indicators.

SOILS

Map Unit Name (Series and Phase): Sciotoville silt loam 1-8 4/6 slopes
 Drainage Class: MWD - moderately well Drained

Taxonomy (Subgroup): Aquic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	A/B	10YR 3/3	10YR 4/6	c/m/d	scl

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks: No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>6/24/03</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R Hook / S. Jennings</u>	State: <u>Ohio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W21 WL16</u>

Misc. Notes Linear depression along toe of slope - likely manmade

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Glyceria striata</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Boehmeria cylindrica</u>	<u>H</u>	<u>OBL</u>	10. _____		
3. <u>Alisma plantago-aquaticum</u>	<u>H</u>	<u>OBL</u>	11. _____		
4. <u>Utricularia americana</u>	<u>T</u>	<u>FACW</u>	12. _____		
5. <u>Bidens frondosa</u>	<u>H</u>	<u>FACW</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 80%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>2-3</u> (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: _____	

SOILS

Map Unit Name (Series and Phase): Sciotoville silt loam Drainage Class: MWD

Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input checked="" type="checkbox"/> Other (Explain in Remarks)

Remarks: *Aquic moisture regime inferred from strong hydrologic indicators, FACw/OBc plant community, and abrupt boundaries.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Sampling Point Within a Wetland?	<input checked="" type="radio"/> Yes	No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No			
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No			

Remarks: *All criteria met.*

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Pertsmouth Bypass</u>	Date: <u>12/18/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook/Jennings</u>	State: <u>Ohio</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W21 WLI3</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Polygonum sagittatum</u>	<u>40</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Carex sp.</u>	<u>20</u>	_____	10. _____	_____	_____
3. <u>Cinna arund.</u>	<u>15</u>	<u>FACW+</u>	11. _____	_____	_____
4. <u>Mimulus</u>	<u><5</u>	_____	12. _____	_____	_____
5. <u>Poa sp.</u>	<u>20</u>	_____	13. _____	_____	_____
<u>x 2</u> 6. <u>Platanus occ</u>	<u>T</u>	<u>FACW-</u>	14. _____	_____	_____
<u>x 3</u> 7. <u>Salix nigra</u>	<u>T</u>	<u>FACW+</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>100%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p>____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC-Neutral Test</p> <p>____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (spots) (in.)</p> <p>Depth to Free Water in Pit: <u>4</u> (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	
Remarks: <u>GW Discharge</u>	

SOILS

Map Unit Name (Series and Phase): OpB-Omulga-Urban land complex MWD - moderately well drained
 Drainage Class: 1-8% slopes
 Taxonomy (Subgroup): Typic Fragiuudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6		2.5Y4/2			
6-12		2.5Y4/2	10YR5/3	c/m/d	

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

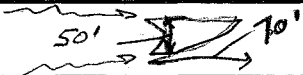
Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met</u>			

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>11/19/01</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>Rob Hook</i>	State <i>OHIO</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID <i>W22 W62</i>

VEGETATION



@ confluence of 2 ephemeral streams

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Juncus effusus</i>	40% H	FacWT	9		
2 <i>Typha angustifolia</i>	5% H	OBL	10		
3 <i>Scirpus dyscurus</i>	10% H	FacWT	11		
4 <i>Echinochloa crusgalli</i>	<5 H	FacU	12		
5 <i>Bidens</i> sp.	10% H	—	13		
6 <i>Carex frankii</i>	<5 H	OBL	14		
7 <i>Lobelia siphilitica</i>	<5 H	FacWT	15		
8 <i>Carex squarrosa</i> (?)	<5 H	FacW	16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *100%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) 	
FIELD OBSERVATIONS			
Depth of Surface Water	(in)		
Depth to Free Water in Pit	(in)	<i>> 18 (not found)</i>	
Depth to Saturated Soil	(in)		

SOILS

Very steep

Map Unit Name (Series and Phase): *Shelcta - Bromsville Assoc.* Drainage Class: *WD - well Drained*

Taxonomy (Subgroup) *Typic Hapludults* Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-12</i>	<i>A/B₃</i>	<i>2.5Y 5/2</i>	<i>10YR 5/6</i>	<i>c/l/d.</i>	<i>sc</i>

HYDRIC SOIL INDICATORS:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks
All criteria met. wetland formed at confluence of 2 ephemeral streams. Area partially logged.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? Yes <input checked="" type="radio"/> No	Plot ID: <u>W22 WL 2 V</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Fagus grandifolia</u>	<u>T</u>	<u>FACU</u>	9. <u>Acer saccharum</u>	<u>H</u>	<u>FACU</u>
2. <u>Rubus allegheniensis</u>	<u>Sh</u>	<u>FACU</u>	10. _____	_____	_____
3. <u>Solidago sp.</u>	<u>H</u>	<u>-</u>	11. _____	_____	_____
4. <u>Robinia pseudoacacia</u>	<u>Sh</u>	<u>FACU</u>	12. _____	_____	_____
5. <u>Eupatorium purpureum</u>	<u>H</u>	<u>FAC</u>	13. _____	_____	_____
6. <u>Anemone canadensis</u>	<u>H</u>	<u>FACW</u>	14. _____	_____	_____
7. <u>Liriodendron tulipifera</u>	<u>H, T</u>	<u>FACU</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).	<u>29%</u>
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><u>X</u> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>712</u> (in.) ^{NOT} _{FOUND}</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: <u>No indicators</u>

SOILS

Map Unit Name (Series and Phase): Shelcta Braunsville Assoc. Drainage Class: very steep WD

Taxonomy (Subgroup): Typic Hapludults Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-1	A	10YR3/3			silt loam
>1	B	10YR4/6	10YR4/3	c/m/d	silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators, Substantial slope.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:
No criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R Hook/S Jennings</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W23 WLI</u>

VEGETATION

Mapped as a pond on USGS 18-20' W extension of mapped pond to NW

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>LySimnacha numm.</u>	<u>H</u>	<u>Obl</u>	9. _____	_____	_____
2. <u>Carex sp.</u>	<u>H</u>	<u>FACW/OBL</u>	10. _____	_____	_____
3. <u>Polygonum sp.</u>	<u>H</u>	<u>FACW/OBL</u>	11. _____	_____	_____
4. <u>Echinochloa sp</u>	<u>H</u>	<u>—</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Carex & Polygonum spp. assumed FACW/OBL based on habit and habitat (floodplain/salts)

HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: <u>718</u> (not found) (in.) Depth to Saturated Soil: _____ (in.)	Remarks: <u>Area is shown as a pond on USGS map. Homeowner indicates the area periodically floods. Given area was inspected during dry period, further investigation for hydrologic indicators is recommended.</u>

SOILS

Map Unit Name (Series and Phase): <u>Ps - Pits</u>		Drainage Class: <u>gravel</u>			
Taxonomy (Subgroup): <u>(Not Available)</u>		Field Observations Confirm Mapped Type? Yes No			
<u>Profile Description</u>					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-18		2.5Y 4/2	7.5YR 4/6	c, m, d	silt
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks:					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <i>All criteria met, although further field invest. of hydrology is recommended.</i>			

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Hook/Jennings</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W23WL2</u>

VEGETATION

10' W channel from advert, ↑ to 15' downstream.

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Ulmus americana</u>	<u>T</u>	<u>FACW</u>	9. _____	_____	_____
2. <u>Acer saccharinum</u>	<u>T</u>	<u>FACW</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-):			<u>100%</u>		
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> (in.)</p> <p>Depth to Free Water in Pit: <u>9</u> (in.)</p> <p>Depth to Saturated Soil: <u>6</u> (in.)</p>	<p>Remarks: <u>15-20 cm deep pool at outlet of culvert, dissipates ± 10 50 m downstream.</u></p> <p><u>Wetland hydrology along old stream channel.</u></p>

SOILS

Map Unit Name (Series and Phase): Wheeling silt loam 1-8% Drainage Class: WD

Taxonomy (Subgroup): Vitic Hapludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-4	A	2.5Y 4/3			
4-7	B1	10YR 3/1	7.5YR 4/6	c/m/d	
7+	B2	10YR 4/1	7.5YR 4/6	c/m/d	silt

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks: <u>All criteria met</u>	

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>11/14/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Heck/Jennings</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W23WL20</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharinum</u>	<u>T</u>	<u>Facw</u>	9. _____	_____	_____
2. <u>Acer negundo</u>	<u>T</u>	<u>Fac+</u>	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <u>12" silt lines</u> <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: <u>718</u> (not found) (in.) Depth to Saturated Soil _____ (in.)	Remarks: <u>Flooding retained by silted in culvert beneath railway, at least temporarily.</u>

SOILS

Map Unit Name (Series and Phase): Wheeling silt loam Drainage Class: WD

Taxonomy (Subgroup): Utic Hapludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-6	A	10YR 3/2	7.5YR 4/6	c/m/d	silt
6+18	B	2.5Y 3/3	10YR 4/1	c/f/d	silt

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: No indicators. 3 chroma matrix below A horizon.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input type="radio"/>
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Remarks:			

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	<i>Portsmouth Bypass</i>	Date	<i>12/5/01</i>
Applicant / Owner	<i>ODOT</i>	County	<i>Scioto</i>
Investigator	<i>R Hook</i>	State	<i>OHio</i>
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES <input checked="" type="radio"/> NO	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input checked="" type="radio"/> NO	Plot ID	<i>W23 W63</i>

VEGETATION

well defined depression.

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
<i>1 Typha angustifolia</i>	<i>90%</i>	<i>O61</i>			
<i>2 Epilobium coloratum</i>	<i>5%</i>	<i>O61</i>			
<i>3 Bidens sp.</i>	<i>5%</i>	<i>FACW/OBL</i>			
<i>4</i>					
<i>5</i>					
<i>6</i>					
<i>7</i>					
<i>8</i>					

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *100%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	<i>21</i>	(in)	Secondary Indicators (2 or more Required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	<i>1</i>	(in)	
Depth to Saturated Soil		(in)	

SOILS

EmB-

WD - Well Drained

Map Unit Name (Series and Phase): *Elkinsville - Urban land complex* Drainage Class: *1-8% slopes*
 Taxonomy (Subgroup) *Ultic Hapludalts* Field Observations Confirm Mapped Type? YES ~~(NO)~~ *But close*

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-12</i>	<i>A/B</i>	<i>10YR5/1</i>	<i>10YR5/8</i>	<i>c/m/d</i>	<i>scl</i>

HYDRIC SOIL INDICATORS:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks

All criteria met

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Portsmouth Bypass	Date	12/5/01
Applicant / Owner	ODOT	County	Scioto
Investigator	R Hook	State	OHIO
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	W23 WL3U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Fraxinus pennsylvanica	T	FACW	9		
2 Prunus serotina	T	FACU	10		
3 Cornus japonica	20% V	FAC-	11		
4 Ligustrum vulgare (privet)	20% SW	FACU	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 25%

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) 	
FIELD OBSERVATIONS			
Depth of Surface Water		(in)	
Depth to Free Water in Pit		(in)	
Depth to Saturated Soil		(in)	

No INDICATORS

SOILS

EmB-

WD - Well Drained

Map Unit Name (Series and Phase): *Elkinsville - Urban land complex* Drainage Class: *1-8 % slopes*
 Taxonomy (Subgroup) *Ultic Hapludalfs* Field Observations Confirm Mapped Type? YES **(NO)**

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>0-12</i>		<i>7.5YR 5/6</i>			<i>silt loam</i>

HYDRIC SOIL INDICATORS:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks:
No indicators

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES (NO)	

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R. Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W23 WL 4</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	9. _____		
2. <u>Erechtites hieracifolia</u>	<u>NO/H</u>	<u>FACU</u>	10. _____		
3. <u>Carex sp.</u>	<u>H</u>	<u>—</u>	11. _____		
4. <u>Glechoma hederacea</u>	<u>H</u>	<u>FACU</u>	12. _____		
5. <u>Polygonum sagittatum</u>	<u>H</u>	<u>OBL</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 66%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>____ Stream, Lake or Tide Gauge</p> <p>____ Aerial Photographs</p> <p>____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u><1</u> (in.)</p> <p>Depth to Free Water in Pit: <u>0</u> (in.)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p>____ Water Marks</p> <p>____ Drift Lines</p> <p>____ Sediment Deposits</p> <p>____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>____ Oxidized Root Channels in Upper 12 Inches</p> <p>____ Water-Stained Leaves</p> <p>____ Local Soil Survey Data</p> <p>____ FAC-Neutral Test</p> <p>____ Other (Explain in Remarks)</p>
Remarks:	

SOILS

Map Unit Name (Series and Phase): Elkinsville - Urban Land Complex Drainage Class: WD

Taxonomy (Subgroup): Ultic Hapludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	A	2.5Y 4/1	10YR 4/3	c/m/d	silt loam
8+					stony / impenetrable with probe

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W23 W64 2</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Dactylis glomerata</u>	<u>H</u>	<u>FACU</u>	9. _____	_____	_____
2. <u>Aca saccharinum</u>	<u>T</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Festuca sp.</u>	<u>H</u>	<u>(FACU)</u>	11. _____	_____	_____
4. <u>Toxicodendron radicans</u>	<u>H</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Lonicera japonica</u>	<u>V</u>	<u>FAC</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 40%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>> 8</u> (in.) <u>NOT FOUND</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
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Remarks: No indicators

SOILS

Map Unit Name (Series and Phase): Elkinsville - Urban Land complex Drainage Class: WD

Taxonomy (Subgroup): Utic Hapludalfs Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-2	A	10YR3/3			silt loam
2-8	B	10YR4/6	10YR4/3	c/r/d	sc
8+					stony, impenetrable with probe

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

No indicators. Soil likely disturbed during construction of US 52.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland?	Yes	<input checked="" type="radio"/> No
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No			
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No			

Remarks:

No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W23 WL 10</u>

Misc. Notes Wetland along drainage - partially moved

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>FACW</u>	9. _____		
2. <u>Carex sp.</u>	<u>H</u>	<u>-</u>	10. _____		
3. <u>Polygonum sp.</u>	<u>H</u>	<u>(FACW/OBL)</u>	11. _____		
4. <u>Boehmeria cylindrica</u>	<u>H</u>	<u>OBL</u>	12. _____		
5. <u>Typha latifolia</u>	<u>H</u>	<u>OBL</u>	13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>12</u> (in.) ^(Not Found)</p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: _____	

SOILS

Map Unit Name (Series and Phase): Shelockta silt loam Drainage Class: W0

Taxonomy (Subgroup): Typic Hapludalb Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-10	A	10YR4/1			silt loam
10+	B	2.5Y4/2	2.5YR4/6	c/m/d	gravelly loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks:

All criteria met

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>PORTSMOUTH BYPASS</u>	Date: <u>8/9/02</u>
Applicant/Owner: <u>ODOT</u>	County: <u>SCIOTO</u>
Investigator: <u>R Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W23 W410 25</u>

Misc. Notes

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Acer saccharum</u>	<u>T</u>	<u>Fac U-</u>	9. _____		
2. <u>Lactuca</u>	<u>H</u>	<u>—</u>	10. _____		
3. <u>Pilea pumila</u>	<u>H</u>	<u>Fac W</u>	11. _____		
4. <u>Saururus rotundifolia</u>	<u>V</u>	<u>Fac</u>	12. _____		
5. <u>Vitis sp.</u>	<u>V</u>	<u>—</u>	13. _____		
6. <u>Aesculus glabra</u>	<u>Sh</u>	<u>Fac U+</u>	14. _____		
7. <u>Phytolacca americana</u>	<u>H</u>	<u>Fac U+</u>	15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 40%

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: <u>>12</u> (in.) <u>Not FOUND</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
---	---

Remarks: No indicators.

SOILS

Map Unit Name (Series and Phase): Shelockta Silt Loam Drainage Class: WD
 Taxonomy (Subgroup): Typic Hapludalts Field Observations Confirm Mapped Type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-3	A	10YR 3/3			silt loam
3+	B	10YR 4/4			silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:
No indicators. Steep slope.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	<input checked="" type="radio"/> No	Is this Sampling Point Within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Wetland Hydrology Present?	Yes	<input checked="" type="radio"/> No	
Hydric Soils Present?	Yes	<input checked="" type="radio"/> No	

Remarks:
No criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>12/3/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Rob Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>WZYWL4</u>

VEGETATION @ Upper end of Lowe's retention basin

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Typha angustifolia</i>	90% H	OBL	9.		
2. <i>Eriophorum coloratum</i>	5% H	OBL	10.		
3. <i>Bidens</i> sp.	<5% H	FACW?	11.		
4. <i>Juncus effusus</i>	<5% H	FACW	12.		
5. <i>Polygonum sagittatum</i>	<5% H	OBL	13.		
6.			14.		
7.			15.		
8.			16.		
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): <u>100%</u>					
Remarks:					

HYDROLOGY

Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-2</u> (in.) (central) Depth to Free Water in Pit: <u>6</u> (in.) Depth to Saturated Soil: _____ (in.)	
Remarks:	

SOILS

WD - Well Drained

Map Unit Name ^{EKB} Elkinsville silt loam Drainage Class: 1-8% slopes

Taxonomy (Subgroup): Ultic Hapludalfs Field Observations Confirm Mapped Type? Yes No - Different Chroma

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 3/1			silt loam
12+		10YR 5/1	10YR 4/6	C, m, d	silty clay loam

Hydric Soil Indicators:

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	

Remarks:

All criteria met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site <i>Portsmouth Bypass</i>	Date <i>12/3/01</i>
Applicant / Owner <i>ODOT</i>	County <i>Scioto</i>
Investigator <i>R Hook</i>	State <i>OH</i>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID <i>W24 WL 4 2</i>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 <i>Solidago canadensis</i>	H	FACU	9		
2 <i>Rubus allegheniensis</i>	Sh	FACU	10		
3 <i>Rosa multiflora</i>	Sh	FACU	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) *0%*

Remarks

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) 	
FIELD OBSERVATIONS			
Depth of Surface Water	<i>_____</i>	(in)	
Depth to Free Water in Pit	<i>_____</i>	(in)	
Depth to Saturated Soil	<i>_____</i>	(in)	

No hydrology indicators.

SOILS

Map Unit Name (Series and Phase): <i>Elkinsville silt loam</i>	Drainage Class: <i>WD</i>
Taxonomy (Subgroup) <i>Ultr Hapludalfs</i>	Field Observations Confirm Mapped Type? <input checked="" type="radio"/> YES <input type="radio"/> NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks: *Disturbed / fill soils adjacent to basin, old industrial site.*

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES	<input checked="" type="radio"/> NO	Is this Sampling Point Within a Wetland? YES <input checked="" type="radio"/> NO
Wetland Hydrology Present?	YES	<input checked="" type="radio"/> NO	
Hydric Soils Present?	YES	<input checked="" type="radio"/> NO	

Remarks: *No criteria met*

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>12/3/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Rob Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>W24 WLS</u>

VEGETATION

10' w. ditch

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha angustifolia</u>	<u>70%</u>	<u>H</u>	9. _____	_____	_____
2. <u>Leersia oryzoides</u>	<u>10</u>	<u>H</u>	10. _____	_____	_____
3. <u>Bidens sp.</u>	<u>5</u>	<u>H</u>	11. _____	_____	_____
4. <u>Scirpus cyperinus</u>	<u><5</u>	<u>H</u>	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____
Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): <u>100%</u>					
Remarks: _____					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <p>Field Observations:</p> <p>Depth of Surface Water: <u>0-2</u> (in.) <u>(in ditch)</u></p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
Remarks: _____	

SOILS

WD - Well Drained

Map Unit Name ^{EkB} Elkinsville silt loam Drainage Class: 1-8% slopes
 (Series and Phase):
 Taxonomy (Subgroup): Ultic Hapludalfs Field Observations Confirm Mapped Type? Yes No - very similar

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-12	B?	10YR6/1	10YR5/8	C, L, P	sd

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	

Remarks: All criteria met.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Partsmouth Bypass</u>	Date: <u>12/3/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>R Hook</u>	State: <u>OH</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> <input checked="" type="radio"/> No	Plot ID: <u>W24WLS</u> ✓ <u>WLG</u> ✓

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Solidago canad.</u>	<u>H</u>	<u>FACU</u>	9. _____	_____	_____
2. <u>Andropogon virginicus</u>	<u>H</u>	<u>FACU</u>	10. _____	_____	_____
3. <u>Rubus allegh.</u>	<u>SH</u>	<u>FACU</u>	11. _____	_____	_____
4. <u>Pinus sp (planted)</u>	<u>SH</u>	<u>-</u>	12. _____	_____	_____
5. <u>Dipsacus sylvaticus</u>	_____	<u>NI</u>	13. _____	_____	_____
6. <u>Agroutis sp.</u>	<u>H</u>	<u>-</u>	14. _____	_____	_____
7. <u>Rosa multiflora</u>	<u>SH</u>	<u>FACU</u>	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p> <hr/> <p>Field Observations:</p> <p>Depth of Surface Water: _____ (in.)</p> <p>Depth to Free Water in Pit: _____ (in.)</p> <p>Depth to Saturated Soil: _____ (in.)</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p>_____ Inundated</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p>_____ Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Remarks: <u>No hydrologic indicators.</u></p>	

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>Portsmouth Bypass</u>	Date: <u>12/03/01</u>
Applicant/Owner: <u>ODOT</u>	County: <u>Scioto</u>
Investigator: <u>Rob Hook</u>	State: <u>OHIO</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? (If needed, explain on reverse) Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>W24 W66</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Typha angustifolia</u>	<u>10</u>	<u>H</u>	9. _____		
2. <u>Hibiscus moscheutos</u>	<u>10</u>	<u>H</u>	10. _____		
3. <u>Polygonum sagittatum</u>	<u>40</u>	<u>H</u>	11. _____		
4. <u>Bidens sp.</u>	<u>5</u>	<u>H</u>	12. _____		
5. <u>Leersia oryzoides</u>	<u>30</u>	<u>H</u>	13. _____		
6. <u>Juncus effusus</u>	<u>5</u>	<u>H</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: _____

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p>_____ Stream, Lake or Tide Gauge</p> <p>_____ Aerial Photographs</p> <p>_____ Other</p> <p>_____ No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated (<u>along ditch</u>)</p> <p>_____ Saturated in Upper 12 Inches</p> <p>_____ Water Marks</p> <p>_____ Drift Lines</p> <p>_____ Sediment Deposits</p> <p>_____ Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</p> <p>_____ Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-2</u> (in.) <u>(in ditch)</u></p> <p>Depth to Free Water in Pit: <u>>18</u> (in.) <u>(outside ditch)</u></p> <p>Depth to Saturated Soil _____ (in.)</p>	<p>Remarks: <u>Typha-lined drainage ditch - ineffective - wet.</u></p>

SOILS

Map Unit Name (Series and Phase): <u>Pe - Peoga silt loam</u>		Drainage Class: <u>PD - Poorly Drained rarely flooded</u>			
Taxonomy (Subgroup): <u>Typic Ochraqualfs</u>		Field Observations Confirm Mapped Type? <input checked="" type="radio"/> Yes <input type="radio"/> No <i>very similar</i>			
Profile Description					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
<u>0-12</u>		<u>10YR3/1</u>	<u>7.5YR4/6</u>	<u>c/f/p</u>	
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions				
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils				
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils				
<input type="checkbox"/> Aquic Moisture Regime	<input checked="" type="checkbox"/> Listed on Local Hydric Soils List				
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List				
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)				
Remarks: <u>Peoga is Registered as a Hydric soil in Scioto County.</u>					

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Remarks: <u>All criteria met.</u>			

Appendix F - Ohio Rapid Assessment Method Forms

Appendix F - Ohio Rapid Assessment Method Forms

Site: W1-WL8 Rater(s): SCT Date: Nov 14, 01

2 2 Metric 1. Wetland Area (size).

- max 6 pts. subtotal Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

*(1000 ft long
30 ft wide)*

1 3 Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7 10 Metric 3. Hydrology.

- max 30 pts. subtotal 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 17 Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)

4c. Habitat alteration. Score one or double check and average.

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

17
subtotal this page

Site: W1 W68 Rater(s): SCJ Date: Nov 14, 01

17

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 20

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20 GRAND TOTAL (max 100 pts)

Site: PB-W1-W69 Rater(s): SCJ Date: Nov 14, 01

1 | **1**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

2 | **3**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 | **16**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Near Rt. 23</u>

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

8 | **24**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

24
subtotal this page

Site: PB-W1-WL9 Rater(s): SGT Date: Nov 14, 01

24

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	30
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub
- Forest - /
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) - /
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

30

GRAND TOTAL (max 100 pts)

Site: PB-W1-W10 Rater(s): SGJ Date: Nov 17, 01

2 2 Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 6 Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

16 22 Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other

9 31 Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

31

subtotal this page

Site: WI WL10 Rater(s): SCJ Date: Nov 17, 01

31

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8 39

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed **-2**
- Emergent **-1**
- Shrub
- Forest **0**
- Mudflats
- Open water **-1**
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) **-1**
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
.1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

39 GRAND TOTAL (max 100 pts)

Site: W2 - W61 Rater(s): RH / ST Date: Nov 18, 01

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 1
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8 9
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Next to Rt. 23</u>

7 16
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

16

subtotal this page

Site: W2 - W21 Rater(s): RH/SCJ Date: Nov 18, 01

16

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3

19

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1) - /
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

19

GRAND TOTAL (max 100 pts)

Site: W2 W22 Rater(s): SCJ Date: 5/7/02

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

13 **15**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

avg. 6 <

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 **26**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3) *(POSSIBLE)*
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9 **35**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting <i>historical</i>	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming <i>historical</i>
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

35
subtotal this page

Site: W2 W/L 2 Rater(s): SCJ/Hook Date: 5/7/07

35

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

11	46
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **-2**
- Shrub **-2**
- Forest **-2**
- Mudflats
- Open water--
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks **-1**
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

46 GRAND TOTAL (max 100 pts)

Site: W2 WLY Rater(s): R. Book Date: _____

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

2 **4**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 **19**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Manned borrow pit</u>

10 **29**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29

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29

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- 29

Metric 5. Special Wetlands.

max 10 pts. subtotal Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

13 42

Metric 6. Plant communities, interspersions, microtopography.

max 20 pts. subtotal 6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- 2 Emergent
- 2 Shrub
- 2 Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersions. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- 2 Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- 3 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

42 GRAND TOTAL (max 100 pts)

Site: **W3 WL1** Rater(s): **SCJ** Date: **11/08/01**

0 **0**

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

14 **14**

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 **24**

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8 **32**

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

32

subtotal this page

Site: W3 WL1 Rater(s): SCJ Date: 11/08/01

32

subtotal first page

max 10 pts. subtotal **0 32**

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

max 20 pts. subtotal **3 35**

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub
- Forest - 1
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) -1
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35 GRAND TOTAL (max 100 pts)

Site: W3 WL3 Rater(s): SGT Date: 11/08/01

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 4

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 15

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

7 22

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing <i>possible</i>	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

22

subtotal this page

Site: W3 W L3 Rater(s): SCJ Date: 11/08/01

22

subtotal first page

0 **22**

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 **25**

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub - /
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

25 GRAND TOTAL (max 100 pts)

Site: W3 WL4 Rater(s): SCJ Date: Nov 8, 01

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 5
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 18
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

8 26
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

26
subtotal this page

Site: W3 WL4 Rater(s): SCJ Date: Nov 8, 01

26

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 30

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - **2**
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

30 GRAND TOTAL (max 100 pts)

Site: **W3 WL5** Rater(s): **ST** Date: **Nov 8, 01**

1 **1**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 **2**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 **17**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8 **25**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

25

subtotal this page

Site: W3 W65 Rater(s): SCJ Date: Nov 8, 01

25

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1	26
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **-1**
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26 GRAND TOTAL (max 100 pts)

Site: PB - W3 WLF Rater(s): SW Date: Nov 8, 01

2 2 Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 3 Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

20 23 Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 29 Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

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subtotal this page

Site: **PB-W3 WLF** Rater(s): **SCJ** Date: **Nov 8, 01**

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subtotal first page

70 **19**

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 **16**

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **-1**
- Shrub
- Forest
- Mudflats
- Open water **-0**
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

19 GRAND TOTAL (max 100 pts)

Site: W3 WLR Rater(s): SCJ Date: 11/08/01

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1 1
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 13
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

3 16
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

16
subtotal this page

Site: W3 W48 Rater(s): SET Date: 11/08/01

16

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1	17
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent 0
- Shrub 0
- Forest 0
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

17 GRAND TOTAL (max 100 pts)

Site: W3 WL3 Rater(s): SCJ Date: 5/9/02

2 | **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4 | **6**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17 | **23**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8 | **31**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

31
subtotal this page

Site: W3-WL13 Rater(s): SCJ Date: 5/9/02

31

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 **37**

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **- 2**
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks **- 2**
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

37 GRAND TOTAL (max 100 pts)

Site: W4 W/L Rater(s): SCJ Date: 5/19/02

1 1

Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1 1

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 13

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | |
|---|---|---|
| <input type="checkbox"/> None or none apparent (12) | <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> Recovered (7) | <input checked="" type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input checked="" type="checkbox"/> Recovering (3) | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Recent or no recovery (1) | <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

6 19

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | |
|--|---|---|
| <input type="checkbox"/> None or none apparent (9) | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> Recovered (6) | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> Recovering (3) | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> Recent or no recovery (1) | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

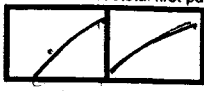
19

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Site: W4 h/l 1 Rater(s): SCJ Date: 5/10/02

19

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 23

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub -1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
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3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

23 GRAND TOTAL (max 100 pts)

Site: W4 WL2 Rater(s): SCJ Date: 5/10/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 1

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 11

Metric 3. Hydrology.

max 30 pts. subtotal 3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 17

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

17

subtotal this page

Site: W4 WL2 Rater(s): SCJ Date: 5/10/02

17

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 20

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20 GRAND TOTAL (max 100 pts)

Site: W4 WL3 Rater(s): SLJ Date: 5/19/02

0 **0**

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 **1**

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8 **9**

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- | | | |
|---|---|---|
| <input type="checkbox"/> None or none apparent (12) | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Recovered (7) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Recovering (3) | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input checked="" type="checkbox"/> Recent or no recovery (1) | <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

3 **12**

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- | | | |
|---|---|---|
| <input type="checkbox"/> None or none apparent (9) | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> Recovered (6) | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> Recovering (3) | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> Recent or no recovery (1) | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

12

subtotal this page

Site: W4 W3 Rater(s): SGJ Date: 5/10/02

12

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2	14
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

14

GRAND TOTAL (max 100 pts)

Site: W4 WL6 Rater(s): SCT Date: 5/10/02

1	1
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

2	3
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Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11	14
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Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

7	21
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

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subtotal this page

Site: W4 W26 Rater(s): SWJ Date: 5/10/02

21

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5 26

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **-2**
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks **-2**
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26 GRAND TOTAL (max 100 pts)

Site: W4 WL7 Rater(s): R Hook / SCT Date: 5/10/02

0	0
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Metric 1. Wetland Area (size).

- max 6 pts. subtotal
- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1	1
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Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10	11
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Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	18
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Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

18

subtotal this page

18

subtotal first page

- 18

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 20

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20 GRAND TOTAL (max 100 pts)

Site: W4 WL8 Rater(s): SGJ Date: 5/10/02

2 2 Metric 1. Wetland Area (size).

- max 6 pts. subtotal Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1 3 Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

1 1 14 Metric 3. Hydrology.

- max 30 pts. subtotal 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 20 Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

20
subtotal this page

Site: W4 WL8 Rater(s): SQJ Date: 5/10/02

20

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2	22
----------	-----------

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low-quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22 GRAND TOTAL (max 100 pts)

Site: w4 wL9 Rater(s): SCS/RH Date: 6/5/02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

12 12
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

21 33
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

16 49
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

49
subtotal this page

Site: W4 WL9 Rater(s): SCJ / RH Date: 6/5/02

49
subtotal first page

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5	54
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - **2**
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

54 GRAND TOTAL (max 100 pts)

Site: W5 WL1 Rater(s): S Jennings Date: 6/13/02

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

8 9

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 20

Metric 3. Hydrology.

max 30 pts. subtotal 3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9 29

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29

subtotal this page

Site: W5 WL1 Rater(s): SCJ Date: 6/13/02

29

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 **32**

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **-2**
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32 GRAND TOTAL (max 100 pts)

Site: W8 WLI Rater(s): SCT Date: 5/8/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7 8
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 19
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or double check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 25
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

25

subtotal this page

Site: W8 W/L1 Rater(s): SCT Date: 5/8/02

25

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5 30

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
.1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

30

GRAND TOTAL (max 100 pts)

Site: W8 WL2 Rater(s): SCT Date: 5/8/02

1 **1**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 **4**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 **19**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

5

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input checked="" type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

10 **29**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29

subtotal this page

Site: W8 WL2 Rater(s): SCJ Date: 5/8/02

29

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5 **34**

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed 1
- Emergent 2
- Shrub 1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34 GRAND TOTAL (max 100 pts)

Site: W8 WL5 Rater(s): SCT Date: 5/8/02

0 **0**

Metric 1. Wetland Area (size).

- max 6 pts. subtotal Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 **3**

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 **15**

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input
 - point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

6 **21**

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants
 - shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

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subtotal this page

Site: W8 WL5 Rater(s): SCT Date: 5/8/02

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subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7 28

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 2
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - /
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28 GRAND TOTAL (max 100 pts)

Site: W8 W6 Rater(s): SCT Date: 5/8/02

0 **0**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 **3**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 **16**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 **23**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

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subtotal this page

Site: WB WL6 Rater(s): SCJ Date: 5/8/07

23

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 29

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools - 2

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 GRAND TOTAL (max 100 pts)

Site: W8 WL7 Rater(s): SCJ Date: 5/8/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 16
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 23
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

23
subtotal this page

Site: W8 WLF Rater(s): SCJ Date: 5/8/02

23

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	26
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 0
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26 GRAND TOTAL (max 100 pts)

Site: WB WLB Rater(s): SCJ Date: 5/8/02

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10	14
max 30 pts.	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8	22
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

22

subtotal this page

Site: W8-WL8 Rater(s): SCJ Date: 5/8/02

22

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 **28**

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - **2**
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - **2**
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools - **1**

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28 GRAND TOTAL (max 100 pts)

Site: W8 WL9 Rater(s): SCJ Date: 5/9/02

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13	17
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	24
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

24
subtotal this page

Site: W9 WL 9 Rater(s): SGT Date: 5/9/02

24

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 30

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

30 GRAND TOTAL (max 100 pts)

Site: W8 W/L10 Rater(s): SCJ Date: 5/9/02

0 **0**

Metric 1. Wetland Area (size).

- max 6 pts. subtotal Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 **3**

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 **16**

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input
 - point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

6 **22**

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants
 - shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

22

subtotal this page

Site: WB WL/0 Rater(s): SCJ Date: 5/9/02

22

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 **26**

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent **-2**
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks **-1**
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26 GRAND TOTAL (max 100 pts)

Site: W8 WL11 Rater(s): SCJ Date: 5/9/02

0 **0**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7 **7**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 **17**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 **23**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

23
subtotal this page

Site: W8 W11 Rater(s): SCJ Date: 5/9/12

23

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7 30

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub -1-2
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

30 GRAND TOTAL (max 100 pts)

Site: W8 WL12 Rater(s): SW Date: 5/10/02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17 21
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or double check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|---|---|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> ditch</td> <td style="width: 50%; border: none;"><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> tile</td> <td style="border: none;"><input type="checkbox"/> filling/grading</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> dike</td> <td style="border: none;"><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> weir</td> <td style="border: none;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> stormwater input</td> <td style="border: none;"><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

7 28
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- | | | | | | | | | | | | | | |
|--|---|--|---|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> mowing</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> grazing</td> <td style="border: none;"><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> clearcutting</td> <td style="border: none;"><input type="checkbox"/> sedimentation</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> selective cutting</td> <td style="border: none;"><input type="checkbox"/> dredging</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> woody debris removal</td> <td style="border: none;"><input type="checkbox"/> farming</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> toxic pollutants</td> <td style="border: none;"><input checked="" type="checkbox"/> nutrient enrichment</td> </tr> </table> | <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | <input type="checkbox"/> toxic pollutants | <input checked="" type="checkbox"/> nutrient enrichment |
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal | | | | | | | | | | | | |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation | | | | | | | | | | | | |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging | | | | | | | | | | | | |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming | | | | | | | | | | | | |
| <input type="checkbox"/> toxic pollutants | <input checked="" type="checkbox"/> nutrient enrichment | | | | | | | | | | | | |

28

subtotal this page

Site: W/L12 Rater(s): SCJ Date: 5/10/02

28

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8	36
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - 2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools - 1

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

36 GRAND TOTAL (max 100 pts)

Site: W8 WL13 Rater(s): SCJ Date: 5/10/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 16

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

6 22

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

22

subtotal this page

Site: W8 WL13 Rater(s): SCJ Date: 5/10/02

22

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5	27
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub -1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - /
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27 GRAND TOTAL (max 100 pts)

Site: WB WL14 Rater(s): SCJ Date: 5/10/02

2 2
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

8 10
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17 27
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> file	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

10 37
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

37
subtotal this page

Site: WB WL14 Rater(s): SCJ Date: 5/16/02

37

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 43

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub -1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

43 GRAND TOTAL (max 100 pts)

Site: WB WL 15 Rater(s): SCJ Date: 6/6/02

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14	18
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

<ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) 	<p>Check all disturbances observed</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> ditch</td> <td><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td><input type="checkbox"/> tile</td> <td><input type="checkbox"/> filling/grading</td> </tr> <tr> <td><input type="checkbox"/> dike</td> <td><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td><input type="checkbox"/> weir</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> stormwater input</td> <td><input type="checkbox"/> other</td> </tr> </table>	<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)	<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading	<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track	<input type="checkbox"/> weir	<input type="checkbox"/> dredging	<input type="checkbox"/> stormwater input	<input type="checkbox"/> other
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)										
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading										
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track										
<input type="checkbox"/> weir	<input type="checkbox"/> dredging										
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other										

8	26
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

<ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) 	<p>Check all disturbances observed</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> mowing</td> <td><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td><input type="checkbox"/> grazing</td> <td><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td><input type="checkbox"/> clearcutting</td> <td><input type="checkbox"/> sedimentation</td> </tr> <tr> <td><input type="checkbox"/> selective cutting</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> woody debris removal</td> <td><input checked="" type="checkbox"/> farming</td> </tr> <tr> <td><input type="checkbox"/> toxic pollutants</td> <td><input type="checkbox"/> nutrient enrichment</td> </tr> </table>	<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal	<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal	<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation	<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging	<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming	<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal												
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal												
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation												
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging												
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming												
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment												

26
subtotal this page

26

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	32
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks -2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32 GRAND TOTAL (max 100 pts)

Site: w6 WL16 Rater(s): SCT Date: 6/6/02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 17
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.

<input type="checkbox"/> None or none apparent (12)	<input type="checkbox"/> Check all disturbances observed
<input type="checkbox"/> Recovered (7)	<input type="checkbox"/> ditch
<input checked="" type="checkbox"/> Recovering (3)	<input type="checkbox"/> tile
<input type="checkbox"/> Recent or no recovery (1)	<input type="checkbox"/> dike
	<input type="checkbox"/> weir
	<input type="checkbox"/> stormwater input
	<input type="checkbox"/> point source (nonstormwater)
	<input type="checkbox"/> filling/grading
	<input type="checkbox"/> road bed/RR track
	<input type="checkbox"/> dredging
	<input type="checkbox"/> other

7 24
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/> None or none apparent (9)	<input type="checkbox"/> Check all disturbances observed
<input type="checkbox"/> Recovered (6)	<input checked="" type="checkbox"/> mowing
<input checked="" type="checkbox"/> Recovering (3)	<input checked="" type="checkbox"/> grazing
<input type="checkbox"/> Recent or no recovery (1)	<input type="checkbox"/> clearcutting
	<input type="checkbox"/> selective cutting
	<input type="checkbox"/> woody debris removal
	<input type="checkbox"/> toxic pollutants
	<input type="checkbox"/> shrub/sapling removal
	<input type="checkbox"/> herbaceous/aquatic bed removal
	<input type="checkbox"/> sedimentation
	<input type="checkbox"/> dredging
	<input type="checkbox"/> farming
	<input type="checkbox"/> nutrient enrichment

24
subtotal this page

24

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 28

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28 **GRAND TOTAL (max 100 pts)**

Site: W8 WL 17 Rater(s): SCJ Date: 6/6/02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1 1
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 13
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)

- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- | Check all disturbances observed | |
|---|--|
| <input checked="" type="checkbox"/> ditch | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other |

7 20
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

- | Check all disturbances observed | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

20
subtotal this page

20

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5	25
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks -
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

25 GRAND TOTAL (max 100 pts)

Site: W8 WL18 Rater(s): SCB Date: 6/13/07

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

5 6

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 20

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

9 28

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- mowing
- grazing
- clearcutting
- selective cutting
- woody debris removal
- toxic pollutants
- shrub/sapling removal
- herbaceous/aquatic bed removal
- sedimentation
- dredging
- farming
- nutrient enrichment

28

subtotal this page

Site: W 8 W L 18 Rater(s): SCJ Date: 6/13/02

29

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools - 1

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34

GRAND TOTAL (max 100 pts)

Site: W8 WL19 Rater(s): SCT Date: 6/13/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7 8
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 22
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3) *seep from pond*
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input
 - point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other _____

9 31
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants
 - shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

31
subtotal this page

Site: W8 WL 19 Rater(s): SA Date: 6/13/02

31

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	35
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks -
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35

GRAND TOTAL (max 100 pts)

Site: W8 WL 20 Rater(s): SGT Date: 6/13/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 13

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

7 20

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

20

subtotal this page

Site: W8 WL 20 Rater(s): SGT Date: 6/13/02

20

subtotal first page

1	1
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	24
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24

GRAND TOTAL (max 100 pts)

Site: W8 4L21 Rater(s): SGT Date: 6/13/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

2 2

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 14

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9 23

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

23

subtotal this page

Site: W8 WL 21 Rater(s): SCJ Date: 6/13/02

23

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	26
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent — 2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26 GRAND TOTAL (max 100 pts)

Site: W6 WL 22 Rater(s): SCJ Date: 6/12/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

6 6

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 19

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>4x4 Activity</u>

8 27

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

27

subtotal this page

Site: W8 WL22 Rater(s): SCJ Date: 6/12/07

27

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5	32
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32 GRAND TOTAL (max 100 pts)

Site: W8 W623 Rater(s): SCJ Date: 6/12/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 17

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 24

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

24

subtotal this page

Site: 418 WL 23 Rater(s): SCJ Date: 6/12/02

24

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 27

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27 GRAND TOTAL (max 100 pts)

Site: W8 WL 24 Rater(s): SCJ Date: 6/12/02

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 4

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 16

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 23

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

23

subtotal this page

Site: W8 W624 Rater(s): SCJ Date: 6/12/02

23

subtotal first page

max 10 pts. / subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 / 27

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27 GRAND TOTAL (max 100 pts)

Site: W8 WL 25 Rater(s): SJT Date: 6/13/08

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 14
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

8 22
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

22

subtotal this page

Site: 4/8 WL 25 Rater(s): SCT Date: 6/13/02

22

subtotal first page

/	/
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	28
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28

GRAND TOTAL (max 100 pts)

Site: W8 WL 26 Rater(s): SCJ Date: 6/13/02

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1	1
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13	14
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6	20
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

20
subtotal this page

Site: W8 WL26 Rater(s): SCJ Date: 6/13/02

20

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2

22

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22

GRAND TOTAL (max 100 pts)

Site: W8 WL27 Rater(s): SCJ Date: 8/8/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 17

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 24

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

24

subtotal this page

Site: W8 WL27 Rater(s): SET Date: 8/8/02

24

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 27

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27

GRAND TOTAL (max 100 pts)

Site: W8 WL 28 Rater(s): SET Date: 8/8/02

0 0

Metric 1. Wetland Area (size).

- max 6 pts. subtotal Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

- max 14 pts. subtotal
- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 14

Metric 3. Hydrology.

