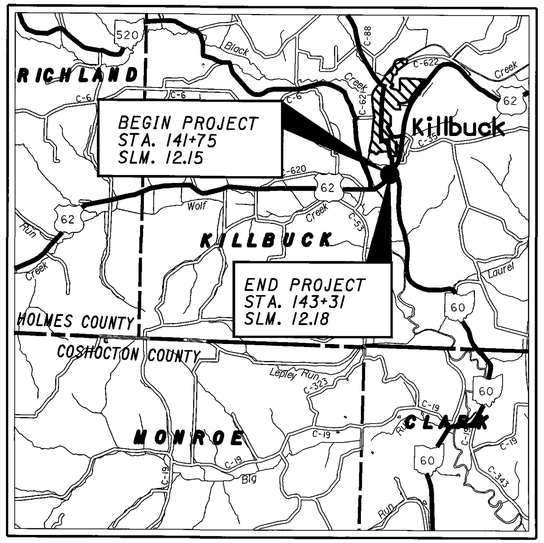

LOCATION MAP

LATITUDE: N40°29'05" LONGITUDE: W81°58'55"

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
STATE & FEDERAL ROUTES
OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HOL-62-12.15

KILLBUCK TOWNSHIP
HOLMES COUNTY

INDEX OF SHEETS

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PROJECT DESCRIPTION

IMPROVEMENT OF 156 FEET (0.03 MILES) OF U.S. 62 BY REPLACING EXISTING STRUCTURE NO. HOL-62-1216 WITH A CONTINUOUS SLAB BRIDGE, NEW CAST IN PLACE SUBSTRUCTURE AND NEW APPROACH SLABS. ALSO, MINIMAL PAVEMENT WORK WITH THE REPLACEMENT OF GUARDRAIL.

PROJECT EDA	1.12 ACRE
CONTRACTOR EDA	0.30 ACRE
NOI EDA	4.9 ACRE

DESIGN DESIGNATION

CURRENT ADT (2007)	2700
DESIGN YEAR ADT (2027)	3400
DESIGN HOURLY VOLUME (2027)	340
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	13%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION - RURAL COLLECTOR

NHS PROJECT - NO

DESIGN EXCEPTION

NONE REQUIRED

2005 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
DATE 7/20/06 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE 8-28-06 DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:
O.D.O.T.
DISTRICT 11
NEW PHILADELPHIA, OHIO

FOR STRUCTURE ENGINEER'S SEAL, SEE SHEET 21.

ROADWAY
ENGINEER'S SEAL:
STATE OF OHIO JOHN P. BARNHOUSE E-62295 REGISTERED PROFESSIONAL ENGINEER
SIGNED: _____
DATE: 7-20-06

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/16/04	TC-41.20	1/19/01	MT-96.11	4/19/02	AS-1-81	7/19/02		
		TC-42.20	7/16/04	MT-96.21	4/19/02				
		TC-52.10	4/20/01	MT-97.10	4/19/02	CPA-5-94	7/19/02		
GR-1.1	7/16/04	TC-52.20	4/20/01						
GR-2.1	1/16/04	TC-73.10	1/19/01			CPP-2-94	7/19/02		
GR-3.6	1/16/04	TC-82.10	4/19/02	MT-101.20	10/18/02				
				MT-101.70	10/18/02	PCB-91	7/19/02		
RM-4.2	4/18/03			MT-105.10	10/18/02	TST-1-99	10/17/03	SPECIAL PROVISIONS	
				MT-105.11	10/18/02				
DM-1.1	4/21/06							NWP #3 & #33 9/25/03	
DM-4.3	7/19/02								
DM-4.4	7/19/02								

SUPPLEMENTAL SPECIFICATIONS

800	7/21/06
832	4/25/06
898	7/16/04

FEDERAL PROJECT NO. E041(047)
PID NO. 20054
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HOL-62-12.15
1/32