- max 30 pts. subtotal
- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 21

Metric 4. Habitat Alteration and Development.

- max 20 pts. subtotal
- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

21
subtotal this page

Site: W8 WL28 Rater(s): 5 JT Date: 8/18/02

21

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	24
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24 GRAND TOTAL (max 100 pts)

Site: WB WL 29 Rater(s): SGT Date: 8/8/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 14

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 20

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

20

subtotal this page

Site: WB WL29 Rater(s): SCJ Date: 8/8/02

20

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	24
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub
- Forest - 1
- Mudflats - 0
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
.1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24

GRAND TOTAL (max 100 pts)

Site: W9 WLI Rater(s): SCJ Date: 5/7/02

2	2
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

7	9
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Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12	21
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Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

<ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) 	<p>Check all disturbances observed</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> ditch</td> <td><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td><input type="checkbox"/> tile</td> <td><input type="checkbox"/> filling/grading</td> </tr> <tr> <td><input type="checkbox"/> dike</td> <td><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td><input type="checkbox"/> weir</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> stormwater input</td> <td><input type="checkbox"/> other _____</td> </tr> </table>	<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)	<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading	<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track	<input type="checkbox"/> weir	<input type="checkbox"/> dredging	<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)										
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading										
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track										
<input type="checkbox"/> weir	<input type="checkbox"/> dredging										
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____										

8	29
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

<ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) 	<p>Check all disturbances observed</p> <table style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> mowing</td> <td><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td><input checked="" type="checkbox"/> grazing</td> <td><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td><input type="checkbox"/> clearcutting</td> <td><input type="checkbox"/> sedimentation</td> </tr> <tr> <td><input type="checkbox"/> selective cutting</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> woody debris removal</td> <td><input checked="" type="checkbox"/> farming</td> </tr> <tr> <td><input type="checkbox"/> toxic pollutants</td> <td><input type="checkbox"/> nutrient enrichment</td> </tr> </table>	<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal	<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal	<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation	<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging	<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming	<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal												
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal												
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation												
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging												
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming												
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment												

29

subtotal this page

Site: W9 WL1 Rater(s): SCJ Date: 5/7/02

29

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 35

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummucks/tussucks
- Coarse woody debris >15cm (6in) - 1
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35 GRAND TOTAL (max 100 pts)

Site: W9 WL2 Rater(s): SCT Date: 5/8/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 5
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 20
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8 28
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

28
subtotal this page

Site: W9 WL 2 Rater(s): SCJ Date: 5/8/02

28

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 32

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub -2
- Forest
- Mudflats
- Open water -1
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32 GRAND TOTAL (max 100 pts)

Site: W9 WL3 Rater(s): SCJ Date: 5/7/02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

9 9
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17 26
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

14 40
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

40
subtotal this page

Site: W9 WL3 Rater(s): SCJ Date: 5/7/02

40

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7 47

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent 3
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools - 1

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

47 GRAND TOTAL (max 100 pts)

Site: W9 W64 Rater(s): 507 Date: 5/7/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 2
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 12
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- | | | |
|---|---|---|
| <input type="checkbox"/> None or none apparent (12) | Check all disturbances observed | |
| <input checked="" type="checkbox"/> Recovered (7) | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> Recovering (3) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Recent or no recovery (1) | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| | <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

6 18
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- | | | |
|--|--|---|
| <input type="checkbox"/> None or none apparent (9) | Check all disturbances observed | |
| <input checked="" type="checkbox"/> Recovered (6) | <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> Recovering (3) | <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> Recent or no recovery (1) | <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| | <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming |
| | <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

18

subtotal this page

Site: W9 WL4 Rater(s): SOJ Date: 5/7/02

18

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 21

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent → 2
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

21 GRAND TOTAL (max 100 pts)

Site: W9 WLS Rater(s): SCJ Date: 8/9/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 14
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 20
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

20
subtotal this page

Site: W9 WLS Rater(s): SCJ Date: 8/9/02

20

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	24
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24

GRAND TOTAL (max 100 pts)

Site: W9 W/L 6 Rater(s): SCJ Date: 8/9/02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

2 2

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

16 18

Metric 3. Hydrology.

max 30 pts. subtotal 3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

<input type="checkbox"/> None or none apparent (12)	<input checked="" type="checkbox"/> Check all disturbances observed	<input type="checkbox"/> point source (nonstormwater)
<input checked="" type="checkbox"/> Recovered (7)	<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> filling/grading
<input checked="" type="checkbox"/> Recovering (3)	<input type="checkbox"/> tile	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> Recent or no recovery (1)	<input type="checkbox"/> dike	<input type="checkbox"/> dredging
	<input type="checkbox"/> weir	<input type="checkbox"/> other
	<input checked="" type="checkbox"/> stormwater input	

8 26

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/> None or none apparent (9)	<input checked="" type="checkbox"/> Check all disturbances observed	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> Recovered (6)	<input type="checkbox"/> mowing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> Recovering (3)	<input type="checkbox"/> grazing	<input type="checkbox"/> sedimentation
<input type="checkbox"/> Recent or no recovery (1)	<input type="checkbox"/> clearcutting	<input type="checkbox"/> dredging
	<input type="checkbox"/> selective cutting	<input type="checkbox"/> farming
	<input type="checkbox"/> woody debris removal	<input type="checkbox"/> nutrient enrichment
	<input type="checkbox"/> toxic pollutants	

26

subtotal this page

Site: 49 WL6 Rater(s): SCJ Date: 8/9/02

26

subtotal first page

max 10 pts.	subtotal
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Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	32
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub -1
- Forest -1
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32

 GRAND TOTAL (max 100 pts)

Site: PB-W12-WL1 Rater(s): SCJ Date: Jan 23, 07

2 2
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4 6
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17 23
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

10 33
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

33
subtotal this page

Site: W12 W11 Rater(s): SCJ Date: 1/23/02

33

subtotal first page

max 10 pts.	subtotal
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Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7	40
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Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water - 0
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

40 GRAND TOTAL (max 100 pts)

Site: W12 WL7 Rater(s): SCJ Date: 8/9/07

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 5
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

25 30
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

15 45
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

45

subtotal this page

Site: W12 - WL2 Rater(s): SCJ Date: 8/9/02

45

subtotal first page
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 51

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -3
- Shrub -1
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

51 GRAND TOTAL (max 100 pts)

Site: W12 WL-3 Rater(s): SCJ Date: 8/9/02

1 | 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

7 | 8
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 | 19
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

10 | 29
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29

subtotal this page

Site: W12 W63 Rater(s): SCJ Date: 8/9/02

29

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8	37
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 2
- Forest - 2
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

37 GRAND TOTAL (max 100 pts)

Site: W13 WLI Rater(s): SCJ Date: 1/24/02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 15
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 21
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

21

subtotal this page

Site: W13 W61 Rater(s): SCJ Date: 1/24/02

21

subtotal first page

/	/
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	24
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24	GRAND TOTAL (max 100 pts)
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Site: PB-W13-WL5 Rater(s): SCT Date: Jan 24, 02

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13	17
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | | | | | | | | | | |
|--|---|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input checked="" type="checkbox"/> Recovered (7) <input checked="" type="checkbox"/> Recovering (3) <input type="checkbox"/> Recent or no recovery (1) | <p>Check all disturbances observed</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> ditch</td> <td><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td><input type="checkbox"/> tile</td> <td><input type="checkbox"/> filling/grading</td> </tr> <tr> <td><input type="checkbox"/> dike</td> <td><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td><input type="checkbox"/> weir</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> stormwater input</td> <td><input type="checkbox"/> other _____</td> </tr> </table> | <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | <input type="checkbox"/> weir | <input type="checkbox"/> dredging | <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) | | | | | | | | | | |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading | | | | | | | | | | |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track | | | | | | | | | | |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging | | | | | | | | | | |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ | | | | | | | | | | |

9	26
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- | | |
|--|--|
| <p>Check all disturbances observed</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants | <ul style="list-style-type: none"> <input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input checked="" type="checkbox"/> farming <input checked="" type="checkbox"/> nutrient enrichment |
|--|--|

26
subtotal this page

Site: W13 W15 Rater(s): SCJ Date: Jan 24, 02

26

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9	35
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -2
- Shrub -1
- Forest -1
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in) -1
- Standing dead >25cm (10in) dbh -1
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35

GRAND TOTAL (max 100 pts)

Site: PB-W13-WL6 Rater(s): SCJ Date: Jan 24, 02

1 / 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 / 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 / 16
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Horse Farm</u>

7 / 23
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

23
subtotal this page

Site: W13 WL6 Rater(s): SCT Date: Jan 24, 02

23

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 29

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -)
- Shrub - |
- Forest - |
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) - |
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 GRAND TOTAL (max 100 pts)

Site: PB-W14-WL1 Rater(s): JCT Date: Jan 17, 02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

4 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 15
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input
 - point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other cattle

10 25
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants
 - shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

25
subtotal this page

Site: PB-W14-WL1 Rater(s): SCT Date: Jan 17, 02

25

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	31
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub - /
- Forest - /
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)-/
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31

GRAND TOTAL (max 100 pts)

Site: W14 WL2 Rater(s): SCJ Date: Jan 17, 02

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 15

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3 18

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1) - *Active Grazing*

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

18

subtotal this page

Site: W14 WL2 Rater(s): SCT Date: Jan 17, 02

18

subtotal first page

/	/
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	22
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub
- Forest - /
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in) - /
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
-1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22

GRAND TOTAL (max 100 pts)

Site: PB-W14-WL6 Rater(s): SGT Date: Jan 18, 02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 2
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 15
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

2

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3.5 18.5
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

15

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

18.5
subtotal this page

Site: PB-W14-WL6 Rater(s): SCT Date: Jan 18, 02

18.5

subtotal first page

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Metric 5. Special Wetlands.

max 10 pts. subtotal Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	21.5
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - /
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersions. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks ~ 2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

21.5 GRAND TOTAL (max 100 pts)

Site: PAR- W14- W L 7 Rater(s): SCT Date: Jan 18, 02

0	0
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1	1
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Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11	12
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Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

4	16
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

16

subtotal this page

Site: PB-W14-WL7 Rater(s): SCT Date: Jan 18, 02

16

subtotal first page

max 10 pts.	subtotal
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Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	20
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Metric 6. Plant communities, interspersions, microtopography.

max 20 pts. subtotal

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks -2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20 GRAND TOTAL (max 100 pts)

Site: PB-W/4-WL10 Rater(s): SCT Date: Jan 18, 02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

5 6
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 20
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input
- point source (nonstormwater)
- filling/grading
- road bed/RR track
- dredging
- other

6 26
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- mowing
- grazing
- clearcutting
- selective cutting
- woody debris removal
- toxic pollutants
- shrub/sapling removal
- herbaceous/aquatic bed removal
- sedimentation
- dredging
- farming
- nutrient enrichment

26
subtotal this page

Site: PB-W14-WL10 Rater(s): SCT Date: Jan 18, 02

26

subtotal first page

max 10 pts.	subtotal
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Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9	35
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest - 2
- Mudflats
- Open water
- Other

*Sphagnum
Present in
small tufts*

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in) -
- Standing dead >25cm (10in) dbh -
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35 GRAND TOTAL (max 100 pts)

Site: PB-W14-WL11 Rater(s): SCJ Date: Jan 18, 02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 3
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 14
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

3 17
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

17

subtotal this page

Site: PB-W14-WL11 Rater(s): SGT Date: Jan 18, 02

17

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	23
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub - 1
- Forest - 1
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) - 2
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

23

GRAND TOTAL (max 100 pts)

Site: PB-W/4-WL 12 Rater(s): SCT Date: Jan 18, 02

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 **5**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 **19**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - point source (nonstormwater)
 - tile
 - filling/grading
 - dike
 - road bed/RR track
 - weir
 - dredging
 - stormwater input
 - other cattle

4.5 **23.5**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - shrub/sapling removal
 - grazing
 - herbaceous/aquatic bed removal
 - clearcutting
 - sedimentation
 - selective cutting
 - dredging
 - woody debris removal
 - farming
 - toxic pollutants
 - nutrient enrichment

23.5
subtotal this page

Site: PB- W14- WL12 Rater(s): SCJ Date: Jan 18, 02

23.5

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 29.5

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub - 1
- Forest - 1
- Mudflats
- Open water - 0
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29.5 **GRAND TOTAL (max 100 pts)**

Site: PB-W14-WL13 Rater(s): SCJ Date: Jan 18, 02

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 4
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 15
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>cuttle</u>

4.5 19.5
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

19.5
subtotal this page

Site: PB-W14-WL13 Rater(s): SCT Date: Jan 18, 07

19.5

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 23.5

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

23.5 GRAND TOTAL (max 100 pts)

Site: PB-W14-WL14 Rater(s): SCT Date: Jan 18, 02

0 | 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 | 3
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 | 13
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>cattle</u>

4.5 | 17.5
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

17.5
subtotal this page

Site: PB-W14-WL14 Rater(s): SCJ Date: Jan 18, 02

17.5

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 19.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks - 1
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

19.5 **GRAND TOTAL (max 100 pts)**

Site: PB-w14-w116 Rater(s): SCJ Date: Jan 18, 02

0 **0**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3 **3**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 **13**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input
- point source (nonstormwater)
- filling/grading
- road bed/RR track
- dredging
- other cattle

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

5 **18**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- mowing
- grazing
- clearcutting
- selective cutting
- woody debris removal
- toxic pollutants
- shrub/sapling removal
- herbaceous/aquatic bed removal
- sedimentation
- dredging
- farming
- nutrient enrichment

18

subtotal this page

Site: PB-W14-WL16 Rater(s): SCJ Date: Jan 18, 02

18

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5	23
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent — /
- Shrub
- Forest
- Mudflats
- Open water — /
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks ~2
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

23

GRAND TOTAL (max 100 pts)

Site: PB-W15-WL1 Rater(s): SCT Date: Jan 3, 02

1	1
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1	2
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Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14	16
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Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

7	22
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

22

subtotal this page

Site: PB-W15-WL1 Rater(s): SCJ Date: Jan 3, 02

22

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0	22
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - |
- Shrub
- Forest
- Mudflats
- Open water - |
- Other _____

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22

GRAND TOTAL (max 100 pts)

Site: PB-WIS-WL2 Rater(s): SCT Date: Jan 3, 02

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

1 **3**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

14 **17**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input
 - point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other

7 **24**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants
 - shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

24
subtotal this page

Site: PB-W15-WL2 Rater(s): SCT Date: Jan 3, 02

24

subtotal first page

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2	26
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent — |
- Shrub
- Forest
- Mudflats
- Open water — |
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26

GRAND TOTAL (max 100 pts)

Site: PB-W16-WL3 Rater(s): _____ Date: Jan 16, 02

0 0
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

7 7
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

8 15
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- | | | |
|---|--|--|
| <input type="checkbox"/> None or none apparent (12) | <input type="checkbox"/> Check all disturbances observed | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Recovered (7) | <input type="checkbox"/> ditch | <input type="checkbox"/> filling/grading |
| <input checked="" type="checkbox"/> Recovering (3) | <input type="checkbox"/> tile | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Recent or no recovery (1) | <input type="checkbox"/> dike | <input type="checkbox"/> dredging |
| | <input type="checkbox"/> weir | <input type="checkbox"/> other _____ |
| | <input type="checkbox"/> stormwater input | |

8 23
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- | | | |
|--|---|---|
| <input type="checkbox"/> Check all disturbances observed | <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> clearcutting | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> woody debris removal | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment | <input type="checkbox"/> dredging |
| | | <input type="checkbox"/> farming |

23
subtotal this page

23

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6 29

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent /
- Shrub 2
- Forest 1
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) 1
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 GRAND TOTAL (max 100 pts)

Site: PB - W21 - W61 Rater(s): SCS/RH Date: Dec 5, 01

3 **3**

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

10 **13**

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

16 **29**

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input checked="" type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

13 **42**

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

42

subtotal this page

Site: PB-W - W61 Rater(s): _____ Date: Dec 5, 01

42

subtotal first page

0

42

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8

50

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water - 1
- Other _____

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummucks/tussucks
- Coarse woody debris >15cm (6in) - 2
- Standing dead >25cm (10in) dbh - 1
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

50

GRAND TOTAL (max 100 pts)

Site: W21 W22 Rater(s): SCJ Date: 12/10/01

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

7 8

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 20

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

8 28

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

28

subtotal this page

Site: W21 WL2 Rater(s): _____ Date: 12/10/01

28

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

6	34
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -)
- Shrub - /
- Forest - }
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34

GRAND TOTAL (max 100 pts)

Site: w21 wL3 Rater(s): SCJ Date: 12/10/02

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 5

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

13 18

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

6 24

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input checked="" type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

24

subtotal this page

Site: W21 W23 Rater(s): SLT Date: 12/10/01

24

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 25

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -1
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

25 GRAND TOTAL (max 100 pts)

Site: W21 W24 Rater(s): SCJ Date: 12/10/01

2 | **2**

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

8 | **10**

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY-NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

21 | **31**

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8 | **39**

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

39

subtotal this page

Site: W21 W64 Rater(s): SCJ Date: 12/10/01

39

subtotal first page

/	/
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

7	46
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub - 2
- Forest - 1
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

46 GRAND TOTAL (max 100 pts)

Site: PB-W21-WL5 Rater(s): SGJ/RH Date: Dec 10, 01

4 **4**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

9 **13**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

17 **30**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

12 **42**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- mowing
- grazing
- clearcutting
- selective cutting
- woody debris removal
- toxic pollutants

- shrub/sapling removal
- herbaceous/aquatic bed removal
- sedimentation
- dredging
- farming
- nutrient enrichment

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subtotal this page

Site: PB-W21-WL5 Rater(s): SCJ/RH Date: Dec 12, 01

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subtotal first page

0 42

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

12 54

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 2
- Forest
- Mudflats
- Open water - 2
- Other

6b. horizontal (plan view) Interspersions.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks - 1
- Coarse woody debris >15cm (6in) - 2
- Standing dead >25cm (10in) dbh - 1
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

54 **GRAND TOTAL (max 100 pts)**

Multi Flora
Rose on
Banks.

Site: W21 WLB **Rater(s):** SCW **Date:** 12/12/01

2 2
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

9 11
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 22
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - ditch
 - tile
 - dike
 - weir
 - stormwater input
 - point source (nonstormwater)
 - filling/grading
 - road bed/RR track
 - dredging
 - other

8 30
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

 - mowing
 - grazing
 - clearcutting
 - selective cutting
 - woody debris removal
 - toxic pollutants
 - shrub/sapling removal
 - herbaceous/aquatic bed removal
 - sedimentation
 - dredging
 - farming
 - nutrient enrichment

30
subtotal this page

Site: W21 WL6 Rater(s): SCJ Date: 12/11/01

30

subtotal first page

0

30

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9

39

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub - 2
- Forest - 2
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in) - 1
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

39

GRAND TOTAL (max 100 pts)

Site: W21 W67 Rater(s): SCJ Date: 12/11/01

1 | 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

4 | 5
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10 | 15
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 | 22
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

22
subtotal this page

Site: W21 WL7 Rater(s): SGJ Date: 12/11/01

22

subtotal first page

max 10 pts.	subtotal
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Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3	27
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed - 0
- Emergent
- Shrub - 1
- Forest - 1
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) - 1
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

*Japanese
Honeysuckle
Present*

27 GRAND TOTAL (max 100 pts)

Site: PB-WA1-WL13 Rater(s): _____ Date: Dec 18, 01

1	
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12	16
max 30 pts.	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|--|
| <input type="checkbox"/> ditch | <input checked="" type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Farming</u> |

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

7	23
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input checked="" type="checkbox"/> nutrient enrichment |

23

subtotal this page

Site: PB-W21-WL13 Rater(s): _____ Date: Dec 18, 07

23

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5

28

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent 1
- Shrub
- Forest
- Mudflats
- Open water 1
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummucks/tussucks
- Coarse woody debris >15cm (6in) <
- Standing dead >25cm (10in) dbh <
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28

GRAND TOTAL (max 100 pts)

Site: W21 WL16 Rater(s): R Hook Date: 6/ /03

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

14 **16**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9 **25**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <i>Probably man-made depression</i>

9 **34**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)
- Check all disturbances observed

<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

34
subtotal this page

34

subtotal first page

— **34**

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8 **42**

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- Aquatic bed
- 1 Emergent
- 2 Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- 2 Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- 2 Amphibian breeding pools

Vegetation Community Cover Scale	
0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality	
low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality	
0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47
2	Moderate 1 to <4ha (2.47 to
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale	
0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

42 GRAND TOTAL (max 100 pts)

Site: W22 W/L2 Rater(s): SGJ Date: Nov 19, 01

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

12 12

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9 21

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Logging</u>

8 29

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29

subtotal this page

Site: W22 W62 Rater(s): SCJ Date: Nov 19, 01

29

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2	31
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion. Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

31 GRAND TOTAL (max 100 pts)

Site: W23 W1 Rater(s): SCJ Date: 11/14/01

2 2
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

7 9
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 20
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>old borrow pits</u>

7 27
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

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subtotal this page

Site: W23 W21 Rater(s): SLJ Date: 11/14/01

27

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 29

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 GRAND TOTAL (max 100 pts)

Site: W23 W62 Rater(s): SCT Date: 12/5/01

2 2
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

6 8
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 19
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <u>Between Rt. 52 + Rail Road</u>

8 27
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

27
subtotal this page

Site: W23 W22 Rater(s): SCJ Date: 12/5/01

27

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5

32

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 1
- Shrub - 1
- Forest - 2
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

32

GRAND TOTAL (max 100 pts)

Site: W23 WL3 Rater(s): SCJ Date: 12/5/01

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

5 6

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

12 18

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9 27

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

27

subtotal this page

Site: W23 WL3 Rater(s): SCJ Date: 12/5/01

27

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8 **35**

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent 2
- Shrub 1
- Forest 1
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in) 2
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

35 GRAND TOTAL (max 100 pts)

Site: W13 WL 4 Rater(s): SCJ Date: 12/5/01

0 0

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 1

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

9 10

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6 16

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

16

subtotal this page

Site: W23 WL4 Rater(s): SCJ Date: _____

16

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0 16

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 18

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent ~ 2
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

18

GRAND TOTAL (max 100 pts)

Site: <u>W23 WL10</u>	Rater(s): <u>SCT</u>	Date:
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<u>0</u>	<u>0</u>
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

<u>4</u>	<u>4</u>
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrubland, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

<u>13</u>	<u>17</u>
max 30 pts.	subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 (27.6in) (3)
 - 0.4 to 0.7m (15.7 to 27.6in) (2)
 - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

<u>7</u>	<u>24</u>
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<u>24</u>

subtotal this page

Site: W23 WL10 Rater(s): SCJ Date: _____

24

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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4	28
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent - 2
- Shrub - 1
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussocks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28

GRAND TOTAL (max 100 pts)

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owes*

Site: PB-W24 - W24 Rater(s): SCT Date: Dec 3, 01

3 **3**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

2 **5**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

15 **20**
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input checked="" type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

9 **29**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

29

subtotal this page

Dec³ 01

Site: PB-W24-WL4 Rater(s): SCJ Date: ~~11/2~~

29

subtotal first page

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5 34

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummucks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34 GRAND TOTAL (max 100 pts)

Site: W24 W25 Rater(s): SCJ Date: 12/03/01

1 1

Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 2

Metric 2. Upland buffers and surrounding land use.

max 14 pts. subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 12

Metric 3. Hydrology.

max 30 pts. subtotal

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

<input type="checkbox"/> None or none apparent (12)	<input checked="" type="checkbox"/> Check all disturbances observed
<input type="checkbox"/> Recovered (7)	<input checked="" type="checkbox"/> ditch
<input checked="" type="checkbox"/> Recovering (3)	<input type="checkbox"/> tile
<input type="checkbox"/> Recent or no recovery (1)	<input type="checkbox"/> dike
	<input type="checkbox"/> weir
	<input type="checkbox"/> stormwater input
	<input checked="" type="checkbox"/> point source (nonstormwater)
	<input type="checkbox"/> filling/grading
	<input type="checkbox"/> road bed/RR track
	<input type="checkbox"/> dredging
	<input type="checkbox"/> other _____

6 18

Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

<input type="checkbox"/> None or none apparent (9)	<input checked="" type="checkbox"/> Check all disturbances observed
<input type="checkbox"/> Recovered (6)	<input type="checkbox"/> mowing
<input checked="" type="checkbox"/> Recovering (3)	<input type="checkbox"/> grazing
<input type="checkbox"/> Recent or no recovery (1)	<input type="checkbox"/> clearcutting
	<input type="checkbox"/> selective cutting
	<input type="checkbox"/> woody debris removal
	<input type="checkbox"/> toxic pollutants
	<input type="checkbox"/> shrub/sapling removal
	<input type="checkbox"/> herbaceous/aquatic bed removal
	<input type="checkbox"/> sedimentation
	<input type="checkbox"/> dredging
	<input type="checkbox"/> farming
	<input checked="" type="checkbox"/> nutrient enrichment

18

subtotal this page

Site: W24 W45 Rater(s): SCJ Date: 12/03/01

18

subtotal first page

0 18

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 19

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent -)
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

19 GRAND TOTAL (max 100 pts)

Site: W24 W6 Rater(s): SCJ Date: 12/03/01

1 1
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (0.04ha) (0 pts)

1 2
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 13
max 30 pts. subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- 100 year floodplain (1)
- Between stream/lake and other human use (1)
- Part of wetland/upland (e.g. forest), complex (1)
- Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7 20
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

20

subtotal this page

Site: W24 W26 Rater(s): SGJ Date: 12/03/01

20

subtotal first page

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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened or endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2	22
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.
Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- Low (1)
- None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22

GRAND TOTAL (max 100 pts)

Appendix G - Aquatic Ecology Tables & Figures

Table 1. Water Chemistry Data for Portsmouth Bypass project area, 18-22 June 2002.

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Alkalinity (mg/l)	80	80	86	36	13	58	53	76	58	71	71	105	49	91	65	104	79
Chloride (mg/l)	0.11	0.10	0.17	0.07	0.09	0.05	0.08	0.02	0.09	0.05	0.05	0.05	0.03	0.01	0.00	0.11	0.02
Oxygen ^a (mg/l)	5.8	5.8	5.1	7.9	10.1	7.6	4.6	5.8	8.2	5.5	5.5	1.7	5.7	5.2	4.4	4.9	4.5
Total Solids ^a (mg/l)	250	250	172	108	86	134	123	151	117	157	157	252	99	192	173	243	277
Total Hardness (mg/l)	208	208	157	74	66	98	83	110	98	118	118	214	72	154	114	190	145
Total Iron (mg/l)	0.03	0.03	0.02	0.03	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.03	0.03
Ammonia (mg/l)	0.50	0.35	0.50	0.46	0.00	0.05	0.45	0.27	0.00	0.08	0.08	0.00	0.23	0.12	0.00	0.13	0.37
Nitrate (mg/l)	1.50	1.51	1.90	2.20	3.20	1.50	1.90	2.20	0.04	2.20	2.20	0.08	1.27	2.90	2.80	1.30	4.75
Nitrite (mg/l)	0.02	0.01	0.04	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.02	0.01
Orthophosphate (mg/l)	0.17	0.21	2.59	0.42	0.34	2.21	0.52	1.34	0.00	0.82	0.82	0.34	0.56	0.11	4.55	0.21	0.32
pH	7.31	7.30	7.17	7.17	7.44	7.35	6.75	6.71	7.37	6.80	6.80	6.73	6.79	6.65	6.78	6.50	6.61
Sulfate (mg/l)	99	99	71	31	53	37	36	36	35	69	69	122	33	63	45	98	29
Air Temperature (C°)	37	37	34	37	20	35	29	32	35	23	23	29	40	37	33	31	30
Water Temperature (C°)	25.0	25.0	26.8	18.5	16.4	26.3	18.6	28.0	28.5	21.0	21.0	22.8	30.1	29.1	29.7	23.4	24.4
Turbidity (NTU)	2.6	3.1	6.7	6.7	14.4	1.6	11.9	2.1	4.6	1.5	1.5	1.4	2.5	5.9	3.5	8.6	4.5
Conductivity (µS/cm)	0.498	0.437	0.337	0.216	0.170	0.268	0.246	0.299	0.236	0.313	0.313	0.499	0.200	0.383	0.347	0.485	0.551

1 = Unnamed Tributary of Scioto River, 2 = Unnamed Tributary of Scioto River, 3 = Unnamed Tributary of Scioto River, 4 = Little Scioto River, 5 = Dan White Hollow Run, 6 = Long Run, 7 = Little Scioto River, 8 = Long Run, 9 = Harrison Furnace Creek, 10 = Candy Run, 11 = Candy Run, 12 = Stout Hollow Run, 13 = Shoumberg Hollow Run, 14 = Mansfield Hollow Run, 15 = Wards Run, 16 = Miller Run, 17 = Unnamed Tributary of Scioto River.

Table 2. Macroinvertebrates collected during the Portsmouth Bypass project, 18-22 June 2002.

Taxon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
Porifera																		
Demospongiae																		
Spongilidae	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Platyhelminthes																		
Turbellaria																		
Dugesiiidae	15	13	9	22	22	0	0	0	0	0	0	3	13	15	0	13	0	125
Nematomorpha																		
Gordiidae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Ectoprocta = Bryozoa																		
Phylactolaemata																		
Plumatellidae	0	3	0	0	0	3	3	0	0	17	14	0	3	0	0	2	0	45
Annelida																		
Hirudinea																		
Rhynchobdellida																		
Glossiphoniidae																		
<i>Placobdella parasitica</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Arthropoda																		
Crustacea																		
Isopoda																		
Asellidae																		
<i>Asellus</i> sp.	8	3	7	0	0	4	0	7	0	15	15	3	12	13	0	0	7	84

Table 2. Macroinvertebrates collected during the Portsmouth Bypass project, 18-22 June 2002. - Continued -

Taxon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
Amphipoda																		
Gammaridae																		
<i>Gammarus</i> sp.	0	10	0	0	0	0	0	0	0	0	0	4	2	2	0	0	0	18
Decapoda																		
Cambaridae																		
<i>Orconectes spinuosus</i>	16	7	8	8	0	14	3	4	2	5	11	2	5	17	0	17	0	119
<i>Cambarus</i> sp. ^a	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	4
Insecta																		
Ephemeroptera																		
Heptageniidae																		
<i>Stenonema</i> sp.	0	3	0	13	0	5	33	20	6	15	11	0	7	0	7	0	0	120
Baetidae																		
<i>Pseudocentropiloides</i> sp.	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
<i>Callibaetis</i> sp.	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	6
Leptophlebiidae																		
<i>Leptophlebia</i> sp.	0	0	0	0	4	1	0	0	0	1	0	0	0	2	0	0	0	8
Odonata																		
Calopterygidae																		
<i>Calopteryx</i> sp.	0	0	1	0	1	0	0	0	0	0	2	0	0	0	1	1	4	10
Coenagrionidae																		
<i>Argia</i> sp.	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3	5

a = *Cambarus* sp. currently undergoing taxonomic revision (formerly known as *Cambarus bartonii cavatus*).

Table 2. Macroinvertebrates collected during the Portsmouth Bypass project, 18-22 June 2002. -- Continued -

Taxon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
Hemiptera																		
Gerridae																		
<i>Aquarius</i> sp.	15	12	1	13	0	23	17	4	0	0	15	0	17	12	0	0	0	129
<i>Trepobates</i> sp.	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Corixidae	9	7	0	0	22	0	18	0	0	0	0	0	13	0	0	0	0	69
Notonectidae																		
<i>Notonecta</i> sp.	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
Megaloptera																		
Corydalidae																		
<i>Chauliodes</i> sp.	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Trichoptera																		
Hydropsychidae																		
<i>Hydropsyche</i> sp.	5	0	1	17	0	29	0	12	37	1	10	0	0	0	12	1	0	125
Hydroptilidae																		
<i>Hydroptila</i> sp.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Limnephilidae																		
<i>Platycentropus</i> sp.	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	3
Coleoptera																		
Halplidae																		
<i>Pelodytes</i> sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3

Table 2. Macroinvertebrates collected during the Portsmouth Bypass project, 18-22 June 2002. - Continued -

Taxon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
Unionoidea																		
Unionidae																		
<i>Pyganodon grandis</i>	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
<i>Simpsonaias ambigua</i> ^S	0	0	0	1	0	0	12	0	0	0	0	0	0	0	0	0	0	13
<i>Quadrula quadrula</i>	0	0	0	10	0	0	23	0	0	0	0	0	0	0	0	0	0	33
<i>Quadrula pustulosa</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>Amblyma plicata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Fusconaia flava</i>	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
<i>Leptodea fragilis</i>	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
<i>Potamilus alatus</i>	0	0	0	7	0	0	2	0	0	0	0	0	0	0	0	0	0	9
<i>Lampsilis r. luteola</i>	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
<i>Lampsilis cardium</i>	0	0	0	24	0	0	3	0	0	0	0	0	0	0	0	0	0	27
Total Number of Taxa	13	10	10	25	4	14	18	15	9	14	12	12	11	8	6	14	12	65
Total Number of Individuals	90	83	31	191	49	104	157	68	64	85	87	29	109	86	33	89	49	1386
Shannon-Weiner Index	3.26	2.99	2.62	4.05	1.46	2.92	3.22	3.26	2.49	3.16	2.26	3.02	3.19	2.76	2.09	2.82	3.36	

S = Ohio Special Interest Species

1 = Unnamed Tributary of Scioto River, 2 = Unnamed Tributary of Scioto River, 3 = Unnamed Tributary of Scioto River, 4 = Little Scioto River, 5 = Dan White Hollow Run, 6 = Long Run, 7 = Little Scioto River, 8 = Long Run, 9 = Harrison Furnace Creek, 10 = Candy Run, 11 = Candy Run, 12 = Stout Hollow Run, 13 = Shoumberg Hollow Run, 14 = Mansfield Hollow Run, 15 = Wards Run, 16 = Miller Run, 17 = Unnamed Tributary of Scioto River.

Salamander
Muscul
SC

Table 3. Number of fish collected during the Portsmouth Bypass project, 18-22 June 2002.

Scientific Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
1. <i>Alosa chrysochloris</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2. <i>Dorosoma cepedianum</i>	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7
3. <i>Carpionides cyprinus</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4. <i>Moxostoma anisurum</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5. <i>Moxostoma duquesnei</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6. <i>Moxostoma erythrurum</i>	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	7	0	17
7. <i>Moxostoma macrolepidotum</i>	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8. <i>Hypentelium nigricans</i>	0	0	0	5	0	0	0	4	0	0	0	0	0	0	0	3	0	12
9. <i>Catostomus commersoni</i>	0	0	1	1	0	0	0	22	0	0	6	1	0	0	1	11	0	43
10. <i>Minytrema melonops</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11. <i>Centropharyngodon idella</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12. <i>Nocomis biguttatus</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13. <i>Rhinichthys atratulus</i>	22	8	27	0	23	39	0	13	371	11	12	32	23	2	4	8	47	642
14. <i>Semotilus atromaculatus</i>	224	19	88	5	38	26	0	97	47	20	57	58	18	6	14	24	40	781
15. <i>Phenacobius mirabilis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
16. <i>Phoxinus erythrogaster</i>	35	95	311	0	1	58	0	52	29	215	200	26	102	41	0	6	32	1203
17. <i>Clinostomus funduloides</i> ^T	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6
18. <i>Luxilus ardens</i>	0	0	0	0	0	25	0	12	2	0	0	0	0	0	14	1	0	54
19. <i>Luxilus chrysocephalus</i>	0	0	0	25	0	63	0	112	2	0	1	4	0	0	154	34	0	395
20. <i>Cyprinella spilopterus</i>	0	0	0	45	0	49	20	0	0	0	0	0	0	0	3	3	0	120
21. <i>Notropis atherinoides</i>	0	0	0	16	0	0	43	0	0	0	0	0	0	0	5	0	0	64

Table 3. Fish collected during the Portsmouth Bypass project, 18-22 June 2002. - Continued -

Scientific Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
43. <i>Percina maculata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
44. <i>Percina caprodes</i>	0	0	0	11	0	0	3	0	0	0	0	0	0	0	0	0	0	14
45. <i>Ammocrypta pellucida</i> ^S	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
46. <i>Etheostoma nigrum</i>	3	0	0	7	0	21	2	8	2	0	10	0	0	0	0	26	9	88
47. <i>Etheostoma blennioides</i>	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	3
48. <i>Etheostoma zonale</i>	0	0	0	17	0	0	2	0	0	0	0	0	0	0	0	0	0	19
49. <i>Etheostoma caeruleum</i>	0	0	0	9	1	13	0	12	1	2	2	0	0	0	0	2	0	42
50. <i>Etheostoma spectabile</i>	0	0	3	0	0	0	0	0	0	7	3	0	0	0	0	1	0	14
51. <i>Etheostoma flabellare</i>	7	0	0	22	0	5	1	2	0	1	0	0	0	0	3	1	0	42
52. <i>Aplodinotus grunniens</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
<i>erythrogaster</i> x <i>atromaculatus</i> hybrid	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
<i>cyanellus</i> x <i>macrochirus</i> hybrid	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total # of Species	11	3	7	29	4	14	23	18	13	8	12	13	4	3	18	25	6	52
Total # of Individual	326	122	451	590	63	1081	203	973	906	290	424	181	144	49	394	289	154	6676

T = Ohio Threatened Species; S = Ohio Special Interest Species

1 = Unnamed Tributary of Scioto River, 2 = Unnamed Tributary of Scioto River, 3 = Unnamed Tributary of Scioto River, 4 = Little Scioto River, 5 = Dan White Hollow Run, 6 = Long Run, 7 = Little Scioto River, 8 = Long Run, 9 = Harrison Furnace Creek, 10 = Candy Run, 11 = Candy Run, 12 = Stout Hollow Run, 13 = Shoumberg Hollow Run, 14 = Mansfield Hollow Run, 15 = Wards Run, 16 = Miller Run, 17 = Unnamed Tributary of Scioto River.

Table 4. Percent composition of the fish community for the Portsmouth Bypass project, 18-22 June 2002.

Scientific Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
1. <i>Alosa chrysochloris</i>							0.5											0.0
2. <i>Dorosoma cepedianum</i>							3.4											0.1
3. <i>Carpionoxostoma cyprinus</i>							0.5											0.0
4. <i>Moxostoma anisurum</i>				0.2														0.0
5. <i>Moxostoma duquesnei</i>							0.5											0.0
6. <i>Moxostoma erythrurum</i>				0.9			2.5								2.4			0.3
7. <i>Moxostoma macrolepidotum</i>				0.7														0.1
8. <i>Hypentelium nigricans</i>				0.9				0.4							1.0			0.2
9. <i>Catostomus commersoni</i>			0.2	0.2				2.3		1.4	0.6			0.3	3.8			0.6
10. <i>Minytrema melonops</i>							0.5											0.0
11. <i>Centropharyngodon idella</i>	0.3																	0.0
12. <i>Nocomis biguttatus</i>				0.2														0.0
13. <i>Rhinichthys atratulus</i>	6.7	6.6	6.0		36.5	3.6		1.3	40.9	3.8	2.8	17.7	16.0	4.1	1.0	2.8	30.5	9.6
14. <i>Semotilus atromaculatus</i>	68.7	15.6	19.5	0.9	60.3	2.4		10.0	5.2	6.9	13.4	32.0	12.5	12.2	3.6	8.3	30.0	11.7
15. <i>Phenacobius mirabilis</i>																1.0		0.1
16. <i>Phoxinus erythrogaster</i>	10.7	77.9	69.0		1.6	5.4		5.3	3.2	74.1	47.2	14.4	70.8	83.7		2.1	20.8	18.0
17. <i>Clinostomus funduloides</i>								0.6										0.1
18. <i>Luxilus ardens</i>						2.3		1.2	0.2						3.6	0.3		0.8
19. <i>Luxilus chrysocephalus</i>				4.2		5.8		11.5	0.2		0.2	2.2		39.1	11.8			5.9
20. <i>Cyprinella spilopterus</i>				7.6		4.5	9.8							0.8	1.0			1.8
21. <i>Notropis atherinoides</i>				2.7			21.2								1.3			1.0

Table 4. Percent composition of the fish community for the Portsmouth Bypass project, 18-22 June 2002. - Continued -

Scientific Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	T
43. <i>Percina maculata</i>				0.2														0.0
44. <i>Percina caprodes</i>				1.9			1.5											0.2
45. <i>Ammocrypta pellucida</i>				1.2														0.1
46. <i>Etheostoma nigrum</i>	0.9			1.2		1.9	1.0	0.8	0.2		2.4					9.0	5.8	1.3
47. <i>Etheostoma blennioides</i>				0.2		0.1		0.1										0.1
48. <i>Etheostoma zonale</i>				2.9			1.0											0.3
49. <i>Etheostoma caeruleum</i>				1.5	1.6	1.2		1.2	0.1	0.7	0.5					0.7		0.6
50. <i>Etheostoma spectabile</i>			0.7							2.4	0.7					0.3		0.2
51. <i>Etheostoma flabellare</i>	2.1			3.7		0.5	0.5	0.2		0.3				1.0	0.3			0.6
52. <i>Aplodinotus grunniens</i>							0.5											0.0
<i>erythrogaster</i> x <i>atromaculatus</i> hybrid			0.2							0.3								0.0
<i>cyanelius</i> x <i>macrochirus</i> hybrid				0.2														0.0
IBI				48			44									36		
Shannon-Weiner Index	1.43	0.96	1.40	3.39	0.13	2.49	3.26	2.62	2.13	1.40	2.42	2.92	1.53	0.76	2.66	3.85	2.29	

1 = Unnamed Tributary of Scioto River, 2 = Unnamed Tributary of Scioto River, 3 = Unnamed Tributary of Scioto River, 4 = Little Scioto River, 5 = Dan White Hollow Run, 6 = Long Run, 7 = Little Scioto River, 8 = Long Run, 9 = Harrison Furnace Creek, 10 = Candy Run, 11 = Candy Run, 12 = Stout Hollow Run, 13 = Shoumberg Hollow Run, 14 = Mansfield Hollow Run, 15 = Wards Run, 16 = Miller Run, 17 = Unnamed Tributary of Scioto River.

Figure 1. Map of Ohio showing the location of the current study area.

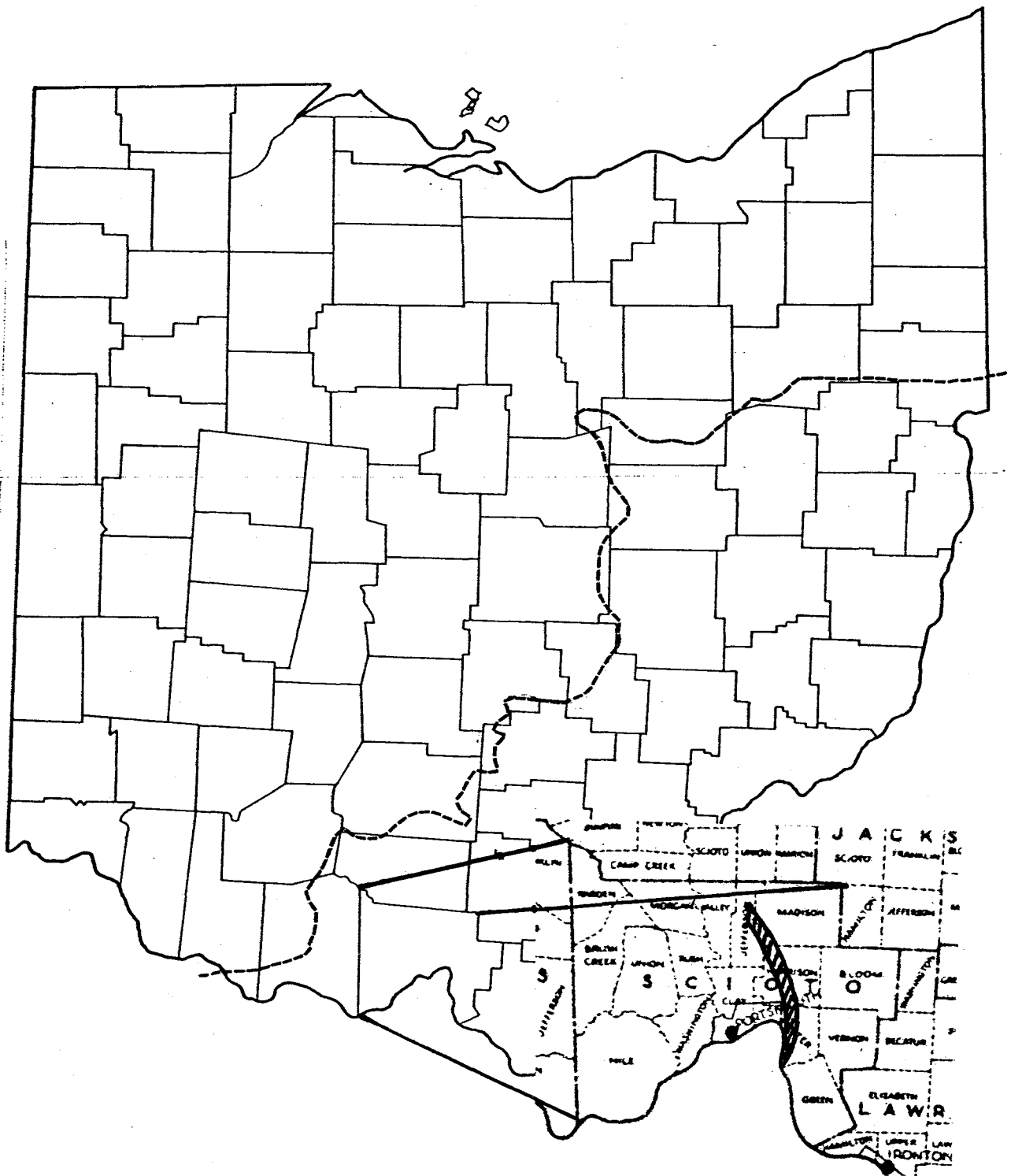


Figure 1. Map of Ohio showing the location of the current study area.

Figure 2. Topographic map showing the locations of Sites # 1, 2, 3 & 16.

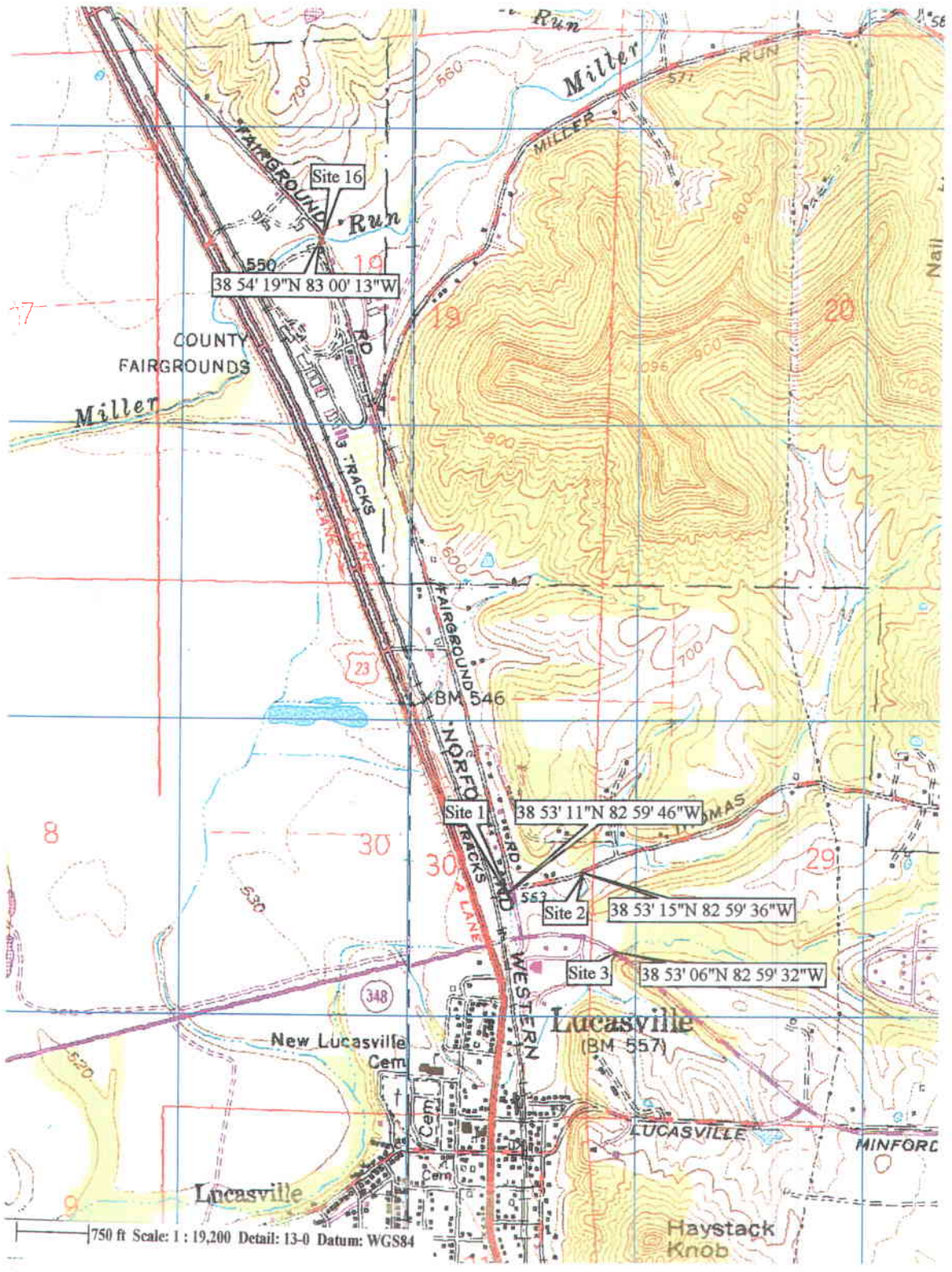


Figure 2. Topographic map showing the locations of Sites # 1, 2, 3 & 16.

Figure 3. Topographic map showing the locations of Sites # 4 & 5. Three dry tributaries of the Little Scioto River are shown on this map.

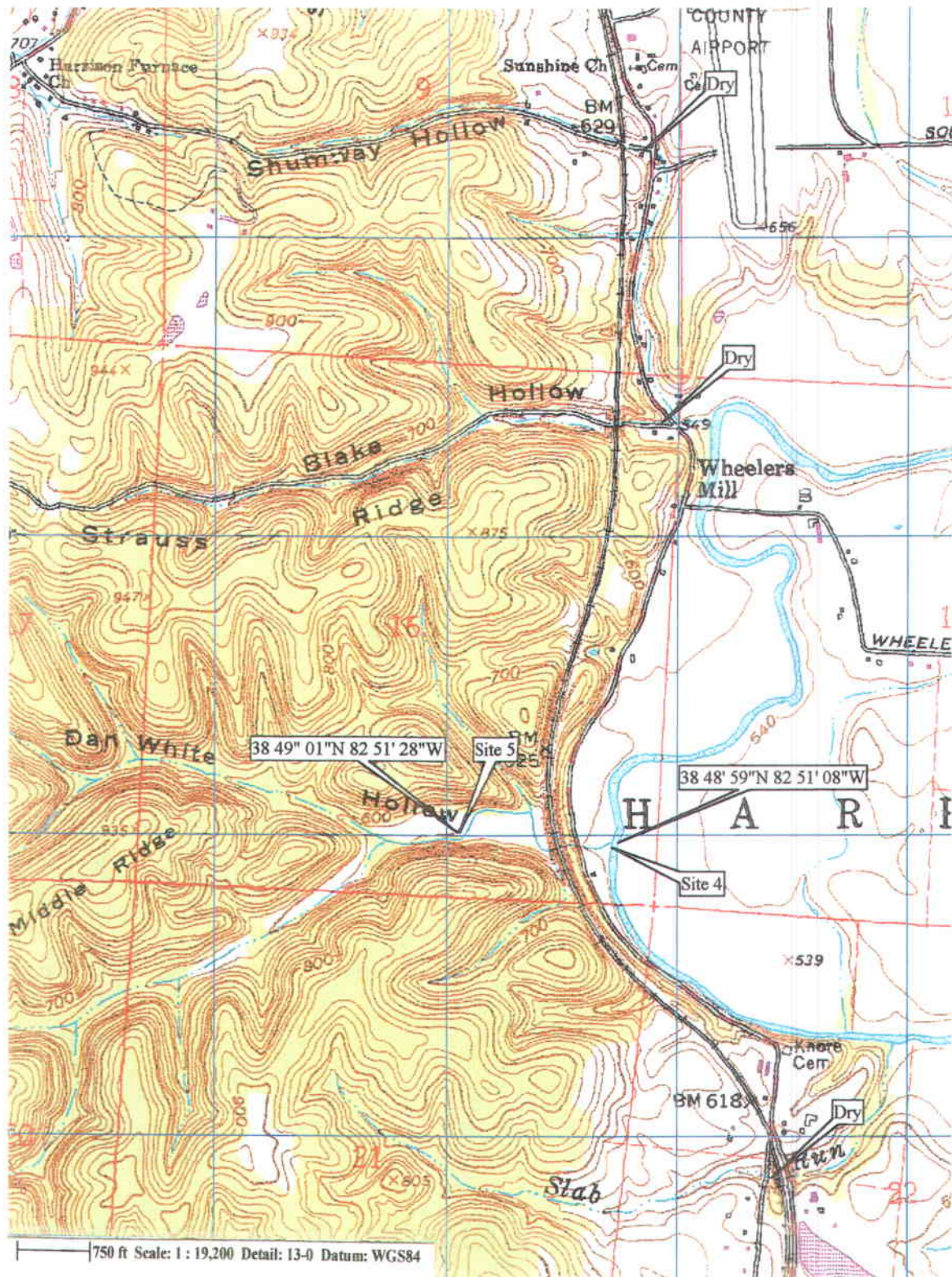


Figure 3. Topographic map showing the locations of Sites # 4 & 5. Three dry tributaries of the Little Scioto River are shown on this map.

Figure 4. Topographic map showing the locations of Sites # 6, 8 & 9.

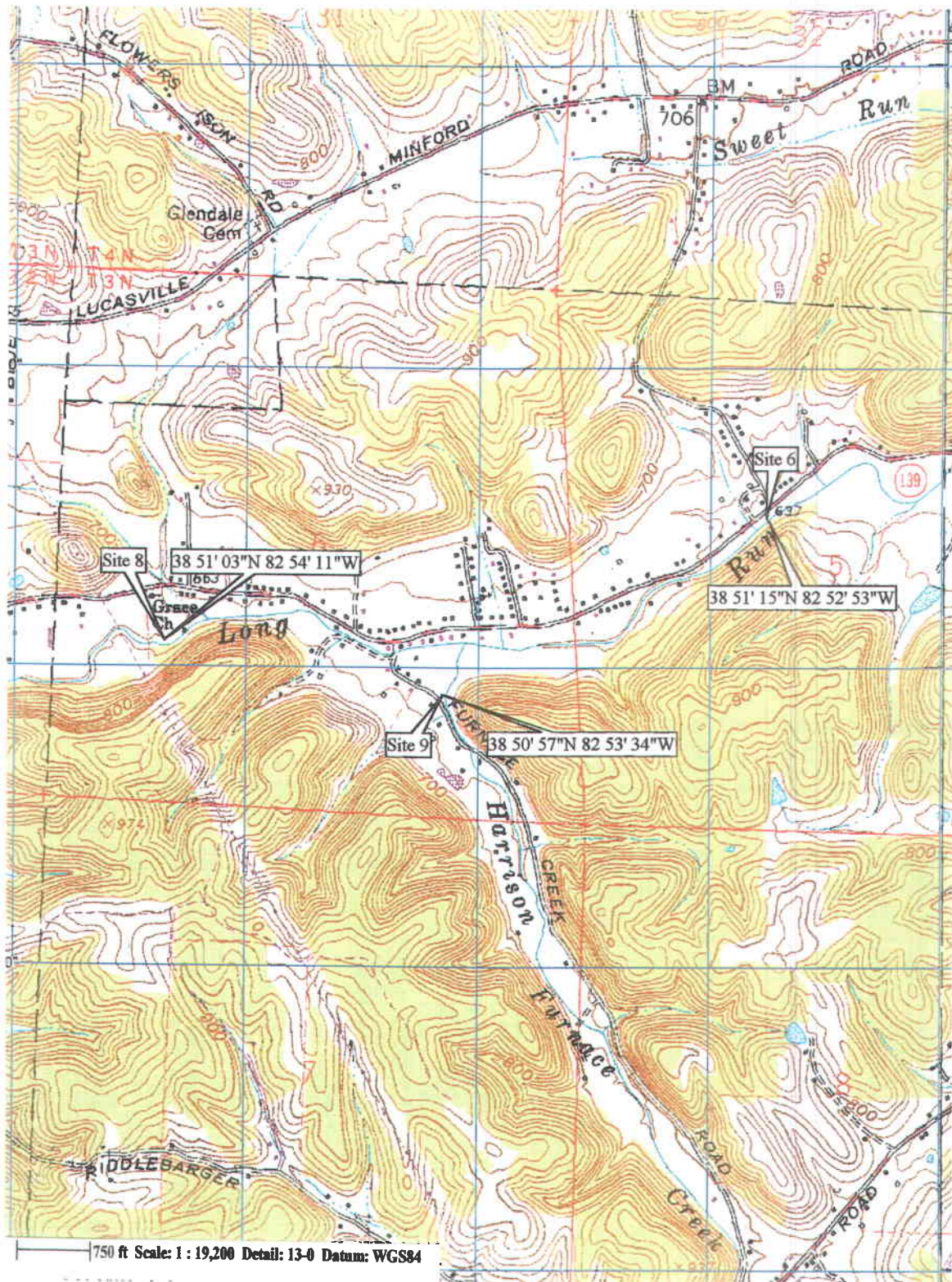


Figure 4. Topographic map showing the locations of Sites # 6, 8 & 9.

Figure 5. Topographic map showing the locations of Sites # 7, & 12 - 15.



Figure 5. Topographic map showing the locations of Sites # 7, & 12 - 15.

Figure 6. Topographic map showing the locations of Sites # 10 & 11.

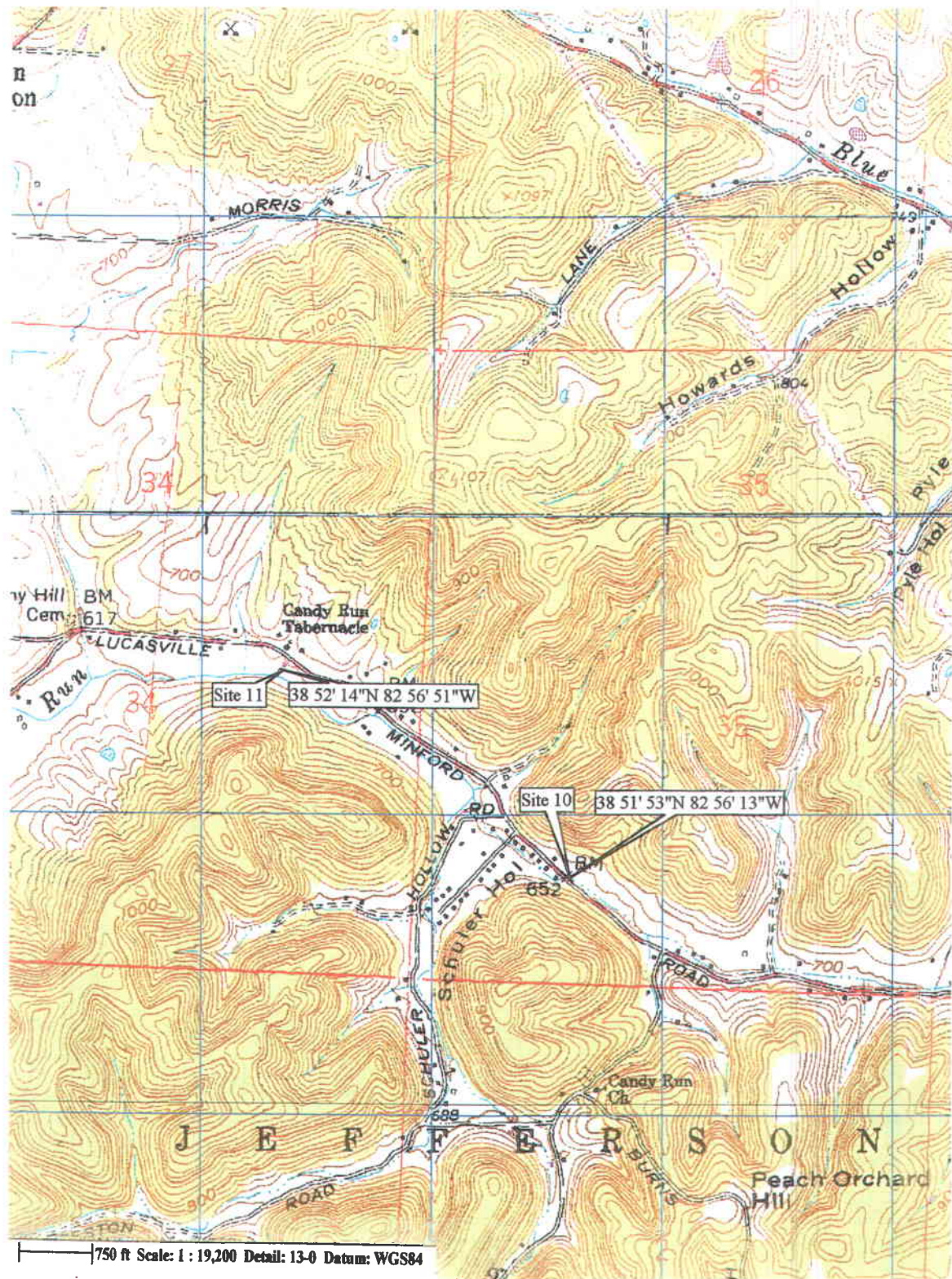


Figure 6. Topographic map showing the locations of Sites # 10 & 11.

Figure 7. Topographic map showing the location of Site # 17.

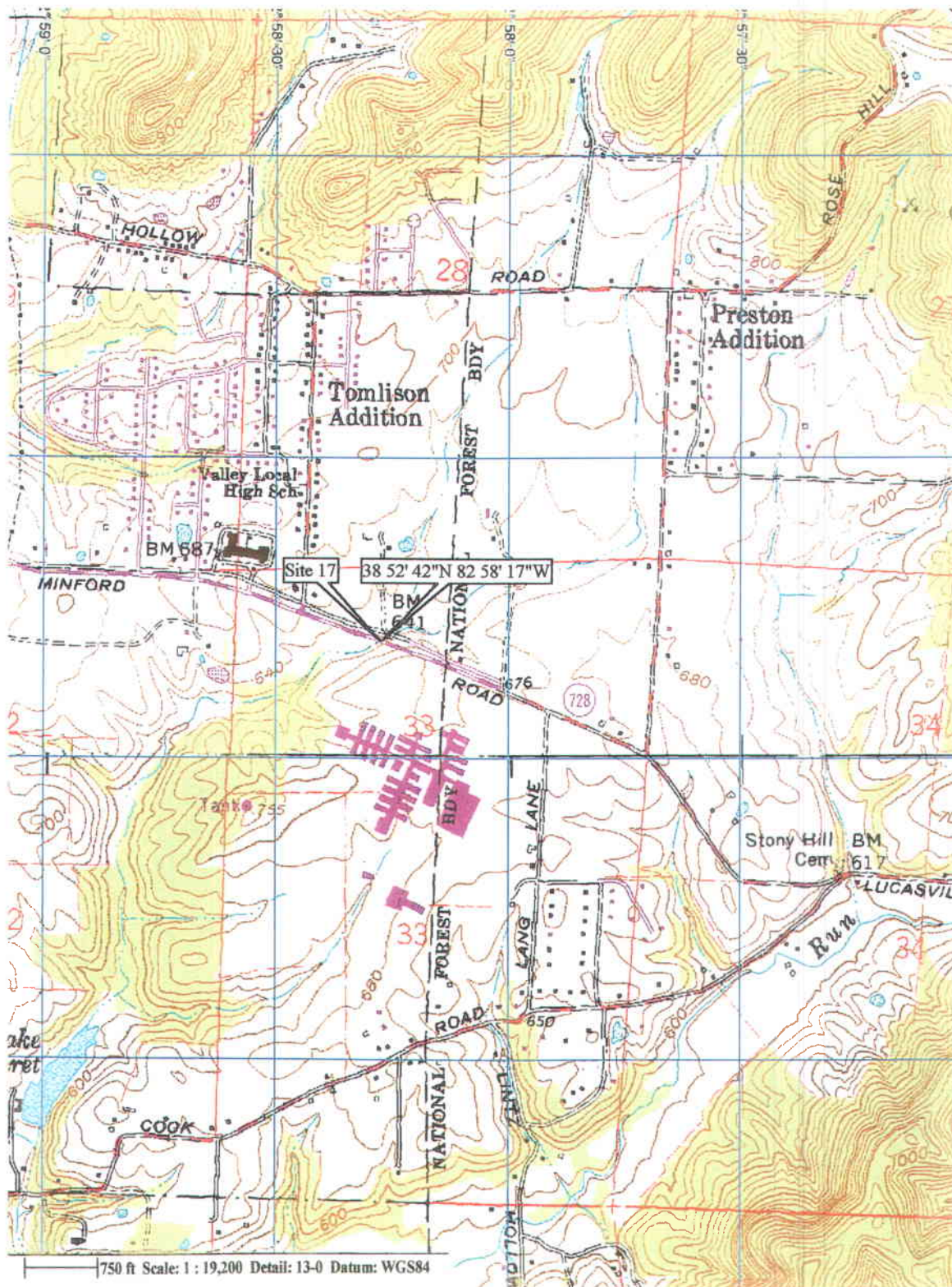


Figure 7. Topographic map showing the location of Site # 17.



Photograph 1. Site 1; Unnamed Tributary of the Scioto River.



Photograph 2. Site 1; Unnamed Tributary of the Scioto River.



Photograph 3. Site 2; Unnamed Tributary of the Scioto River.



Photograph 4. Site 3; Unnamed Tributary of the Scioto River.



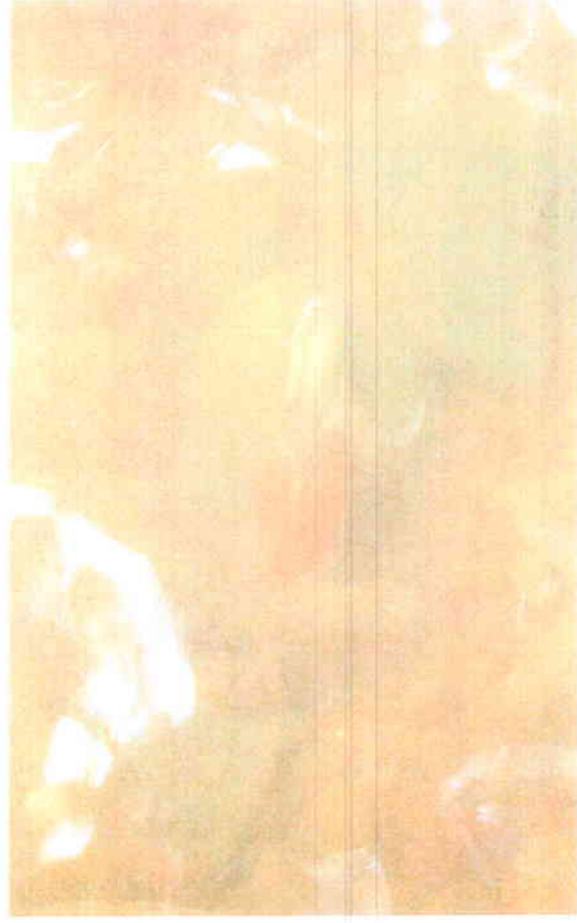
Photograph 5. Site 3; Unnamed Tributary of the Scioto River.



Photograph 6. Site 4; the Little Scioto River.



Photograph 7. Site 4; the Little Scioto River.



Photograph 8. Site 4; gravid *Lampisilis cardium* at this site .



Photograph 9. Site 5; Unnamed Tributary, Little Scioto River.



Photograph 10. Site 5; Unnamed Tributary, Little Scioto River.



Photograph 11. Site 5; Unnamed Tributary, Little Scioto River.



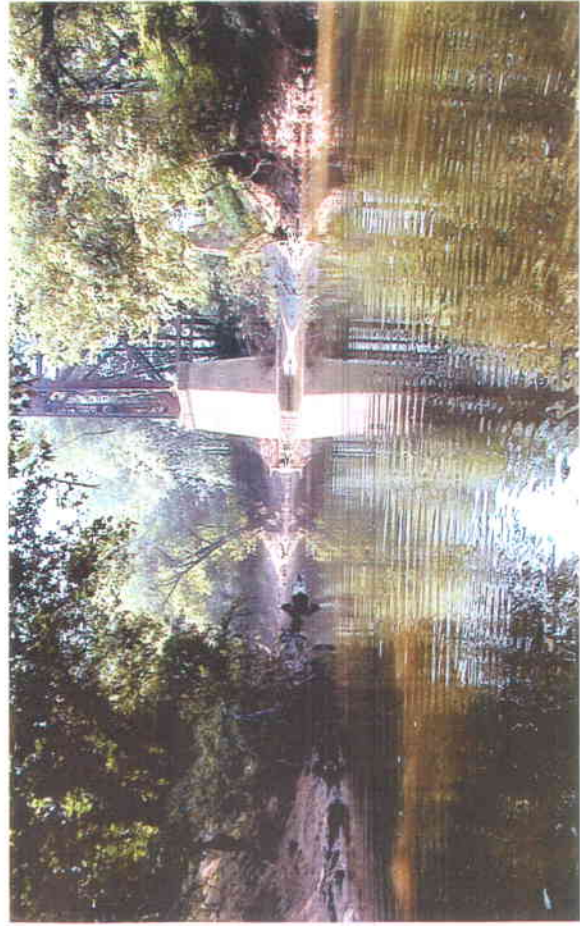
Photograph 12. Site 6; Long Run.



Photograph 13. Site 6; Long Run.



Photograph 14. Site 7; the Little Scioto River.



Photograph 15. Site 7; the Little Scioto River.



Photograph 16. Site 8; Long Run.



Photograph 17. Site 8; Long Run.



Photograph 18. Site 9; Harrison Furnace Creek.



Photograph 19. Site 9; Harrison Furnace Creek.



Photograph 20. Site 10; Candy Run.



Photograph 21. Site 10; Candy Run.



Photograph 22. Site 11; Candy Run.



Photograph 23. Site 11; Candy Run.



Photograph 24. Site 12; Stouts Hollow Run.



Photograph 25. Site 12; Stouts Hollow Run.



Photograph 26. Site 13; Shoumberg Hollow Run.



Photograph 27. Site 13; Shoumberg Hollow Run.



Photograph 28. Site 14; Mansfield Hollow Run.



Photograph 29. Site 14; Mansfield Hollow Run.



Photograph 30. Site 15; Wards Run in Slocum.



Photograph 31. Site 15; Wards Run in Slocum.



Photograph 32. Site 15; Wards Run in Slocum.



Photograph 33. Site 16; Miller Run at Fairgrounds Road.



Photograph 34. Site 16; Miller Run at Fairgrounds Road.



Photograph 35. Site 17; Unnamed Tributary of Scioto River.



Photograph 36. Site 17; Unnamed Tributary of Scioto River.

Appendix 1 – Field Data Sheets

Site 1	Unnamed tributary of Scioto River
Site 2	Unnamed tributary of Scioto River
Site 3	Unnamed tributary of Scioto River
Site 4	Little Scioto River
Site 5	Dan White Hollow Run
Site 6	Long Run
Site 7	Little Scioto River
Site 8	Long Run
Site 9	Harrison Furnace Creek
Site 10	Candy Run
Site 11	Candy Run
Site 12	Stout Hollow Run
Site 13	Shoumberg Hollow Run
Site 14	Mansfield Hollow Run
Site 15	Wards Run
Site 16	Miller Run
Site 17	Unnamed tributary of Scioto River

ECOLOGICAL DATA FOR unnamed tributary of the Scioto River

Project	<u>Portsmouth Bypass</u>
Locality	<u>SAT 3, WS 2, Site 1; At Fairground Rd. + Thomas Hollow Rd.</u>
Date	<u>18 June 2002</u>
Biologists	<u>M.A. Hoggarth, O.L. Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>Lucasville, 7 1/2' Q.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Scioto River → Ohio River
Stream Code —
River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)
Longitude/Latitude 38° 53' 11" N 82° 54' 46" W
Drainage Area —
Mean Annual Discharge —
Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, by hand
Length of Sample 100 meters
Shannon-Weiner Index 3.26

Fish Data Sheet (page 6)

Sampling Method seining
Length of Sample 100 meters
IBI Index not computed
Shannon-Weiner Index 1.43

Terrestrial Data (pages 7-16)

Physiographic Section NA
Dominant Plant Communities NA
Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

38° 53.21N 82 59.76W W6584 P00P 11.4

Measured Chemical Parameters:

	Sample 1	Sample 2
Alkalinity	80 mg/L	___ mg/L
Chloride	0.11 mg/L	___ mg/L
Dissolved Oxygen	5.8 mg/L	___ mg/L
Dissolved Solids, Total	250 mg/L	___ mg/L
Hardness, total	208 mg/L	___ mg/L
Iron, total	0.03 mg/L	___ mg/L
Nitrogen, Ammonia	0.50 mg/L	___ mg/L
Nitrogen, Nitrate	1.5 mg/L	___ mg/L
Nitrogen, Nitrite	0.02 mg/L	___ mg/L
Orthophosphate	0.17 mg/L	___ mg/L
pH	7.31	___
Sulfate	99 mg/L	___ mg/L

Water Quality Related Parameters:

Date & Time of Collection _____

Weather Conditions _____

Air Temperature 37 °C

Water Temperature 25.0 °C

Turbidity 2.6 NTU

Conductivity 0.498 μS/cm (μmhos/cm)

Flow _____ m/s

Water Level (field observation) _____

Substrate Mineralogy/ Geologic Unit _____

Comments: _____

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:			Code
	Taken	Total		
Porifera (sponge)	—	—		00100
Platyhelminthes				
Turbellaria				01801
Tricladia				
Planariidae (flatworm)	15	0	15	16.7
Nematoda				
Mermithidae				
Nematomorpha				02600
Gordiidae (hair worm)				02801
Ectoprocta = Bryozoa (moss animal)				
Phylactolacmata				03000
Entoprocta				
<i>Urnatella gracilis</i>				
Annelida				03500
Oligochaeta (earthworm)				03600
Branchiobdellida (crayfish worm)				
Hirudinea (leech)				04510
Arthropoda				
Crustacea				
Isopoda				05501
Asellidae (aquatic sow bug)				05701
<i>Asellus</i> sp.	6	2	8	8.9
<i>Lirceus</i> sp.				05900
Amphipoda				06001
Gammaridae (scud)				06501
<i>Gammarus</i> sp.				06800
Decapoda				07501
Cambaridae (crayfish)				07701
<i>Orconectes rusticus</i>	12	4	16	17.8
Decapodidae (freshwater shrimp)				
<i>Syncaris</i> sp.				
Insecta				09000
Collembola				
Entomobryidae (springtail)				
Ephemeroptera (mayfly)				10000
Oligoneuriidae				
Isonychia sp.				
Siphonuridae				10501
Baetidae				11001
<i>Baetis</i> sp.				11100
<i>Callibaetis</i> sp.				11200
<i>Pseudocentrophtiloides</i>		5	5	5.6
Heptageniidae				12501
<i>Stenonema</i> sp.				13500
Leptophlebiidae				14501
<i>Leptophlebia</i> sp.				14900
<i>Paraleptophlebia</i> sp.				15000
Ephemerellidae				15501
<i>Eurylophella</i> sp.				16200
Tricorythidae				16501
<i>Tricorythodes</i> sp.				16700
Caenidae				17001
<i>Caenis</i> sp.				17202
Baetiscidae				17501
<i>Baetisca</i> sp.				17600
Ephemeridae				18501
<i>Ephemera</i> sp.				18600
<i>Hexagenia</i> sp.				18700
Polymitarcyidae				19001
<i>Ephoron</i> sp.				19100

Taxa (common name)	Number of Specimens:			Code
	Taken	Total		
Arthropoda				
Insecta				
Odonata - Zygoptera (damselfly)				20501
Calopterygidae				21001
<i>Calopteryx</i> sp.				21200
<i>Hetaerina</i> sp.				21300
Lestidae				21501
<i>Archilestes grandis</i>				21604
<i>Lestes</i> sp.				21700
Coenagrionidae				22001
<i>Argia</i> sp.				22300
<i>Enallagma</i> sp.				22600
<i>Ischnura</i> sp.				22700
Odonata - Anisoptera (dragonfly)				23001
Aeshnidae				23501
<i>Aeshna</i> sp.	2	2		23600 2.2
<i>Boyeria</i> sp.				23900
Gomphidae				24501
<i>Dromogomphus</i> sp.				24700
Cordulegastriidae				26001
<i>Cordulegaster</i> sp.	1	1		26100 1.1
Macromiidae				26501
<i>Macromia</i> sp.				26700
<i>Didymops</i> sp.				
Corduliidae				27001
<i>Neurocordulia</i> sp.				27400
Libellulidae				28001
<i>Libellula</i> sp.				28500
Plecoptera (stonefly)				30000
Pteronarcyidae				30501
<i>Pteronarcys</i> sp.				30800
Capniidae				33501
<i>Allocapnia</i> sp.				33600
Perlidae				34001
<i>Acroneuria</i> sp.				34100
<i>Perlmetella</i> sp.	1	1		1.1
Perlodidae				35001
<i>Isoperla</i> sp.				35500
Chloroperlidae				36001
<i>Alloperla</i> sp.				36100
Hemiptera				40000
Hydrometridae (water measurer)				40501
<i>Hydrometra</i> sp.				40510
Veliidae (small water strider)				41001
<i>Microvelia</i> sp.				41200
<i>Rhagovelia</i> sp.				41400
Gerridae (water strider)				41501
<i>Gerris</i> sp. <i>Aquamatus</i> sp. 10	5	15		41600 16.7
<i>Metrobates</i> sp.				41800
<i>Rheumatobates</i> sp.				42100
<i>Trepobates</i> sp.				42400
Belostomatidae				42501
<i>Belostoma</i> sp.				42700
<i>Lethocerus</i> sp.				42800
Nepidae (water scorpion)				43001
<i>Nepa apiculata</i>				43205
<i>Ranatra</i> sp.				43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae	7	2	44501 10.0
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalis cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	3	2	52400 5.6
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Halplidae			60501
<i>Halplus</i> sp.			60800
<i>Peltodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	1	1	68075 1.1
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.	4	4	69400 4.4
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)			76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i>			
(pointed campeloma)			92516
<i>Cipangopaludina chinensis</i>			
(Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Amnicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i>			
(brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)			95001
<i>Physella</i> sp.	7	8	95050
			95100 8.9
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)			95501
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			95904
<i>Planorbella trivolvis</i> (marsh rams-horn)			96002
<i>Planorbella armigera</i> (thicklip rams-horn)			96280
<i>Promenetus exacuus</i> (sharp sprite)			96290
			96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancyliid)			96801
<i>Laevapex fuscus</i> (dusky ancyliid)			96908
			96930
Bivalvia			
Veneroida			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)			97001
<i>Corbicula fluminea</i> (Asian clam)			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)			98001
<i>Sphaerium striatinum</i> (striated fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoida			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)			99001
<i>Pyganodon grandis</i> (giant floater)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontoides ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)			99276
<i>Quadrula pustulosa</i> (pimpleback)			99326
<i>Quadrula pustulosa</i> (pimpleback)			99343
<i>Amblema plicata</i> (threeridge)			99351
<i>Fusconaia flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranchus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)			99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99893
<i>Epioblasma triquetra</i> (snuffbox)			99951

Total # of taxa 13 Total # of individuals 90

Comments: _____

FISH DATA SHEET

Taxa (common name)	Rel.		Codes
	Taken	Total	Abun.
<i>Dorosoma cepedianum</i> , gizzard shad	4/15	1	1.0
<i>Umbra limi</i> , central mudminnow			
<i>Esox americanus</i> , grass pickerel			
<i>Carpiodes cyprinus</i> , quillback carpsucker			
<i>Moxostoma anisurum</i> , silver redhorse			
<i>M. duquesnei</i> , black redhorse			
<i>M. erythrum</i> , golden redhorse			
<i>M. macrolepidotum</i> , shorthead redhorse			
<i>Hypentelium nigricans</i> , n. hog sucker			
<i>Catostomus commersoni</i> , white sucker			
<i>Gambusia affinis</i> , mosquito fish	6	6	1.8
<i>Cyprinus carpio</i> , common carp (Anax)	1	1	0.3
<i>Notemigonus crysoleucas</i> , golden shiner			
<i>Nocomis biguttatus</i> , hornyhead chub			
<i>Erimystax dissimilis</i> , streamline shub			
<i>Rhinichthys atratulus</i> , blacknose dace	22	22	6.7
<i>Semotilus atromaculatus</i> , creek chub	26	198	229.68
<i>Phenacobius mirabilis</i> , suckermouth minnow			
<i>Phoxinus erythrogaster</i> , s. redbelly dace	35	35	10.7
<i>Notropis atherinoides</i> , emerald shiner			
<i>Notropis heterodon</i> , silver shiner			
<i>Notropis umbratilus</i> , redfin shiner			
<i>L. ardens</i> , rosefin shiner			
<i>Luxilus chrysocephalus</i> , striped shiner			
<i>L. cornutus</i> , common shiner			
<i>Cyprinella whipplei</i> , steelcolor shiner			
<i>C. spilopterus</i> , spotfin shiner			
<i>Notropis stramineus</i> , sand shiner			
<i>N. volucellus</i> , mimic shiner			
<i>N. buccata</i> , silverjaw minnow			
<i>Pimephales promelas</i> , fathead minnow			
<i>P. notatus</i> , bluntnose minnow	7	7	1.2
<i>Camptostoma anomalum</i> , central stoneroller	33	33	10.1
<i>Ictalurus punctatus</i> , channel catfish			
<i>Ameiurus natalis</i> , yellow bullhead			
<i>A. nebulosus</i> , brown bullhead			
<i>A. melas</i> , black bullhead			
<i>Pylodictis olivaris</i> , flathead catfish			
<i>Noturus flavus</i> , stonecat madtom			
<i>N. miurus</i> , brindled madtom			
<i>Fundulus notatus</i> , blackstripe topminnow			
<i>Percopsis omiscomaycus</i> , trout-perch			
<i>Labidesthes sicculus</i> , brook silverside			
<i>Morone chrysops</i> , white bass			
<i>Pomoxis annularis</i> , white crappie			
<i>P. nigromaculatus</i> , black crappie			
<i>Ambloplites rupestris</i> , n. rock bass			

Taxa (common name)	Rel.		Code
	Taken	Total	Abun.
<i>Micropterus dolomieu</i> , smallmouth bass			
<i>M. punctulatus</i> , spotted bass			
<i>M. salmoides</i> , largemouth bass			
<i>Lepomis gulosus</i> , warmouth sunfish			
<i>L. cyanellus</i> , green sunfish	25	25	7.7
<i>L. macrochirus</i> , bluegill sunfish	1	1	0.3
<i>L. humilis</i> , orangespotted sunfish			
<i>L. megalotis</i> , longear sunfish			
<i>L. gibbosus</i> , pumpkinseed sunfish			
<i>Stizostedion vitreum</i> , walleye			
<i>Percina maculata</i> , blackside darter			
<i>P. caprodes</i> , logperch			
<i>Etheostoma nigrum</i> , johnny darter	3	3	0.9
<i>E. blennioides</i> , greenside darter			
<i>E. zonale</i> , banded darter			
<i>E. caeruleum</i> , rainbow darter			
<i>E. spectabile</i> , orangethroat darter	7	7	2.1
<i>E. flabellare</i> , fantail darter			
hybrid, sauger X walleye			
<i>Aplodinotus grunniens</i> , freshwater drum			
<i>Cottus bairdi</i> , mottled sculpin			

Total # of anomalies 0

Total # of species 11 Total # of individuals 326

Comments: _____

ECOLOGICAL DATA FOR Unnamed Tributary of Scioto River

Project	<u>Partments Bypass</u>
Locality	<u>Site 3; at culvert at Thomas Hollow Road</u>
Date	<u>18 June 2002</u>
Biologists	<u>M. A. Hoggarth, D. L. Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>Lucasville, 7 1/2' Q.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 53' 15" N 82° 59' 36" W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sifter, by hand

Length of Sample length of culvert pool (5 meters)

Shannon-Weiner Index 2.99

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample length of culvert pool (5 meters)

IBI Index Not computed

Shannon-Weiner Index 0.96

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Measured Chemical Parameters: Sample 1 Sample 2

Alkalinity 80 mg/L mg/L
Chloride 0.10 mg/L mg/L
Dissolved Oxygen 5.8 mg/L mg/L
Dissolved Solids, Total 250 mg/L mg/L
Hardness, total 208 mg/L mg/L
Iron, total 0.03 mg/L mg/L
Nitrogen, Ammonia 0.35 mg/L mg/L
Nitrogen, Nitrate 1.51 mg/L mg/L
Nitrogen, Nitrite 0.01 mg/L mg/L
Orthophosphate 0.21 mg/L mg/L
pH 7.30
Sulfate 99 mg/L mg/L

Water Quality Related Parameters:

Date & Time of Collection

Weather Conditions

Air Temperature 37 c

Water Temperature 25.0 c

Turbidity 3.1 NTU

Conductivity 0.437 uS/cm (umhos/cm)

Flow m/s

Water Level (field observation)

Substrate Mineralogy/ Geologic Unit

Comments:

MACROBENTHOS DATA SHEET

No invertebrate collection taken; all specimens retained.