HOL - USR 62 - 12.15
060489 PID - 20054
Dist 11 11/15/2006

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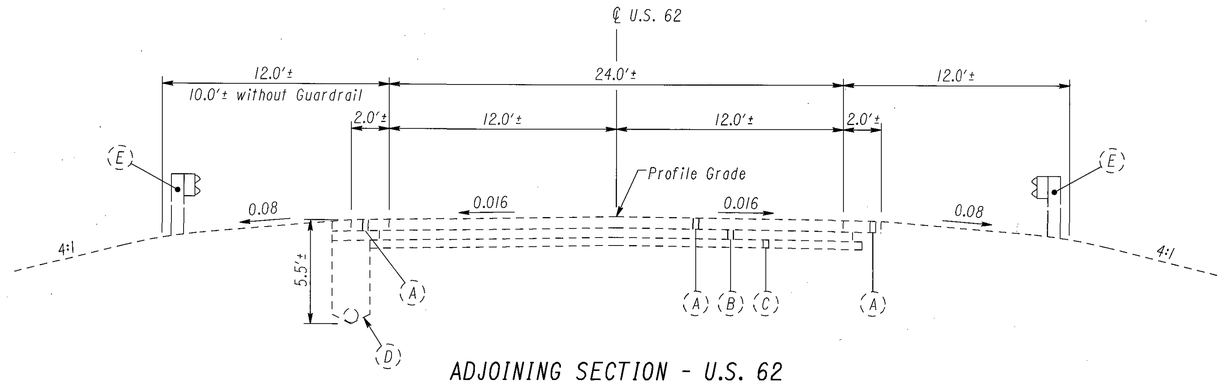
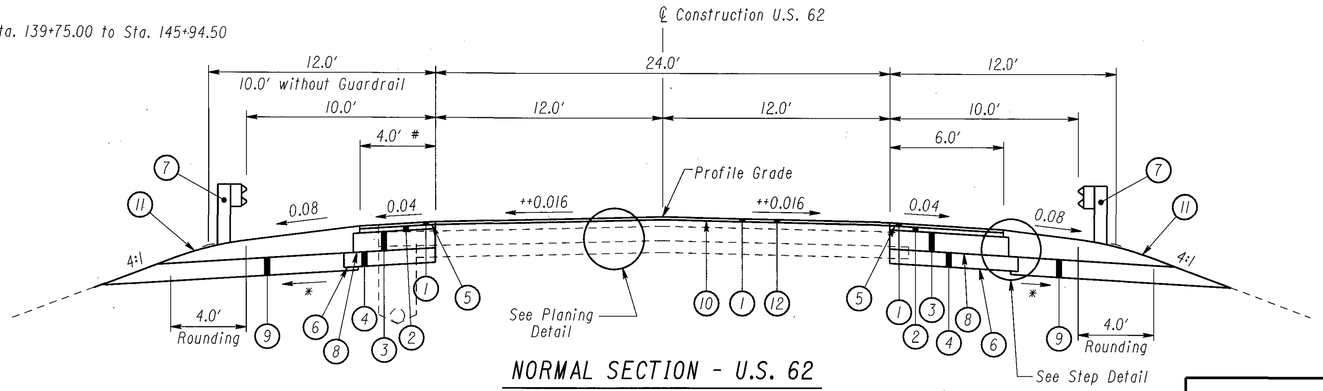