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)			00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)		13 15.7	
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata		3 3.6	03000
Entoprocta			
Urnatella gracilis			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
Asellus sp.		3 3.6	05800
Lirceus sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
Gammarus sp.		10 12.1	06800
Decapoda			07501
Cambaridae (crayfish)			07701
Orconectes notions <i>spinosus</i>		7 8.4	08250
Atyidae (freshwater shrimp)			
Syncares sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
Isonychia sp.			
Siphonuridae			10501
Baetidae			11001
Baetis sp.			11100
Callibaetis sp.			11200
Heptageniidae			12501
Stenonema sp.		3 3.6	13500
Leptophlebiidae			14501
Leptophlebia sp.			14900
Paraleptophlebia sp.			15000
Ephemerellidae			15501
Eurylophella sp.			16200
Tricorythidae			16501
Tricorythodes sp.			16700
Caenidae			17001
Caenis sp.			17202
Baetiscidae			17501
Baetisca sp.			17600
Ephemeridae			18501
Ephemera sp.			18600
Hexagenia sp.			18700
Polymitarcyidae			19001
Ephoron sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
Calopteryx sp.			21200
Hetaerina sp.			21300
Lestidae			21501
Archilestes grandis			21604
Lestes sp.			21700
Coenagrionidae			22001
Argia sp.			22300
Enallagma sp.			22600
Ischnura sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
Aeshna sp.			23600
Boyeria sp.			23900
Gomphidae			24501
Dromogomphus sp.			24700
Cordulegastridae			26001
Cordulegaster sp.			26100
Macromiidae			26501
Macromia sp.			26700
Didymops sp.			
Corduliidae			27001
Neurocordulia sp.			27400
Libellulidae			28001
Libellula sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
Pteronarcys sp.			30800
Capniidae			33501
Allocapnia sp.			33600
Perlidae			34001
Acroneuria sp.			34100
Perlodidae			35001
Isoperla sp.			35500
Chloroperlidae			36001
Alloperla sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
Hydrometra sp.			40510
Veliidae (small water strider)			41001
Microvelia sp.			41200
Rhagovelia sp.			41400
Gerridae (water strider)			41501
Gerris sp. <i>Aquarius</i>		12 14.5	41600
Metrobates sp.			41800
Rheumatobates sp.			42100
Trepobates sp.			42400
Belostomatidae			42501
Belostoma sp.			42700
Lethocerus sp.			42800
Nepidae (water scorpion)			43001
Nepa apiculata			43205
Ranatra sp.			43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae		784	44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalis cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.			52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliphus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Colcoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)		336	76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i>			
(pointed campeloma)			92516
<i>Cipangopaludina chinensis</i>			
(Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Amnicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i>			
(brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaciidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			95001
<i>Aplexa elongata</i> (lance aplexa)			95050
<i>Physella</i> sp.		22	95100
Planorbidae			95501
<i>Gyraulus deflectus</i> (flexed gyro)			95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			96002
<i>Planorbella trivolvis</i> (marsh rams-horn)			96280
<i>Planorbella armigera</i> (thicklip rams-horn)			96290
<i>Promenetus exacuus</i> (sharp sprite)			96402
Ancylidae			96801
<i>Ferrissia rivularis</i> (creeping ancylid)			96908
<i>Laevapex fuscus</i> (dusky ancylid)			96930
Bivalvia			97001
Veneroidea			
Corbiculidae			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			98001
<i>Sphaerium simile</i> (grooved fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoidea			
Unionidae (freshwater mussel)			99001
<i>Utterbackia imbecillis</i> (paper pondshell)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontooides ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)			99326
<i>Quadrula pustulosa</i> (pimpleback)			99343
<i>Amblyma plicata</i> (three-ridge)			99351
<i>Fusconaia flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranthus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)			99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99893
<i>Epioblasma triquetra</i> (snuffbox)			99951

Total # of taxa 10 Total # of individuals 83

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	_____	20-003
<i>Umbra limi</i> , central mudminnow	_____	34-001
<i>Esox americanus</i> , grass pickerel	_____	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	_____	40-005
<i>Moxostoma anisurum</i> , silver redhorse	_____	40-008
<i>M. duquesnei</i> , black redhorse	_____	40-009
<i>M. erythrurum</i> , golden redhorse	_____	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	_____	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	_____	40-015
<i>Catostomus commersoni</i> , white sucker	_____	40-016
<i>Cyprinus carpio</i> , common carp	_____	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	_____	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	_____	43-004
<i>Erimystax dissimilis</i> , streamline shub	_____	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	8 6.6	43-011
<i>Semotilus atromaculatus</i> , creek chub	19 15.6	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	_____	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	95 77.4	43-016
<i>Notropis atherinoides</i> , emerald shiner	_____	43-020
<i>photogenis</i> , silver shiner	_____	43-021
<i>thrurus umbrailis</i> , redbfin shiner	_____	43-023
<i>L. ardens</i> , rosefin shiner	_____	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	_____	43-025
<i>L. cornutus</i> , common shiner	_____	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	_____	43-031
<i>C. spilopterus</i> , spotfin shiner	_____	43-032
<i>Notropis stramineus</i> , sand shiner	_____	43-034
<i>N. volucellus</i> , mimic shiner	_____	43-035
<i>N. buccata</i> , silverjaw minnow	_____	43-039
<i>Pimephales promelas</i> , fathead minnow	_____	43-042
<i>P. notatus</i> , bluntnose minnow	_____	43-043
<i>Campostoma anomalum</i> , central stoneroller	_____	43-044
<i>Ictalurus punctatus</i> , channel catfish	_____	47-002
<i>Ameiurus natalis</i> , yellow bullhead	_____	47-004
<i>A. nebulosus</i> , brown bullhead	_____	47-005
<i>A. melas</i> , black bullhead	_____	47-006
<i>Pylodictis olivaris</i> , flathead catfish	_____	47-007
<i>Noturus flavus</i> , stonecat madtom	_____	47-008
<i>N. miurus</i> , brindled madtom	_____	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	_____	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	_____	63-001
<i>Labidesthes sicculus</i> , brook silverside	_____	70-001
<i>Morone chrysops</i> , white bass	_____	74-001
<i>Pomoxis annularis</i> , white crappie	_____	77-001
<i>P. nigromaculatus</i> , black crappie	_____	77-002
<i>Ambloplites rupestris</i> , n. rock bass	_____	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	_____	77-004
<i>M. punctulatus</i> , spotted bass	_____	77-005
<i>M. salmoides</i> , largemouth bass	_____	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	_____	77-007
<i>L. cyanellus</i> , green sunfish	_____	77-008
<i>L. macrochirus</i> , bluegill sunfish	_____	77-009
<i>L. humilis</i> , orangespotted sunfish	_____	77-010
<i>L. megalotis</i> , longear sunfish	_____	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	_____	77-013
<i>Stizostedion vitreum</i> , walleye	_____	80-002
<i>Percina maculata</i> , blackside darter	_____	80-005
<i>P. caprodes</i> , logperch	_____	80-011
<i>Etheostoma nigrum</i> , johnny darter	_____	80-014
<i>E. blennioides</i> , greenside darter	_____	80-015
<i>E. zonale</i> , banded darter	_____	80-016
<i>E. caeruleum</i> , rainbow darter	_____	80-022
<i>E. spectabile</i> , orangethroat darter	_____	80-023
<i>E. flabellare</i> , fantail darter	_____	80-024
hybrid, sauger X walleye	_____	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	_____	85-001
<i>Cottus bairdi</i> , mottled sculpin	_____	90-002

Total # of anomalies 0

Total # of species 3 Total # of individuals 122

Comments: _____

ECOLOGICAL DATA FOR Unnamed Tributary of Scioto River

Project	<u>Portsmouth Bypass</u>
Locality	<u>Unnamed tributary Scioto near culvert at Lucasville - Minford Rd.; site 3</u>
Date	<u>18 June 2002</u>
Biologists	<u>M.A. Hogganck, D.L. Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>Lucasville, 7' 30"</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Scioto River → Ohio River
Stream Code —
River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 53' 06" N 82° 59' 32" W
Drainage Area —
Mean Annual Discharge —
Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, by hand
Length of Sample 100 meters
Shannon-Weiner Index 2.62

Fish Data Sheet (page 6)

Sampling Method seining
Length of Sample 100 meters
IBI Index Not computed
Shannon-Weiner Index 1.40

Terrestrial Data (pages 7-16)

Physiographic Section NA
Dominant Plant Communities NA
Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

38° 15.16' N 82° 59.60' W W-884 P00A 3.0

Measured Chemical Parameters: Sample 1 Sample 2

Water Quality Related Parameters:

Alkalinity 86 mg/L
Chloride 0.17 mg/L
Dissolved Oxygen 5.1 mg/L 5.5 mg/L
Dissolved Solids, Total 172 mg/L
Hardness, total 157 mg/L
Iron, total 0.02 mg/L
Nitrogen, Ammonia 0.50 mg/L
Nitrogen, Nitrate 1.40 mg/L
Nitrogen, Nitrite 0.04 mg/L
Orthophosphate 2.59 mg/L
pH 7.17
Sulfate 71 mg/L

Date & Time of Collection

Weather Conditions

Air Temperature 34 C

Water Temperature 26.8 C

Turbidity 6.7 NTU

Conductivity 0.337 uS/cm (umhos/cm)

Flow m/s

Water Level (field observation)

Substrate Mineralogy/ Geologic Unit

Comments:

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:			Code
	Taken	Total		
Porifera (sponge)	—	—	—	00100
Platyhelminthes				
Turbellaria				01801
Tricladia				
Planariidae (flatworm)	7	2	9	29.0
Nematoda				
Mermithidae	—	—	—	—
Nematomorpha				02600
Gordiidae (hair worm)	—	—	—	02801
Ectoprocta = Bryozoa (moss animal)				
Phylactolaemata	—	—	—	03000
Entoprocta				
<i>Urnatella gracilis</i>	—	—	—	—
Annelida				03500
Oligochaeta (earthworm)	—	—	—	03600
Branchiobdellida (crayfish worm)	—	—	—	—
Hirudinea (leech)	—	—	—	04510
Arthropoda				
Crustacea				
Isopoda				05501
Asellidae (aquatic sow bug)				05701
<i>Asellus</i> sp.	3	4	7	22.6
<i>Lirceus</i> sp.	—	—	—	05900
Amphipoda				06001
Gammaridae (scud)				06501
<i>Gammarus</i> sp.	—	—	—	06800
Decapoda				07501
Cambaridae (crayfish)				07701
<i>Proconectes merrilli</i> sp. <i>frankosus</i>	1	8	—	25.8
<i>Proconectes</i> sp.	—	—	—	08250
<i>Decapoda</i> (freshwater shrimp)				
<i>Syncaris</i> sp.	—	—	—	—
Insecta				09000
Collembola				
Entomobryidae (springtail)	—	—	—	—
Ephemeroptera (mayfly)				10000
Oligoneuriidae				
<i>Isonychia</i> sp.	—	—	—	—
Siphonuridae				10501
Baetidae				11001
<i>Baetis</i> sp.	—	—	—	11100
<i>Callibaetis</i> sp.	—	—	—	11200
Heptageniidae				12501
<i>Stenonema</i> sp.	—	—	—	13500
Leptophlebiidae				14501
<i>Leptophlebia</i> sp.	—	—	—	14900
<i>Paraleptophlebia</i> sp.	—	—	—	15000
Ephemerellidae				15501
<i>Eurylophella</i> sp.	—	—	—	16200
Tricorythidae				16501
<i>Tricorythodes</i> sp.	—	—	—	16700
Caenidae				17001
<i>Caenis</i> sp.	—	—	—	17202
Baetiscidae				17501
<i>Baetisca</i> sp.	—	—	—	17600
Psephenidae				18501
<i>Psephenus</i> sp.	—	—	—	18600
<i>Hemiptera</i> sp.	—	—	—	18700
Polymitarcyidae				19001
<i>Ephoron</i> sp.	—	—	—	19100

Taxa (common name)	Number of Specimens:			Code
	Taken	Total		
Arthropoda				
Insecta				
Odonata - Zygoptera (damselfly)				20501
Calopterygidae				21001
<i>Calopteryx</i> sp.	1	1	—	21200 3.2
<i>Hetaerina</i> sp.	—	—	—	21300
Lestidae				21501
<i>Archilestes grandis</i>	—	—	—	21604
<i>Lestes</i> sp.	—	—	—	21700
Coenagrionidae				22001
<i>Argia</i> sp.	—	—	—	22300
<i>Enallagma</i> sp.	—	—	—	22600
<i>Ischnura</i> sp.	—	—	—	22700
Odonata - Anisoptera (dragonfly)				23001
Aeshnidae				23501
<i>Aeshna</i> sp.	1	1	—	23600 3.2
<i>Boyeria</i> sp.	—	—	—	23900
Gomphidae				24501
<i>Dromogomphus</i> sp.	—	—	—	24700
Cordulegastridae				26001
<i>Cordulegaster</i> sp.	—	—	—	26100
Macromiidae				26501
<i>Macromia</i> sp.	—	—	—	26700
<i>Didymops</i> sp.	—	—	—	—
Corduliidae				27001
<i>Neurocordulia</i> sp.	—	—	—	27400
Libellulidae				28001
<i>Libellula</i> sp.	—	—	—	28500
Plecoptera (stonefly)				30000
Pteronarcyidae				30501
<i>Pteronarcys</i> sp.	—	—	—	30800
Capniidae				33501
<i>Allocapnia</i> sp.	—	—	—	33600
Perlidae				34001
<i>Acroneuria</i> sp.	—	—	—	34100
Perlodidae				35001
<i>Isoperla</i> sp.	—	—	—	35500
Chloroperlidae				36001
<i>Alloperla</i> sp. <i>Paraperla</i> sp.	1	1	—	36100 3.2
Hemiptera				40000
Hydrometridae (water measurer)				40501
<i>Hydrometra</i> sp.	—	—	—	40510
Veliidae (small water strider)				41001
<i>Microvelia</i> sp.	—	—	—	41200
<i>Rhagovelia</i> sp.	—	—	—	41400
Gerridae (water strider)				41501
<i>Gerris</i> sp. <i>Aquamirus</i> sp.	1	1	—	41600 3.2
<i>Metrobates</i> sp.	—	—	—	41800
<i>Rheumatobates</i> sp.	—	—	—	42100
<i>Trepobates</i> sp.	1	1	—	42400 3.2
Belostomatidae				42501
<i>Belostoma</i> sp.	—	—	—	42700
<i>Lethocerus</i> sp.	—	—	—	42800
Nepidae (water scorpion)				43001
<i>Nepa apiculata</i>	—	—	—	43205
<i>Ranatra</i> sp.	—	—	—	43300

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			
Sialidae (alderfly)			47000
<i>Sialis</i> sp.			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			
<i>Polycentropus</i> sp.			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			
<i>Cheumatopsyche</i> sp.			52001
<i>Cheumatopsyche</i> sp. (Pupa)	1	1	52200 3.2
<i>Hydropsyche</i> sp.			52400
Amphipodidae			
<i>Amphipoda</i> sp.			53201
<i>Amphipoda</i> sp.			53300
Hydroptilidae			
<i>Hydroptila</i> sp.			53501
<i>Hydroptila</i> sp.			53800
Phyganeidae			
<i>Ptilostomis</i> sp.			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			
<i>Platycentropus</i> sp.			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			
<i>Helicopsycha borealis</i>			58501
<i>Helicopsycha borealis</i>			58505
Leptoceridae			
<i>Ceraclea</i> sp.			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			
Nocturidae			59700
Pyrilidae			
<i>Petrophila</i> sp.			59911
<i>Petrophila</i> sp.			59970
Coleoptera			
Gyrinidae (whirligig beetle)			60000
<i>Gyrinus</i> sp.			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Halipidae			
<i>Halipus</i> sp.			60501
<i>Halipus</i> sp.			60800
<i>Peltodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			
<i>Dytiscus</i> sp.			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Laccophilidae (water scavenger beetle)			
<i>Laccophilus</i> sp.			65501
<i>Laccophilus</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodytia</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			
<i>Ectopria nervosa</i>			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	1	1	68075 3.2
Dryopodidae			
<i>Helichus</i> sp.			68101
<i>Helichus</i> sp.			68130
Elmidae			
<i>Dubiraphia</i> sp.			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			
Tipulidae (crane fly)			
<i>Tipula</i> sp.			70000
<i>Tipula</i> sp.			70501
Ptychopteridae (phan. crane fly)			
<i>Ptychoptera</i> sp.			72201
Dixidae (dixa midge)			
<i>Dixa</i> sp.			72301
Culicidae (mosquito)			
<i>Culiseta</i> sp.			72501
Simuliidae (black fly)			
<i>Simulium</i> sp.			73601
Ceratopogonidae			
<i>Ceratopogon</i> sp.			74501
Chironomidae (midge)			
<i>Chironomus</i> sp.			76001
Tabanidae (horse & deer fly)			
<i>Tabanus</i> sp.			86001
Athericidae (snipe fly)			
<i>Atherix</i> sp.			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			
<i>Stratiomya</i> sp.			86501
Muscidae (house fly)			
<i>Musca</i> sp.			89601
<i>Limnophora</i> sp.			89700
Mollusca			
Gastropoda (snail)			
Prosobranchia			
Valvatidae			
<i>Valvata tricarinata</i> (three-edge valvata)			92201
<i>Valvata tricarinata</i> (three-edge valvata)			92330
Viviparidae			
<i>Campeloma decisum</i>			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i>			92613
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			
<i>Bithynia tentaculata</i> (mud bithynia)			93000
Hydrobiidae			
<i>Hydrobia</i> sp.			93200
<i>Amnicola</i> sp.			93220
Pomatiopsidae			
<i>Pomatiopsis cincinnatiensis</i>			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			
<i>Pleurocera</i> sp.			93801
<i>Elima</i> sp.			93900
Pulmonata			
Lymnaeidae			
<i>Lymnaea</i> sp.			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

Taxonomic name	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95001
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95050
<i>Physella</i> sp.	_____	_____	95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95501
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)	_____	_____	96002
<i>Planorbella trivolvis</i> (marsh rams-horn)	_____	_____	96280
<i>Planorbella armigera</i> (thicklip rams-horn)	_____	_____	96290
<i>Promenetus exacuous</i> (sharp sprite)	_____	_____	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96801
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96908
<i>Laevapex fuscus</i> (dusky ancylid)	_____	_____	96930
Bivalvia			
Veneroidea			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97501
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98001
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98003
<i>Sphaerium striatinum</i> (striated fingernailclam)	_____	_____	98004
<i>Musculium partumeium</i> (swamp fingernailclam)	_____	_____	98401
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Pisidium compressum</i> (ridged-beak peaclam)	_____	_____	98204
<i>Pisidium fallax</i> (river peaclam)	_____	_____	98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)	_____	_____	
Unionoidea			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99001
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99026
<i>Pyganodon grandis</i> (giant floater)	_____	_____	99034
<i>Anodontoidea ferussacianus</i> (cylindrical papershell)	_____	_____	99046
<i>Strophitus undulatus</i> (squaw foot)	_____	_____	99051
<i>Alasmidonta marginata</i> (elk toe)	_____	_____	99077
<i>Alasmidonta viridis</i> (slippershell mussel)	_____	_____	99079
<i>Lasmigona complanata</i> (white heelsplitter)	_____	_____	99201
<i>Lasmigona costata</i> (fluted-shell)	_____	_____	99202
<i>Lasmigona compressa</i> (creek heelsplitter)	_____	_____	99203
<i>Tritogonia verrucosa</i> (pistolgrip)	_____	_____	99276
<i>Quadrula quadrula</i> (mapleleaf)	_____	_____	99326
<i>Quadrula pustulosa</i> (pimpleback)	_____	_____	99343
<i>Amblyma plicata</i> (threeridge)	_____	_____	99351
<i>Fusconaia flava</i> (Wabash pigtoe)	_____	_____	99380
<i>Pleurobema sintoxia</i> (round pigtoe)	_____	_____	99442
<i>Elliptio dilatata</i> (spike)	_____	_____	99514
<i>Ptychobranthus fasciolaris</i> (kidneyshell)	_____	_____	99601
<i>Obovaria subrotunda</i> (round hickorynut)	_____	_____	99674
<i>Potamilus alatus</i> (pink heelsplitter)	_____	_____	99751
<i>Toxolasma parvum</i> (lilliput)	_____	_____	99776
<i>Villosa iris</i> (rainbow)	_____	_____	99847
<i>Lampsilis raduta luteola</i> (fat mucket)	_____	_____	99879
<i>Lampsilis ventricosa</i> (plain pocketbook)	_____	_____	99893
<i>Epioblasma triquetra</i> (snuffbox)	_____	_____	99951

Total # of taxa 10 Total # of individuals 31

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	— — —	20-003
<i>Umbra limi</i> , central mudminnow	— — —	34-001
<i>Esox americanus</i> , grass pickerel	— — —	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	— — —	40-005
<i>Moxostoma anisurum</i> , silver redhorse	— — —	40-008
<i>M. duquesnei</i> , black redhorse	— — —	40-009
<i>M. erythrum</i> , golden redhorse	— — —	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	— — —	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	— — —	40-015
<i>Catostomus commersoni</i> , white sucker	— <u>1</u> <u>0.2</u>	40-016
<i>Cyprinus carpio</i> , common carp	— — —	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	— — —	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	— — —	43-004
<i>Erimystax dissimilis</i> , streamline shub	— — —	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	— <u>27</u> <u>6.0</u>	43-011
<i>Semotilus atromaculatus</i> , creek chub	— <u>88</u> <u>14.5</u>	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	— — —	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	— <u>311</u> <u>69.0</u>	43-016
<i>Protopis atherinoides</i> , emerald shiner	— — —	43-020
<i>P. notogenis</i> , silver shiner	— — —	43-021
<i>L. auratus umbratilis</i> , redfin shiner	— — —	43-023
<i>L. ardens</i> , rosefin shiner	— — —	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	— — —	43-025
<i>L. cornutus</i> , common shiner	— — —	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	— — —	43-031
<i>C. spilopterus</i> , spotfin shiner	— — —	43-032
<i>Notropis stramineus</i> , sand shiner	— — —	43-034
<i>N. volucellus</i> , mimic shiner	— — —	43-035
<i>N. buccata</i> , silverjaw minnow	— — —	43-039
<i>Pimephales promelas</i> , fathead minnow	— — —	43-042
<i>P. notatus</i> , bluntnose minnow	— — —	43-043
<i>Campostoma anomalum</i> , central stoneroller	— <u>16</u> <u>3.5</u>	43-044
<i>hybrid redbelly dace / creek chub</i>	— <u>1</u> <u>0.2</u>	47-002
<i>Ictalurus punctatus</i> , channel catfish	— — —	47-002
<i>Ameiurus natalis</i> , yellow bullhead	— — —	47-004
<i>A. nebulosus</i> , brown bullhead	— — —	47-005
<i>A. melas</i> , black bullhead	— — —	47-006
<i>Pylodictis olivaris</i> , flathead catfish	— — —	47-007
<i>Noturus flavus</i> , stonecat madtom	— — —	47-008
<i>N. miurus</i> , brindled madtom	— — —	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	— — —	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	— — —	63-001
<i>Labidesthes sicculus</i> , brook silverside	— — —	70-001
<i>Morone chrysops</i> , white bass	— — —	74-001
<i>Pomoxis annularis</i> , white crappie	— — —	77-001
<i>P. nigromaculatus</i> , black crappie	— — —	77-002
<i>Ambloplites rupestris</i> , n. rock bass	— — —	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	— — —	77-004
<i>M. punctulatus</i> , spotted bass	— — —	77-005
<i>M. salmoides</i> , largemouth bass	— — —	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	— — —	77-007
<i>L. cyanellus</i> , green sunfish	— <u>4</u> <u>0.9</u>	77-008
<i>L. macrochirus</i> , bluegill sunfish	— — —	77-009
<i>L. humilis</i> , orangespotted sunfish	— — —	77-010
<i>L. megalotis</i> , longear sunfish	— — —	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	— — —	77-013
<i>Stizostedion vitreum</i> , walleye	— — —	80-002
<i>Percina maculata</i> , blackside darter	— — —	80-005
<i>P. caprodes</i> , logperch	— — —	80-011
<i>Etheostoma nigrum</i> , johnny darter	— — —	80-014
<i>E. blennioides</i> , greenside darter	— — —	80-015
<i>E. zonale</i> , banded darter	— — —	80-016
<i>E. caeruleum</i> , rainbow darter	— — —	80-022
<i>E. spectabile</i> , orangethroat darter	— <u>3</u> <u>0.7</u>	80-023
<i>E. flabellare</i> , fantail darter	— — —	80-024
hybrid, sauger X walleye	— — —	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	— — —	85-001
<i>Cottus bairdi</i> , mottled sculpin	— — —	90-002

Total # of anomalies 0
 Total # of species 7 Total # of individuals 751
 Comments: one hybrid collected

ECOLOGICAL DATA FOR Little Scioto River

Project	<u>Portsmouth Bypass</u>
Locality	<u>Little Scioto River at mouth of unnamed tributary at Dan White Hollow; site 4</u>
Date	<u>19 June 2002</u>
Biologists	<u>MA Hoggarth, Ol Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>Minford, 7 1/2 Q.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Ohio River

Stream Code 09-300

River Mile 12.2

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38°48'59"N 82°51'08"W

Drainage Area 200 square miles

Mean Annual Discharge —

Pollutant Source none noted

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, by hand

Length of Sample 300 meters

Shannon-Weiner Index 4.05

Fish Data Sheet (page 6)

Sampling Method electroshock (2 hrs.); seining (30 minutes)

Length of Sample 300 meters

IBI Index 48

Shannon-Weiner Index 3.39

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

PDO P 7.9

WATER QUALITY DATA SHEET

Little Scioto River

38 48.76 W
82 50.97 W

Measured Chemical Parameters: Sample 1 Sample 2

Water Quality Related Parameters:

Alkalinity 36 mg/L mg/L

Date & Time of Collection

Chloride 0.07 mg/L mg/L

Weather Conditions

Dissolved Oxygen 7.4 mg/L mg/L

Air Temperature 37 °C

Dissolved Solids, Total 108 mg/L mg/L

Water Temperature 18.5 °C

Hardness, total 74 mg/L mg/L

Turbidity 6.7 NTU

Iron, total 0.03 mg/L mg/L

Conductivity 216 µS/cm (µmhos/cm)

Nitrogen, Ammonia 0.46 mg/L mg/L

Flow m/s

Nitrogen, Nitrate 2.2 mg/L mg/L

Water Level (field observation)

Nitrogen, Nitrite 0.01 mg/L mg/L

Substrate Mineralogy/ Geologic Unit

Orthophosphate 0.42 mg/L mg/L

pH 7.17

Sulfate 31 mg/L mg/L

Comments:

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:			Code
	Taken	Total		
Porifera (sponge)				00100
Platyhelminthes				
Turbellaria				01801
Tricladia				
Planariidae (flatworm)	12	10	22	11.5
Nematoda				
Mermithidae				
Nematomorpha				02600
Gordiidae (hair worm)				02801
Ectoprocta = Bryozoa (moss animal)				
Phylactolaemata				03000
Entoprocta				
Urnatella gracilis				
Annelida				03500
Oligochaeta (earthworm)				03600
Branchiobdellida (crayfish worm)				
Hirudinea (leech)				04510
Arthropoda				
Crustacea				
Isopoda				05501
Asellidae (aquatic sow bug)				05701
Asellus sp.				05800
Lirceus sp.				05900
Amphipoda				06001
Gammaridae (scud)				06501
Gammarus sp.				06800
Decapoda				07501
Cambaridae (crayfish)				07701
Orconectes rusticus				08250
Drepanates spinuosus 7	1	8		4.1
Atyidae (freshwater shrimp)				
Syncares sp.				
Insecta				09000
Collembola				
Entomobryidae (springtail)				
Ephemeroptera (mayfly)				10000
Oligoneuriidae				
Isonychia sp.				
Siphonuridae				10501
Baetidae				11001
Baetis sp.				11100
Callibaetis sp.				11200
Heptageniidae				12501
Stenonema sp.	1	12	13	6.8
Leptophlebiidae				14501
Leptophlebia sp.				14900
Paraleptophlebia sp.				15000
Ephemereididae				15501
Euryophella sp.				16200
Tricorythidae				16501
Tricorythodes sp.				16700
Caenidae				17001
Caenis sp.				17202
Baetiscidae				17501
Baetisca sp.				17600
Ephemeridae				18501
Ephemeria sp.				18600
Hexagenia sp.				18700
Polymitarcyidae				19001
Ephoron sp.				19100

Taxa (common name)	Number of Specimens:			Code
	Taken	Total		
Arthropoda				
Insecta				
Odonata - Zygoptera (damselfly)				20501
Calopterygidae				21001
Calopteryx sp.				21200
Hetaerina sp.				21300
Lestidae				21501
Archilestes grandis				21604
Lestes sp.				21700
Coenagrionidae				22001
Argia sp.	1	1		22300 0.5
Enallagma sp.	5	5		22600 2.6
Ischnura sp.				22700
Odonata - Anisoptera (dragonfly)				23001
Aeshnidae				23501
Aeshna sp.				23600
Boyeria sp.				23900
Gomphidae				24501
Dromogomphus sp.				24700
Hagenia sp.	1	1		0.5
Stylogomphus sp.	1	1		0.5
Cordulegasteridae				26001
Cordulegaster sp.				26100
Macromiidae huc				26501
Macromia sp.	1	1		26700 0.5
Didymops sp.				
Corduliidae				27001
Neurocordulia sp.				27400
Libellulidae				28001
Libellula sp.				28500
Plecoptera (stonefly)				30000
Pteronarcyidae				30501
Pteronarcys sp.				30800
Capniidae				33501
Allocaenia sp.				33600
Perlidae				34001
Acroneuria sp.				34100
Perlodidae				35001
Isoperla sp.				35500
Chloroperlidae				36001
Alloperla sp. Paraperla sp.	1	1		36100 0.5
Hemiptera				40000
Hydrometridae (water measurer)				40501
Hydrometra sp.				40510
Veliidae (small water strider)				41001
Microvelia sp.				41200
Rhagovelia sp.				41400
Gerridae (water strider)				41501
Gerris sp. Aegonurus 13	0	13		41600 6.8
Metrobates sp.				41800
Rheumatobates sp.				42100
Trepobates sp.				42400
Belostomatidae				42501
Belostoma sp.				42700
Lethocerus sp.				42800
Nepidae (water scorpion)				43001
Nepa apiculata				43205
Ranatra sp.				43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (aldertly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalis cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	15	2	52400 8.4
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyralidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp. (larvae)	2	2	60300 1.0
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliphus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.	3	3	68130 1.6
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	17	3	76001 10.5
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i>			92516
(pointed campeloma)			
<i>Cipangopaludina chinensis</i>			92613
(Chinese mysteryshell)			
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Ammicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i>			93225
(brown walker)			
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	—	—	95001
<i>Physella</i> sp.	—	—	95050
	—	—	95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	—	—	95501
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)	—	—	95904
<i>Planorbella trivolvis</i> (marsh rams-horn)	—	—	96002
<i>Planorbella armigera</i> (thicklip rams-horn)	—	—	96280
<i>Promenetus exacuous</i> (sharp sprite)	—	—	96290
	—	—	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancyloid)	—	—	96801
<i>Laevapex fuscus</i> (dusky ancyloid)	—	—	96908
	—	—	96930
Bivalvia			
Veneroida			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	7	1	8
			97501
Sphaeriidae (fingernail clams)			97601
<i>Sphaerium simile</i> (grooved fingernailclam)	1	1	98001
<i>Sphaerium striatinum</i> (striated fingernailclam)			98003
<i>Musculium partumeium</i> (swamp fingernailclam)			98004
<i>Musculium transversum</i> (long fingernailclam)			98401
<i>Pisidium compressum</i> (ridged-beak peaclam)			98404
<i>Pisidium fallax</i> (river peaclam)			98204
			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoida			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)			99001
<i>Pyganodon grandis</i> (giant floater)	56	10	4
<i>Anodontoides ferussacianus</i> (cylindrical papershell)			99026
<i>Strophitus undulatus</i> (squaw foot)			99034
<i>Alasmidonta marginata</i> (elk toe)			99046
<i>Alasmidonta viridis</i> (slippershell mussel)			99051
<i>Lasmigona complanata</i> (white heelsplitter)			99077
<i>Lasmigona costata</i> (fluted-shell)			99079
<i>Lasmigona compressa</i> (creek heelsplitter)			99201
<i>Tritogonia verrucosa</i> (pistolgrip)			99202
<i>Quadrula quadrula</i> (mapleleaf)	74	30	10
<i>Quadrula pustulosa</i> (pimpleback)			99203
<i>Amblema plicata</i> (threeridge)	1	1	1
<i>Fusconaia flava</i> (Wabash pigtoe)	12	30	13
<i>Pleurobema sintoxia</i> (round pigtoe)			99276
<i>Elliptio dilatata</i> (spike)			99326
<i>Ptychobranchnus fasciolaris</i> (kidneyshell)			99343
<i>Obovaria subrotunda</i> (round hickorynut)			99351
<i>Potamilus alatus</i> (pink heelsplitter)	7	7	7
<i>Taxolasma parvus</i> (lilliput)			99380
<i>Villosa iris</i> (rainbow)			99442
<i>Lampsilis radiata luteola</i> (fat mucket)	3	30	6
<i>Lampsilis ventricosa</i> (plain pocketbook)	22	30	24
<i>Epioblasma triquetra</i> (snuffbox)			99514
<i>Lepidodea fragilis</i>	3	30	6
<i>Simpsoniaca ambigua</i> *	1	1	1

Total # of taxa 25 Total # of individuals 191

Comments: _____

4.2
0.5

2.1

5.2

0.5
2.8

3.7

3.1
12.6

3.1

0.5

* 1 *S. ambigua* collected alive kept

* 1 mud puppy collected alive

FISH DATA SHEET

Taxa (common name)	Rel.		Codes
	Taken	Total Abun.	
<i>Dorosoma cepedianum</i> , gizzard shad	—	—	20-003
<i>Umbra limi</i> , central mudminnow	—	—	34-001
<i>Esox americanus</i> , grass pickerel	—	—	37-001
<i>Carpionotus cyprinus</i> , quillback carpsucker	—	—	40-005
<i>Moxostoma anisurum</i> , silver redbhorse	—	1 0.2	40-008
<i>M. duquesnei</i> , black redbhorse	—	—	40-009
<i>M. erythrum</i> , golden redbhorse	—	5 0.9	40-010
<i>M. macrolepidotum</i> , shorthead redbhorse	—	4 0.7	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	—	5 0.9	40-015
<i>Catostomus commersoni</i> , white sucker	—	1 0.2	40-016
<i>Cyprinus carpio</i> , common carp	—	—	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	—	—	43-003
<i>Nocomis biguttatus</i> , homyhead chub	—	1 0.2	43-004
<i>Erimystax dissimilis</i> , streamline shub	—	—	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	—	—	43-011
<i>Semotilus atromaculatus</i> , creek chub	—	5 0.9	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	—	—	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	—	—	43-016
<i>Notropis atherinoides</i> , emerald shiner	—	16 2.9	43-020
<i>N. notogenis</i> , silver shiner	—	1 0.2	43-021
<i>N. strimmarum</i> , redfin shiner	—	—	43-023
<i>L. ardens</i> , rosefin shiner	—	—	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	—	25 4.2	43-025
<i>L. cornutus</i> , common shiner	—	—	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	—	—	43-031
<i>C. spilopterus</i> , spotfin shiner	—	45 7.6	43-032
<i>Notropis stramineus</i> , sand shiner	—	164 28.6	43-034
<i>N. volucellus</i> , mimic shiner	—	—	43-035
<i>N. buccata</i> , silverjaw minnow	—	5 0.9	43-039
<i>Pimephales promelas</i> , fathead minnow	—	—	43-042
<i>P. notatus</i> , bluntnose minnow	—	129 21.9	43-043
<i>Camptostoma anomalum</i> , central stoneroller	—	6 1.0	43-044
<i>Ictalurus punctatus</i> , channel catfish	—	—	47-002
<i>Ameiurus natalis</i> , yellow bullhead	—	—	47-004
<i>A. nebulosus</i> , brown bullhead	—	—	47-005
<i>A. melas</i> , black bullhead	—	—	47-006
<i>Pylodictis olivaris</i> , flathead catfish	—	—	47-007
<i>Noturus flavus</i> , stonecat madtom	—	—	47-008
<i>N. miurus</i> , brindled madtom	—	—	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	—	—	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	—	—	63-001
<i>Labidesthes sicculus</i> , brook silverside	—	1 0.2	70-001
<i>Morone chrysops</i> , white bass	—	—	74-001
<i>Pomoxis annularis</i> , white crappie	—	—	77-001
<i>P. nigromaculatus</i> , black crappie	—	—	77-002
<i>Ambloplites rupestris</i> , n. rock bass	—	21 3.6	77-003

Taxa (common name)	Rel.		Code
	Taken	Total Abun.	
<i>Micropterus dolomieu</i> , smallmouth bass	—	1 0.2	77-004
<i>M. punctulatus</i> , spotted bass	—	9 1.5	77-005
<i>M. salmoides</i> , largemouth bass	—	—	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	—	—	77-007
<i>L. cyanellus</i> , green sunfish	—	2 0.3	77-008
<i>L. macrochirus</i> , bluegill sunfish	—	—	77-009
<i>L. humilis</i> , orangespotted sunfish	—	—	77-010
<i>L. megalotis</i> , longear sunfish	—	63 10.7	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	—	—	77-013
green/bluegill hybrid	—	1 0.2	—
<i>Stizostedion vitreum</i> , walleye	—	—	80-002
<i>Percina maculata</i> , blackside darter	—	1 0.2	80-005
<i>P. caprodes</i> , logperch	—	11 1.9	80-011
<i>Etheostoma nigrum</i> , johnny darter	—	7 1.2	80-014
<i>E. blennioides</i> , greenside darter	—	1 0.2	80-015
<i>E. zonale</i> , banded darter	—	17 2.9	80-016
<i>E. caeruleum</i> , rainbow darter	—	9 1.5	80-022
<i>E. spectabile</i> , orangethroat darter	—	—	80-023
<i>E. flabellare</i> , fantail darter	—	22 3.7	80-024
<i>Ameiurus natalis</i> x <i>Sander</i> darter hybrid, sauger X walleye	—	7 1.2	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	—	—	85-001
<i>Cottus bairdi</i> , mottled sculpin	—	—	90-002

Total # of anomalies 0
 Total # of species 29 Total # of individuals 590
 Comments: one hybrid sunfish

ECOLOGICAL DATA FOR Unnamed Tributary of Little Scioto River

Project	<u>Portsmouth Bypass</u>
Locality	<u>Tributary of Little Scioto River at Dan White Hollows; site 5</u>
Date	<u>19 June 2002</u>
Biologists	<u>MA Hoggart, Al Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>MARTIN, 7 1/2 D.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38°49'01"N 82°51'28"W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, by hand

Length of Sample 100 meters

Shannon-Weiner Index 1.46

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not computed

Shannon-Weiner Index 0.13

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Tribotang

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	13 mg/L	___ mg/L
Chloride	0.09 mg/L	___ mg/L
Dissolved Oxygen	10.1 mg/L	___ mg/L
Dissolved Solids, Total	86 mg/L	___ mg/L
Hardness, total	66 mg/L	___ mg/L
Iron, total	0.02 mg/L	___ mg/L
Nitrogen, Ammonia	0 mg/L	___ mg/L
Nitrogen, Nitrate	3.2 mg/L	___ mg/L
Nitrogen, Nitrite	0.01 mg/L	___ mg/L
Orthophosphate	0.34 mg/L	___ mg/L
pH	7.44	___
Sulfate	53 mg/L	___ mg/L

Water Quality Related Parameters:

Date & Time of Collection _____

Weather Conditions _____

Air Temperature 20 °C

Water Temperature 16.4 °C

Turbidity 14.4 NTU

Conductivity 170 μS/cm (μmhos/cm)

Flow _____ m/s

Water Level (field observation) _____

Substrate Mineralogy/ Geologic Unit _____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)			00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)	0	22	22 44.9
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata			03000
Entoprocta			
Urnatella gracilis			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
Asellus sp.			05800
Lirceus sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
Gammarus sp.			06800
Decapoda			07501
Cambaridae (crayfish)			07701
Orconectes rusticus			08250
Atyidae (freshwater shrimp)			
Syncaris sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
Isonychia sp.			
Siphonuridae			10501
Baetidae			11001
Baetis sp.			11100
Callibaetis sp.			11200
Heptageniidae			12501
Stenonema sp.			13500
Leptophlebiidae			14501
Leptophlebia sp.	4	4	14900 8.2
Paraleptophlebia sp.			15000
Ephemerelellidae			15501
Euryophella sp.			16200
Tricorythidae			16501
Tricorythodes sp.			16700
Caenidae			17001
Caenis sp.			17202
Baetiscidae			17501
Baetisca sp.			17600
Ephemeridae			18501
Ephemera sp.			18600
Hexagenia sp.			18700
Polymitarcyidae			19001
Ephoron sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
Calopteryx sp.	1	1	21200 2.0
Hetaerina sp.			21300
Lestidae			21501
Archilestes grandis			21604
Lestes sp.			21700
Coenagrionidae			22001
Argia sp.			22300
Enallagma sp.			22600
Ischnura sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
Aeshna sp.			23600
Boyeria sp.			23900
Gomphidae			24501
Dromogomphus sp.			24700
Cordulegastridae			26001
Cordulegaster sp.			26100
Macromiidae			26501
Macromia sp.			26700
Didymops sp.			
Corduliidae			27001
Neurocordulia sp.			27400
Libellulidae			28001
Libellula sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
Pteronarcys sp.			30800
Capniidae			33501
Allocaenia sp.			33600
Perlidae			34001
Acroneuria sp.			34100
Perlodidae			35001
Isoperla sp.			35500
Chloroperlidae			36001
Alloperla sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
Hydrometra sp.			40510
Veliidae (small water strider)			41001
Microvelia sp.			41200
Rhagovelia sp.			41400
Gerridae (water strider)			41501
Gerris sp.			41600
Metrobates sp.			41800
Rheumatobates sp.			42100
Trepobates sp.			42400
Belostomatidae			42501
Belostoma sp.			42700
Lethocerus sp.			42800
Nepidae (water scorpion)			43001
Nepa apiculata			43205
Ranatra sp.			43300

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae 21	1	22	44501 44.9
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalis cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.			52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyralidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Halipus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)			76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Amnicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnacididae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			95001
<i>Aplexa elongata</i> (lance aplexa)			95050
<i>Physella</i> sp.			95100
Planorbidae			95501
<i>Gyraulus deflectus</i> (flexed gyro)			95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			96002
<i>Planorbella trivolvis</i> (marsh rams-horn)			96280
<i>Planorbella armigera</i> (thicklip rams-horn)			96290
<i>Promenetus exacuus</i> (sharp sprite)			96402
Ancylidae			96801
<i>Ferrissia rivularis</i> (creeping ancytid)			96908
<i>Laevapex fuscus</i> (dusky ancytid)			96930
Bivalvia			97001
Veneroida			
Corbiculidae			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			98001
<i>Sphaerium simile</i> (grooved fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoida			
Unionidae (freshwater mussel)			99001
<i>Utterbackia imbecillis</i> (paper pondshell)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontoidea ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)			99326
<i>Quadrula pustulosa</i> (pimpleback)			99343
<i>Amblema plicata</i> (threeridge)			99351
<i>Fusconaia flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranchus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)			99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99893
<i>Epioblasma triquetra</i> (snuffbox)			99951

Total # of taxa 4 Total # of individuals 49

Comments: _____

FISH DATA SHEET

Taxa (common name)	Rel.		Codes
	Taken	Total Abun.	
<i>Dorosoma cepedianum</i> , gizzard shad	---	---	20-003
<i>Umbra limi</i> , central mudminnow	---	---	34-001
<i>Esox americanus</i> , grass pickerel	---	---	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	---	---	40-005
<i>Moxostoma anisurum</i> , silver redhorse	---	---	40-008
<i>M. duquesnei</i> , black redhorse	---	---	40-009
<i>M. erythrum</i> , golden redhorse	---	---	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	---	---	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	---	---	40-015
<i>Catostomus commersoni</i> , white sucker	---	---	40-016
<i>Cyprinus carpio</i> , common carp	---	---	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	---	---	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	---	---	43-004
<i>Erimystax dissimilis</i> , streamline shub	---	---	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	---	23 36.5	43-011
<i>Semotilus atromaculatus</i> , creek chub	---	38 60.3	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	---	---	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	---	1 1.6	43-016
<i>Notropis atherinoides</i> , emerald shiner	---	---	43-020
<i>N. piogenis</i> , silver shiner	---	---	43-021
<i>N. anogenus</i> , silver shiner	---	---	43-022
<i>N. umbratilus</i> , redfin shiner	---	---	43-023
<i>L. ardens</i> , rosefin shiner	---	---	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	---	---	43-025
<i>L. cornutus</i> , common shiner	---	---	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	---	---	43-031
<i>C. spilopterus</i> , spotfin shiner	---	---	43-032
<i>Notropis stramineus</i> , sand shiner	---	---	43-034
<i>N. volucellus</i> , mimic shiner	---	---	43-035
<i>N. buccata</i> , silverjaw minnow	---	---	43-039
<i>Pimephales promelas</i> , fathead minnow	---	---	43-042
<i>P. notatus</i> , bluntnose minnow	---	---	43-043
<i>Campostoma anomalum</i> , central stoneroller	---	---	43-044
<i>Ictalurus punctatus</i> , channel catfish	---	---	47-002
<i>Ameiurus natalis</i> , yellow bullhead	---	---	47-004
<i>A. nebulosus</i> , brown bullhead	---	---	47-005
<i>A. melas</i> , black bullhead	---	---	47-006
<i>Pylodictis olivaris</i> , flathead catfish	---	---	47-007
<i>Noturus flavus</i> , stonecat madtom	---	---	47-008
<i>N. miurus</i> , brindled madtom	---	---	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	---	---	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	---	---	63-001
<i>Labidesthes sicculus</i> , brook silverside	---	---	70-001
<i>Morone chrysops</i> , white bass	---	---	74-001
<i>Pomoxis annularis</i> , white crappie	---	---	77-001
<i>P. nigromaculatus</i> , black crappie	---	---	77-002
<i>Ambloplites rupestris</i> , n. rock bass	---	---	77-003