ADJOINING SECTION - U.S. 62

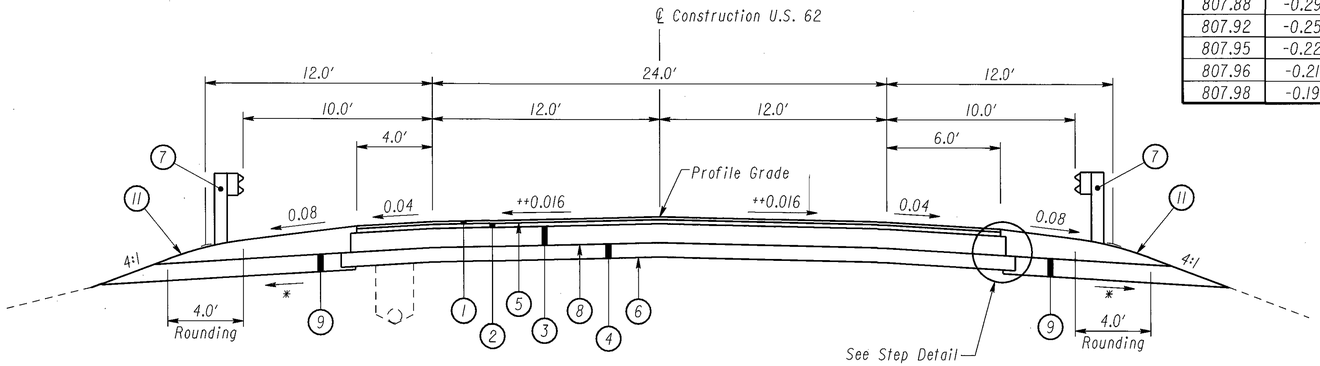
from Sta. 139+75.00 to Sta. 145+94.50



NORMAL SECTION - U.S. 62

SECTION APPLIES:
Δ Sta. 141+25.00 to Sta. 141+75.00 = 50 Ft.
ΔΔ Sta. 143+31.00 to Sta. 144+50.00 = 119 Ft.
Total Length = 169 Ft.

Δ Plane 0" from Sta. 141+25.00 to 1¼" at Sta. 141+75.00
ΔΔ Plane 2¼" from Sta. 143+31.00 to 0" at Sta. 144+50.00



NORMAL SECTION - U.S. 62

SECTION APPLIES:
Sta. 141+75.00 to Sta. 143+31.00 = 156.00 Ft.
Deduct for Bridge and Approach Slabs
Sta. 141+80.38 to Sta. 143+25.63 = - 145.25 Ft.
Total Length = 10.75 Ft.

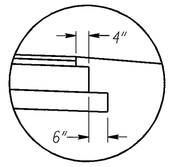
LEGEND:

1. Item 448 - 1¼" Asphalt Concrete Surface Course, Type I, PG64-22, As Per Plan
2. Item 448 - 1¾" Asphalt Concrete Intermediate Course, Type 2, PG64-22
3. Item 301 - 8" Asphalt Concrete Base, PG64-22
4. Item 304 - 6" Aggregate Base
5. Item 407 - Tack Coat for Intermediate Course (applied @ 0.04 Gal./S.Y.)
6. Item 204 - Subgrade Compaction
7. Item 606 - Guardrail, Type 5
8. Item 408 - Prime Coat (applied @ 0.4 Gal./S.Y.)
9. Item 605 - Aggregate Drains, As Per Plan
10. Item 407 - Tack Coat (applied @ 0.075 Gal./S.Y.)
11. Item 659 - Seeding & Mulching
12. Item 254 - Pavement Planing, Asphalt Concrete

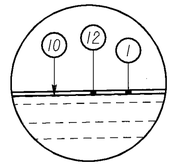
(A) EXISTING 7"± ASPHALT CONCRETE
(B) EXISTING 6"± AGGREGATE BASE
(C) EXISTING 5"± SUBBASE
(D) 6" UNDERDRAIN
(E) EXISTING GUARDRAIL

PAVEMENT TRANSITION TABLE

LEFT SIDE				CENTERLINE CONTROL		RIGHT SIDE				
ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	WIDTH (ft)	STATION	PROFILE GRADE	WIDTH (ft)	CROSS SLOPE	ELEVATION CORRECTION	EDGE ELEVATION	REMARKS
807.88	-0.29	-0.024	12.0	141+25.00	808.17	12.0	-0.005	-0.06	808.11	Existing
807.92	-0.25	-0.021	12.0	141+50.00	808.17	12.0	-0.009	-0.11	808.06	
807.95	-0.22	-0.018	12.0	141+75.00	808.17	12.0	-0.013	-0.15	808.02	
807.96	-0.21	-0.018	12.0	141+80.38	808.17	12.0	-0.014	-0.16	808.01	
807.98	-0.19	-0.016	12.0	141+94.84	808.17	12.0	-0.016	-0.19	807.98	ST Station



STEP DETAIL



PLANING DETAIL

++ See Pavement Transition Table on this Sheet
* 0.04 Minimum, 0.08 Desirable

CALCULATED CCW CHECKED JPB

TYPICAL SECTIONS

HOL-62-12.15

2/32

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UTILITIES

Listed below are all utilities located within the project construction limits together with their respective owners:

AT&T Communications, Inc.
1100 Third Avenue
Altoona, PA 16602
(814) 840-5859
ATTN: Mr. Dave Shingle

Columbia Gas of Ohio, Inc.
1120 W. 4th Street
Mansfield, OH 44906
(419) 528-1114
ATTN: Mr. Barth Smith

Gatherco
5772 Dressler Road, NW
North Canton, OH 44720
(330) 498-9557
ATTN: Jennifer Meyer

Holmes-Wayne Electric Co-Op
P.O. Box 112
Millersburg, OH 44654
(330) 674-1055
ATTN: John Porter

Ohio Cumberland Gas Company
P.O. Box 230
Mount Vernon, OH 43050
(740) 392-2941
ATTN: Mark Ramser

Sprint
2025 Akron Road
Wooster, OH 44691
(419) 755-7135
ATTN: Mr. Chad Shepard

Adelphia
P.O. Box 506
New Philadelphia, OH 44663
(330) 364-6634
ATTN: Charles Miller

Ohio Oil Gathering
P.O. Box 377
Frazeyburg, OH 43822
(740) 828-2894
ATTN: Robert A. Moran

There are no underground utiities shown on this plan. The nature of the work required by this project will not affect any known underground utilities that exist under or adjacent to the work area.

ELEVATION DATUM

All elevations are "assumed elevations."

ROUNDING

The rounding at slope breakpoints shown on the Typical Sections apply to all cross sections even though otherwise shown.

WORK LIMITS

The work limits shown on these plans are for physical construction only. The installation and operation of all temporary traffic control and temporary traffic control devices required by these plans shall be provided by the Contractor whether inside or outside these work limits.

PREVIOUS CONSTRUCTION PLANS

Existing plans entitled HOL-62-(10.00-14.10), 1960, may be inspected in the ODOT District 11 office in New Philadelphia.

CLEARING AND GRUBBING

Although there are no trees or stumps specifically marked for removal within the limits of the project, a lump sum quantity has been included in the General Summary for Item 201, Clearing and Grubbing. All provisions as set forth in the specifications under this item shall be included in the lump sum price bid for Item 201, Clearing and Grubbing.

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN

Materials furnished for fine and coarse aggregates used in this item shall exclude all stone and crushed carbonate stone.

SEEDING AND MULCHING

Seeding and mulching shall be applied to all areas of exposed soil between the right-of-way lines, and within the construction limits for areas outside the right-of-way lines covered by work agreement or slope easement. Quantity calculations for seeding and mulching are based on these limits.

PART-WIDTH CONSTRUCTION

Because of the necessity to build this project under traffic, and to construct the full pavement width in stages, extreme care shall be taken to prevent the construction of a butt joint in the base courses. Longitudinal joints shall be lapped as shown on Standard Construction Drawing BP-3.1.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "W-Beam Rail Splice" as shown in AASHTO M 180. Payment shall be included in the contract price for the respective guardrail items.

INSPECTION OF BRIDGES FOR BATS

Prior to any demolition/removal of the existing structure, the Contractor shall carefully examine the underside of the structure for the presence of bats. If any bats are found, the ODOT District 11 Environmental Coordinator should be contacted at 330-339-6633 before commencing with the Bridge's demolition.

ITEM 605 - AGGREGATE DRAINS, AS PER PLAN

For placement of aggregate drains, see sheet no. 14.

The aggregate for the drains shall be No. 57 gravel.

SOIL BORINGS INFORMATION

The soil borings shown on the Site Plan sheet are from the original construction plan. These borings and soils investigation sheets are located at the District 11 headquarters in New Philadelphia, Ohio. The borings can be made available by contacting the District Design Engineer at 330-308-3955.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

This item shall consist of furnishing and installing either of the following guardrail end terminals.