Taxa (common name)	Rel.		Code
	Taken	Total Abun.	
<i>Micropterus dolomieu</i> , smallmouth bass	---	---	77-004
<i>M. punctulatus</i> , spotted bass	---	---	77-005
<i>M. salmoides</i> , largemouth bass	---	---	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	---	---	77-007
<i>L. cyanellus</i> , green sunfish	---	---	77-008
<i>L. macrochirus</i> , bluegill sunfish	---	---	77-009
<i>L. humilis</i> , orangespotted sunfish	---	---	77-010
<i>L. megalotis</i> , longear sunfish	---	---	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	---	---	77-013
<i>Stizostedion vitreum</i> , walleye	---	---	80-002
<i>Percina maculata</i> , blackside darter	---	---	80-005
<i>P. caprodes</i> , logperch	---	---	80-011
<i>Etheostoma nigrum</i> , johnny darter	---	---	80-014
<i>E. blennioides</i> , greenside darter	---	---	80-015
<i>E. zonale</i> , banded darter	---	---	80-016
<i>E. caeruleum</i> , rainbow darter	---	1 1.6	80-022
<i>E. spectabile</i> , orangethroat darter	---	---	80-023
<i>E. flabellare</i> , fantail darter	---	---	80-024
hybrid, sauger X walleye	---	---	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	---	---	85-001
<i>Cottus bairdi</i> , mottled sculpin	---	---	90-002

Total # of anomalies 0

Total # of species 4 Total # of individuals 63

Comments: _____

ECOLOGICAL DATA FOR Long Run

Project	<u>Partsmouth Bypass</u>
Locality	<u>site 6; Long Run</u>
Date	<u>19 Jul 2002</u>
Biologists	<u>MA Hoagarth, De Rice, & Jennings</u>
U.S.G.S. Quadrangle	<u>New Boston, 7' &</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River
Stream Code —
River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)
Longitude/Latitude 38° 51' 15" N 82° 52' 53" W
Drainage Area —
Mean Annual Discharge —
Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, by hand
Length of Sample 100 meters
Shannon-Weiner Index 2.42

Fish Data Sheet (page 6)

Sampling Method seining
Length of Sample 100 meters
IBI Index Not computed
Shannon-Weiner Index 2.49

Terrestrial Data (pages 7-16)

Physiographic Section NA
Dominant Plant Communities NA
Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Long Run site

38° 51.26' N 82° 52.87' W PDDP 2.7

Measured Chemical Parameters: Sample 1 Sample 2

Water Quality Related Parameters:

Alkalinity 58 mg/L mg/L

Chloride 0.05 mg/L mg/L

Dissolved Oxygen 7.6 mg/L mg/L

Dissolved Solids, Total 134 mg/L mg/L

Hardness, total 98 mg/L mg/L

Iron, total 0 mg/L mg/L

Nitrogen, Ammonia 0.05 mg/L mg/L

Nitrogen, Nitrate 1.5 mg/L mg/L

Nitrogen, Nitrite 0.02 mg/L mg/L

Orthophosphate 2.21 mg/L mg/L

pH 7.35

Sulfate 37 mg/L mg/L

Date & Time of Collection

Weather Conditions

Air Temperature 35.0 °C

Water Temperature 26.3 °C

Turbidity 1.6 NTU

Conductivity 268 µS/cm (µmhos/cm)

Flow m/s

Water Level (field observation)

Substrate Mineralogy/ Geologic Unit

Comments:

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	—	—	00100
Platyhelminthes	—	—	
Turbellaria	—	—	01801
Tricladia	—	—	
Planariidae (flatworm)	—	—	
Nematoda	—	—	
Mermithidae	—	—	
Nematomorpha	—	—	02600
Gordiidae (hair worm)	—	—	02801
Ectoprocta = Bryozoa (moss animal)	—	—	
Phylactolaemata	3	3	03000 2.9
Entoprocta	—	—	
<i>Urnatella gracilis</i>	—	—	
Annelida	—	—	03500
Oligochaeta (earthworm)	—	—	03600
Branchiobdellida (crayfish worm)	—	—	
Hirudinea (leech)	—	—	04510
Arthropoda	—	—	
Crustacea	—	—	
Isopoda	—	—	05501
Asellidae (aquatic sow bug)	—	—	05701
<i>Asellus</i> sp.	1	3	05800 3.9
<i>Lirceus</i> sp.	—	—	05900
Amphipoda	—	—	06001
Gammaridae (scud)	—	—	06501
<i>Gammarus</i> sp.	—	—	06800
Decapoda	—	—	07501
Cambaridae (crayfish)	—	—	07701
<i>Orconectes nasutus</i>	—	—	08250
<i>Remates spinosus</i> 4	10	14	13.5
Stomatopoda (freshwater shrimp)	—	—	
<i>Syncares</i> sp.	—	—	
Insecta	—	—	09000
Collembola	—	—	
Entomobryidae (springtail)	—	—	
Ephemeroptera (mayfly)	—	—	10000
Oligoneuriidae	—	—	
<i>Isonychia</i> sp.	—	—	
Siphonuridae	—	—	10501
Baetidae	—	—	11001
<i>Baetis</i> sp.	—	—	11100
<i>Callibaetis</i> sp.	—	—	11200
Heptageniidae	—	—	12501
<i>Stenonema</i> sp.	5	5	13500 4.8
Leptophlebiidae	—	—	14501
<i>Leptophlebia</i> sp.	1	1	14900 1.0
<i>Paraleptophlebia</i> sp.	—	—	15000
Ephemerellidae	—	—	15501
<i>Eurylophella</i> sp.	—	—	16200
Tricorythidae	—	—	16501
<i>Tricorythodes</i> sp.	—	—	16700
Caenidae	—	—	17001
<i>Caenis</i> sp.	—	—	17202
Baetiscidae	—	—	17501
<i>Baetisca</i> sp.	—	—	17600
Ephemeridae	—	—	18501
<i>Ephemera</i> sp.	—	—	18600
<i>Hexagenia</i> sp.	—	—	18700
Polymitarcyidae	—	—	19001
<i>Ephoron</i> sp.	—	—	19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda	—	—	
Insecta	—	—	
Odonata - Zygoptera (damselfly)	—	—	20501
Calopterygidae	—	—	21001
<i>Calopteryx</i> sp.	—	—	21200
<i>Hetaerina</i> sp.	—	—	21300
Lestidae	—	—	21501
<i>Archilestes grandis</i>	—	—	21604
<i>Lestes</i> sp.	—	—	21700
Coenagrionidae	—	—	22001
<i>Argia</i> sp.	1	1	22300 1.0
<i>Enallagma</i> sp.	1	1	22600 1.0
<i>Ischnura</i> sp.	—	—	22700
Odonata - Anisoptera (dragonfly)	—	—	23001
Aeshnidae	—	—	23501
<i>Aeshna</i> sp.	—	—	23600
<i>Boyeria</i> sp.	—	—	23900
Gomphidae	—	—	24501
<i>Dromogomphus</i> sp.	—	—	24700
Cordulegastriidae	—	—	26001
<i>Cordulegaster</i> sp.	—	—	26100
Macromiidae	—	—	26501
<i>Macromia</i> sp.	—	—	26700
<i>Didymops</i> sp.	—	—	
Corduliidae	—	—	27001
<i>Neurocordulia</i> sp.	—	—	27400
Libellulidae	—	—	28001
<i>Libellula</i> sp.	—	—	28500
Plecoptera (stonefly)	—	—	30000
Pteronarcyidae	—	—	30501
<i>Pteronarcys</i> sp.	—	—	30800
Capniidae	—	—	33501
<i>Allocaenia</i> sp.	—	—	33600
Perlidae	—	—	34001
<i>Acroncuria</i> sp.	—	—	34100
Perlodidae	—	—	35001
<i>Isoperla</i> sp.	—	—	35500
Chloroperlidae	—	—	36001
<i>Alloperla</i> sp.	—	—	36100
Hemiptera	—	—	40000
Hydrometridae (water measurer)	—	—	40501
<i>Hydrometra</i> sp.	—	—	40510
Veliidae (small water strider)	—	—	41001
<i>Microvelia</i> sp.	—	—	41200
<i>Rhagovelia</i> sp.	—	—	41400
Gerridae (water strider)	—	—	41501
<i>Gerris</i> sp. <i>Ayaninus</i> 22	1	23	41600 22.1
<i>Metrobates</i> sp.	—	—	41800
<i>Rheumatobates</i> sp.	—	—	42100
<i>Trepobates</i> sp.	—	—	42400
Belostomatidae	—	—	42501
<i>Belostoma</i> sp.	—	—	42700
<i>Lethocerus</i> sp.	—	—	42800
Nepidae (water scorpion)	—	—	43001
<i>Nepa apiculata</i>	—	—	43205
<i>Ranatra</i> sp.	—	—	43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.	1	1	48200 1.0
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chinarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	14	24	52400 22.9
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliplus</i> sp.			60800
<i>Peltodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			65800
<i>Berosus</i> sp.			66200
<i>Cymbiodyta</i> sp.			66500
<i>Enochrus</i> sp.			67000
<i>Helophorus</i> sp.			67800
<i>Tropisternus</i> sp.			
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	2	2	68075 1.9
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.	1	1	68700
<i>Stenelmis</i> sp.			69400 1.0
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	14	2	76001 15.4
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeedge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i>			
(pointed campeloma)			92516
<i>Cipangopaludina chinensis</i>			
(Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Annicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i>			
(brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnacidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95001
<i>Physella</i> sp.	<u>3</u>	<u>3</u>	95050
			95100 2.9
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95501
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)	_____	_____	95904
<i>Planorbella trivolvis</i> (marsh rams-horn)	_____	_____	96002
<i>Planorbella armigera</i> (thicklip rams-horn)	_____	_____	96280
<i>Promenetus exacuouus</i> (sharp sprite)	_____	_____	96290
	_____	_____	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96801
<i>Laevapex fuscus</i> (dusky ancylid)	_____	_____	96908
	_____	_____	96930
Bivalvia			
Veneroida			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97001
<i>Sphaeriidae</i> (fingernail clams)	_____	_____	97501
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98001
<i>Sphaerium striatinum</i> (striated fingernailclam)	_____	_____	98003
<i>Musculium partumeium</i> (swamp fingernailclam)	_____	_____	98004
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98401
<i>Pisidium compressum</i> (ridged-beak peaclam)	_____	_____	98404
<i>Pisidium fallax</i> (river peaclam)	_____	_____	98204
	_____	_____	98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)	_____	_____	
Unionoida			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99001
<i>Pyganodon grandis</i> (giant floater)	_____	_____	99026
<i>Anodontoides ferussacianus</i> (cylindrical papershell)	_____	_____	99034
<i>Strophitus undulatus</i> (squaw foot)	_____	_____	99046
<i>Alasmidonta marginata</i> (elk toe)	_____	_____	99051
<i>Alasmidonta viridis</i> (slippershell mussel)	_____	_____	99077
<i>Lasmigona complanata</i> (white heelsplitter)	_____	_____	99079
<i>Lasmigona costata</i> (fluted-shell)	_____	_____	99201
<i>Lasmigona compressa</i> (creek heelsplitter)	_____	_____	99202
<i>Tritogonia verrucosa</i> (pistolgrip)	_____	_____	99203
<i>Quadrula quadrula</i> (mapleleaf)	_____	_____	99276
<i>Quadrula pustulosa</i> (pimpleback)	_____	_____	99326
<i>Amblyma plicata</i> (threeridge)	_____	_____	99343
<i>Fusconaia flava</i> (Wabash pigtoe)	_____	_____	99351
<i>Pleurobema sintoxia</i> (round pigtoe)	_____	_____	99380
<i>Elliptio dilatata</i> (spike)	_____	_____	99442
<i>Ptychobranthus fasciolaris</i> (kidneyshell)	_____	_____	99514
<i>Obovaria subrotunda</i> (round hickorynut)	_____	_____	99601
<i>Potamilus alatus</i> (pink heelsplitter)	_____	_____	99674
<i>Toxolasma parvus</i> (hilliput)	_____	_____	99751
<i>Villosa iris</i> (rainbow)	_____	_____	99776
<i>Lampsilis radiata luteola</i> (fat mucket)	_____	_____	99847
<i>Lampsilis ventricosa</i> (plain pocketbook)	_____	_____	99879
<i>Epioblasma triquetra</i> (snuffbox)	_____	_____	99893
	_____	_____	99951
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	

Total # of taxa 14 Total # of individuals 104

Comments: _____

FISH DATA SHEET

Taxa (common name)	Rel.		Codes
	Taken	Total Abun.	
<i>Dorosoma cepedianum</i> , gizzard shad	---	---	20-003
<i>Umbra limi</i> , central mudminnow	---	---	34-001
<i>Esox americanus</i> , grass pickerel	---	---	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	---	---	40-005
<i>Moxostoma anisurum</i> , silver redhorse	---	---	40-008
<i>M. duquesnei</i> , black redhorse	---	---	40-009
<i>M. erythrum</i> , golden redhorse	---	---	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	---	---	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	---	---	40-015
<i>Catostomus commersoni</i> , white sucker	---	---	40-016
<i>Cyprinus carpio</i> , common carp	---	---	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	---	---	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	---	---	43-004
<i>Erimystax dissimilis</i> , streamline shub	---	---	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	---	39 3.6	43-011
<i>Semotilus atromaculatus</i> , creek chub	---	26 2.4	43-013
<i>Pheacobius mirabilis</i> , suckermouth minnow	---	---	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	---	58 5.4	43-016
<i>Notropis atherinoides</i> , emerald shiner	---	---	43-020
<i>Notropis anogenis</i> , silver shiner	---	---	43-021
<i>Notropis umbratilus</i> , redfin shiner	---	---	43-023
<i>L. ardens</i> , rosefin shiner	---	25 2.3	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	---	63 5.8	43-025
<i>L. cornutus</i> , common shiner	---	---	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	---	---	43-031
<i>C. spilopterus</i> , spotfin shiner	---	---	43-032
<i>Notropis stramineus</i> , sand shiner	---	49 4.5	43-034
<i>N. volucellus</i> , mimic shiner	---	---	43-035
<i>N. buccata</i> , silverjaw minnow	---	57 5.6	43-039
<i>Pimephales promelas</i> , fathead minnow	---	---	43-042
<i>P. notatus</i> , bluntnose minnow	---	65 6.0	43-043
<i>Campostoma anomalum</i> , central stoneroller	---	168 15.5	43-044
<i>Ictalurus punctatus</i> , channel catfish	---	---	47-002
<i>Ameiurus natalis</i> , yellow bullhead	---	---	47-004
<i>A. nebulosus</i> , brown bullhead	---	---	47-005
<i>A. melas</i> , black bullhead	---	---	47-006
<i>Pylodictis olivaris</i> , flathead catfish	---	---	47-007
<i>Noturus flavus</i> , stonecat madtom	---	---	47-008
<i>N. miurus</i> , brindled madtom	---	---	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	---	---	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	---	---	63-001
<i>Labidesthes sicculus</i> , brook silverside	---	---	70-001
<i>Morone chrysops</i> , white bass	---	---	74-001
<i>Pomoxis annularis</i> , white crappie	---	---	77-001
<i>P. nigromaculatus</i> , black crappie	---	---	77-002
<i>Ambloplites rupestris</i> , n. rock bass	---	1 0.1	77-003

Taxa (common name)	Rel.		Code
	Taken	Total Abun.	
<i>Micropterus dolomieu</i> , smallmouth bass	---	---	77-004
<i>M. punctulatus</i> , spotted bass	---	---	77-005
<i>M. salmoides</i> , largemouth bass	---	---	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	---	---	77-007
<i>L. cyanellus</i> , green sunfish	---	---	77-008
<i>L. macrochirus</i> , bluegill sunfish	---	---	77-009
<i>L. humilis</i> , orangespotted sunfish	---	---	77-010
<i>L. megalotis</i> , longear sunfish	---	---	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	---	---	77-013
<i>Stizostedion vitreum</i> , walleye	---	---	80-002
<i>Percina maculata</i> , blackside darter	---	---	80-005
<i>P. caprodes</i> , logperch	---	---	80-011
<i>Etheostoma nigrum</i> , johnny darter	---	21 1.9	80-014
<i>E. blennioides</i> , greenside darter	---	1 0.1	80-015
<i>E. zonale</i> , banded darter	---	---	80-016
<i>E. caeruleum</i> , rainbow darter	---	13 1.2	80-022
<i>E. spectabile</i> , orangethroat darter	---	---	80-023
<i>E. flabellare</i> , fantail darter	---	5 0.5	80-024
hybrid, sauger X walleye	---	---	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	---	---	85-001
<i>Cottus bairdi</i> , mottled sculpin	---	---	90-002

Total # of anomalies 0
 Total # of species 14 Total # of individuals 1081

Comments: _____

ECOLOGICAL DATA FOR Little Scioto River

Project	<u>Pontswood By Pass</u>
Locality	<u>Little Scioto River, site 7, at RR track</u>
Date	<u>20 June 2002</u>
Biologists	<u>MA Huggarth, DL Rice & Jennings</u>
U.S.G.S. Quadrangle	<u>Mt. Park, 7 1/2 E.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Ohio River

Stream Code 09-300

River Mile 3.1

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38°46'25"N 82°51'55"W

Drainage Area 233 square miles

Mean Annual Discharge —

Pollutant Source none noted

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting

Length of Sample 200 meters

Shannon-Weiner Index 3.22

Fish Data Sheet (page 6)

Sampling Method electrofishing (1 1/2 hours); seining (30 min)

Length of Sample 200 meters

IBI Index 44

Shannon-Weiner Index 3.26

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	1	1	00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)			
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata	3	3	03000
Entoprocta			
<i>Urnatella gracilis</i>			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
<i>Asellus</i> sp.			05800
<i>Lirceus</i> sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
<i>Gammarus</i> sp.			06800
Decapoda			07501
Cambaridae (crayfish)			07701
<i>Orconectes rusticus</i>			08250
<i>Orconectes sp. novus 1</i>	2	3	
Atyidae (freshwater shrimp)			
<i>Syncais</i> sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
<i>Isonychia</i> sp.			
Siphonuridae			10501
Baetidae			11001
<i>Baetis</i> sp.			11100
<i>Callibaetis</i> sp.			11200
Heptageniidae			12501
<i>Stenonema</i> sp.	1	32	13500
Leptophlebiidae			14501
<i>Leptophlebia</i> sp.			14900
<i>Paraleptophlebia</i> sp.			15000
Ephemerellidae			15501
<i>Eurylophella</i> sp.			16200
Tricorythidae			16501
<i>Tricorythodes</i> sp.			16700
Caenidae			17001
<i>Caenis</i> sp.			17202
Baetiscidae			17501
<i>Baetisca</i> sp.			17600
Ephemeridae			18501
<i>Ephemer</i> sp.			18600
<i>Hexagenia</i> sp.			18700
Polymitarcyidae			19001
<i>Ephoron</i> sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
<i>Calopteryx</i> sp.			21200
<i>Hetaerina</i> sp.			21300
Lestidae			21501
<i>Archilestes grandis</i>			21604
<i>Lestes</i> sp.			21700
Coenagrionidae			22001
<i>Argia</i> sp.			22300
<i>Enallagma</i> sp.			22600
<i>Ischnura</i> sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
<i>Aeshna</i> sp.			23600
<i>Boyeria</i> sp.			23900
Gomphidae			24501
<i>Dromogomphus</i> sp.			24700
<i>Petaluridae</i>			
<i>Tanypteryx</i> sp.	2	2	
Cordulegastriidae			26001
<i>Cordulegaster</i> sp.			26100
Macromiidae			26501
<i>Macromia</i> sp.	1	1	26700
<i>Didymops</i> sp.			
Corduliidae			27001
<i>Neurocordulia</i> sp.			27400
Libellulidae			28001
<i>Libellula</i> sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
<i>Pteronarcys</i> sp.			30800
Capniidae			33501
<i>Allocapnia</i> sp.			33600
Perlidae			34001
<i>Acroneuria</i> sp.			34100
Perlodidae			35001
<i>Isoperla</i> sp.			35500
Chloroperliidae			36001
<i>Alloperla</i> sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
<i>Hydrometra</i> sp.			40510
Veliidae (small water strider)			41001
<i>Microvelia</i> sp.			41200
<i>Rhagovelia</i> sp.			41400
Gerridae (water strider)			41501
<i>Gerris</i> sp. <i>Agnonius</i> sp.	17	17	41600
<i>Metribates</i> sp.			41800
<i>Rheumatobates</i> sp.			42100
<i>Trepobates</i> sp.			42400
Belostomatidae			42501
<i>Belostoma</i> sp.			42700
<i>Lethocerus</i> sp.			42800
Nepidae (water scorpion)			43001
<i>Nepa apiculata</i>			43205
<i>Ranatra</i> sp.			43300

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae	15	3	44501
Notonectidae (backswimmer)		18	45501
<i>Notonecta</i> sp.		1	45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.			52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.	2	2	57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyralidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.	32	32	60300
<i>Gyrinus</i> sp.	2	2	60400
Halplidae			60501
<i>Halplus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)			76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93220
<i>Amnicola</i> sp.			93600
Pomatiopsidae			
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			95001
<i>Aplexa elongata</i> (lance aplexa)			95050
<i>Physella</i> sp.			95100
Planorbidae			95501
<i>Gyraulus deflectus</i> (flexed gyro)			95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			96002
<i>Planorbella trivolvis</i> (marsh rams-horn)			96280
<i>Planorbella armigera</i> (thicklip rams-horn)			96290
<i>Promenetus exacuus</i> (sharp sprite)			96402
Ancylidae			96801
<i>Ferrissia rivularis</i> (creeping ancylid)			96908
<i>Laevapex fuscus</i> (dusky ancylid)			96930
Bivalvia			97001
Veneroida			
Corbiculidae			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			98001
<i>Sphaerium simile</i> (grooved fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)	1	1	98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoida			
Unionidae (freshwater mussel)			99001
<i>Utterbackia imbecillis</i> (paper pondshell)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontooides ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)	22	23	99326
<i>Quadrula pustulosa</i> (pimpleback)	1A	1	99343
<i>Ambelma plicata</i> (three-ridge)			99351
<i>Fusconaia flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranthus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)	22	2	99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)	21	3	99893
<i>Epioblasma triquetra</i> (snuffbox)			99951
<i>Simpsonia ambigua</i> 4 taxa	81	12	

Total # of taxa 18 Total # of individuals 157

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	7 3.4	20-003
<i>Umbra limi</i> , central mudminnow		34-001
<i>Alosa chrysochloris</i> , Kipjack herring	1 1 0.5	
<i>Esox americanus</i> , grass pickerel		37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	1 0.5	40-005
<i>Amytodon niger</i> , spotfin sucker	1 0.5	
<i>Moxostoma anisurum</i> , silver redhorse		40-008
<i>M. duquesnei</i> , black redhorse	1 1 0.5	40-009
<i>M. erythrurum</i> , golden redhorse	5 2.5	40-010
<i>M. macrolepidotum</i> , shorthead redhorse		40-011
<i>Hypentelium nigricans</i> , n. hog sucker		40-015
<i>Catostomus commersoni</i> , white sucker		40-016
<i>Cyprinus carpio</i> , common carp		43-001
<i>Notemigonus crysoleucas</i> , golden shiner		43-003
<i>Nocomis biguttatus</i> , hornyhead chub		43-004
<i>Erimystax dissimilis</i> , streamline shub		43-008
<i>Rhinichthys atratulus</i> , blacknose dace		43-011
<i>Semotilus atromaculatus</i> , creek chub		43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow		43-015
<i>Pomoxinus erythrogaster</i> , s. redbelly dace		43-016
<i>Notropis atherinoides</i> , emerald shiner	43 21.2	43-020
<i>Notropis photogenis</i> , silver shiner		43-021
<i>Lythrurus umbratilis</i> , redbfin shiner		43-023
<i>L. ardens</i> , rosefin shiner		43-024
<i>Luxilus chrysocephalus</i> , striped shiner		43-025
<i>L. cornutus</i> , common shiner		43-026
<i>Cyprinella whipplei</i> , steelcolor shiner		43-031
<i>C. spilopterus</i> , spotfin shiner	20 9.8	43-032
<i>Notropis stramineus</i> , sand shiner		43-034
<i>N. volucellus</i> , mimic shiner	11 5.4	43-035
<i>N. buccata</i> , silverjaw minnow		43-039
<i>Pimephales promelas</i> , fathead minnow		43-042
<i>P. notatus</i> , bluntnose minnow	9 4.4	43-043
<i>Campostoma anomalum</i> , central stoneroller		43-044
<i>Ictalurus punctatus</i> , channel catfish	1 0.5	47-002
<i>Ameiurus natalis</i> , yellow bullhead		47-004
<i>A. nebulosus</i> , brown bullhead		47-005
<i>A. melas</i> , black bullhead		47-006
<i>Pylodictis olivaris</i> , flathead catfish		47-007
<i>Noturus flavus</i> , stonecat madtom		47-008
<i>N. miurus</i> , brindled madtom	1 0.5	47-012
<i>Fundulus notatus</i> , blackstripe topminnow		54-002
<i>Percopsis omiscomaycus</i> , trout-perch		63-001
<i>Labidesthes sicculus</i> , brook silverside		70-001
<i>Morone chrysops</i> , white bass		74-001
<i>Pomoxis annularis</i> , white crappie		77-001
<i>P. nigromaculatus</i> , black crappie		77-002
<i>Ambloplites rupestris</i> , n. rock bass	3 1.5	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass		77-004
<i>M. punctulatus</i> , spotted bass	1 13 6.4	77-005
<i>M. salmoides</i> , largemouth bass	2 1.0	77-006
<i>Lepomis gulosus</i> , warmouth sunfish		77-007
<i>L. cyanellus</i> , green sunfish		77-008
<i>L. macrochirus</i> , bluegill sunfish	9 4.4	77-009
<i>L. humilis</i> , orangespotted sunfish		77-010
<i>L. megalotis</i> , longear sunfish	65 32.0	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish		77-013
<i>Stizostedion vitreum</i> , walleye	1 1 0.5	80-002
<i>Percina maculata</i> , blackside darter		80-005
<i>P. caprodes</i> , logperch	3 1.5	80-011
<i>Etheostoma nigrum</i> , johnny darter	2 1.0	80-014
<i>E. blennioides</i> , greenside darter		80-015
<i>E. zonale</i> , banded darter	2 1.0	80-016
<i>E. caeruleum</i> , rainbow darter		80-022
<i>E. spectabile</i> , orangethroat darter		80-023
<i>E. flabellare</i> , fantail darter	1 0.5	80-024
hybrid, sauger X walleye		80-026
<i>Aplodinotus grunniens</i> , freshwater drum	1 0.5	85-001
<i>Cottus bairdi</i> , mottled sculpin		90-002

Total # of anomalies 2

Total # of species 23 Total # of individuals 203

Comments: mud puppy eggs on slabs

ECOLOGICAL DATA FOR Long Run

Project	<u>Parkmouth by pass</u>
Locality	<u>Long Run behind Grace Baptist Church, Site B</u>
Date	<u>20 June 2002</u>
Biologists	<u>MA Hoggart, Al Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>Near Boston, 7 1/2 Q.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River
Stream Code —
River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)
Longitude/Latitude 38° 51' 03" N 82° 54' 11" W
Drainage Area —
Mean Annual Discharge —
Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand, hand sieve
Length of Sample 100 meters
Shannon-Weiner Index 3.26

Fish Data Sheet (page 6)

Sampling Method seining
Length of Sample 100 meters
IBI Index Not Calculated
Shannon-Weiner Index 2.63

Terrestrial Data (pages 7-16)

Physiographic Section NA
Dominant Plant Communities NA
Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Long Run

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	<u>76</u> mg/L	___ mg/L
Chloride	<u>0.02</u> mg/L	___ mg/L
Dissolved Oxygen	<u>5.8</u> mg/L	___ mg/L
Dissolved Solids, Total	<u>151</u> mg/L	___ mg/L
Hardness, total	<u>110</u> mg/L	___ mg/L
Iron, total	<u>0</u> mg/L	___ mg/L
Nitrogen, Ammonia	<u>0.27</u> mg/L	___ mg/L
Nitrogen, Nitrate	<u>2.2</u> mg/L	___ mg/L
Nitrogen, Nitrite	<u>0.01</u> mg/L	___ mg/L
Orthophosphate	<u>1.34</u> mg/L	___ mg/L
pH	<u>6.71</u>	___
Sulfate	<u>36</u> mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	_____
Weather Conditions	_____
Air Temperature	<u>32.0</u> °C
Water Temperature	<u>28.0</u> °C
Turbidity	<u>2.1</u> NTU
Conductivity	<u>0.244</u> μS/cm (μmhos/cm)
Flow	___ m/s
Water Level (field observation)	_____
Substrate Mineralogy/ Geologic Unit	_____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	—	—	00100
Platyhelminthes	—	—	
Turbellaria	—	—	01801
Tricladia	—	—	
Planariidae (flatworm)	—	—	
Nematoda	—	—	
Mecmithidae	—	—	
Nematomorpha	—	—	02600
Gordiidae (hair worm)	1	1	02801
Ectoprocta = Bryozoa (moss animal)	—	—	
Phylactolaemata	—	—	03000
Entoprocta	—	—	
<i>Urnatella gracilis</i>	—	—	
Annelida	—	—	03500
Oligochaeta (earthworm)	—	—	03600
Branchiobdellida (crayfish worm)	—	—	
Hirudinea (leech)	—	—	04510
Arthropoda	—	—	
Crustacea	—	—	
Isopoda	—	—	05501
Asellidae (aquatic sow bug)	—	—	05701
<i>Asellus</i> sp.	5	7	05800
<i>Lirceus</i> sp.	—	—	05900
Amphipoda	—	—	06001
Gammaridae (scud)	—	—	06501
<i>Gammarus</i> sp.	—	—	06800
Decapoda	—	—	07501
Cambaridae (crayfish)	—	—	07701
<i>Orconectes rusticus</i>	—	—	08250
<i>Orconectes spinosus</i>	4	4	
Atyidae (freshwater shrimp)	—	—	
<i>Syncaris</i> sp.	—	—	
Insecta	—	—	09000
Collembola	—	—	
Entomobryidae (springtail)	—	—	
Ephemeroptera (mayfly)	—	—	10000
Oligoneuriidae	—	—	
<i>Isonychia</i> sp.	—	—	
Siphonuridae	—	—	10501
Baetidae	—	—	11001
<i>Baetis</i> sp.	—	—	11100
<i>Callibaetis</i> sp.	3	4	11200
Heptageniidae	—	—	12501
<i>Stenonema</i> sp.	17	20	13500
Leptophlebiidae	—	—	14501
<i>Leptophlebia</i> sp.	—	—	14900
<i>Paraleptophlebia</i> sp.	—	—	15000
Ephemerellidae	—	—	15501
<i>Eurylophella</i> sp.	—	—	16200
Tricorythidae	—	—	16501
<i>Tricorythodes</i> sp.	—	—	16700
Caenidae	—	—	17001
<i>Caenis</i> sp.	—	—	17202
Baetiscidae	—	—	17501
<i>Baetisca</i> sp.	—	—	17600
Ephemeridae	—	—	18501
<i>Ephemer</i> sp.	—	—	18600
<i>Hexagenia</i> sp.	—	—	18700
Polymitarcyidae	—	—	19001
<i>Ephoron</i> sp.	—	—	19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda	—	—	
Insecta	—	—	
Odonata - Zygoptera (damselfly)	—	—	20501
Calopterygidae	—	—	21001
<i>Calopteryx</i> sp.	—	—	21200
<i>Hetaerina</i> sp.	—	—	21300
Lestidae	—	—	21501
<i>Archilestes grandis</i>	—	—	21604
<i>Lestes</i> sp.	—	—	21700
Coenagrionidae	—	—	22001
<i>Argia</i> sp.	—	—	22300
<i>Enallagma</i> sp.	—	—	22600
<i>Ischnura</i> sp.	—	—	22700
Odonata - Anisoptera (dragonfly)	—	—	23001
Aeshnidae	—	—	23501
<i>Aeshna</i> sp.	—	—	23600
<i>Boyeria</i> sp.	—	—	23900
Gomphidae	—	—	24501
<i>Dromogomphus</i> sp.	—	—	24700
<i>Stylogomphus</i> sp.	2	2	
Cordulegastridae	—	—	26001
<i>Cordulegaster</i> sp.	—	—	26100
Macromiidae	—	—	26501
<i>Macromia</i> sp.	1	1	26700
<i>Didymops</i> sp.	—	—	
Corduliidae	—	—	27001
<i>Neurocordulia</i> sp.	—	—	27400
Libellulidae	—	—	28001
<i>Libellula</i> sp.	—	—	28500
Plecoptera (stonefly)	—	—	30000
Pteronarcyidae	—	—	30501
<i>Pteronarcys</i> sp.	—	—	30800
Capniidae	—	—	33501
<i>Allocapnia</i> sp.	—	—	33600
Perlidae	—	—	34001
<i>Acroneuria</i> sp.	—	—	34100
Perlodidae	—	—	35001
<i>Isoperla</i> sp.	—	—	35500
Chloroperlidae	—	—	36001
<i>Alloperla</i> sp.	—	—	36100
Hemiptera	—	—	40000
Hydrometridae (water measurer)	—	—	40501
<i>Hydrometra</i> sp.	—	—	40510
Veliidae (small water strider)	—	—	41001
<i>Microvelia</i> sp.	—	—	41200
<i>Rhagovelia</i> sp.	—	—	41400
Gerridae (water strider)	—	—	41501
<i>Gerris</i> sp. <i>Aegoceros</i> sp.	4	4	41600
<i>Metrobates</i> sp.	—	—	41800
<i>Rheumatobates</i> sp.	—	—	42100
<i>Trepobates</i> sp.	—	—	42400
Belostomatidae	—	—	42501
<i>Belostoma</i> sp.	—	—	42700
<i>Lethocerus</i> sp.	—	—	42800
Nepidae (water scorpion)	—	—	43001
<i>Nepa apiculata</i>	—	—	43205
<i>Ranatra</i> sp.	—	—	43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	12	12	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclia</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliplus</i> sp.			60800
<i>Peltodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp. (larva)	1	1	63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			65800
<i>Berosus</i> sp.			66200
<i>Cymbiodyta</i> sp.			66500
<i>Enochrus</i> sp.			67000
<i>Helophorus</i> sp.			67800
<i>Tropisternus</i> sp.			
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	3	3	68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly) <i>Prionocera</i> sp.	1	1	70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)	1	1	73601
Ceratopogonidae			74501
Chironomidae (midge)	4	4	76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93200
<i>Amnicola</i> sp.			93600
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			95001
<i>Aplexa elongata</i> (lance aplexa)			95050
<i>Physella</i> sp.	3	3	95100
Planorbidae			95501
<i>Gyraulus deflectus</i> (flexed gyro)			95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			96002
<i>Planorbella trivolvis</i> (marsh rams-horn)			96280
<i>Planorbella armigera</i> (thicklip rams-horn)			96290
<i>Promenetus exacuouus</i> (sharp sprite)			96402
Ancylidae			96801
<i>Ferrissia rivularis</i> (creeping ancylid)			96908
<i>Laevapex fuscus</i> (dusky ancylid)			96930
Bivalvia			97001
Veneroidea			
Corbiculidae			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			98001
<i>Sphaerium simile</i> (grooved fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoidea			
Unionidae (freshwater mussel)			99001
<i>Utterbackia imbecillis</i> (paper pondshell)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontoidea ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
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<i>Quadrula quadrula</i> (mapleleaf)			99326
<i>Quadrula pustulosa</i> (pimpleback)			99343
<i>Amblema plicata</i> (threeridge)			99351
<i>Fusconaia flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranthus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)			99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99893
<i>Epioblasma triquetra</i> (snuffbox)			99951

Total # of taxa 15 Total # of individuals 68

Comments: _____

ECOLOGICAL DATA FOR Harrison Furnace Creek

Project	<u>Portsmouth by Pass</u>
Locality	<u>Harrison Furnace Creek at site 9</u>
Date	<u>30 Jun 2002</u>
Biologists	<u>MA Hogarth, DL Rice, S Jennings</u>
U.S.G.S. Quadrangle	<u>New Boston, 716 G</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>N/A</u>

Aquatic Data (pages 1-6)

Drainage → Long Run → Little Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 50' 57" N 82° 53' 34" W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand

Length of Sample 100 meters

Shannon-Weiner Index 2.49

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not calculated

Shannon-Weiner Index 2.13

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	58 mg/L	___ mg/L
Chloride	0.09 mg/L	___ mg/L
Dissolved Oxygen	8.2 mg/L	___ mg/L
Dissolved Solids, Total	112 mg/L	___ mg/L
Hardness, total	98 mg/L	___ mg/L
Iron, total	0 mg/L	___ mg/L
Nitrogen, Ammonia	0 mg/L	___ mg/L
Nitrogen, Nitrate	0.04 mg/L	___ mg/L
Nitrogen, Nitrite	0.01 mg/L	___ mg/L
Orthophosphate	0 mg/L	___ mg/L
pH	7.37	___
Sulfate	35 mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	_____
Weather Conditions	_____
Air Temperature	35 °C
Water Temperature	28.5 °C
Turbidity	4.6 NTU
Conductivity	0.236 μ S/cm (μ mhos/cm)
Flow	___ m/s
Water Level (field observation)	_____
Substrate Mineralogy/ Geologic Unit	_____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)			00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)			
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata			03000
Entoprocta			
<i>Urnatella gracilis</i>			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
<i>Asellus</i> sp.			05800
<i>Lirceus</i> sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
<i>Gammarus</i> sp.			06800
Decapoda			07501
Cambaridae (crayfish)			07701
<i>Orconectes rusticus</i>			08250
<i>Orconectes spinosus</i>	2	2	
Atyidae (freshwater shrimp)			
<i>Syncaris</i> sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
<i>Isonychia</i> sp.			
Siphonuridae			10501
Baetidae			11001
<i>Baetis</i> sp.			11100
<i>Callibaetis</i> sp.			11200
Heptageniidae			12501
<i>Stenonema</i> sp.	6	6	13500
Leptophlebiidae			14501
<i>Leptophlebia</i> sp.			14900
<i>Paraleptophlebia</i> sp.			15000
Ephemerellidae			15501
<i>Eurylophella</i> sp.			16200
Tricorythidae			16501
<i>Tricorythodes</i> sp.			16700
Caenidae			17001
<i>Caenis</i> sp.			17202
Baetiscidae			17501
<i>Baetisca</i> sp.			17600
Ephemeridae			18501
<i>Ephemer</i> sp.			18600
<i>Hexagenia</i> sp.			18700
Polymitarcyidae			19001
<i>Ephoron</i> sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
<i>Calopteryx</i> sp.			21200
<i>Hetaerina</i> sp.			21300
Lestidae			21501
<i>Archilestes grandis</i>			21604
<i>Lestes</i> sp.			21700
Coenagrionidae			22001
<i>Argia</i> sp.			22300
<i>Enallagma</i> sp.			22600
<i>Ischnura</i> sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
<i>Aeshna</i> sp.			23600
<i>Boyeria</i> sp.			23900
Gomphidae			24501
<i>Dromogomphus</i> sp.			24700
Cordulegastridae			26001
<i>Cordulegaster</i> sp.			26100
Macromiidae			26501
<i>Macromia</i> sp.			26700
<i>Didymops</i> sp.			
Corduliidae			27001
<i>Neurocordulia</i> sp.			27400
Libellulidae			28001
<i>Libellula</i> sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
<i>Pteronarcys</i> sp.			30800
Capniidae			33501
<i>Allocapnia</i> sp.			33600
Perlidae			34001
<i>Acroneuria</i> sp.			34100
Perlodidae			35001
<i>Isoperla</i> sp.			35500
Chloroperlidae			36001
<i>Alloperla</i> sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
<i>Hydrometra</i> sp.			40510
Veliidae (small water strider)			41001
<i>Microvelia</i> sp.			41200
<i>Rhagovelia</i> sp.			41400
Gerridae (water strider)			41501
<i>Gerris</i> sp.			41600
<i>Metrobates</i> sp.			41800
<i>Rheumatobates</i> sp.			42100
<i>Trepobates</i> sp.			42400
Belostomatidae			42501
<i>Belostoma</i> sp.			42700
<i>Lethocerus</i> sp.			42800
Nepidae (water scorpion)			43001
<i>Nepa apiculata</i>			43205
<i>Ranatra</i> sp.			43300

MACROBENTHOS DATA SHEET

common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (aldertly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	37	37	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.	1	1	53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyralidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliphus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			65800
<i>Berosus</i> sp.			66200
<i>Cymbiodyta</i> sp.			66500
<i>Enochrus</i> sp.			67000
<i>Helophorus</i> sp.	4	4	67800
<i>Tropisternus</i> sp.			
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	2	2	68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly) <i>Aricnocera</i> sp.	3	3	70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	7	7	76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeedge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93220
<i>Amnicola</i> sp.			93600
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)			95001
<i>Aplexa elongata</i> (lance aplexa)			95050
<i>Physella</i> sp.	2	2	95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)			95501
<i>Gyraulus deflectus</i> (flexed gyro)			95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			96002
<i>Planorbella trivolvis</i> (marsh rams-horn)			96280
<i>Planorbella armigera</i> (thicklip rams-horn)			96290
<i>Promenetus exacuus</i> (sharp sprite)			96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)			96801
<i>Ferrissia rivularis</i> (creeping ancylid)			96908
<i>Laevapex fuscus</i> (dusky ancylid)			96930
Bivalvia			
Veneroidea			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)			98001
<i>Sphaerium simile</i> (grooved fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoidea			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)			99001
<i>Utterbackia imbecillis</i> (paper pondshell)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontoides ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)			99326
<i>Quadrula pustulosa</i> (pimpleback)			99343
<i>Amblema plicata</i> (threeridge)			99351
<i>Fusconata flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranchus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)			99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99893
<i>Epioblasma triquetra</i> (snuffbox)			99951