1) The ET-2000 (1997) manufactured by Trinity Industry, 1170 N. State Street, Girard, Ohio 44420 (Telephone: 330-545-4373).

The length of the ET-2000 (1997) system is considered to be 50'-0", inclusive of two 25'-0" long rail elements. Installation shall be at the locations specified in the plans. In accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) Plan, Elevation & Sections	6/20/97	3/6/98
SS142	ET2000 Plus 50'-0" Plan, Elevation & Section 25'-0" Rail, Sleeve W/PL Posts 1-4	4/12/00	7/31/00
SS141	ET2000 Plus Plan, Elevation & Section 25'-0" Rail, HBA Posts 1-4	2/29/00	7/31/00
SS158	ET2000 Plus 50'-0" with 12'-6" Panels & HBA Posts 1-4 Plan, Elevation & Section	5/22/00	7/31/00

2) The SKT-350 manufactured by Road Systems, INC., 2516 Mallory Lane, Stow, Ohio, 44224, (Telephone: 330-346-0721).

The length of the SKT-350 System is considered to be 50'-0", inclusive of four 12'-6" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SKT-4M	Sequential Kinking Terminal (SKT-350) Assembly with 4 Foundation Tubes	12/11/97	3/6/98

The face of the Type E-98 impact head shall be covered with a sheet of Type G Reflective Sheeting, per CMS 730.19, approximately 18" x 18".

Refer to the manufacturer's instruction regarding the installation of, and the grading around, the foundation tubes and ground strut. The top of any foundation tube should be less than 4-inches above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 27-3/4-inches from the edge of the shoulder.

On-site grading is required if the top of the foundation tubes or top of the ground strut does project more than 4 inches above the ground line.

Payment for the above work shall be made at the unit price bid for item 606, Anchor Assembly, Type E-98, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related transitions, reflective sheeting, hardware, grading, embankment and excavation not separately specified, as required by the manufacturer.

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GENERAL NOTES

HOL-62-12.15

3
32

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 - MAINTAINING TRAFFIC

The Contractor shall maintain traffic at all times and in accordance with the requirements of Item 614 and the construction phasing described on sheet no. 5. Traffic shall be maintained at all times by use of the existing pavement, pavement for maintaining traffic, and portions of the existing and proposed structure.

Alternating one-way traffic shall be maintained during phases 1 and 2 by use of work zone traffic signals as shown on Standard Construction Drawings MT-96.11, and the details shown on sheet no. 6. Traffic shall be separated from the work area by means of Item 622 - Portable Concrete Barrier.

Prior to the beginning of any construction that will require the closure of existing lanes to traffic, all work zone signals, pavement, signs, lights, portable concrete barriers, and work zone pavement markings shall be furnished and installed as shown on Standard Construction Drawing MT-96.11 and sheet no's. 5-10. Advance Warning Signs shall also be provided and installed for both approaches of S.R. 60 as shown on sheet no. 6. Work zone pavement markings, raised pavement markings, and portable concrete barrier installation shall be accomplished in one day, with flaggers being utilized for the protection of vehicular traffic during the installation of these items. When the above requirements have been satisfied, signal controlled alternating one-way traffic may begin.

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The level of utilization of maintenance of traffic devices shall be commensurate with the work in progress.

No extensions of time shall be granted for delays in material deliveries, unless such delays are industry-wide, or for labor strikes, unless such strikes are area-wide.

The following estimated quantity has been included in the General Summary, for use as directed by the Engineer, for the maintenance of traffic:

Item 614 - Asphalt Concrete for Maintaining Traffic - - - - - - - - - - 3.0 Cu. Yd.

All work and traffic control devices shall be in accordance with 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment and materials shall be included in the Lump Sum contract price for 614, Maintaining Traffic, unless seperately itemized in the plan.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

The Contractor shall notify the Engineer at least eighteen (18) days prior to implementing any work zone restrictions that will reduce the width or vertical clearance of any lane on which traffic will be maintained during construction.

The Engineer shall immediately notify the District Roadway Services Manager to advise the Office of Highway Management of the restrictions.

ITEM 614 - BARRIER REFLECTORS AND OBJECT MARKERS

Barrier reflectors and object markers shall be installed on all portable concrete barrier used for traffic control. Barrier reflectors, object markers and their installation shall conform to Item 626, except that the spacing shall be 50 feet.

In addition to the quantities on sheet no. 7, the following quantity has been carried to the General Summary for use during phase one and is to be applied on the existing left side guardrail:

Item 614 - Barrier Reflector, Type A2 - - - - - - - - - - - 7 Each

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

(PM-1) & (PM-2) may be either concrete or flexible.

(PM-3) & (PM-4) shall be with flexible material and shall remain in place upon completion of project.

Areas removed and not replaced with full depth pavement per the typical sections shall be backfilled with 304 (aggregate base). Payment for the 304 and labor shall be included with Item 615, Pavement for Maintaining Traffic, Class B, As Per Plan.

TRENCH FOR PAVEMENT FOR MAINTAINING TRAFFIC

Trench excavation shall only be on one side of the pavement at a time. The open trench shall be adequately maintained and protected with drums or barrier at all times. Placement of proposed Pavement for Maintaining Traffic shall follow as closely as possible behind excavation operations. The length of the trench that is open at any one time shall be held to a minimum, and shall at all times be subject to approval of the Engineer.

No open trenches or drop offs will be allowed overnight, except as noted in "Overnight Trench Closing" note.

OVERNIGHT TRENCH CLOSING

The base widening shall be completed to a depth of no more than 1¼" inches below the existing pavement by the end of each work day. No trench shall be left open overnight except for a short length (25 feet or less) of a work section at the end of the trench. In case work must be suspended because of inclement weather or other reasons, the trench for the uncompleted base widening shall be backfilled at the direction of the Engineer.

ITEM 614 - WORK ZONE TRAFFIC SIGNALS

All work zone traffic signals shall have hardware installed with the controller to switch power to a portable generator. The Contractor shall have on the project a compatible portable generator at all times while the traffic signals are operational. The portable generator shall have the electrical capacity to power the work zone traffic signals in the event of an electrical power outage.

In lieu of the preceding requirements, the signal heads shall be Light Emitting Diode (LED) traffic signals. The LED shall be Dialight, 12" traffic signal bulbs with a minimum of 190 clusters or an approved equal. The controller for the LED shall have an automatic battery backup system in the event of an electrical power outage. The battery backup system shall have a minimum capacity to operate the traffic signals for a 24 hour period without recharging.

The Contractor shall be responsible for periodically recharging or refueling the system to keep the signals functioning for the entire duration of the power outage. All cost's for materials, equipment, and labor shall be included in the contract price for Item 614, Maintaining Traffic.

OVERHEAD MOUNTED WORK ZONE SIGNALS

Signals shall be overhead mounted in accordance with the details shown on sheet no. 9.

ITEM 622 - PORTABLE CONCRETE BARRIER

It is anticipated that the same barrier will be used in various phases of construction. Movement of the concrete barrier between phases shall be accomplished in one working day. Flaggers shall be utilized for protection of vehicular traffic until movement of the barrier is complete.

ITEM 614 - WORK ZONE VEHICLE PRESENCE DETECTORS

Vehicle presence detectors shall be located in the pavement or pole mounted. Detectors that are located in the pavement shall be 20 foot in length and shall extend 2 foot beyond the work zone stop line. Upon completion of the project and with the Engineer's approval, the detectors may be left in place. For details and general information, see Standard Construction Drawing TC-82.10.