Total # of taxa 9 Total # of individuals 64

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	— — —	20-003
<i>Umbra limi</i> , central mudminnow	— — —	34-001
<i>Esox americanus</i> , grass pickerel	— — —	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	— — —	40-005
<i>Moxostoma anisurum</i> , silver redhorse	— — —	40-008
<i>M. duquesnei</i> , black redhorse	— — —	40-009
<i>M. erythrurum</i> , golden redhorse	— — —	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	— — —	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	— — —	40-015
<i>Catostomus commersoni</i> , white sucker	— — —	40-016
<i>Cyprinus carpio</i> , common carp	— — —	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	— — —	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	— — —	43-004
<i>Erimystax dissimilis</i> , streamline shub	— — —	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	371 40.9	43-011
<i>Semotilus atromaculatus</i> , creek chub	47 5.2	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	— — —	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	29 3.2	43-016
<i>Notropis atherinoides</i> , emerald shiner	— — —	43-020
<i>Notropis hotogenis</i> , silver shiner	— — —	43-021
<i>Lythrurus umbratilis</i> , redbfin shiner	— — —	43-023
<i>L. ardens</i> , rosefin shiner	2 0.2	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	2 0.2	43-025
<i>L. cornutus</i> , common shiner	— — —	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	— — —	43-031
<i>C. spilopterus</i> , spotfin shiner	— — —	43-032
<i>Notropis stramineus</i> , sand shiner	3 0.3	43-034
<i>N. volucellus</i> , mimic shiner	— — —	43-035
<i>N. buccata</i> , silverjaw minnow	252 27.8	43-039
<i>Pimephales promelas</i> , fathead minnow	— — —	43-042
<i>P. notatus</i> , bluntnose minnow	17 1.9	43-043
<i>Campostoma anomalum</i> , central stoneroller	178 4.7	43-044
<i>Ictalurus punctatus</i> , channel catfish	— — —	47-002
<i>Ameiurus natalis</i> , yellow bullhead	— — —	47-004
<i>A. nebulosus</i> , brown bullhead	— — —	47-005
<i>A. melas</i> , black bullhead	— — —	47-006
<i>Pylodictis olivaris</i> , flathead catfish	— — —	47-007
<i>Noturus flavus</i> , stonecat madtom	— — —	47-008
<i>N. miurus</i> , brindled madtom	— — —	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	— — —	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	— — —	63-001
<i>Labidesthes sicculus</i> , brook silverside	— — —	70-001
<i>Morone chrysops</i> , white bass	— — —	74-001
<i>Pomoxis annularis</i> , white crappie	— — —	77-001
<i>P. nigromaculatus</i> , black crappie	— — —	77-002
<i>Ambloplites rupestris</i> , n. rock bass	— — —	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	— — —	77-004
<i>M. punctulatus</i> , spotted bass	— — —	77-005
<i>M. salmoides</i> , largemouth bass	— — —	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	— — —	77-007
<i>L. cyanellus</i> , green sunfish	1 0.1	77-008
<i>L. macrochirus</i> , bluegill sunfish	— — —	77-009
<i>L. humilis</i> , orangespotted sunfish	— — —	77-010
<i>L. megalotis</i> , longear sunfish	1 0.1	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	— — —	77-013
<i>Stizostedion vitreum</i> , walleye	— — —	80-002
<i>Percina maculata</i> , blackside darter	— — —	80-005
<i>P. caprodes</i> , logperch	— — —	80-011
<i>Etheostoma nigrum</i> , johnny darter	2 0.2	80-014
<i>E. blennioides</i> , greenside darter	— — —	80-015
<i>E. zonale</i> , banded darter	— — —	80-016
<i>E. caeruleum</i> , rainbow darter	1 0.1	80-022
<i>E. spectabile</i> , orangethroat darter	— — —	80-023
<i>E. flabellare</i> , fantail darter	— — —	80-024
hybrid, sauger X walleye	— — —	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	— — —	85-001
<i>Cottus bairdi</i> , mottled sculpin	— — —	90-002

Total # of anomalies 0

Total # of species 13 Total # of individuals 906

Comments: _____

ECOLOGICAL DATA FOR Candy Run

Project	<u>Portsmouth Bypass</u>
Locality	<u>Candy Run, site 10, at cul along Lucasville - Mrinterd Rd.</u>
Date	<u>20 June 2002</u>
Biologists	<u>MA Staggart, DL Rice, S. Jennings</u>
U.S.G.S. Quadrangle	<u>New Boston, 7 1/2 Q.</u>
Ecoregion	<u>Western Appalachian Plateau</u>
Endangered Species	<u>NA</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Scioto River → Ohio River
Stream Code ---
River Mile ---

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)
Longitude/Latitude 38° 51' 53" N 82° 56' 13" W
Drainage Area ---
Mean Annual Discharge -
Pollutant Source ---

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting
Length of Sample 100 meters
Shannon-Weiner Index 3.16

Fish Data Sheet (page 6)

Sampling Method seining
Length of Sample 100 meters
IBI Index Not calculated
Shannon-Weiner Index 1.40

Terrestrial Data (pages 7-16)

Physiographic Section NA
Dominant Plant Communities NA
Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	71 mg/L	___ mg/L
Chloride	0.05 mg/L	___ mg/L
Dissolved Oxygen	5.5 mg/L	___ mg/L
Dissolved Solids, Total	157 mg/L	___ mg/L
Hardness, total	118 mg/L	___ mg/L
Iron, total	0 mg/L	___ mg/L
Nitrogen, Ammonia	0.08 mg/L	___ mg/L
Nitrogen, Nitrate	2.2 mg/L	___ mg/L
Nitrogen, Nitrite	0.01 mg/L	___ mg/L
Orthophosphate	0.82 mg/L	___ mg/L
pH	6.8	___
Sulfate	69 mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	_____
Weather Conditions	_____
Air Temperature	23 °C
Water Temperature	21 °C
Turbidity	1.5 NTU
Conductivity	0.313 μ S/cm (umhos/cm)
Flow	___ m/s
Water Level (field observation)	_____
Substrate Mineralogy/ Geologic Unit	_____ _____ _____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)			00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)			
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolacmata	17	17	03000
Entoprocta			
Urnatella gracilis			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
Asellus sp.	2	13	05800
Lirceus sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
Gammarus sp.			06800
Decapoda			07501
Cambaridae (crayfish)			07701
Orconectes rusticus	5	5	08250
<i>Cambarus (new species)*</i>	1	1	
Atyidae (freshwater shrimp)			
Syncares sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
Isonychia sp.			
Siphonuridae			10501
Baetidae			11001
Baetis sp.			11100
Callibaetis sp.	1	1	11200
Heptageniidae			12501
Stenonema sp.	15	15	13500
Leptophlebiidae			14501
Leptophlebia sp.	1	1	14900
Paraleptophlebia sp.			15000
Ephemerellidae			15501
Eurylophella sp.			16200
Tricorythidae			16501
Tricorythodes sp.			16700
Caenidae			17001
Caenis sp.			17202
Baetiscidae			17501
Baetisca sp.			17600
Ephemeridae			18501
Ephemera sp.			18600
Hexagenia sp.			18700
Polymitarcyidae			19001
Ephoron sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
Calopteryx sp.			21200
Hetaerina sp.			21300
Lestidae			21501
Archilestes grandis			21604
Lestes sp.			21700
Coenagrionidae			22001
Argia sp.			22300
Enallagma sp.			22600
Ischnura sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
Aeshna sp.			23600
Boyeria sp.			23900
Gomphidae			24501
Dromogomphus sp.			24700
Cordulegastriidae			26001
Cordulegaster sp.			26100
Macromiidae			26501
Macromia sp.			26700
Didymops sp.			
Corduliidae			27001
Neurocordulia sp.			27400
Libellulidae			28001
Libellula sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
Pteronarcys sp.			30800
Capniidae			33501
Allocapnia sp.			33600
Perlidae			34001
Acroneuria sp.			34100
Perlodidae			35001
Isoperla sp.			35500
Chloroperlidae			36001
Alloperla sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
Hydrometra sp.			40510
Veliidae (small water strider)			41001
Microvelia sp.			41200
Rhagovelia sp.			41400
Gerridae (water strider)			41501
Gerris sp.			41600
Metrobates sp.			41800
Rheumatobates sp.			42100
Trepobates sp.			42400
Belostomatidae			42501
Belostoma sp.			42700
Lethocerus sp.			42800
Nepidae (water scorpion)			43001
Nepa apiculata			43205
Ranatra sp.			43300

* used to be called C. bartonii cavertus

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	1	1	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.	1	1	57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliplus</i> sp.			60800
<i>Peltodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			65800
<i>Berosus</i> sp.			66200
<i>Cymbiodyta</i> sp.			66500
<i>Enochrus</i> sp.			67000
<i>Helophorus</i> sp.			67800
<i>Tropisternus</i> sp.			
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	10	2	12
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.	0	1	1
Diptera			70000
Tipulidae (crane fly) <i>Tipula</i> sp. 1		1	2
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	3	2	5
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93220
<i>Amnicola</i> sp.			93600
Pomatiopsidae			93225
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93601
<i>Pomatiopsis lapidaria</i> (slender walker)			93801
Pleuroceridae			93900
<i>Elimia</i> sp.			
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	7	1	95001
<i>Physella</i> sp.		8	95050
			95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)			95501
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			95904
<i>Planorbella trivolvis</i> (marsh rams-horn)			96002
<i>Planorbella armigera</i> (thicklip rams-horn)			96280
<i>Promenetus exacuous</i> (sharp sprite)			96290
			96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancytid)			96801
<i>Laevapex fuscus</i> (dusky ancytid)			96908
			96930
Bivalvia			
Veneroidea			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)			97001
			97501
			97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)			98001
<i>Sphaerium striatinum</i> (striated fingernailclam)			98003
<i>Musculium partumeium</i> (swamp fingernailclam)			98004
<i>Musculium transversum</i> (long fingernailclam)			98401
<i>Pisidium compressum</i> (ridged-beak peaclam)			98404
<i>Pisidium fallax</i> (river peaclam)			98204
			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoidea			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)			99001
<i>Pyganodon grandis</i> (giant floater)			99026
<i>Anodontoides ferussacianus</i> (cylindrical papershell)			99034
<i>Strophitus undulatus</i> (squaw foot)			99046
<i>Alasmidonta marginata</i> (elk toe)			99051
<i>Alasmidonta viridis</i> (slippershell mussel)			99077
<i>Lasmigona complanata</i> (white heelsplitter)			99079
<i>Lasmigona costata</i> (fluted-shell)			99201
<i>Lasmigona compressa</i> (creek heelsplitter)			99202
<i>Tritogonia verrucosa</i> (pistolgrip)			99203
<i>Quadrula quadrula</i> (mapleleaf)			99276
<i>Quadrula pustulosa</i> (pimpleback)			99326
<i>Ambelma plicata</i> (threeridge)			99343
<i>Fusconia flava</i> (Wabash pigtoe)			99351
<i>Pleurobema sintoxia</i> (round pigtoe)			99380
<i>Elliptio dilatata</i> (spike)			99442
<i>Ptychobranchus fasciolaris</i> (kidneyshell)			99514
<i>Obovaria subrotunda</i> (round hickorynut)			99601
<i>Potamilus alatus</i> (pink heelsplitter)			99674
<i>Toxolasma parvus</i> (hilliput)			99751
<i>Villosa iris</i> (rainbow)			99776
<i>Lampsilis radiata luteola</i> (fat mucket)			99847
<i>Lampsilis ventricosa</i> (plain pocketbook)			99879
<i>Epioblasma triquetra</i> (snuffbox)			99893
			99951

Total # of taxa 14 Total # of individuals 85

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	_____	20-003
<i>Umbrina limi</i> , central mudminnow	_____	34-001
<i>Esox americanus</i> , grass pickerel	_____	37-001
<i>Carpionotus cyprinus</i> , quillback carpsucker	_____	40-005
<i>Moxostoma anisurum</i> , silver redhorse	_____	40-008
<i>M. duquesnei</i> , black redhorse	_____	40-009
<i>M. erythrum</i> , golden redhorse	_____	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	_____	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	_____	40-015
<i>Catostomus commersoni</i> , white sucker	_____	40-016
<i>Cyprinus carpio</i> , common carp	_____	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	_____	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	_____	43-004
<i>Erimystax dissimilis</i> , streamline shub	_____	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	11 3.8	43-011
<i>Semotilus atromaculatus</i> , creek chub	20 6.9	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	_____	43-015
<i>Notropis erythrogaster</i> , s. redbelly dace	215 77.1	43-016
<i>Notropis atherinoides</i> , emerald shiner	_____	43-020
<i>Notropis heteroclitus</i> , silver shiner	_____	43-021
<i>Lythrurus umbratilis</i> , redbelly shiner	_____	43-023
<i>L. ardens</i> , rosefin shiner	_____	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	_____	43-025
<i>L. cornutus</i> , common shiner	_____	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	_____	43-031
<i>C. spilopterus</i> , spotfin shiner	_____	43-032
<i>Notropis stramineus</i> , sand shiner	_____	43-034
<i>N. volucellus</i> , mimic shiner	_____	43-035
<i>N. buccata</i> , silverjaw minnow	_____	43-039
<i>Pimephales promelas</i> , fathead minnow	_____	43-042
<i>P. notatus</i> , bluntnose minnow	_____	43-043
<i>Campostoma anomalum</i> , central stoneroller	29 10.0	43-044
<i>Ameiurus natalis</i> , yellow bullhead	1 0.3	47-002
<i>A. nebulosus</i> , brown bullhead	_____	47-004
<i>A. melas</i> , black bullhead	_____	47-005
<i>Pylodictis olivaris</i> , flathead catfish	_____	47-006
<i>Noturus flavus</i> , stonecat madtom	_____	47-007
<i>N. miurus</i> , brindled madtom	_____	47-008
<i>Fundulus notatus</i> , blackstripe topminnow	_____	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	_____	63-001
<i>Labidesthes sicculus</i> , brook silverside	_____	70-001
<i>Morone chrysops</i> , white bass	_____	74-001
<i>Pomoxis annularis</i> , white crappie	_____	77-001
<i>P. nigromaculatus</i> , black crappie	_____	77-002
<i>Ambloplites rupestris</i> , n. rock bass	_____	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	_____	77-004
<i>M. punctulatus</i> , spotted bass	_____	77-005
<i>M. salmoides</i> , largemouth bass	_____	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	_____	77-007
<i>L. cyanellus</i> , green sunfish	_____	77-008
<i>L. macrochirus</i> , bluegill sunfish	4 1.9	77-009
<i>L. humilis</i> , orangespotted sunfish	_____	77-010
<i>L. megalotis</i> , longear sunfish	_____	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	_____	77-013
<i>Stizostedion vitreum</i> , walleye	_____	80-002
<i>Percina maculata</i> , blackside darter	_____	80-005
<i>P. caprodes</i> , logperch	_____	80-011
<i>Etheostoma nigrum</i> , johnny darter	_____	80-014
<i>E. blennioides</i> , greenside darter	_____	80-015
<i>E. zonale</i> , banded darter	_____	80-016
<i>E. caeruleum</i> , rainbow darter	2 0.7	80-022
<i>E. spectabile</i> , orangethroat darter	7 2.4	80-023
<i>E. flabellare</i> , fantail darter	1 0.3	80-024
hybrid, sauger X walleye	_____	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	_____	85-001
<i>Cottus bairdi</i> , mottled sculpin	_____	90-002

Total # of anomalies 1

Total # of species 8 Total # of individuals 290

Comments: one hybrid

ECOLOGICAL DATA FOR Candy Run

Project	<u>Portsmouth Bypass</u>
Locality	<u>Candy Run at site 11, behind Candy Run Talsomack</u>
Date	<u>21 June 2002</u>
Biologists	<u>MA Hoggarth, DL Rice, S Jennings</u>
U.S.G.S. Quadrangle	<u>New Boston, 5 1/2 D.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>none</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Scioto River → Ohio River

Stream Code ---

River Mile ---

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 52' 14" N 82° 56' 51" W

Drainage Area ---

Mean Annual Discharge ---

Pollutant Source ---

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting

Length of Sample 100 meters

Shannon-Weiner Index 2.26

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not calculated

Shannon-Weiner Index 2.42

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

Candy Ron

WATER QUALITY DATA SHEET

Measured Chemical Parameters: Sample 1 Sample 2

Alkalinity 71 mg/L ___ mg/L

Chloride 0.05 mg/L ___ mg/L

Dissolved Oxygen 5.5 mg/L ___ mg/L

Dissolved Solids, Total 157 mg/L ___ mg/L

Hardness, total 118 mg/L ___ mg/L

Iron, total 0 mg/L ___ mg/L

Nitrogen, Ammonia 0.08 mg/L ___ mg/L

Nitrogen, Nitrate 2.2 mg/L ___ mg/L

Nitrogen, Nitrite 0.01 mg/L ___ mg/L

Orthophosphate 0.88 mg/L ___ mg/L

pH 6.8 ___

Sulfate 69 mg/L ___ mg/L

Water Quality Related Parameters:

Date & Time of Collection _____

Weather Conditions _____

Air Temperature 23 °C

Water Temperature 20.6 °C

Turbidity 1.5 NTU

Conductivity 0.313 μS/cm
(μmhos/cm)

Flow _____ m/s

Water Level (field observation) _____

Substrate Mineralogy/
Geologic Unit _____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code	
	Taken	Total		
Porifera (sponge)			00100	
Platyhelminthes				
Turbellaria			01801	
Tricladia				
Planariidae (flatworm)				
Nematoda				
Mermitidae				
Nematomorpha			02600	
Gordiidae (hair worm)			02801	
Ectoprocta = Bryozoa (moss animal)				
Phylactolaemata	14	0	14	03000
Entoprocta				
Urnatella gracilis				
Annelida			03500	
Oligochaeta (earthworm)			03600	
Branchiobdellida (crayfish worm)				
Hirudinea (leech)			04510	
<i>P. thausi</i>	1	0	1	
Arthropoda				
Crustacea				
Isopoda			05501	
Asellidae (aquatic sow bug)			05701	
<i>Asellus</i> sp.	15	0	15	05800
<i>Lirceus</i> sp.			05900	
Amphipoda			06001	
Gammaridae (scud)			06501	
<i>Gammarus</i> sp.			06800	
Decapoda			07501	
Cambaridae (crayfish)			07701	
<i>Proconectes rusticus sphorosus</i>	10	1	11	08250
<i>Cambarus</i> (new sp.)	2	1	3	
Atyidae (freshwater shrimp)				
<i>Syncaris</i> sp.				
Insecta			09000	
Collembola				
Entomobryidae (springtail)				
Ephemeroptera (mayfly)			10000	
Oligoneuriidae				
<i>Isonychia</i> sp.				
Siphonuridae			10501	
Baetidae			11001	
<i>Baetis</i> sp.			11100	
<i>Callibaetis</i> sp.			11200	
Heptageniidae			12501	
<i>Stenonema</i> sp.	10	1	11	13500
Leptophlebiidae			14501	
<i>Leptophlebia</i> sp.			14900	
<i>Paraleptophlebia</i> sp.			15000	
Ephemerellidae			15501	
<i>Eurylophella</i> sp.			16200	
Tricorythidae			16501	
<i>Tricorythodes</i> sp.			16700	
Caenidae			17001	
<i>Caenis</i> sp.			17202	
Baetiscidae			17501	
<i>Baetisca</i> sp.			17600	
Ephemeridae			18501	
<i>Ephemera</i> sp.			18600	
<i>Hexagenia</i> sp.			18700	
Polymitarcyidae			19001	
<i>Ephoron</i> sp.			19100	

Taxa (common name)	Number of Specimens:		Code	
	Taken	Total		
Arthropoda				
Insecta				
Odonata - Zygoptera (damselfly)			20501	
Calopterygidae			21001	
<i>Calopteryx</i> sp.	2	0	2	21200
<i>Hetaerina</i> sp.				21300
Lestidae			21501	
<i>Archilestes grandis</i>			21604	
<i>Lestes</i> sp.			21700	
Coenagrionidae			22001	
<i>Argia</i> sp.			22300	
<i>Enallagma</i> sp.			22600	
<i>Ischnura</i> sp.			22700	
Odonata - Anisoptera (dragonfly)			23001	
Aeshnidae			23501	
<i>Aeshna</i> sp.			23600	
<i>Boyeria</i> sp.			23900	
Gomphidae			24501	
<i>Dromogomphus</i> sp.	1	1	24700	
Cordulegastridae			26001	
<i>Cordulegaster</i> sp.			26100	
Macromiidae			26501	
<i>Macromia</i> sp.			26700	
<i>Didymops</i> sp.				
Corduliidae			27001	
<i>Neurocordulia</i> sp.			27400	
Libellulidae			28001	
<i>Libellula</i> sp.			28500	
Plecoptera (stonefly)			30000	
Pteronarcyidae			30501	
<i>Pteronarcys</i> sp.			30800	
Capniidae			33501	
<i>Allocaenia</i> sp.			33600	
Perlidae			34001	
<i>Acroneuria</i> sp.			34100	
Perlodidae			35001	
<i>Isoperla</i> sp.			35500	
Chloroperlidae			36001	
<i>Alloperla</i> sp.			36100	
Hemiptera			40000	
Hydrometridae (water measurer)			40501	
<i>Hydrometra</i> sp.			40510	
Veliidae (small water strider)			41001	
<i>Microvelia</i> sp.			41200	
<i>Rhagovelia</i> sp.			41400	
Gerridae (water strider)			41501	
<i>Gerris</i> sp. <i>Aquamis</i>	15	0	15	41600
<i>Metrobates</i> sp.			41800	
<i>Rheumatobates</i> sp.			42100	
<i>Trepobates</i> sp.			42400	
Belostomatidae			42501	
<i>Belostoma</i> sp.			42700	
<i>Lethocerus</i> sp.			42800	
Nepidae (water scorpion)			43001	
<i>Nepa apiculata</i>			43205	
<i>Ranatra</i> sp.			43300	

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.	1	1	48200
<i>Corydalus cornutus</i>	> 1		48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.	> 10	10	52200
<i>Hydropsyche</i> sp.		10	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclaea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Halipilus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly) <i>Tipula</i> 3	3	3	70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)			76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeedge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93220
<i>Ammicola</i> sp.			93600
Pomatiopsidae			
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	_____	20-003
<i>Umbra limi</i> , central mudminnow	_____	34-001
<i>Esox americanus</i> , grass pickerel	_____	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	_____	40-005
<i>Moxostoma anisurum</i> , silver redhorse	_____	40-008
<i>M. duquesnei</i> , black redhorse	_____	40-009
<i>M. erythrurum</i> , golden redhorse	_____	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	_____	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	_____	40-015
<i>Catostomus commersoni</i> , white sucker	6 1.7	40-016
<i>Cyprinus carpio</i> , common carp	_____	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	_____	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	_____	43-004
<i>Erimystax dissimilis</i> , streamline shub	_____	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	12 2.8	43-011
<i>Semotilus atromaculatus</i> , creek chub	57 13.7	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	_____	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	200 47.2	43-016
<i>Ampelis atherinoides</i> , emerald shiner	_____	43-020
<i>A. notogenis</i> , silver shiner	_____	43-021
<i>Lynx umbratilis</i> , redbfin shiner	_____	43-023
<i>L. ardens</i> , rosefin shiner	_____	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	1 0.2	43-025
<i>L. cornutus</i> , common shiner	_____	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	_____	43-031
<i>C. spilopterus</i> , spotfin shiner	_____	43-032
<i>Notropis stramineus</i> , sand shiner	_____	43-034
<i>N. volucellus</i> , mimic shiner	_____	43-035
<i>N. buccata</i> , silverjaw minnow	1 0.2	43-039
<i>Pimephales promelas</i> , fathead minnow	_____	43-042
<i>P. notatus</i> , bluntnose minnow	2 0.5	43-043
<i>Camptostoma anomalum</i> , central stoneroller	125 24.3	43-044
<i>Ictalurus punctatus</i> , channel catfish	_____	47-002
<i>Ameiurus natalis</i> , yellow bullhead	_____	47-004
<i>A. nebulosus</i> , brown bullhead	_____	47-005
<i>A. melas</i> , black bullhead	_____	47-006
<i>Pylodictis olivaris</i> , flathead catfish	_____	47-007
<i>Noturus flavus</i> , stonecat madtom	_____	47-008
<i>N. miurus</i> , brindled madtom	_____	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	_____	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	_____	63-001
<i>Labidesthes sicculus</i> , brook silverside	_____	70-001
<i>Morone chrysops</i> , white bass	_____	74-001
<i>Pomoxis annularis</i> , white crappie	_____	77-001
<i>P. nigromaculatus</i> , black crappie	_____	77-002
<i>Ambloplites rupestris</i> , n. rock bass	_____	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	_____	77-004
<i>M. punctulatus</i> , spotted bass	_____	77-005
<i>M. salmoides</i> , largemouth bass	_____	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	_____	77-007
<i>L. cyanellus</i> , green sunfish	_____	77-008
<i>L. macrochirus</i> , bluegill sunfish	5 1.2	77-009
<i>L. humilis</i> , orangespotted sunfish	_____	77-010
<i>L. megalotis</i> , longear sunfish	_____	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	_____	77-013
<i>Stizostedion vitreum</i> , walleye	_____	80-002
<i>Percina maculata</i> , blackside darter	_____	80-005
<i>P. caprodes</i> , logperch	_____	80-011
<i>Etheostoma nigrum</i> , johnny darter	10 2.4	80-014
<i>E. blennioides</i> , greenside darter	_____	80-015
<i>E. zonale</i> , banded darter	_____	80-016
<i>E. caeruleum</i> , rainbow darter	2 0.5	80-022
<i>E. spectabile</i> , orangethroat darter	3 0.7	80-023
<i>E. flabellare</i> , fantail darter	_____	80-024
hybrid, sauger X walleye	_____	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	_____	85-001
<i>Cottus bairdi</i> , mottled sculpin	_____	90-002

Total # of anomalies 0
 Total # of species 12 Total # of individuals 424

Comments: _____

ECOLOGICAL DATA FOR Stuart's Hollow

Project	<u>Interservice Bypass</u>
Locality	<u>Stuart's Hollow Run at site 12 in Camp Bennett</u>
Date	<u>21 June 2002</u>
Biologists	<u>MA Hoggarth, DL Rice, S Jennings</u>
U.S.G.S. Quadrangle	<u>Minter, 7 1/2 D</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38°46'31"N 82°51'35"W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting

Length of Sample 100 meters

Shannon-Weiner Index 3.02

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not calculated

Shannon-Weiner Index 2.92

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

Stouts Hollow

WATER QUALITY DATA SHEET

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	105 mg/L	___ mg/L
Chloride	0.05 mg/L	___ mg/L
Dissolved Oxygen	1.7 mg/L	___ mg/L
Dissolved Solids, Total	252 mg/L	___ mg/L
Hardness, total	214 mg/L	___ mg/L
Iron, total	0 mg/L	___ mg/L
Nitrogen, Ammonia	Trace mg/L	___ mg/L
Nitrogen, Nitrate	0.8 mg/L	___ mg/L
Nitrogen, Nitrite	Trace mg/L	___ mg/L
Orthophosphate	0.34 mg/L	___ mg/L
pH	6.73	___
Sulfate	122 mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	_____
Weather Conditions	_____
Air Temperature	29 °C
Water Temperature	22.8 °C
Turbidity	1.4 NTU
Conductivity	0.494 μS/cm (μmhos/cm)
Flow	___ m/s
Water Level (field observation)	_____
Substrate Mineralogy/ Geologic Unit	_____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	—	—	00100
Platyhelminthes	—	—	—
Turbellaria	—	—	01801
Tricladia	—	—	—
Planariidae (flatworm)	3	3	—
Nematoda	—	—	—
Mermithidae	—	—	—
Nematomorpha	—	—	02600
Gordiidae (hair worm)	—	—	02801
Ectoprocta = Bryozoa (moss animal)	—	—	—
Phylactolaemata	—	—	03000
Entoprocta	—	—	—
Urnatella gracilis	—	—	—
Annelida	—	—	03500
Oligochaeta (earthworm)	—	—	03600
Branchiobdellida (crayfish worm)	—	—	—
Hirudinea (leech)	—	—	04510
Arthropoda	—	—	—
Crustacea	—	—	—
Isopoda	—	—	05501
Asellidae (aquatic sow bug)	—	—	05701
Asellus sp.	3	0	3
Lirceus sp.	—	—	05900
Amphipoda	—	—	06001
Gammaridae (scud)	—	—	06501
Gammarus sp.	3	1	4
Decapoda	—	—	07501
Cambaridae (crayfish)	—	—	07701
Decapoda ^{SPINOSUS}	2	—	08250
Atyidae (freshwater shrimp)	—	0	2
Syncaris sp.	—	—	—
Insecta	—	—	09000
Collembola	—	—	—
Entomobryidae (springtail)	—	—	—
Ephemeroptera (mayfly)	—	—	10000
Oligoneuriidae	—	—	—
Isonychia sp.	—	—	—
Siphonuridae	—	—	10501
Baetidae	—	—	11001
Baetis sp.	—	—	11100
Callibaetis sp.	—	—	11200
Heptageniidae	—	—	12501
Stenonema sp.	—	—	13500
Leptophlebiidae	—	—	14501
Leptophlebia sp.	—	—	14900
Paraleptophlebia sp.	—	—	15000
Ephemerellidae	—	—	15501
Eurylophella sp.	—	—	16200
Tricorythidae	—	—	16501
Tricorythodes sp.	—	—	16700
Caenidae	—	—	17001
Caenis sp.	—	—	17202
Baetiscidae	—	—	17501
Baetisca sp.	—	—	17600
Ephemeridae	—	—	18501
Ephemera sp.	—	—	18600
Hexagenia sp.	—	—	18700
Polymitarcyidae	—	—	19001
Ephoron sp.	—	—	19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda	—	—	—
Insecta	—	—	—
Odonata - Zygoptera (damselfly)	—	—	20501
Calopterygidae	—	—	21001
Calopteryx sp.	—	—	21200
Hetaerina sp.	—	—	21300
Lestidae	—	—	21501
Archilestes grandis	—	—	21604
Lestes sp.	—	—	21700
Coenagrionidae	—	—	22001
Argia sp.	—	—	22300
Enallagma sp.	—	—	22600
Ischnura sp.	—	—	22700
Odonata - Anisoptera (dragonfly)	—	—	23001
Aeshnidae	—	—	23501
Aeshna sp.	—	—	23600
Boyeria sp.	1	1	23900
Gomphidae	—	—	24501
Dromogomphus sp.	—	—	24700
Cordulegastridae	—	—	26001
Cordulegaster sp.	—	—	26100
Macromiidae	—	—	26501
Macromia sp.	—	—	26700
Didymops sp.	—	—	—
Corduliidae	—	—	27001
Neurocordulia sp.	—	—	27400
Libellulidae	—	—	28001
Libellula sp.	1	1	28500
Plecoptera (stonefly)	—	—	30000
Pteronarcyidae	—	—	30501
Pteronarcys sp.	—	—	30800
Capniidae	—	—	33501
Allocapnia sp.	—	—	33600
Perlidae	—	—	34001
Acroneuria sp.	—	—	34100
Perlodidae	—	—	35001
Isoperla sp.	—	—	35500
Chloroperlidae	—	—	36001
Alloperla sp.	—	—	36100
Hemiptera	—	—	40000
Hydrometridae (water measurer)	—	—	40501
Hydrometra sp.	—	—	40510
Veliidae (small water strider)	—	—	41001
Microvelia sp.	—	—	41200
Rhagovelia sp.	—	—	41400
Gerridae (water strider)	—	—	41501
Gerris sp.	—	—	41600
Metrobates sp.	—	—	41800
Rheumatobates sp.	—	—	42100
Trepobates sp.	1	1	42400
Belostomatidae	—	—	42501
Belostoma sp.	—	—	42700
Lethocerus sp.	—	—	42800
Nepidae (water scorpion)	—	—	43001
Nepa apiculata	—	—	43205
Ranatra sp.	—	—	43300

MACROBENTHOS DATA SHEET

common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.	—	—	43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.	—	—	44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.	—	—	46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.	—	—	47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.	—	—	48200
<i>Corydalus cornutus</i>	—	—	48410
<i>Nigronia</i> sp.	—	—	48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.	—	—	50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.	—	—	51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.	—	—	52200
<i>Hydropsyche</i> sp.	—	—	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.	—	—	53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.	—	—	53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.	—	—	55300
Limnephilidae			56001
<i>Platycentropus</i> sp.	—	—	57851
<i>Pycnopsyche</i> sp.	—	—	57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>	—	—	58505
Leptoceridae			59001
<i>Ceraclea</i> sp.	—	—	59100
<i>Nectopsyche</i> sp.	—	—	59400
Lepidoptera (moth)			59700
Nocturidae			
Pyralidae			59911
<i>Petrophila</i> sp.	—	—	59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.	—	—	60300
<i>Gyrinus</i> sp.	—	—	60400
Halipilidae			60501
<i>Halipilus</i> sp.	—	—	60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.	—	—	62800
<i>Laccophilus</i> sp.	—	—	63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.	—	—	65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.	—	—	65800
<i>Cymbiodyta</i> sp.	—	—	66200
<i>Enochrus</i> sp.	—	—	66500
<i>Helophorus</i> sp.	—	—	67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>	—	—	68025
<i>Psephenus herricki</i>	—	—	68075
Dryopoidae			68101
<i>Helichus</i> sp.	—	—	68130
Elmidae			68501
<i>Dubiraphia</i> sp.	—	—	68700
<i>Stenelmis</i> sp.	—	—	69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)			76001
Tabanidae (horse & deer fly)	—	—	86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>	—	—	86401
Stratiomyidae (soldier fly)	—	—	86501
Muscidae (house fly)	—	—	89601
<i>Limnophora</i> sp.	—	—	89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeridge valvata)	—	—	92330
Viviparidae			92500
<i>Cameloma decisum</i> (pointed cameloma)	—	—	92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)	—	—	92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)	—	—	93200
Hydrobiidae			93220
<i>Amnicola</i> sp.	—	—	93600
Pomatiopsidae			
<i>Pomatiopsis cincinnatiensis</i> (brown walker)	—	—	93225
<i>Pomatiopsis lapidaria</i> (slender walker)	—	—	93601
Pleuroceridae			93801
<i>Elimia</i> sp.	—	—	93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.	—	—	94500
<i>Stagnicola</i> sp.	—	—	94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95001
<i>Physella</i> sp.	<u>10</u>	<u>10</u>	95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95501
<i>Helisoma anceps</i> (two-ridge rams-horn)	_____	_____	95904
<i>Planorbella trivolvis</i> (marsh rams-horn)	_____	_____	96002
<i>Planorbella armigera</i> (thicklip rams-horn)	_____	_____	96280
<i>Promenetus exacuus</i> (sharp sprite)	_____	_____	96290
<i>Promenetus exacuus</i> (sharp sprite)	_____	_____	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96801
<i>Laevapex fuscus</i> (dusky ancylid)	_____	_____	96908
<i>Laevapex fuscus</i> (dusky ancylid)	_____	_____	96930
Bivalvia			
Veneroida			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97001
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97501
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98001
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98003
<i>Sphaerium striatinum</i> (striated fingernailclam)	_____	_____	98004
<i>Musculium partumeium</i> (swamp fingernailclam)	_____	_____	98401
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Pisidium compressum</i> (ridged-beak peaclam)	_____	_____	98204
<i>Pisidium fallax</i> (river peaclam)	_____	_____	98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)	_____	_____	_____
Unionoida			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99001
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99026
<i>Pyganodon grandis</i> (giant floater)	_____	_____	99034
<i>Anodontooides ferussacianus</i> (cylindrical papershell)	_____	_____	99046
<i>Strophitus undulatus</i> (squaw foot)	_____	_____	99051
<i>Alasmidonta marginata</i> (elk toe)	_____	_____	99077
<i>Alasmidonta viridis</i> (slippershell mussel)	_____	_____	99079
<i>Lasmigona complanata</i> (white heelsplitter)	_____	_____	99201
<i>Lasmigona costata</i> (fluted-shell)	_____	_____	99202
<i>Lasmigona compressa</i> (creek heelsplitter)	_____	_____	99203
<i>Tritogonia verrucosa</i> (pistolgrip)	_____	_____	99276
<i>Quadrula quadrula</i> (mapleleaf)	_____	_____	99326
<i>Quadrula pustulosa</i> (pimpleback)	_____	_____	99343
<i>Amblema plicata</i> (threeeridge)	_____	_____	99351
<i>Fusconaia flava</i> (Wabash pigtoe)	_____	_____	99380
<i>Pleurobema sintoxia</i> (round pigtoe)	_____	_____	99442
<i>Elliptio dilatata</i> (spike)	_____	_____	99514
<i>Ptychobranchus fasciolaris</i> (kidneyshell)	_____	_____	99601
<i>Obovaria subrotunda</i> (round hickorynut)	_____	_____	99674
<i>Potamilus alatus</i> (pink heelsplitter)	_____	_____	99751
<i>Toxolasma parvum</i> (lilliput)	_____	_____	99776
<i>Villosa iris</i> (rainbow)	_____	_____	99847
<i>Lampsilis radiata luteola</i> (fat mucket)	_____	_____	99879
<i>Lampsilis ventricosa</i> (plain pocketbook)	_____	_____	99893
<i>Epioblasma triquetra</i> (snuffbox)	_____	_____	99951

Total # of taxa 12 Total # of individuals 29

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	_____	20-003
<i>Umbra limi</i> , central mudminnow	_____	34-001
<i>Esox americanus</i> , grass pickerel	_____	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	_____	40-005
<i>Moxostoma anisurum</i> , silver redhorse	_____	40-008
<i>M. duquesnei</i> , black redhorse	_____	40-009
<i>M. erythrurum</i> , golden redhorse	_____	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	_____	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	_____	40-015
<i>Catostomus commersoni</i> , white sucker	_____ 1 0.6	40-016
<i>Cyprinus carpio</i> , common carp	_____	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	_____	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	_____	43-004
<i>Erimystax dissimilis</i> , streamline shub	_____	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	_____ 32 19.7	43-011
<i>Semotilus atromaculatus</i> , creek chub	_____ 58 32.0	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	_____	43-015
<i>Lepomis erythrogaster</i> , s. redbelly dace	_____ 26 14.4	43-016
<i>Notropis atherinoides</i> , emerald shiner	_____	43-020
<i>Notropis heterodon</i> , silver shiner	_____	43-021
<i>Lythrurus umbratilis</i> , redbfin shiner	_____	43-023
<i>L. ardens</i> , rosefin shiner	_____	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	_____ 4 2.2	43-025
<i>L. cornutus</i> , common shiner	_____	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	_____	43-031
<i>C. spilopterus</i> , spotfin shiner	_____	43-032
<i>Notropis stramineus</i> , sand shiner	_____	43-034
<i>N. volucellus</i> , mimic shiner	_____	43-035
<i>N. buccata</i> , silverjaw minnow	_____	43-039
<i>Pimephales promelas</i> , fathead minnow	_____ 16 8.8	43-042
<i>P. notatus</i> , bluntnose minnow	_____ 11 6.1	43-043
<i>Camptostoma anomalum</i> , central stoneroller	_____ 1 0.6	43-044
<i>Ictalurus punctatus</i> , channel catfish	_____	47-002
<i>Ameiurus natalis</i> , yellow bullhead	_____ 1 0.6	47-004
<i>A. nebulosus</i> , brown bullhead	_____	47-005
<i>A. melas</i> , black bullhead	_____	47-006
<i>Pylodictis olivaris</i> , flathead catfish	_____	47-007
<i>Noturus flavus</i> , stonecat madtom	_____	47-008
<i>N. miurus</i> , brindled madtom	_____	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	_____	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	_____	63-001
<i>Labidesthes sicculus</i> , brook silverside	_____	70-001
<i>Morone chrysops</i> , white bass	_____	74-001
<i>Pomoxis annularis</i> , white crappie	_____	77-001
<i>P. nigromaculatus</i> , black crappie	_____	77-002
<i>Ambloplites rupestris</i> , n. rock bass	_____	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	_____	77-004
<i>M. punctulatus</i> , spotted bass	_____	77-005
<i>M. salmoides</i> , largemouth bass	_____ 9 5.0	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	_____	77-007
<i>L. cyanellus</i> , green sunfish	_____ 13 7.2	77-008
<i>L. macrochirus</i> , bluegill sunfish	_____ 6 3.3	77-009
<i>L. humilis</i> , orangespotted sunfish	_____	77-010
<i>L. megalotis</i> , longear sunfish	_____ 3 1.7	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	_____	77-013
<i>Stizostedion vitreum</i> , walleye	_____	80-002
<i>Percina maculata</i> , blackside darter	_____	80-005
<i>P. caprodes</i> , logperch	_____	80-011
<i>Etheostoma nigrum</i> , johnny darter	_____	80-014
<i>E. blennioides</i> , greenside darter	_____	80-015
<i>E. zonale</i> , banded darter	_____	80-016
<i>E. caeruleum</i> , rainbow darter	_____	80-022
<i>E. spectabile</i> , orangethroat darter	_____	80-023
<i>E. flabellare</i> , fantail darter	_____	80-024
hybrid, sauger X walleye	_____	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	_____	85-001
<i>Cottus bairdi</i> , mottled sculpin	_____	90-002

Total # of anomalies 0

Total # of species 13 Total # of individuals 181

Comments: _____

ECOLOGICAL DATA FOR Shrumberg Hollow

Project	<u>Portsmouth Bypass</u>
Locality	<u>Shrumberg Hollow at site 13</u>
Date	<u>21 June 2002</u>
Biologists	<u>MA Hogganue, DL Rice, S Jennings</u>
U.S.G.S. Quadrangle	<u>Minster, 7 1/2 Q.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>nme</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 47' 43" N 82° 51' 00" W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand, hand sieve

Length of Sample 100 meters

Shannon-Weiner Index 3.19

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not calculated

Shannon-Weiner Index 1.53

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	49 mg/L	___ mg/L
Chloride	0.03 mg/L	___ mg/L
Dissolved Oxygen	5.7 mg/L	___ mg/L
Dissolved Solids, Total	99 mg/L	___ mg/L
Hardness, total	72 mg/L	___ mg/L
Iron, total	0.02 mg/L	___ mg/L
Nitrogen, Ammonia	0.23 mg/L	___ mg/L
Nitrogen, Nitrate	1.27 mg/L	___ mg/L
Nitrogen, Nitrite	0.01 mg/L	___ mg/L
Orthophosphate	0.56 mg/L	___ mg/L
pH	6.79	___
Sulfate	33 mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	_____
Weather Conditions	_____
Air Temperature	40.0 °C
Water Temperature	30.1 °C
Turbidity	2.5 NTU
Conductivity	0.200 μ S/cm (umhos/cm)
Flow	___ m/s
Water Level (field observation)	_____
Substrate Mineralogy/ Geologic Unit	_____

Comments: _____

MACROBENTHOS DATA SHEET

No invertebrate collection taken all captured & returned

(common name)	Number of Specimens:			Code
	Taken	Total		
Porifera (sponge)				00100
Platyhelminthes				
Turbellaria				01801
Tricladia				
Planariidae (flatworm)	13	13	11.9	
Nematoda				
Mermithidae				
Nematomorpha				02600
Gordiidae (hair worm)				02801
Ectoprocta = Bryozoa (moss animal)				
Phylactolaemata	3	3	2.8	
Entoprocta				
Urnatella gracilis				
Annelida				03500
Oligochaeta (earthworm)				03600
Branchiobdellida (crayfish worm)				
Hirudinea (leech)				04510
Arthropoda				
Crustacea				
Isopoda				05501
Asellidae (aquatic sow bug)				05701
Asellus sp.	12	12	11.0	
Lirceus sp.				05900
Amphipoda				06001
Gammaridae (scud)				06501
Gammarus sp.	2	2	1.8	
Decapoda				07501
Cambaridae (crayfish)				07701
Orconectes rusticus	5	5	4.6	
Atyidae (freshwater shrimp)				
Syncares sp.				
Insecta				09000
Collembola				
Entomobryidae (springtail)				
Ephemeroptera (mayfly)				10000
Oligoneuriidae				
Isonychia sp.				
Siphonuridae				10501
Baetidae				11001
Baetis sp.				11100
Callibaetis sp.				11200
Heptageniidae				12501
Stenonema sp.	7	7	6.7	
Leptophlebiidae				14501
Leptophlebia sp.				14900
Paraleptophlebia sp.				15000
Ephemerellidae				15501
Eurylophella sp.				16200
Tricorythidae				16501
Tricorythodes sp.				16700
Caenidae				17001
Caenis sp.				17202
Baetiscidae				17501
Baetisca sp.				17600
Ephemeridae				18501
Ephemera sp.				18600
Hexagenia sp.				18700
Polymitarcyidae				19001
Ephoron sp.				19100

Taxa (common name)	Number of Specimens:			Code
	Taken	Total		
Arthropoda				
Insecta				
Odonata - Zygoptera (damselfly)				20501
Calopterygidae				21001
Calopteryx sp.				21200
Hetaerina sp.				21300
Lestidae				21501
Archilestes grandis				21604
Lestes sp.				21700
Coenagrionidae				22001
Argia sp.				22300
Enallagma sp.				22600
Ischnura sp.				22700
Odonata - Anisoptera (dragonfly)				23001
Aeshnidae				23501
Aeshna sp.				23600
Boyeria sp.				23900
Gomphidae				24501
Dromogomphus sp.		3	2.8	24700
Cordulegastriidae				26001
Cordulegaster sp.				26100
Macromiidae				26501
Macromia sp.				26700
Didymops sp.				
Corduliidae				27001
Neurocordulia sp.				27400
Libellulidae				28001
Libellula sp.				28500
Plecoptera (stonefly)				30000
Pteronarcyidae				30501
Pteronarcys sp.				30800
Capniidae				33501
Allopania sp.				33600
Perlidae				34001
Acroneuria sp.				34100
Perlodidae				35001
Isoperla sp.				35500
Chloroperlidae				36001
Alloperla sp.				36100
Hemiptera				40000
Hydrometridae (water measurer)				40501
Hydrometra sp.				40510
Veliidae (small water strider)				41001
Microvelia sp.				41200
Rhagovelia sp.				41400
Gerridae (water strider)				41501
Gerris sp. Aquarius sp.	17	17	15.6	41600
Metrobates sp.				41800
Rheumatobates sp.				42100
Trepobates sp.				42400
Belostomatidae				42501
Belostoma sp.				42700
Lethocerus sp.				42800
Nepidae (water scorpion)				43001
Nepa apiculata				43205
Ranatra sp.				43300