All costs for materials, equipment, and labor shall be included in the contract price for Item 614, Maintaining Traffic.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)

This item shall consist of furnishing and installing either of the following impact attenuators:

1) The QuadGuard CZ, (24 inches wide six-bay) work zone impact attenuator manufactured by Energy Absorption Systems, Inc., One East Wacker Drive, Chicago, IL 60601 (Telephone: 312-467-6750)

The length of the six-bay QuadGuard CZ is 20'-9". Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Drawing Number	Drawing Name	Drawing/ Revision Date	ODOT Approval Date
QSCZCVR-T4	QuardGuard CZ System for Construction Zones	5/13/99 Rev. J	8/27/99
35-40-10	QuadGuard System Concrete Pad, CZ, QG	11/19/97 Rev. D	8/27/99
35-40-16	QuadGuard System Backup Assembly, CZ, QG	7/30/99 Rev. F	8/27/99
35405Iz	QuadGuard CZ System Nose Assembly, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	Transition Assembly, 4 Offest, QG	6/25/99 Rev. F	8/27/99
35400260	QuadGuard System PCMB Anchor Assembly	11/19/97 Rev. C	8/27/99

2) The TRACC (Trinity Attenuating Crash Cushion) manufactured by Syro Inc., 1170 N. State Street, Girard, Ohio 44420 (Telephone: 330-545-4373).

The TRACC is 21'-0" long and 2'-7" wide. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Drawing Number	Drawing Name	Drawing/ Revision Date	ODOT Approval Date
SS450 SS450M	Crash-cushion Attenuating Terminal Plan, Elevation & Sections	3/12/99 Rev. I	8/27/99
SS455	TRACC Transition to W-beam Median Barrier Plan, Elevation & Sections	2/18/99	8/27/99
SS461	TRACC Transition to Concrete Safety Shape Barrier Plan, Elevation & Sections	6/30/99 Rev. I	8/27/99
SS462	TRACC Transition to Concrete Barrier Single Slope Plan, Elevation & Sections	6/30/99	8/27/99

3) The GREAT CZ impact attenuator manufactured by Energy Absorption Systems, Inc.

This attenuator may be used until January 1, 2007 if the item was purchased before October 1, 1998 and is in the Contractor's inventory.

The Contractor shall provide a replacement unit when an impact is severe enough to require complete replacement of the attenuator. The Contractor shall have a spare parts package available on the project site at all times when an attenuator is in place. The Contractor shall provide a minimum of one complete spare parts package for every one to six units installed on the project site. For example, five installed units require one spare parts package and seven installed units require two spare parts packages.

When bidirectional designs are specified, the Contractor shall supply appropriate transitions. Payment for the above work shall be made at the unit price bid for Item 614, Work Zone Impact Attenuator (Bidirectional), Each, and shall include all labor, tools, equipment and materials necessary to construct, maintain, repair, replace or relocate a complete and functional impact attenuator system, including all related backups, transitions, leveling pads, hardware and grading, not separately specified, as required by the manufacturer.

CALCULATED CCW CHECKED JPB

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

In addition to the requirements of CMS 614 and the Ohio Manual Of Uniform Traffic Control Devices (OMUTCD), a uniformed law enforcement officer and official patrol car with working top-mounted emergency flashing lights shall be provided for controlling traffic for the following tasks:

During a traffic signal installation & removal.

Law enforcement officers (LEOS) should not be used where the OMUTCD intends that flaggers be used. The LEOS are considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although they are employed by the Contractor, the Engineer shall have control over their placement. The official patrol car shall be a public safety vehicle as required by the Ohio Revised Code. The Contractor shall make arrangements for these services with:

- State of Ohio State Highway Patrol
  Wooster Outpost
  1766 Dover Road
  Wooster, OH 44691-8965
  (330) 264-0575

- Holmes County Sheriff Department
  8105 Twp. Road 574
  Holmesville, OH 44633
  (330) 674-6931

Law Enforcement officers with patrol car required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, law enforcement officer with patrol car. The following estimated quantity has been carried to the General Summary.

Item 614, Law Enforcement Officer with Patrol Car - - - - - - - - 16 hours

The hours paid shall include minimum show-up time required by the law enforcement agency involved.

If the Contractor wishes to utilize LEOS for flagging and traffic control other than for that required in these plans, they may do so at their own expense. Payment for the excess above the contract requirements will be included under Item 614, Maintaining Traffic.