MACROBENTHOS DATA SHEET

common name	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae	15	15	44501 11.9
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.			52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyralidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliplus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	12	12	76001 11.0
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeridge valvata)			92330
Viviparidae			92500
<i>Campeloma decium</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93220
<i>Amnicola</i> sp.			93600
Pomatiopsidae			93600
<i>Pomatiopsis cincinmatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95001
<i>Physella</i> sp.	<u>22</u>	<u>22</u>	95050
			95100 20,2
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95501
<i>Helisoma anceps</i> (two-ridge rams-horn)	_____	_____	95904
<i>Planorbella trivolvis</i> (marsh rams-horn)	_____	_____	96002
<i>Planorbella armigera</i> (thicklip rams-horn)	_____	_____	96280
<i>Promenetus exacuous</i> (sharp sprite)	_____	_____	96290
	_____	_____	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96801
<i>Lacvavex fuscus</i> (dusky ancylid)	_____	_____	96908
	_____	_____	96930
Bivalvia			
Veneroidea			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97001
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97501
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97601
Sphaeriidae (fingernail clams)	_____	_____	98001
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98003
<i>Sphaerium striatinum</i> (striated fingernailclam)	_____	_____	98004
<i>Musculium partumeium</i> (swamp fingernailclam)	_____	_____	98004
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98401
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Pisidium compressum</i> (ridged-beak peaclam)	_____	_____	98204
<i>Pisidium fallax</i> (river peaclam)	_____	_____	98205
	_____	_____	
	_____	_____	
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)	_____	_____	
Unionoidea			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99001
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99026
<i>Pyganodon grandis</i> (giant floater)	_____	_____	99034
<i>Anodontooides ferussacianus</i> (cylindrical papershell)	_____	_____	99046
<i>Strophitus undulatus</i> (squaw foot)	_____	_____	99051
<i>Alasmidonta marginata</i> (elk toe)	_____	_____	99077
<i>Alasmidonta viridis</i> (slippershell mussel)	_____	_____	99079
<i>Lasmigona complanata</i> (white heelsplitter)	_____	_____	99201
<i>Lasmigona costata</i> (fluted-shell)	_____	_____	99202
<i>Lasmigona compressa</i> (creek heelsplitter)	_____	_____	99203
<i>Tritogonia verrucosa</i> (pistolgrip)	_____	_____	99276
<i>Quadrula quadrula</i> (mapleleaf)	_____	_____	99326
<i>Quadrula pustulosa</i> (pimpleback)	_____	_____	99343
<i>Amblema plicata</i> (three-ridge)	_____	_____	99351
<i>Fusconaia flava</i> (Wabash pigtoe)	_____	_____	99380
<i>Pleurobema sintoxia</i> (round pigtoe)	_____	_____	99442
<i>Elliptio dilatata</i> (spike)	_____	_____	99514
<i>Ptychobranthus fasciolaris</i> (kidneyshell)	_____	_____	99514
<i>Ptychobranthus fasciolaris</i> (kidneyshell)	_____	_____	99601
<i>Obovaria subrotunda</i> (round hickorynut)	_____	_____	99674
<i>Potamilus alatus</i> (pink heelsplitter)	_____	_____	99751
<i>Toxolasma parvum</i> (lilliput)	_____	_____	99776
<i>Villosa iris</i> (rainbow)	_____	_____	99847
<i>Lampsilis radiata luteola</i> (fat mucket)	_____	_____	99879
<i>Lampsilis ventricosa</i> (plain pocketbook)	_____	_____	99893
<i>Epioblasma triquetra</i> (snuffbox)	_____	_____	99951
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	
	_____	_____	

Total # of taxa 11 Total # of individuals 109

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	_____	20-003
<i>Umbra limi</i> , central mudminnow	_____	34-001
<i>Esox americanus</i> , grass pickerel	_____	37-001
<i>Carpionodes cyprinus</i> , quillback carpsucker	_____	40-005
<i>Moxostoma anisurum</i> , silver redhorse	_____	40-008
<i>M. duquesnei</i> , black redhorse	_____	40-009
<i>M. erythrum</i> , golden redhorse	_____	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	_____	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	_____	40-015
<i>Catostomus commersoni</i> , white sucker	_____	40-016
<i>Cyprinus carpio</i> , common carp	_____	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	_____	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	_____	43-004
<i>Erimystax dissimilis</i> , streamline shub	_____	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	_____ <u>23</u> <u>16.0</u>	43-011
<i>Semotilus atromaculatus</i> , creek chub	_____ <u>18</u> <u>12.5</u>	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	_____	43-015
<i>Rhoxinus erythrogaster</i> , s. redbelly dace	_____ <u>102</u> <u>70.8</u>	43-016
<i>Notropis atherinoides</i> , emerald shiner	_____	43-020
<i>Notropis heteroclitus</i> , silver shiner	_____	43-021
<i>Lythrurus umbratilis</i> , redbelly shiner	_____	43-023
<i>L. ardens</i> , rosefin shiner	_____	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	_____	43-025
<i>L. cornutus</i> , common shiner	_____	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	_____	43-031
<i>C. spilopterus</i> , spotfin shiner	_____	43-032
<i>Notropis stramineus</i> , sand shiner	_____	43-034
<i>N. volucellus</i> , mimic shiner	_____	43-035
<i>N. buccata</i> , silverjaw minnow	_____	43-039
<i>Pimephales promelas</i> , fathead minnow	_____	43-042
<i>P. notatus</i> , bluntnose minnow	_____	43-043
<i>Camptostoma anomalum</i> , central stoneroller	_____ <u>1</u> <u>0.7</u>	43-044
<i>Ictalurus punctatus</i> , channel catfish	_____	47-002
<i>Ameiurus natalis</i> , yellow bullhead	_____	47-004
<i>A. nebulosus</i> , brown bullhead	_____	47-005
<i>A. melas</i> , black bullhead	_____	47-006
<i>Pylodictis olivaris</i> , flathead catfish	_____	47-007
<i>Noturus flavus</i> , stonecat madtom	_____	47-008
<i>N. miurus</i> , brindled madtom	_____	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	_____	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	_____	63-001
<i>Labidesthes sicculus</i> , brook silverside	_____	70-001
<i>Morone chrysops</i> , white bass	_____	74-001
<i>Pomoxis annularis</i> , white crappie	_____	77-001
<i>P. nigromaculatus</i> , black crappie	_____	77-002
<i>Ambloplites rupestris</i> , n. rock bass	_____	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	_____	77-004
<i>M. punctulatus</i> , spotted bass	_____	77-005
<i>M. salmoides</i> , largemouth bass	_____	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	_____	77-007
<i>L. cyanellus</i> , green sunfish	_____	77-008
<i>L. macrochirus</i> , bluegill sunfish	_____	77-009
<i>L. humilis</i> , orangespotted sunfish	_____	77-010
<i>L. megalotis</i> , longear sunfish	_____	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	_____	77-013
<i>Stizostedion vitreum</i> , walleye	_____	80-002
<i>Percina maculata</i> , blackside darter	_____	80-005
<i>P. caprodes</i> , logperch	_____	80-011
<i>Etheostoma nigrum</i> , johnny darter	_____	80-014
<i>E. blennioides</i> , greenside darter	_____	80-015
<i>E. zonale</i> , banded darter	_____	80-016
<i>E. caeruleum</i> , rainbow darter	_____	80-022
<i>E. spectabile</i> , orangethroat darter	_____	80-023
<i>E. flabellare</i> , fantail darter	_____	80-024
hybrid, sauger X walleye	_____	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	_____	85-001
<i>Cottus bairdi</i> , mottled sculpin	_____	90-002

Total # of anomalies 0
 Total # of species 4 Total # of individuals 144
 Comments: _____

ECOLOGICAL DATA FOR Mansfield Hollow

Project	<u>Pantsmouth Bypass</u>
Locality	<u>Mansfield Hollow at site 14</u>
Date	<u>21 June 2002</u>
Biologists	<u>NA Hoggarth, DL Rice & Jennings</u>
U.S.G.S. Quadrangle	<u>Minton, 7 1/2 E.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>none</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River
Stream Code —
River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)
Longitude/Latitude 38° 47' 05" N 82° 51' 04" W
Drainage Area —
Mean Annual Discharge —
Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting
Length of Sample culvert pool (10 meters)
Shannon-Weiner Index 2.76

Fish Data Sheet (page 6)

Sampling Method seining
Length of Sample culvert pool (10 meters)
IBI Index Not calculated
Shannon-Weiner Index 0.76

Terrestrial Data (pages 7-16)

Physiographic Section NA
Dominant Plant Communities NA
Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	91 mg/L	___ mg/L
Chloride	0.01 mg/L	___ mg/L
Dissolved Oxygen	5.2 mg/L	___ mg/L
Dissolved Solids, Total	142 mg/L	___ mg/L
Hardness, total	154 mg/L	___ mg/L
Iron, total	0.02 mg/L	___ mg/L
Nitrogen, Ammonia	0.12 mg/L	___ mg/L
Nitrogen, Nitrate	2.9 mg/L	___ mg/L
Nitrogen, Nitrite	0.01 mg/L	___ mg/L
Orthophosphate	0.11 mg/L	___ mg/L
pH	6.65	___
Sulfate	63 mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	_____
Weather Conditions	_____
Air Temperature	37 °C
Water Temperature	24.1 °C
Turbidity	5.9 NTU
Conductivity	0.383 μ S/cm (μ mhos/cm)
Flow	___ m/s
Water Level (field observation)	_____
Substrate Mineralogy/ Geologic Unit	_____

Comments: _____

MACROBENTHOS DATA SHEET

No invertebrate collection made - all returned

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)			00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)	15	15	17.4
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata			03000
Entoprocta			
Urnatella gracilis			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
Asellus sp.	13	13	05800 15.1
Lirceus sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
Gammarus sp.	2	2	06800 2.3
Decapoda			07501
Cambaridae (crayfish)			07701
Orconectes rusticus	17	17	08250 19.8
Atyidae (freshwater shrimp)			
Syncaris sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
Isonychia sp.			
Siphonuridae			10501
Baetidae			11001
Baetis sp.			11100
Callibaetis sp.			11200
Heptageniidae			12501
Stenonema sp.			13500
Leptophlebiidae			14501
Leptophlebia sp.	2	2	14900 2.3
Paraleptophlebia sp.			15000
Ephemereididae			15501
Eurylophella sp.			16200
Tricorythidae			16501
Tricorythodes sp.			16700
Caenidae			17001
Caenis sp.			17202
Baetiscidae			17501
Baetisca sp.			17600
Ephemeridae			18501
Ephemera sp.			18600
Hexagenia sp.			18700
Polymitarcyidae			19001
Ephoron sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
Calopteryx sp.			21200
Hetaerina sp.			21300
Lestidae			21501
Archilestes grandis			21604
Lestes sp.			21700
Coenagrionidae			22001
Argia sp.			22300
Enallagma sp.			22600
Ischnura sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
Aeshna sp.			23600
Boyeria sp.			23900
Gomphidae			24501
Dromogomphus sp.			24700
Cordulegastridae			26001
Cordulegaster sp.			26100
Macromiidae			26501
Macromia sp.			26700
Didymops sp.			
Corduliidae			27001
Neurocordulia sp.			27400
Libellulidae			28001
Libellula sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
Pteronarcys sp.			30800
Capniidae			33501
Allocapnia sp.			33600
Perlidae			34001
Acroneuria sp.			34100
Periodidae			35001
Isoperla sp.			35500
Chloroperlidae			36001
Alloperla sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
Hydrometra sp.			40510
Veliidae (small water strider)			41001
Microvelia sp.			41200
Rhagovelia sp.			41400
Gerridae (water strider)			41501
Gerris sp. Aquarius sp.	12	12	41600 14.0
Metrobates sp.			41800
Rheumatobates sp.			42100
Trepobates sp.			42400
Belostomatidae			42501
Belostoma sp.			42700
Lethocerus sp.			42800
Nepidae (water scorpion)			43001
Nepa apiculata			43205
Ranatra sp.			43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalis cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.			52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Halipilidae			60501
<i>Halipilus</i> sp.			60800
<i>Pelodytes</i> sp.			60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.			65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	13	13	76001 15.1
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i>			
(pointed campeloma)			92516
<i>Cipangopaludina chinensis</i>			
(Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Amnicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i>			
(brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			95001
<i>Aplexa elongata</i> (lance aplexa)			95050
<i>Physella</i> sp.	12	12	95100 M.O
Planorbidae			95501
<i>Gyraulus deflectus</i> (flexed gyro)			95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)			96002
<i>Planorbella trivolvis</i> (marsh rams-horn)			96280
<i>Planorbella armigera</i> (thicklip rams-horn)			96290
<i>Promenetus exacuus</i> (sharp sprite)			96402
Ancylidae			96801
<i>Ferrissia rivularis</i> (creeping ancylid)			96908
<i>Laevapex fuscus</i> (dusky ancylid)			96930
Bivalvia			97001
Veneroida			
Corbiculidae			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			98001
<i>Sphaerium simile</i> (grooved fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoida			
Unionidae (freshwater mussel)			99001
<i>Utterbackia imbecillis</i> (paper pondshell)			99026
<i>Pyganodon grandis</i> (giant floater)			99034
<i>Anodontoides ferussacianus</i> (cylindrical papershell)			99046
<i>Strophitus undulatus</i> (squaw foot)			99051
<i>Alasmidonta marginata</i> (elk toe)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)			99326
<i>Quadrula pustulosa</i> (pimpleback)			99343
<i>Amblema plicata</i> (threeridge)			99351
<i>Fusconaia flava</i> (Wabash pigtoe)			99380
<i>Pleurobema sintoxia</i> (round pigtoe)			99442
<i>Elliptio dilatata</i> (spike)			99514
<i>Ptychobranhus fasciolaris</i> (kidneyshell)			99601
<i>Obovaria subrotunda</i> (round hickorynut)			99674
<i>Potamilus alatus</i> (pink heelsplitter)			99751
<i>Toxolasma parvus</i> (lilliput)			99776
<i>Villosa iris</i> (rainbow)			99847
<i>Lampsilis radiata luteola</i> (fat mucket)			99879
<i>Lampsilis ventricosa</i> (plain pocketbook)			99893
<i>Epioblasma triquetra</i> (snuffbox)			99951

Total # of taxa 8 Total # of individuals 86

Comments: _____

Taxa (common name)	Rel. Taken Total Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	_____	20-003
<i>Umbra limi</i> , central mudminnow	_____	34-001
<i>Esox americanus</i> , grass pickerel	_____	37-001
<i>Carpionotus cyprinus</i> , quillback carpsucker	_____	40-005
<i>Moxostoma anisurum</i> , silver redhorse	_____	40-008
<i>M. duquesnei</i> , black redhorse	_____	40-009
<i>M. erythrurum</i> , golden redhorse	_____	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	_____	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	_____	40-015
<i>Catostomus commersoni</i> , white sucker	_____	40-016
<i>Cyprinus carpio</i> , common carp	_____	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	_____	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	_____	43-004
<i>Erimystax dissimilis</i> , streamline shub	_____	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	_____ 2 71	43-011
<i>Semotilus atromaculatus</i> , creek chub	_____ 6 122	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	_____	43-015
<i>Phoxinus erythrogaster</i> , s. redbelly dace	_____ 71 837	43-016
<i>Notropis atherinoides</i> , emerald shiner	_____	43-020
<i>N. notogenis</i> , silver shiner	_____	43-021
<i>N. virgatus</i> , redfin shiner	_____	43-023
<i>L. ardens</i> , rosefin shiner	_____	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	_____	43-025
<i>L. cornutus</i> , common shiner	_____	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	_____	43-031
<i>C. spilopterus</i> , spotfin shiner	_____	43-032
<i>Notropis stramineus</i> , sand shiner	_____	43-034
<i>N. volucellus</i> , mimic shiner	_____	43-035
<i>N. buccata</i> , silverjaw minnow	_____	43-039
<i>Pimephales promelas</i> , fathead minnow	_____	43-042
<i>P. notatus</i> , bluntnose minnow	_____	43-043
<i>Campostoma anomalum</i> , central stoneroller	_____	43-044
<i>Ictalurus punctatus</i> , channel catfish	_____	47-002
<i>Ameiurus natalis</i> , yellow bullhead	_____	47-004
<i>A. nebulosus</i> , brown bullhead	_____	47-005
<i>A. melas</i> , black bullhead	_____	47-006
<i>Pylodictis olivaris</i> , flathead catfish	_____	47-007
<i>Noturus flavus</i> , stonecat madtom	_____	47-008
<i>N. miurus</i> , brindled madtom	_____	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	_____	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	_____	63-001
<i>Labidesthes sicculus</i> , brook silverside	_____	70-001
<i>Morone chrysops</i> , white bass	_____	74-001
<i>Pomoxis annularis</i> , white crappie	_____	77-001
<i>P. nigromaculatus</i> , black crappie	_____	77-002
<i>Ambloplites rupestris</i> , n. rock bass	_____	77-003

Taxa (common name)	Rel. Taken Total Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	_____	77-004
<i>M. punctulatus</i> , spotted bass	_____	77-005
<i>M. salmoides</i> , largemouth bass	_____	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	_____	77-007
<i>L. cyanellus</i> , green sunfish	_____	77-008
<i>L. macrochirus</i> , bluegill sunfish	_____	77-009
<i>L. humilis</i> , orangespotted sunfish	_____	77-010
<i>L. megalotis</i> , longear sunfish	_____	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	_____	77-013
<i>Stizostedion vitreum</i> , walleye	_____	80-002
<i>Percina maculata</i> , blackside darter	_____	80-005
<i>P. caprodes</i> , logperch	_____	80-011
<i>Etheostoma nigrum</i> , johnny darter	_____	80-014
<i>E. blennioides</i> , greenside darter	_____	80-015
<i>E. zonale</i> , banded darter	_____	80-016
<i>E. caeruleum</i> , rainbow darter	_____	80-022
<i>E. spectabile</i> , orangethroat darter	_____	80-023
<i>E. flabellare</i> , fantail darter	_____	80-024
hybrid, sauger X walleye	_____	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	_____	85-001
<i>Cottus bairdi</i> , mottled sculpin	_____	90-002

Total # of anomalies 0

Total # of species 3 Total # of individuals 49

Comments: _____

ECOLOGICAL DATA FOR Wards Run

Project	<u>Portsmouth Bypass</u>
Locality	<u>Wards Run on S/Ocum; site 15</u>
Date	<u>21 June 2002</u>
Biologists	<u>MA Hoggarth, DL Rice & Scannings</u>
U.S.G.S. Quadrangle	<u>Minton, 7 1/2 Q.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>None</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Little Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 46' 03" N 82° 50' 34" W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting

Length of Sample 100 meters

Shannon-Weiner Index 2.09

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not calculated

Shannon-Weiner Index 2.66

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

WATER QUALITY DATA SHEET

Measured Chemical Parameters:	Sample 1	Sample 2
Alkalinity	65 mg/L	___ mg/L
Chloride	0 mg/L	___ mg/L
Dissolved Oxygen	4.4 mg/L	___ mg/L
Dissolved Solids, Total	173 mg/L	___ mg/L
Hardness, total	114 mg/L	___ mg/L
Iron, total	0.02 mg/L	___ mg/L
Nitrogen, Ammonia	0 mg/L	___ mg/L
Nitrogen, Nitrate	2.8 mg/L	___ mg/L
Nitrogen, Nitrite	0 mg/L	___ mg/L
Orthophosphate	4.55 mg/L	___ mg/L
pH	6.78	___
Sulfate	45 mg/L	___ mg/L

Water Quality Related Parameters:	
Date & Time of Collection	___
Weather Conditions	___
Air Temperature	33 °C
Water Temperature	24.7 °C
Turbidity	3.5 NTU
Conductivity	0.347 μ S/cm (μ mhos/cm)
Flow	___ m/s
Water Level (field observation)	___
Substrate Mineralogy/ Geologic Unit	___

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	_____	_____	00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)	_____	_____	
Nematoda			
Mermithidae	_____	_____	
Nematomorpha			02600
Gordiidae (hair worm)	_____	_____	02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata	_____	_____	03000
Entoprocta			
<i>Urnatella gracilis</i>	_____	_____	
Annelida			03500
Oligochaeta (earthworm)	_____	_____	03600
Branchiobdellida (crayfish worm)	_____	_____	
Hirudinea (leech)	_____	_____	04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
<i>Asellus</i> sp.	_____	_____	05800
<i>Lirceus</i> sp.	_____	_____	05900
Amphipoda			06001
Gammaridae (scud)			06501
<i>Gammarus</i> sp.	_____	_____	06800
Decapoda			07501
Cambaridae (crayfish)			07701
<i>Orconectes rusticus</i>	_____	_____	08250
Atyidae (freshwater shrimp)			
<i>Syncaris</i> sp.	_____	_____	
Insecta			09000
Collembola			
Entomobryidae (springtail)	_____	_____	
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
<i>Isonychia</i> sp.	_____	_____	
Siphonuridae	_____	_____	10501
Baetidae			11001
<i>Baetis</i> sp.	_____	_____	11100
<i>Callibaetis</i> sp.	_____	_____	11200
Heptageniidae			12501
<i>Stenonema</i> sp.	7	7	13500
Leptophlebiidae			14501
<i>Leptophlebia</i> sp.	_____	_____	14900
<i>Paraleptophlebia</i> sp.	_____	_____	15000
Ephemerellidae			15501
<i>Eurylophella</i> sp.	_____	_____	16200
Tricorythidae			16501
<i>Tricorythodes</i> sp.	_____	_____	16700
Caenidae			17001
<i>Caenis</i> sp.	_____	_____	17202
Baetiscidae			17501
<i>Baetisca</i> sp.	_____	_____	17600
Ephemeridae			18501
<i>Ephemera</i> sp.	_____	_____	18600
<i>Hexagenia</i> sp.	_____	_____	18700
Polymitarcyidae			19001
<i>Ephoron</i> sp.	_____	_____	19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
<i>Calopteryx</i> sp.	1	1	21200
<i>Hetaerina</i> sp.	_____	_____	21300
Lestidae			21501
<i>Archilestes grandis</i>	_____	_____	21604
<i>Lestes</i> sp.	_____	_____	21700
Coenagrionidae			22001
<i>Argia</i> sp.	_____	_____	22300
<i>Enallagma</i> sp.	_____	_____	22600
<i>Ischnura</i> sp.	_____	_____	22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
<i>Aeshna</i> sp.	_____	_____	23600
<i>Boyeria</i> sp.	_____	_____	23900
Gomphidae			24501
<i>Dromogomphus</i> sp.	_____	_____	24700
Cordulegastridae			26001
<i>Cordulegaster</i> sp.	_____	_____	26100
Macromiidae			26501
<i>Macromia</i> sp.	_____	_____	26700
<i>Didymops</i> sp.	_____	_____	
Corduliidae			27001
<i>Neurocordulia</i> sp.	_____	_____	27400
Libellulidae			28001
<i>Libellula</i> sp.	_____	_____	28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
<i>Pteronarcys</i> sp.	_____	_____	30800
Capniidae			33501
<i>Allocapnia</i> sp.	_____	_____	33600
Perlidae			34001
<i>Acroneuria</i> sp.	_____	_____	34100
Perlodidae			35001
<i>Isoperla</i> sp.	_____	_____	35500
Chloroperlidae			36001
<i>Alloperla</i> sp.	_____	_____	36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
<i>Hydrometra</i> sp.	_____	_____	40510
Veliidae (small water strider)			41001
<i>Microvelia</i> sp.	_____	_____	41200
<i>Rhagovelia</i> sp.	_____	_____	41400
Gerridae (water strider)			41501
<i>Gerris</i> sp.	_____	_____	41600
<i>Metrobates</i> sp.	_____	_____	41800
<i>Rheumatobates</i> sp.	_____	_____	42100
<i>Trepobates</i> sp.	_____	_____	42400
Belostomatidae			42501
<i>Belostoma</i> sp.	_____	_____	42700
<i>Lethocerus</i> sp.	_____	_____	42800
Nepidae (water scorpion)			43001
<i>Nepa apiculata</i>	_____	_____	43205
<i>Ranatra</i> sp.	_____	_____	43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	<u>12</u>	<u>12</u>	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Halipidae			60501
<i>Halipus</i> sp.			60800
<i>Peltodytes</i> sp.	<u>1</u>	<u>1</u>	60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.			63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			65800
<i>Berosus</i> sp.			66200
<i>Cymbiodyta</i> sp.			66500
<i>Enochrus</i> sp.			67000
<i>Helophorus</i> sp.			67800
<i>Tropisternus</i> sp.			
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	<u>2</u>	<u>2</u>	68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	<u>10</u>	<u>10</u>	76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (soldier fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			
Hydrobiidae			93200
<i>Ammicola</i> sp.			93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95001
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95050
<i>Physella</i> sp.	_____	_____	95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95501
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)	_____	_____	96002
<i>Planorbella trivolvis</i> (marsh rams-horn)	_____	_____	96280
<i>Planorbella armigera</i> (thicklip rams-horn)	_____	_____	96290
<i>Promenetus exacuous</i> (sharp sprite)	_____	_____	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96801
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96908
<i>Laevapex fuscus</i> (dusky ancylid)	_____	_____	96930
Bivalvia			
Veneroidea			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97501
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98001
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98003
<i>Sphaerium striatinum</i> (striated fingernailclam)	_____	_____	98004
<i>Musculium partumeium</i> (swamp fingernailclam)	_____	_____	98401
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Pisidium compressum</i> (ridged-beak peaclam)	_____	_____	98204
<i>Pisidium fallax</i> (river peaclam)	_____	_____	98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)	_____	_____	
Unionoidea			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99001
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99026
<i>Pyganodon grandis</i> (giant floater)	_____	_____	99034
<i>Anodontooides ferussacianus</i> (cylindrical papershell)	_____	_____	99046
<i>Strophitus undulatus</i> (squaw foot)	_____	_____	99051
<i>Alasmidonta marginata</i> (elk toe)	_____	_____	99077
<i>Alasmidonta viridis</i> (slippershell mussel)	_____	_____	99079
<i>Lasmigona complanata</i> (white heelsplitter)	_____	_____	99201
<i>Lasmigona costata</i> (fluted-shell)	_____	_____	99202
<i>Lasmigona compressa</i> (creek heelsplitter)	_____	_____	99203
<i>Tritogonia verrucosa</i> (pistolgrip)	_____	_____	99276
<i>Quadrula quadrula</i> (mapleleaf)	_____	_____	99326
<i>Quadrula pustulosa</i> (pimpleback)	_____	_____	99343
<i>Amblema plicata</i> (threeridge)	_____	_____	99351
<i>Fusconaia flava</i> (Wabash pigtoe)	_____	_____	99380
<i>Pleurobema sintoxia</i> (round pigtoe)	_____	_____	99442
<i>Elliptio dilatata</i> (spike)	_____	_____	99514
<i>Ptychobranchus fasciolaris</i> (kidneyshell)	_____	_____	99601
<i>Obovaria subrotunda</i> (round hickorynut)	_____	_____	99674
<i>Potamilus alatus</i> (pink heelsplitter)	_____	_____	99751
<i>Toxolasma parvum</i> (lilliput)	_____	_____	99776
<i>Villosa iris</i> (rainbow)	_____	_____	99847
<i>Lampsilis radiata luteola</i> (fat mucket)	_____	_____	99879
<i>Lampsilis ventricosa</i> (plain pocketbook)	_____	_____	99893
<i>Epioblasma triquetra</i> (snuffbox)	_____	_____	99951

Total # of taxa 6 Total # of individuals 33

Comments: _____

Taxa (common name)	Rel.		Codes
	Taken	Total Abun.	
<i>Dorosoma cepedianum</i> , gizzard shad	---	---	20-003
<i>Umbra limi</i> , central mudminnow	---	---	34-001
<i>Esox americanus</i> , grass pickerel	---	---	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	---	---	40-005
<i>Moxostoma anisurum</i> , silver redhorse	---	---	40-008
<i>M. duquesnei</i> , black redhorse	---	---	40-009
<i>M. erythrum</i> , golden redhorse	---	---	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	---	---	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	---	---	40-015
<i>Catostomus commersoni</i> , white sucker	---	1 0.3	40-016
<i>Cyprinus carpio</i> , common carp	---	---	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	---	---	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	---	---	43-004
<i>Erimystax dissimilis</i> , streamline shub	---	---	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	---	4 1.0	43-011
<i>Semotilus atromaculatus</i> , creek chub	---	14 3.6	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	---	---	43-015
<i>Lepomis erythrogaster</i> , s. redbelly dace	---	---	43-016
<i>Lepomis atherinoides</i> , emerald shiner	---	5 1.3	43-020
<i>Lepomis holbrooki</i> , silver shiner	---	---	43-021
<i>Lepomis umbratilis</i> , redbfin shiner	---	---	43-023
<i>L. ardens</i> , rosefin shiner	---	14 3.6	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	---	154 39.1	43-025
<i>L. cornutus</i> , common shiner	---	---	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	---	---	43-031
<i>C. spilopterus</i> , spotfin shiner	---	3 0.8	43-032
<i>Notropis stramineus</i> , sand shiner	---	1 0.3	43-034
<i>N. volucellus</i> , mimic shiner	---	---	43-035
<i>N. buccata</i> , silverjaw minnow	---	37 9.7	43-039
<i>Pimephales promelas</i> , fathead minnow	---	2 0.5	43-042
<i>P. notatus</i> , bluntnose minnow	---	80 20.3	43-043
<i>Campostoma anomalum</i> , central stoneroller	---	63 16.0	43-044
<i>Ictalurus punctatus</i> , channel catfish	---	---	47-002
<i>Ameiurus natalis</i> , yellow bullhead	---	1 0.3	47-004
<i>A. nebulosus</i> , brown bullhead	---	---	47-005
<i>A. melas</i> , black bullhead	---	---	47-006
<i>Pylodictis olivaris</i> , flathead catfish	---	---	47-007
<i>Noturus flavus</i> , stonecat madtom	---	---	47-008
<i>N. miurus</i> , brindled madtom	---	---	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	---	---	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	---	---	63-001
<i>Labidesthes sicculus</i> , brook silverside	---	---	70-001
<i>Morone chrysops</i> , white bass	---	---	74-001
<i>Pomoxis annularis</i> , white crappie	---	---	77-001
<i>P. nigromaculatus</i> , black crappie	---	---	77-002
<i>Ambloplites rupestris</i> , n. rock bass	---	---	77-003

Taxa (common name)	Rel.		Code
	Taken	Total Abun.	
<i>Micropterus dolomieu</i> , smallmouth bass	---	---	77-004
<i>M. punctulatus</i> , spotted bass	---	---	77-005
<i>M. salmoides</i> , largemouth bass	---	1 0.3	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	---	---	77-007
<i>L. cyanellus</i> , green sunfish	---	1 0.3	77-008
<i>L. macrochirus</i> , bluegill sunfish	---	9 2.3	77-009
<i>L. humilis</i> , orangespotted sunfish	---	---	77-010
<i>L. megalotis</i> , longear sunfish	---	1 0.3	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	---	---	77-013
<i>Stizostedion vitreum</i> , walleye	---	---	80-002
<i>Percina maculata</i> , blackside darter	---	---	80-005
<i>P. caprodes</i> , logperch	---	---	80-011
<i>Etheostoma nigrum</i> , johnny darter	---	---	80-014
<i>E. blennioides</i> , greenside darter	---	---	80-015
<i>E. zonale</i> , banded darter	---	---	80-016
<i>E. caeruleum</i> , rainbow darter	---	---	80-022
<i>E. spectabile</i> , orangethroat darter	---	---	80-023
<i>E. flabellare</i> , fantail darter	---	3 1.0	80-024
hybrid, sauger X walleye	---	---	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	---	---	85-001
<i>Cottus bairdi</i> , mottled sculpin	---	---	90-002

Total # of anomalies 0
 Total # of species 18 Total # of individuals 394

Comments: _____

ECOLOGICAL DATA FOR Miller Run

Project	<u>Portsmouth Bypass</u>
Locality	<u>Miller Run, site 16, at Fairgrounds Rd. Bridge.</u>
Date	<u>22 June 2002</u>
Biologists	<u>MA Hoggan, DL McE, S. Jennings</u>
U.S.G.S. Quadrangle	<u>Lucasville, 1/2 d.</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>none</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Scioto River → Ohio River

Stream Code —

River Mile —

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 39° 54' 19" N 83° 00' 13" W

Drainage Area —

Mean Annual Discharge —

Pollutant Source —

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting

Length of Sample 100 meters

Shannon-Weiner Index 2.82

Fish Data Sheet (page 6)

Sampling Method electrofishing (45 minutes - bridge pool); seining (45 minutes)

Length of Sample 100 meters

IBI Index 36

Shannon-Weiner Index 3.85

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

Miller Run

WATER QUALITY DATA SHEET

Measured Chemical Parameters:

Sample 1 Sample 2

Alkalinity	<u>104</u> mg/L	___ mg/L
Chloride	<u>0.11</u> mg/L	___ mg/L
Dissolved Oxygen	<u>4.9</u> mg/L	___ mg/L
Dissolved Solids, Total	<u>243</u> mg/L	___ mg/L
Hardness, total	<u>190</u> mg/L	___ mg/L
Iron, total	<u>0.03</u> mg/L	___ mg/L
Nitrogen, Ammonia	<u>0.13</u> mg/L	___ mg/L
Nitrogen, Nitrate	<u>1.3</u> mg/L	___ mg/L
Nitrogen, Nitrite	<u>0.02</u> mg/L	___ mg/L
Orthophosphate	<u>0.21</u> mg/L	___ mg/L
pH	<u>6.5</u>	___
Sulfate	<u>98</u> mg/L	___ mg/L

Water Quality Related Parameters:

Date & Time of Collection _____

Weather Conditions _____

Air Temperature

31 °C

Water Temperature

23.4 °C

Turbidity

8.6 NTU

Conductivity

0.485 µS/cm
(µmhos/cm)

Flow

___ m/s

Water Level (field observation) _____

Substrate Mineralogy/
Geologic Unit _____

Comments: _____

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	—	—	00100
Platyhelminthes			
Turbellaria			01801
Tricladia			
Planariidae (flatworm)	13	0	13
Nematoda			
Mermithidae			
Nematomorpha			02600
Gordiidae (hair worm)			02801
Ectoprocta = Bryozoa (moss animal)			
Phylactolaemata	2	0	2
Entoprocta			
<i>Urnatella gracilis</i>			
Annelida			03500
Oligochaeta (earthworm)			03600
Branchiobdellida (crayfish worm)			
Hirudinea (leech)			04510
Arthropoda			
Crustacea			
Isopoda			05501
Asellidae (aquatic sow bug)			05701
<i>Asellus</i> sp.			05800
<i>Lirceus</i> sp.			05900
Amphipoda			06001
Gammaridae (scud)			06501
<i>Gammarus</i> sp.			06800
Decapoda			07501
Decapodidae (crayfish)			07701
<i>Conectes rusticus</i> <i>spinosus</i>	17	17	08250
Atyidae (freshwater shrimp)			
<i>Syncares</i> sp.			
Insecta			09000
Collembola			
Entomobryidae (springtail)			
Ephemeroptera (mayfly)			10000
Oligoneuriidae			
<i>Isonychia</i> sp.			
Siphonuridae			10501
Baetidae			11001
<i>Baetis</i> sp.			11100
<i>Callibaetis</i> sp.	1	1	11200
Heptageniidae			12501
<i>Stenonema</i> sp.			13500
Leptophlebiidae			14501
<i>Leptophlebia</i> sp.			14900
<i>Paraleptophlebia</i> sp.			15000
Ephemereillidae			15501
<i>Eurylophella</i> sp.			16200
Tricorythidae			16501
<i>Tricorythodes</i> sp.			16700
Caenidae			17001
<i>Caenis</i> sp.			17202
Baetiscidae			17501
<i>Baetisca</i> sp.			17600
Ephemeridae			18501
<i>Ephemera</i> sp.			18600
<i>Hexagenia</i> sp.			18700
Polymitarcyidae			19001
<i>Ephoron</i> sp.			19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Odonata - Zygoptera (damselfly)			20501
Calopterygidae			21001
<i>Calopteryx</i> sp.	1	1	21200
<i>Hetaerina</i> sp.			21300
Lestidae			21501
<i>Archilestes grandis</i>			21604
<i>Lestes</i> sp.			21700
Coenagrionidae			22001
<i>Argia</i> sp.			22300
<i>Enallagma</i> sp.	3	3	22600
<i>Ischnura</i> sp.			22700
Odonata - Anisoptera (dragonfly)			23001
Aeshnidae			23501
<i>Aeshna</i> sp.			23600
<i>Boyeria</i> sp.			23900
Gomphidae			24501
<i>Dromogomphus</i> sp.			24700
Cordulegastriidae			26001
<i>Cordulegaster</i> sp.			26100
Macromiidae			26501
<i>Macromia</i> sp.			26700
<i>Didymops</i> sp.			
Corduliidae			27001
<i>Neurocordulia</i> sp.			27400
Libellulidae			28001
<i>Libellula</i> sp.			28500
Plecoptera (stonefly)			30000
Pteronarcyidae			30501
<i>Pteronarcys</i> sp.			30800
Capniidae			33501
<i>Allocaenia</i> sp.			33600
Perlidae			34001
<i>Acroneuria</i> sp.			34100
Perlodidae			35001
<i>Isoperla</i> sp.			35500
Chloroperlidae			36001
<i>Alloperla</i> sp.			36100
Hemiptera			40000
Hydrometridae (water measurer)			40501
<i>Hydrometra</i> sp.			40510
Veliidae (small water strider)			41001
<i>Microvelia</i> sp.			41200
<i>Rhagovelia</i> sp.			41400
Gerridae (water strider)			41501
<i>Gerris</i> sp.			41600
<i>Metrobates</i> sp.			41800
<i>Rheumatobates</i> sp.			42100
<i>Trepobates</i> sp.			42400
Belostomatidae			42501
<i>Belostoma</i> sp.			42700
<i>Lethocerus</i> sp.			42800
Nepidae (water scorpion)			43001
<i>Nepa apiculata</i>			43205
<i>Ranatra</i> sp.			43300

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (alderfly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalis cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.	1	1	52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclaea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliplus</i> sp.			60800
<i>Pelodytes</i> sp.	2	2	60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp. (2 adu (H + 2 immo))	8	8	63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			
<i>Berosus</i> sp.	1	1	65800
<i>Cymbiodyta</i> sp.			66200
<i>Enochrus</i> sp.			66500
<i>Helophorus</i> sp.			67000
<i>Tropisternus</i> sp.			67800
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>			68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge) 32	2	34	76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (three-ridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93200
<i>Amnicola</i> sp.	3	3	93220
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnaeidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)			95001
<i>Physella</i> sp.	3	3	95050
			95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)			95501
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)	4	4	95904
<i>Planorbella trivolvis</i> (marsh rams-horn)			96002
<i>Planorbella armigera</i> (thicklip rams-horn)			96280
<i>Promenetus exacuous</i> (sharp sprite)			96290
			96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancyloid)			96801
<i>Laevapex fuscus</i> (dusky ancyloid)			96908
			96930
Bivalvia			
Veneroida			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)			97001
<i>Corbicula fluminea</i> (Asian clam)			97501
<i>Corbicula fluminea</i> (Asian clam)			97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)			98001
<i>Sphaerium striatinum</i> (striated fingernailclam)			98003
<i>Sphaerium striatinum</i> (striated fingernailclam)			98004
<i>Musculium partumeium</i> (swamp fingernailclam)			98401
<i>Musculium transversum</i> (long fingernailclam)			98404
<i>Pisidium compressum</i> (ridged-beak peaclam)			98204
<i>Pisidium fallax</i> (river peaclam)			98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)			
Unionoida			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)			99001
<i>Pyganodon grandis</i> (giant floater)			99026
<i>Anodontoidea ferussacianus</i> (cylindrical papershell)			99034
<i>Strophitus undulatus</i> (squaw foot)			99046
<i>Alasmidonta marginata</i> (elk toe)			99051
<i>Alasmidonta viridis</i> (slippershell mussel)			99077
<i>Alasmidonta viridis</i> (slippershell mussel)			99079
<i>Lasmigona complanata</i> (white heelsplitter)			99201
<i>Lasmigona costata</i> (fluted-shell)			99202
<i>Lasmigona compressa</i> (creek heelsplitter)			99203
<i>Tritogonia verrucosa</i> (pistolgrip)			99276
<i>Quadrula quadrula</i> (mapleleaf)			99276
<i>Quadrula pustulosa</i> (pimpleback)			99326
<i>Amblema plicata</i> (threeedge)			99343
<i>Fusconaia flava</i> (Wabash pigtoe)			99351
<i>Pleurobema sintoxia</i> (round pigtoe)			99380
<i>Elliptio dilatata</i> (spike)			99442
<i>Ptychobranthus fasciolaris</i> (kidneyshell)			99514
<i>Obovaria subrotunda</i> (round hickorynut)			99601
<i>Potamilus alatus</i> (pink heelsplitter)			99674
<i>Toxolasma parvus</i> (lilliput)			99751
<i>Villosa iris</i> (rainbow)			99776
<i>Lampsilis radiata luteola</i> (fat mucket)			99847
<i>Lampsilis ventricosa</i> (plain pocketbook)			99879
<i>Epioblasma triquetra</i> (snuffbox)			99893
			99951

Total # of taxa 14 Total # of individuals 89

Comments: _____

Taxa (common name)	Rel.		Codes
	Taken	Total Abun.	
<i>Dorosoma cepedianum</i> , gizzard shad	—	—	20-003
<i>Umbra limi</i> , central mudminnow	—	—	34-001
<i>Esox americanus</i> , grass pickerel	—	—	37-001
<i>Carpiodes cyprinus</i> , quillback carpsucker	—	—	40-005
<i>Moxostoma anisurum</i> , silver redhorse	—	—	40-008
<i>M. duquesnei</i> , black redhorse	—	—	40-009
<i>M. erythrum</i> , golden redhorse	—	7 2.9	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	—	—	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	—	3 1.0	40-015
<i>Catostomus commersoni</i> , white sucker	—	11 3.8	40-016
<i>Cyprinus carpio</i> , common carp	—	—	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	—	—	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	—	—	43-004
<i>Erimystax dissimilis</i> , streamline shub	—	—	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	—	8 2.8	43-011
<i>Semotilus atromaculatus</i> , creek chub	—	24 8.3	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	—	3 1.0	43-015
<i>Ameiurus erythrogaster</i> , s. redbelly dace	—	6 2.1	43-016
<i>Ameiurus atherinoides</i> , emerald shiner	—	—	43-020
<i>Ameiurus notogenis</i> , silver shiner	—	—	43-021
<i>Lythrurus umbratilis</i> , redbfin shiner	—	—	43-023
<i>L. ardens</i> , rosefin shiner	—	1 0.3	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	—	34 11.8	43-025
<i>L. cornutus</i> , common shiner	—	—	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	—	—	43-031
<i>C. spilopterus</i> , spotfin shiner	—	3 1.0	43-032
<i>Notropis stramineus</i> , sand shiner	—	2 0.7	43-034
<i>N. volucellus</i> , mimic shiner	—	—	43-035
<i>N. buccata</i> , silverjaw minnow	—	13 4.3	43-039
<i>Pimephales promelas</i> , fathead minnow	—	2 0.7	43-042
<i>P. notatus</i> , bluntnose minnow	—	64 22.1	43-043
<i>Campostoma anomalum</i> , central stoneroller	—	29 8.3	43-044
<i>Ictalurus punctatus</i> , channel catfish	—	—	47-002
<i>Ameiurus natalis</i> , yellow bullhead	—	4 1.4	47-004
<i>A. nebulosus</i> , brown bullhead	—	—	47-005
<i>A. melas</i> , black bullhead	—	—	47-006
<i>Pylodictis olivaris</i> , flathead catfish	—	—	47-007
<i>Noturus flavus</i> , stonecat madtom	—	—	47-008
<i>N. miurus</i> , brindled madtom	—	—	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	—	1 0.3	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	—	—	63-001
<i>Labidesthes sicculus</i> , brook silverside	—	—	70-001
<i>Morone chrysops</i> , white bass	—	—	74-001
<i>Pomoxis annularis</i> , white crappie	—	—	77-001
<i>P. nigromaculatus</i> , black crappie	—	—	77-002
<i>Ambloplites rupestris</i> , n. rock bass	—	—	77-003

Taxa (common name)	Rel.		Code
	Taken	Total Abun.	
<i>Micropterus dolomieu</i> , smallmouth bass	—	—	77-004
<i>M. punctulatus</i> , spotted bass	—	—	77-005
<i>M. salmoides</i> , largemouth bass	—	5 1.7	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	—	—	77-007
<i>L. cyanellus</i> , green sunfish	—	15 5.2	77-008
<i>L. macrochirus</i> , bluegill sunfish	—	11 3.8	77-009
<i>L. humilis</i> , orangespotted sunfish	—	—	77-010
<i>L. megalotis</i> , longear sunfish	—	18 6.2	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	—	—	77-013
<i>Stizostedion vitreum</i> , walleye	—	—	80-002
<i>Percina maculata</i> , blackside darter	—	—	80-005
<i>P. caprodes</i> , logperch	—	—	80-011
<i>Etheostoma nigrum</i> , johnny darter	—	26 9.0	80-014
<i>E. blennioides</i> , greenside darter	—	—	80-015
<i>E. zonale</i> , banded darter	—	—	80-016
<i>E. caeruleum</i> , rainbow darter	—	2 0.7	80-022
<i>E. spectabile</i> , orangethroat darter	—	1 0.3	80-023
<i>E. flabellare</i> , fantail darter	—	1 0.3	80-024
hybrid, sauger X walleye	—	—	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	—	—	85-001
<i>Cottus bairdi</i> , mottled sculpin	—	—	90-002

Total # of anomalies 5
 Total # of species 25 Total # of individuals 289

Comments:

ECOLOGICAL DATA FOR Unnamed Tributary of Lake Margaret

Project	<u>Partsmouth Bypass</u>
Locality	<u>Unnamed tributary of Lake Margaret at Lucasville Ptsm; site 17</u>
Date	<u>22 June 2002</u>
Biologists	<u>MA Huggarth, DL Rice, S Jennings</u>
U.S.G.S. Quadrangle	<u>Lucasville 2 1/2 N</u>
Ecoregion	<u>Western Allegheny Plateau</u>
Endangered Species	<u>none</u>
Wetlands	<u>NA</u>

Aquatic Data (pages 1-6)

Drainage → Scioto River → Ohio River

Stream Code -

River Mile -

QHEI Field Sheet (page 1)

Water Quality Data Sheet (page 2)

Longitude/Latitude 38° 52' 42" N 82° 58' 17" W

Drainage Area -

Mean Annual Discharge -

Pollutant Source -

Aquatic Invertebrate Data Sheets (pages 3-5)

Sampling Method hand sieve, hand collecting

Length of Sample 100 meters

Shannon-Weiner Index 3.36

Fish Data Sheet (page 6)

Sampling Method seining

Length of Sample 100 meters

IBI Index Not calculated

Shannon-Weiner Index 2.29

Terrestrial Data (pages 7-16)

Physiographic Section NA

Dominant Plant Communities NA

Surficial Material NA

Terrestrial & Wetland Habitat Description (page 7)

Amphibian and Reptile Data Sheet (page 8)

Mammal Data Sheet (page 9)

Phylogenetic Bird Data Sheet (page 10)

List of Common Plants (pages 11-15)

Terrestrial Habitat Data Form (pages 16-17)

Lucasville

WATER QUALITY DATA SHEET

Measured Chemical Parameters: Sample 1 Sample 2

Alkalinity 79 mg/L ___ mg/L

Chloride 0.02 mg/L ___ mg/L

Dissolved Oxygen 4.5 mg/L ___ mg/L

Dissolved Solids, Total 277 mg/L ___ mg/L

Hardness, total 145 mg/L ___ mg/L

Iron, total 0.03 mg/L ___ mg/L

Nitrogen, Ammonia 0.37 mg/L ___ mg/L

Nitrogen, Nitrate 4.25 mg/L ___ mg/L

Nitrogen, Nitrite 0.01 mg/L ___ mg/L

Orthophosphate 0.32 mg/L ___ mg/L

pH 6.61 ___

Sulfate 29 mg/L ___ mg/L

Water Quality Related Parameters:

Date & Time of Collection _____

Weather Conditions _____

Air Temperature 30 °C

Water Temperature 24.7 °C

Turbidity 4.5 NTU

Conductivity 0.557 µS/cm
(µmhos/cm)

Flow _____ m/s

Water Level (field observation) _____

Substrate Mineralogy/
Geologic Unit _____

Comments: _____

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Porifera (sponge)	—	—	00100
Platyhelminthes	—	—	—
Turbellaria	—	—	01801
Tricladia	—	—	—
Planariidae (flatworm)	—	—	—
Nematoda	—	—	—
Mermithidae	—	—	—
Nematomorpha	—	—	02600
Gordiidae (hair worm)	—	—	02801
Ectoprocta = Bryozoa (moss animal)	—	—	—
Phylactolaemata	—	—	03000
Entoprocta	—	—	—
<i>Urnatella gracilis</i>	—	—	—
Annelida	—	—	03500
Oligochaeta (earthworm)	—	—	03600
Branchiobdellida (crayfish worm)	—	—	—
Hirudinea (leech)	—	—	04510
Arthropoda	—	—	—
Crustacea	—	—	—
Isopoda	—	—	05501
Asellidae (aquatic sow bug)	—	—	05701
<i>Asellus</i> sp.	5	2	05800
<i>Lirceus</i> sp.	—	—	05900
Amphipoda	—	—	06001
Gammaridae (scud)	—	—	06501
<i>Gammarus</i> sp.	—	—	06800
Decapoda	—	—	07501
Cambaridae (crayfish)	—	—	07701
<i>Trconectes rusticus</i>	—	—	08250
Atyidae (freshwater shrimp)	—	—	—
<i>Syncaris</i> sp.	—	—	—
Insecta	—	—	09000
Collembola	—	—	—
Entomobryidae (springtail)	—	—	—
Ephemeroptera (mayfly)	—	—	10000
Oligoneuriidae	—	—	—
<i>Isonychia</i> sp.	—	—	—
Siphonuridae	—	—	10501
Baetidae	—	—	11001
<i>Baetis</i> sp.	—	—	11100
<i>Callibaetis</i> sp.	—	—	11200
Heptageniidae	—	—	12501
<i>Stenonema</i> sp.	—	—	13500
Leptophlebiidae	—	—	14501
<i>Leptophlebia</i> sp.	—	—	14900
<i>Paraleptophlebia</i> sp.	—	—	15000
Ephemereillidae	—	—	15501
<i>Eurylophella</i> sp.	—	—	16200
Tricorythidae	—	—	16501
<i>Tricorythodes</i> sp.	—	—	16700
Caenidae	—	—	17001
<i>Caenis</i> sp.	—	—	17202
Baetiscidae	—	—	17501
<i>Baetisca</i> sp.	—	—	17600
Ephemeridae	—	—	18501
<i>Ephemera</i> sp.	—	—	18600
<i>Hexagenia</i> sp.	—	—	18700
Polymitarcyidae	—	—	19001
<i>Ephoron</i> sp.	—	—	19100

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda	—	—	—
Insecta	—	—	—
Odonata - Zygoptera (damselfly)	—	—	20501
Calopterygidae	—	—	21001
<i>Calopteryx</i> sp.	3	1	21200
<i>Hetaerina</i> sp.	—	—	21300
Lestidae	—	—	21501
<i>Archilestes grandis</i>	—	—	21604
<i>Lestes</i> sp.	—	—	21700
Coenagrionidae	—	—	22001
<i>Argia</i> sp.	2	1	22300
<i>Enallagma</i> sp.	3	3	22600
<i>Ischnura</i> sp.	—	—	22700
Odonata - Anisoptera (dragonfly)	—	—	23001
Aeshnidae	—	—	23501
<i>Aeshna</i> sp.	0	3	23600
<i>Boyeria</i> sp.	0	1	23900
Gomphidae	—	—	24501
<i>Dromogomphus</i> sp.	—	—	24700
Cordulegastridae	—	—	26001
<i>Cordulegaster</i> sp.	—	—	26100
Macromiidae	—	—	26501
<i>Macromia</i> sp.	—	—	26700
<i>Didymops</i> sp.	—	—	—
Corduliidae	—	—	27001
<i>Neurocordulia</i> sp.	—	—	27400
Libellulidae	—	—	28001
<i>Libellula</i> sp.	—	—	28500
Plecoptera (stonefly)	—	—	30000
Pteronarcyidae	—	—	30501
<i>Pteronarcys</i> sp.	—	—	30800
Capniidae	—	—	33501
<i>Allocapnia</i> sp.	—	—	33600
Perlidae	—	—	34001
<i>Acroneuria</i> sp.	—	—	34100
Perlodidae	—	—	35001
<i>Isoperla</i> sp.	—	—	35500
Chloroperlidae	—	—	36001
<i>Alloperla</i> sp.	—	—	36100
Hemiptera	—	—	40000
Hydrometridae (water measurer)	—	—	40501
<i>Hydrometra</i> sp.	—	—	40510
Veliidae (small water strider)	—	—	41001
<i>Microvelia</i> sp.	—	—	41200
<i>Rhagovelia</i> sp.	—	—	41400
Gerridae (water strider)	—	—	41501
<i>Gerris</i> sp.	—	—	41600
<i>Metrobates</i> sp.	—	—	41800
<i>Rheumatobates</i> sp.	—	—	42100
<i>Trepobates</i> sp.	—	—	42400
Belostomatidae	—	—	42501
<i>Belostoma</i> sp.	—	—	42700
<i>Lethocerus</i> sp.	—	—	42800
Nepidae (water scorpion)	—	—	43001
<i>Nepa apiculata</i>	—	—	43205
<i>Ranatra</i> sp.	—	—	43300

MACROBENTHOS DATA SHEET

Common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Hemiptera			
Pleidae			43501
<i>Neoplea</i> sp.			43570
Naucoridae (creeping water bug)			44001
<i>Pelocoris</i> sp.			44300
Corixidae			44501
Notonectidae (backswimmer)			45501
<i>Notonecta</i> sp.			45900
Mesoveliidae (water treader)			46001
<i>Mesovelia</i> sp.			46100
Megaloptera			47000
Sialidae (aldertly)			47501
<i>Sialis</i> sp.			47600
Corydalidae (dobsonfly & fishfly)			48001
<i>Chauliodes</i> sp.			48200
<i>Corydalus cornutus</i>			48410
<i>Nigronia</i> sp.			48600
Trichoptera (caddisfly)			50000
Philopotamidae			50101
<i>Chimarra</i> sp.			50300
Psychomyiidae			50601
Polycentropodidae			51001
<i>Polycentropus</i> sp.			51600
Hydropsychidae			52001
<i>Cheumatopsyche</i> sp.			52200
<i>Hydropsyche</i> sp.			52400
Glossosomatidae			53201
<i>Glossosoma</i> sp.			53300
Hydroptilidae			53501
<i>Hydroptila</i> sp.			53800
Phyrganeidae			54601
<i>Ptilostomis</i> sp.			55300
Limnephilidae			56001
<i>Platycentropus</i> sp.			57851
<i>Pycnopsyche</i> sp.			57900
Helicopsychidae			58501
<i>Helicopsyche borealis</i>			58505
Leptoceridae			59001
<i>Ceraclea</i> sp.			59100
<i>Nectopsyche</i> sp.			59400
Lepidoptera (moth)			59700
Nocturidae			
Pyrilidae			59911
<i>Petrophila</i> sp.			59970
Coleoptera			60000
Gyrinidae (whirligig beetle)			60201
<i>Dineutus</i> sp.			60300
<i>Gyrinus</i> sp.			60400
Haliplidae			60501
<i>Haliplus</i> sp.			60800
<i>Peltodytes</i> sp.	1	1	60900
Dytiscidae (predaceous diving beetle)			61001
<i>Dytiscus</i> sp.			62800
<i>Laccophilus</i> sp.	2	2	63900
Hydrophilidae (water scavenger beetle)			65501
<i>Anacaena</i> sp.			65700

Taxa (common name)	Number of Specimens:		Code
	Taken	Total	
Arthropoda			
Insecta			
Coleoptera			
Hydrophilidae			65800
<i>Berosus</i> sp.			66200
<i>Cymbiodyna</i> sp.			66500
<i>Enochrus</i> sp.			67000
<i>Helophorus</i> sp.			67800
<i>Tropisternus</i> sp.			
Psephenidae (water penny beetle)			68001
<i>Ectopria nervosa</i>			68025
<i>Psephenus herricki</i>	2	3	68075
Dryopoidae			68101
<i>Helichus</i> sp.			68130
Elmidae			68501
<i>Dubiraphia</i> sp.			68700
<i>Stenelmis</i> sp.			69400
Diptera			70000
Tipulidae (crane fly)			70501
Ptychopteridae (phan. crane fly)			72201
Dixidae (dixa midge)			72301
Culicidae (mosquito)			72501
Simuliidae (black fly)			73601
Ceratopogonidae			74501
Chironomidae (midge)	2	9	76001
Tabanidae (horse & deer fly)			86001
Athericidae (snipe fly)			86301
<i>Atherix lantha</i>			86401
Stratiomyidae (solider fly)			86501
Muscidae (house fly)			89601
<i>Limnophora</i> sp.			89700
Mollusca			90000
Gastropoda (snail)			91001
Prosobranchia			
Valvatidae			92201
<i>Valvata tricarinata</i> (threeridge valvata)			92330
Viviparidae			92500
<i>Campeloma decisum</i> (pointed campeloma)			92516
<i>Cipangopaludina chinensis</i> (Chinese mysteryshell)			92613
Bithyniidae			93000
<i>Bithynia tentaculata</i> (mud bithynia)			93200
Hydrobiidae			93220
<i>Annicola</i> sp.			93600
Pomatiopsidae			93600
<i>Pomatiopsis cincinnatiensis</i> (brown walker)			93225
<i>Pomatiopsis lapidaria</i> (slender walker)			93601
Pleuroceridae			93801
<i>Elimia</i> sp.			93900
Pulmonata			
Lymnacidae			94201
<i>Lymnaea</i> sp.			94500
<i>Stagnicola</i> sp.			94800

MACROBENTHOS DATA SHEET

(common name)	Number of Specimens:		Code
	Taken	Total	
Mollusca			
Gastropoda			
Pulmonata			
Physidae			
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95001
<i>Aplexa elongata</i> (lance aplexa)	_____	_____	95050
<i>Physella</i> sp.	<u>6</u>	<u>6</u>	95100
Planorbidae			
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95501
<i>Gyraulus deflectus</i> (flexed gyro)	_____	_____	95904
<i>Helisoma anceps anceps</i> (two-ridge rams-horn)	_____	_____	96002
<i>Planorbella trivolvis</i> (marsh rams-horn)	_____	_____	96280
<i>Planorbella armigera</i> (thicklip rams-horn)	_____	_____	96290
<i>Promenetus exacuouus</i> (sharp sprite)	_____	_____	96402
Ancylidae			
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96801
<i>Ferrissia rivularis</i> (creeping ancylid)	_____	_____	96908
<i>Laevapex fuscus</i> (dusky ancylid)	_____	_____	96930
Bivalvia			
Veneroidea			
Corbiculidae			
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97501
<i>Corbicula fluminea</i> (Asian clam)	_____	_____	97601
Sphaeriidae (fingernail clams)			
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98001
<i>Sphaerium simile</i> (grooved fingernailclam)	_____	_____	98003
<i>Sphaerium striatinum</i> (striated fingernailclam)	_____	_____	98004
<i>Musculium partumeium</i> (swamp fingernailclam)	_____	_____	98401
<i>Musculium transversum</i> (long fingernailclam)	_____	_____	98404
<i>Pisidium compressum</i> (ridged-beak peaclam)	<u>2</u>	<u>2</u>	98204
<i>Pisidium fallax</i> (river peaclam)	_____	_____	98205
Dreissenidae			
<i>Dreissena polymorpha</i> (zebra mussel)	_____	_____	_____
Unionoidea			
Unionidae (freshwater mussel)			
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99001
<i>Utterbackia imbecillis</i> (paper pondshell)	_____	_____	99026
<i>Pyganodon grandis</i> (giant floater)	_____	_____	99034
<i>Anodontooides ferussacianus</i> (cylindrical papershell)	_____	_____	99046
<i>Strophitus undulatus</i> (squaw foot)	_____	_____	99051
<i>Alasmidonta marginata</i> (elk toe)	_____	_____	99077
<i>Alasmidonta viridis</i> (slippershell mussel)	_____	_____	99079
<i>Lasmigona complanata</i> (white heelsplitter)	_____	_____	99201
<i>Lasmigona costata</i> (fluted-shell)	_____	_____	99202
<i>Lasmigona compressa</i> (creek heelsplitter)	_____	_____	99203
<i>Tritogonia verrucosa</i> (pistolgrip)	_____	_____	99276
<i>Quadrula quadrula</i> (mapleleaf)	_____	_____	99326
<i>Quadrula pustulosa</i> (pimpleback)	_____	_____	99343
<i>Amblema plicata</i> (threenidge)	_____	_____	99351
<i>Fusconaia flava</i> (Wabash pigtoe)	_____	_____	99380
<i>Pleurobema sintoxia</i> (round pigtoe)	_____	_____	99442
<i>Elliptio dilatata</i> (spike)	_____	_____	99514
<i>Ptychobranchus fasciolaris</i> (kidneyshell)	_____	_____	99601
<i>Obovaria subrotunda</i> (round hickorynut)	_____	_____	99674
<i>Potamilus alatus</i> (pink heelsplitter)	_____	_____	99751
<i>Toxolasma parvus</i> (lilliput)	_____	_____	99776
<i>Villosa iris</i> (rainbow)	_____	_____	99847
<i>Lampsilis radiata luteola</i> (fat mucket)	_____	_____	99879
<i>Lampsilis ventricosa</i> (plain pocketbook)	_____	_____	99893
<i>Epioblasma triquetra</i> (snuffbox)	_____	_____	99951

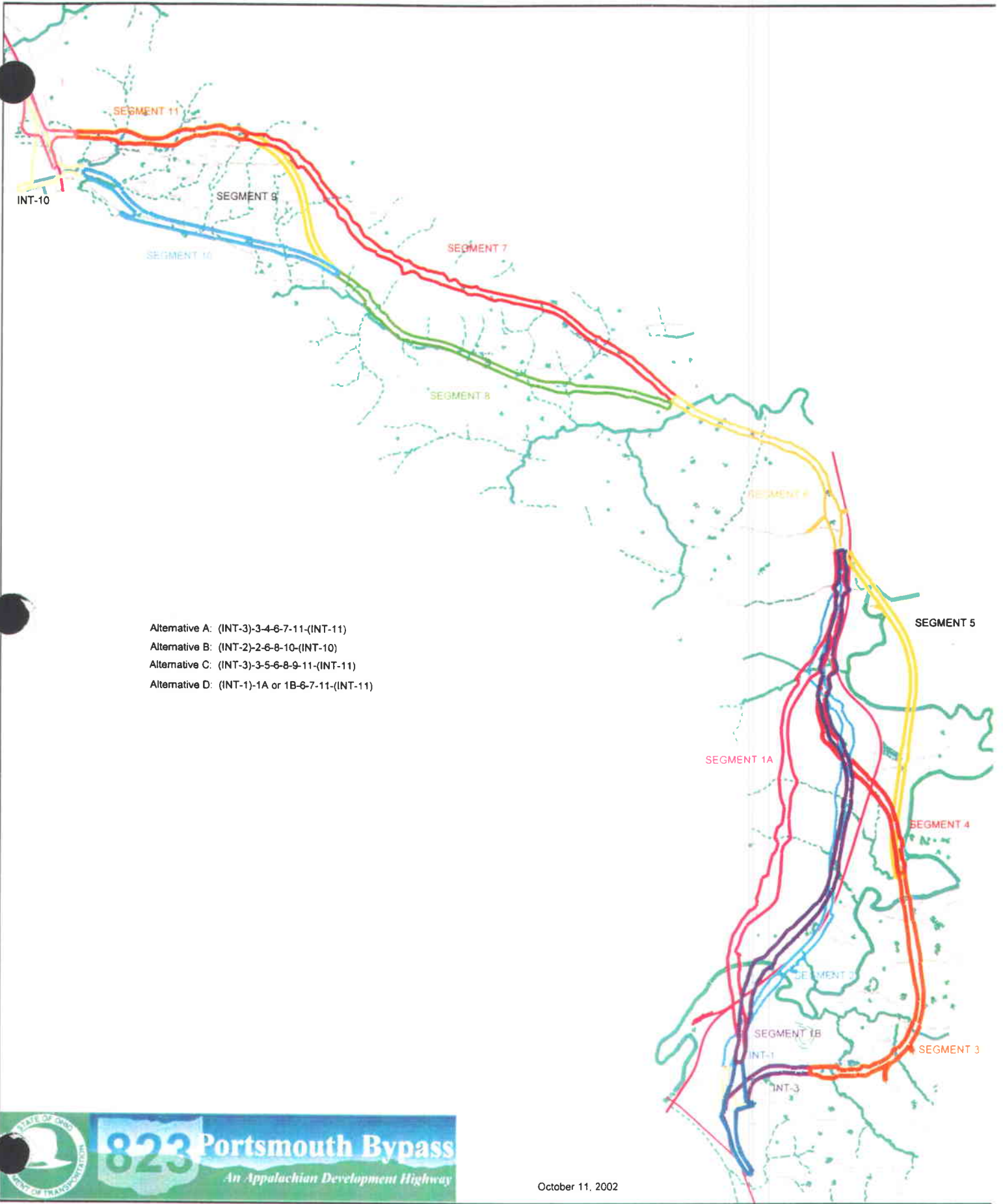
Total # of taxa 12 Total # of individuals 49

Comments: _____

Taxa (common name)	Taken	Total	Rel. Abun.	Codes
<i>Dorosoma cepedianum</i> , gizzard shad	—	—	—	20-003
<i>Umbra limi</i> , central mudminnow	—	—	—	34-001
<i>Esox americanus</i> , grass pickerel	—	—	—	37-001
<i>Carpionodes cyprinus</i> , quillback carpsucker	—	—	—	40-005
<i>Moxostoma anisurum</i> , silver redhorse	—	—	—	40-008
<i>M. duquesnei</i> , black redhorse	—	—	—	40-009
<i>M. erythrurum</i> , golden redhorse	—	—	—	40-010
<i>M. macrolepidotum</i> , shorthead redhorse	—	—	—	40-011
<i>Hypentelium nigricans</i> , n. hog sucker	—	—	—	40-015
<i>Catostomus commersoni</i> , white sucker	—	—	—	40-016
<i>Cyprinus carpio</i> , common carp	—	—	—	43-001
<i>Notemigonus crysoleucas</i> , golden shiner	—	—	—	43-003
<i>Nocomis biguttatus</i> , hornyhead chub	—	—	—	43-004
<i>Erimystax dissimilis</i> , streamline shub	—	—	—	43-008
<i>Rhinichthys atratulus</i> , blacknose dace	—	47	30.5	43-011
<i>Semotilus atromaculatus</i> , creek chub	—	40	20.0	43-013
<i>Phenacobius mirabilis</i> , suckermouth minnow	—	—	—	43-015
<i>Lepomis erythrogaster</i> , s. redbelly dace	—	32	20.8	43-016
<i>Lepomis atherinoides</i> , emerald shiner	—	—	—	43-020
<i>Lepomis notogenis</i> , silver shiner	—	—	—	43-021
<i>Lepomis umbratilis</i> , redbfin shiner	—	—	—	43-023
<i>L. ardens</i> , rosefin shiner	—	—	—	43-024
<i>Luxilus chrysocephalus</i> , striped shiner	—	—	—	43-025
<i>L. cornutus</i> , common shiner	—	—	—	43-026
<i>Cyprinella whipplei</i> , steelcolor shiner	—	—	—	43-031
<i>C. spilopterus</i> , spotfin shiner	—	—	—	43-032
<i>Notropis stramineus</i> , sand shiner	—	—	—	43-034
<i>N. volucellus</i> , mimic shiner	—	—	—	43-035
<i>N. buccata</i> , silverjaw minnow	—	—	—	43-039
<i>Pimephales promelas</i> , fathead minnow	—	—	—	43-042
<i>P. notatus</i> , bluntnose minnow	—	—	—	43-043
<i>Campestris anomalum</i> , central stoneroller	—	22	14.3	43-044
<i>Ictalurus punctatus</i> , channel catfish	—	—	—	47-002
<i>Ameiurus natalis</i> , yellow bullhead	—	—	—	47-004
<i>A. nebulosus</i> , brown bullhead	—	—	—	47-005
<i>A. melas</i> , black bullhead	—	—	—	47-006
<i>Pygodictis olivaris</i> , flathead catfish	—	—	—	47-007
<i>Noturus flavus</i> , stonecat madtom	—	—	—	47-008
<i>N. miurus</i> , brindled madtom	—	—	—	47-012
<i>Fundulus notatus</i> , blackstripe topminnow	—	—	—	54-002
<i>Percopsis omiscomaycus</i> , trout-perch	—	—	—	63-001
<i>Labidesthes sicculus</i> , brook silverside	—	—	—	70-001
<i>Morone chrysops</i> , white bass	—	—	—	74-001
<i>Pomoxis annularis</i> , white crappie	—	—	—	77-001
<i>P. nigromaculatus</i> , black crappie	—	—	—	77-002
<i>Ambloplites rupestris</i> , n. rock bass	—	—	—	77-003

Taxa (common name)	Taken	Total	Rel. Abun.	Code
<i>Micropterus dolomieu</i> , smallmouth bass	—	—	—	77-004
<i>M. punctulatus</i> , spotted bass	—	—	—	77-005
<i>M. salmoides</i> , largemouth bass	—	—	—	77-006
<i>Lepomis gulosus</i> , warmouth sunfish	—	—	—	77-007
<i>L. cyanellus</i> , green sunfish	—	—	—	77-008
<i>L. macrochirus</i> , bluegill sunfish	—	4	2.6	77-009
<i>L. humilis</i> , orangespotted sunfish	—	—	—	77-010
<i>L. megalotis</i> , longear sunfish	—	—	—	77-011
<i>L. gibbosus</i> , pumpkinseed sunfish	—	—	—	77-013
<i>Stizostedion vitreum</i> , walleye	—	—	—	80-002
<i>Percina maculata</i> , blackside darter	—	—	—	80-005
<i>P. caprodes</i> , logperch	—	—	—	80-011
<i>Etheostoma nigrum</i> , johnny darter	—	9	5.8	80-014
<i>E. blennioides</i> , greenside darter	—	—	—	80-015
<i>E. zonale</i> , banded darter	—	—	—	80-016
<i>E. caeruleum</i> , rainbow darter	—	—	—	80-022
<i>E. spectabile</i> , orangethroat darter	—	—	—	80-023
<i>E. flabellare</i> , fantail darter	—	—	—	80-024
hybrid, sauger X walleye	—	—	—	80-026
<i>Aplodinotus grunniens</i> , freshwater drum	—	—	—	85-001
<i>Cottus bairdi</i> , mottled sculpin	—	—	—	90-002

Total # of anomalies 0
 Total # of species 6 Total # of individuals 154
 Comments: _____



- Alternative A: (INT-3)-3-4-6-7-11-(INT-11)
- Alternative B: (INT-2)-2-6-8-10-(INT-10)
- Alternative C: (INT-3)-3-5-6-8-9-11-(INT-11)
- Alternative D: (INT-1)-1A or 1B-6-7-11-(INT-11)



Summary of Environmental Impacts by Alternative

ISSUE/CONCERN		South of Airport				
		D1	D2	B	A	C
		SEGMENT 1-A	SEGMENT 1-B	SEGMENT 2	SEGMENTS 3+4	SEGMENTS 3+5
		5.8	5.9	5.9	7.7	7.7
ENGINEERING/COST	Length (miles)					
	Probable Cost	\$ 94,696,784	\$ 89,569,374	\$ 94,090,283	\$ 73,589,320	\$ 78,444,904
	Earthwork	\$ 30,166,859	\$ 20,299,508	\$ 31,802,455	\$ 17,704,094	\$ 10,456,077
	Structures	\$ 25,079,475	\$ 27,232,475	\$ 20,428,675	\$ 18,882,575	\$ 29,448,475
	Roadway, misc.	\$ 32,284,450	\$ 30,268,891	\$ 33,283,153	\$ 29,062,151	\$ 30,381,851
	Right-of-Way/Relocations	\$ 7,166,000	\$ 11,768,500	\$ 8,576,000	\$ 7,940,500	\$ 8,158,500
100-Year Floodplain Encroachments (acres)		5	11	21	32	37
LAND USE	Total R/W (acres)	383	355	348	382	347
	Agricultural	327	284	246	279	247
	Commercial	2	1	1	1	1
	Residential	44	59	64	90	86
	Public	0	0	0	0	0
	Community	0	1	0	3	3
	Undesignated	4	2	25	4	4
	State of Ohio	4	4	7	4	4
	Existing road or railroad right-of-way	2	4	6	2	2
	Residential Relocations	36	66	37	32	36
PROPERTY EFFECTS	Residences Remaining within 400 feet of R/W	98	96	145	96	94
	Churches Relocated	0	1	0	1	1
	Other Relocations	2	2	4	4	4
	Other Buildings Remaining within 400 feet of R/W	3	3	3	2	2
	Landlocked Parcels	17	23	20	23	18
	Acres Landlocked	242	568	563	441	379
	Number of Stream Crossings	48	53	47	47	34
ECOLOGICAL RESOURCES	Total Length Stream Impacts - Culverted/Relocated (lineal feet)	24,745	23,540	22,030	23,195	16,086
	Perennial (lineal feet)	2,050	2,544	2,608	4,163	2,528
	Intermittent (lineal feet)	10,484	10,573	8,277	8,540	5,845
	Ephemeral (lineal feet)	12,211	10,423	11,145	10,492	7,713
	Total Length Stream - Bridged (lineal feet)	645	1,035	331	400	1,087
	Ponds (acres)	0.42	5.49	1.02	0.34	7.75
	Total Wetlands Impacted (acres)	0.78	0.78	1.04	1.19	2.31
	Category I (acres)	0.04	0.04	0.30	0.60	0.47
	Category II (acres)	0.74	0.74	0.74	0.59	1.84
	Terrestrial/Habitat Impacts (acres)	383	355	349	382	348
	Urban/Developed (acres)	46	60	49	44	52
	Woodlands (acres)	202	176	152	171	124
	Shrub-Scrub/Logged (acres)	129	69	70	53	8
Active Agriculture (acres)	0	6	17	59	100	
Passive Agriculture (acres)	7	43	60	53	61	
OTHER ISSUES	Properties Recommended for Phase I ESA	1	1	1	1	1
	Properties Recommended for Avoidance - Potential NRHP eligible*	0	0	4	1	1
	Other "noted" properties over 50 years of age	1	2	0	1	1

Based upon preliminary opinions from OES. Evaluation may determine that properties are ineligible for the NRHP or that others are eligible.

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SEGMENT 1-A	SEGMENT 1-B	SEGMENT 2	SEGMENTS 3+4	SEGMENTS 3+5
\$ 1,864,000	\$ 3,514,000	\$ 3,214,000	\$ 2,952,000	\$ 2,704,000

Potential RW Cost Increase



Summary of Environmental Impacts by Segment - South of Airport

ISSUE/CONCERN	INT-1	SEGMENT 1-A	SEGMENT 1-B	INT-2	SEGMENT 2	INT-3	SEGMENT 3	SEGMENT 4	SEGMENT 5
	0.5	5.3	5.4	0.4	5.5	1.5	2.8	3.4	3.4
ENGINEERING/COST									
Segment Length (miles)									
Probable Cost	\$ 14,040,821	\$ 80,655,962	\$ 75,528,553	\$ 12,730,210	\$ 81,360,073	\$ 16,505,113	\$ 26,810,046	\$ 30,274,161	\$ 35,129,745
Earthwork	\$ 507,250	\$ 29,659,609	\$ 19,792,258	\$ 507,250	\$ 31,295,205	\$ 730,000	\$ 5,488,013	\$ 11,486,081	\$ 4,238,065
Structures	\$ 3,878,875	\$ 21,200,600	\$ 23,353,600	\$ 3,878,875	\$ 16,549,800	\$ 6,018,875	\$ 6,877,500	\$ 5,986,200	\$ 16,552,100
Roadway, misc.	\$ 7,556,696	\$ 24,727,754	\$ 22,712,195	\$ 7,213,085	\$ 26,070,068	\$ 7,881,738	\$ 9,834,534	\$ 11,345,880	\$ 12,665,580
Right-of-Way/Relocations	\$ 2,098,000	\$ 5,068,000	\$ 9,670,500	\$ 1,131,000	\$ 7,445,000	\$ 1,874,500	\$ 4,610,000	\$ 1,456,000	\$ 1,674,000
100-Year Floodplain Encroachments (acres)	0.0	4.6	10.7	0.0	21.5	4.7	22.3	5.3	10.4
LAND USE									
Total R/W (acres)	78	305	277	62	286	89	131	163	128
Agricultural	48	279	236	41	205	62	68	149	117
Commercial	0	2	0	0	0	0	0	0	0
Residential	24	20	35	15	49	21	57	12	8
Public	0	0	0	0	0	0	0	0	0
Community	0	0	1	0	0	0	3	0	0
Undesignated	0	4	2	0	25	0	2	2	2
State of Ohio	4	0	0	4	3	4	0	0	0
Existing road or railroad right-of-way	1	0	3	1	4	1	0	0	1
PROPERTY IMPACTS									
Residential Relocations	10	26	56	5	32	10	21	1	5
Residences Remaining within 400 feet of R/W	43	55	53	45	100	50	39	7	5
Churches Relocated	0	0	1	0	0	0	1	0	0
Other Relocations	2	0	0	1	3	1	3	0	0
Other Buildings Remaining within 400 feet of R/W	1	2	2	2	1	2	0	0	0
Landlocked Parcels	0	17	23	0	20	0	12	11	6
Acres Landlocked	0	242	568	0	563	0	168	274	211
ECOLOGICAL RESOURCES									
Number of Stream Crossings	12	36	41	10	37	16	11	20	7
Stream Impacts - Culverted/Relocated (lineal feet)	6,568	18,177	16,972	6,306	15,724	7,758	5,740	9,697	2,588
Perennial (lineal feet)	0	2,050	2,544	0	2,608	0	2,073	2,090	455
Intermittent (lineal feet)	4,040	6,444	6,533	3,202	5,075	4,621	0	3,919	1,224
Ephemeral (lineal feet)	2,528	9,683	7,895	3,104	8,041	3,137	3,667	3,688	909
Total Length Stream - Bridged (lineal feet)	0	645	1,035	0	331	0	400	0	687
Ponds (acres)	0.42	0.00	5.07	0.42	0.60	0.26	0.08	0.00	7.41
Total Wetlands Impacted (acres)	0.04	0.74	0.74	0.00	1.04	0.14	0.92	0.13	1.25
Category I (acres)	0.04	0.00	0.00	0.00	0.30	0.14	0.33	0.13	0.00
Category II (acres)	0.00	0.74	0.74	0.00	0.74	0.00	0.59	0.00	1.25
Terrestrial/Habitat Impacts (acres)	78	305	277	62	286	89	130	163	128
Urban/Developed (acres)	24	22	36	21	28	26	16	2	9
Woodlands (acres)	51	151	126	39	112	58	52	61	14
Shrub-Scrub/Logged (acres)	4	125	65	2	68	5	1	48	3
Active Agriculture (acres)	0	0	6	0	17	0	19	40	81
Passive Agriculture (acres)	0	7	43	0	60	1	41	12	19
OTHER ISSUES									
Properties Recommended for Phase I ESA	1	0	0	1	0	1	0	0	0
Properties Recommended for Avoidance - Potential NRHP eligible*	0	0	0	1	3	0	1	0	0
Other "noted" properties over 50 years of age	1	0	1	0	0	1	0	0	0

* Based upon preliminary opinions from OES. Evaluation may determine that properties are ineligible for the NRHP or that others are eligible.

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Summary of Environmental Impacts by Alternative

ISSUE/CONCERN		Airport/North of Airport		
		A	C	B
		SEGMENTS 6+7+11	SEGMENTS 6+8+9+11	SEGMENTS 6+8+10
		9.5	9.7	9.0
ENGINEERING/COST	Length (miles)			
	Probable Cost	\$ 126,281,908	\$ 106,619,003	\$ 92,816,631
	Earthwork	\$ 45,661,949	\$ 30,354,608	\$ 22,581,926
	Structures	\$ 28,376,550	\$ 26,036,050	\$ 24,667,775
	Roadway, misc.	\$ 42,497,909	\$ 38,668,345	\$ 36,766,930
	Right-of-Way/Relocations	\$ 9,745,500	\$ 11,560,000	\$ 8,800,000
	100-Year Floodplain Encroachments (acres)	28	28	61
LAND USE	Total R/W (acres)	502	487	495
	Agricultural	348	298	285
	Commercial	0	0	5
	Residential	110	152	124
	Public	0	0	0
	Community	0	0	0
	Undesignated	13	5	2
	State of Ohio	3	3	32
	Existing road or railroad right-of-way	28	28	46
	PROPERTY IMPACTS	Residential Relocations	30	41
Residences Remaining within 400 feet of R/W		86	108	105
Churches Relocated		0	0	0
Other Relocations		0	0	2
Other Buildings Remaining within 400 feet of R/W		3	2	10
Landlocked Parcels		34	42	27
Acres Landlocked		914	1,144	629
ECOLOGICAL RESOURCES	Number of Stream Crossings	52	62	63
	Total Length Stream Impacts - Culverted/Relocated (lineal feet)	22,579	25,748	27,668
	Perennial (lineal feet)	444	1,578	6,421
	Intermittent (lineal feet)	9,169	12,519	10,235
	Ephemeral (lineal feet)	12,966	11,651	10,992
	Total Length Stream - Bridged (lineal feet)	774	774	774
	Ponds (acres)	8.16	9.51	5.35
	Total Wetlands Impacted (acres)	0.64	0.62	3.60
	Category I (acres)	0.49	0.62	1.45
	Category II (acres)	0.11	0.00	2.15
	Terrestrial/Habitat Impacts (acres)	502	485	495
	Urban/Developed (acres)	73	83	108
	Woodlands (acres)	264	230	183
Shrub-Scrub/Logged (acres)	49	22	13	
Active Agriculture (acres)	55	58	82	
Passive Agriculture (acres)	62	92	109	
OTHER ISSUES	Properties Recommended for Phase I ESA	0	0	3
	Properties Recommended for Avoidance - Potential NRHP eligible*	1	1	1
	Other "noted" properties over 50 years of age	1	0	1

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Potential R/W Cost Increase

SEGMENTS 6+7+11	SEGMENTS 6+8+9+11	SEGMENTS 6+8+10
\$ 4,646,000	\$ 5,444,000	\$ 3,621,000



Summary of Environmental Impacts by Segment - Airport/North of Airport

ISSUE/CONCERN	SEGMENT 6	SEGMENT 7	SEGMENT 8	SEGMENT 9	SEGMENT 10	INT-10	SEGMENT 11	INT-11
	2.4	5.1	3.6	1.7	2.7	0.3	1.7	0.3
ENGINEERING/COST								
Segment Length (miles)								
Probable Cost	\$ 29,623,785	\$ 59,904,515	\$ 28,616,201	\$ 11,625,409	\$ 18,430,087	\$ 16,146,558	\$ 18,493,100	\$ 18,260,508
Earthwork	\$ 10,538,733	\$ 26,187,312	\$ 7,865,134	\$ 3,014,838	\$ 3,774,310	\$ 403,750	\$ 8,110,204	\$ 825,700
Structures	\$ 7,663,000	\$ 10,292,000	\$ 5,258,500	\$ 2,693,000	\$ 3,467,000	\$ 8,279,275	\$ 1,227,000	\$ 9,194,550
Roadway, misc.	\$ 9,772,052	\$ 19,949,202	\$ 10,908,567	\$ 5,211,071	\$ 9,347,277	\$ 6,739,033	\$ 5,922,396	\$ 6,854,258
Right-of-Way/Relocations	\$ 1,650,000	\$ 3,476,000	\$ 4,584,000	\$ 706,500	\$ 1,841,500	\$ 724,500	\$ 3,233,500	\$ 1,386,000
100-Year Floodplain Encroachments (acres)	6.5	0.0	0.0	0.0	0.0	54.9	0.0	21.1
LAND USE								
Total R/W (acres)	117	229	151	63	130	98	85	71
Agricultural	90	167	73	44	74	47	61	30
Commercial	0	0	0	0	5	1	0	0
Residential	26	53	76	19	14	8	23	7
Public	0	0	0	0	0	0	0	0
Community	0	0	0	0	0	0	0	0
Undesignated	0	9	1	0	0	0	0	3
State of Ohio	0	0	0	0	14	18	0	3
Existing road or railroad right-of-way	0	0	1	0	22	23	0	28
PROPERTY IMPACTS								
Residential Relocations	8	14	18	7	5	2	8	0
Residences Remaining within 400 feet of R/W	29	28	37	13	23	16	15	14
Churches Relocated	0	0	0	0	0	0	0	0
Other Relocations	0	0	0	0	1	1	0	0
Other Buildings Remaining within 400 feet of R/W	1	1	0	0	6	3	0	1
Landlocked Parcels	3	15	17	6	7	0	16	0
Acres Landlocked	36	219	358	92	236	0	660	0
ECOLOGICAL RESOURCES								
Number of Stream Crossings	16	19	24	5	19	4	15	2
Stream Impacts - Culverted/Relocated (lineal feet)	6,180	7,924	9,552	1,541	7,454	4,482	5,809	2,666
Perennial (lineal feet)	0	0	1,134	0	2,055	3,232	444	0
Intermittent (lineal feet)	2,802	1,968	4,212	1,106	1,991	1,230	1,733	2,666
Ephemeral (lineal feet)	3,378	5,956	4,206	435	3,408	0	3,632	0
Total Length Stream - Bridged (lineal feet)	774	0	0	0	0	0	0	0
Ponds (acres)	3.16	0.54	1.89	0.00	0.17	0.13	0.34	4.12
Total Wetlands Impacted (acres)	0.29	0.26	0.24	0.00	0.83	2.24	0.00	0.09
Category I (acres)	0.29	0.12	0.24	0.00	0.83	0.09	0.00	0.00
Category II (acres)	0.00	0.11	0.00	0.00	0.00	2.15	0.00	0.00
Terrestrial/Habitat Impacts (acres)	117	229	150	63	130	98	85	71
Urban/Developed (acres)	11	17	21	6	29	47	10	34
Woodlands (acres)	51	152	83	35	46	3	55	6
Shrub-Scrub/Logged (acres)	0	34	6	1	6	0	12	2
Active Agriculture (acres)	18	6	9	0	6	48	2	28
Passive Agriculture (acres)	36	20	31	20	43	0	6	0
OTHER ISSUES								
Properties Recommended for Phase I ESA	0	0	0	0	3	0	0	0
Properties Recommended for Avoidance - Potential NRHP eligible*	1	0	0	0	0	0	0	0
Other "noted" properties over 50 years of age	0	1	0	0	1	0	0	0

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