PHASE CONSTRUCTION SEQUENCE

PHASE 1

1. Install and maintain construction signs, signals, and luminaires as shown on SCD MT-96.11 for US 62 and S.R. 60. Advance warning signs shall have advisory speed signs (W13-1) that incrementally change from 55 MPH to 35 MPH.
2. Construct Pavement for Maintaining Traffic for southbound traffic.
3. Place Portable Concrete Barrier; use unanchored, bridge mounted on the bridge. Install temporary sheeting and Work Zone Pavement Markings as shown on plans. Provide all maintenance of traffic devices.
4. Maintain two-way traffic with one lane on southbound portion of bridge, via signal control.
5. Remove northbound portion of structure and approach slabs as detailed in the plan.
6. Construct northbound portion of structure, approach slabs, proposed guardrail and pavement, and pavement for maintaining traffic on northbound side.

PHASE 2

1. Place Portable Concrete Barrier; use unanchored, bridge mounted on the bridge. Install temporary sheeting and Work Zone Pavement Markings as shown on plans. Provide all maintenance of traffic devices.
2. Maintain two-way traffic with one lane on northbound portion of bridge, via signal control.
3. Remove southbound portion of structure and approach slabs as detailed in the plan.
4. Construct southbound portion of structure, approach slabs, proposed guardrail, and pavement.
5. Open road to two-lane operation.

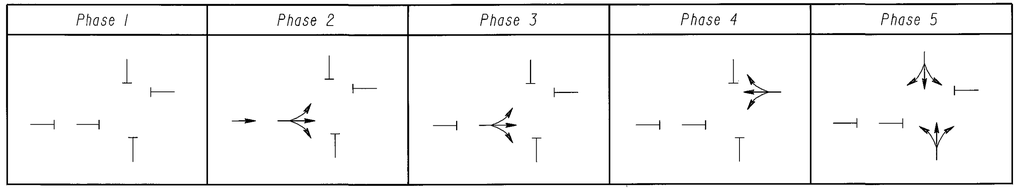
SIGNAL TIMING CHART

	Phase				
Interval	1 (Dummy)	2	3 (Dummy)	4	5
Initial	-------	25	-------	25	7
Vehicle Interval	-------	-------	-------	-------	3
Max. Green	-------	25	-------	25	12
Yellow	-------	3	-------	3	5
All Red		-------		-------	1
Dummy Phase	25	-------	25	-------	-------
Memory	-------	-------	-------	-------	NON-LOCK
Recall	ON	ON	ON	ON	OFF
Initialization	-------	RED	-------	RED	RED

SIGNAL INDICATION CHART

PHASE	SIGNAL HEAD									
	A	B	C	D	E	F	G	H	I	J
1	R	R	R	R	R	R	R	R	R	R
	R	R	R	R	R	R	R	R	R	R
	R	R	R	R	R	R	R	R	R	R
2	G	G	G	G	R	R	R	R	R	R
	Y	Y	G	G	R	R	R	R	R	R
	R	R	G	G	R	R	R	R	R	R
3	R	R	G	G	R	R	R	R	R	R
	R	R	Y	Y	R	R	R	R	R	R
	R	R	R	R	R	R	R	R	R	R
4	R	R	R	R	G	G	R	R	R	R
	R	R	R	R	Y	Y	R	R	R	R
	R	R	R	R	R	R	R	R	R	R
5	R	R	R	R	R	R	G	G	G	G
	R	R	R	R	R	R	Y	Y	Y	Y
	R	R	R	R	R	R	R	R	R	R

SIGNAL PHASING FOR PHASES 1 & 2



SIGNAL PHASING DETAIL

USING A 5 PHASE ACTUATED CONTROL

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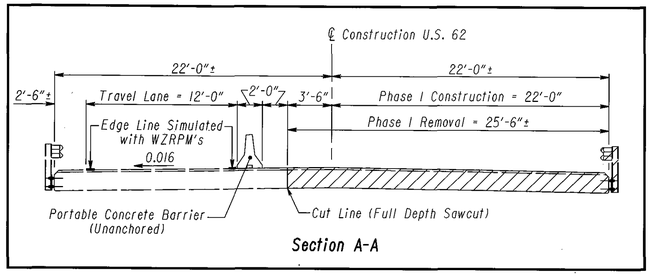
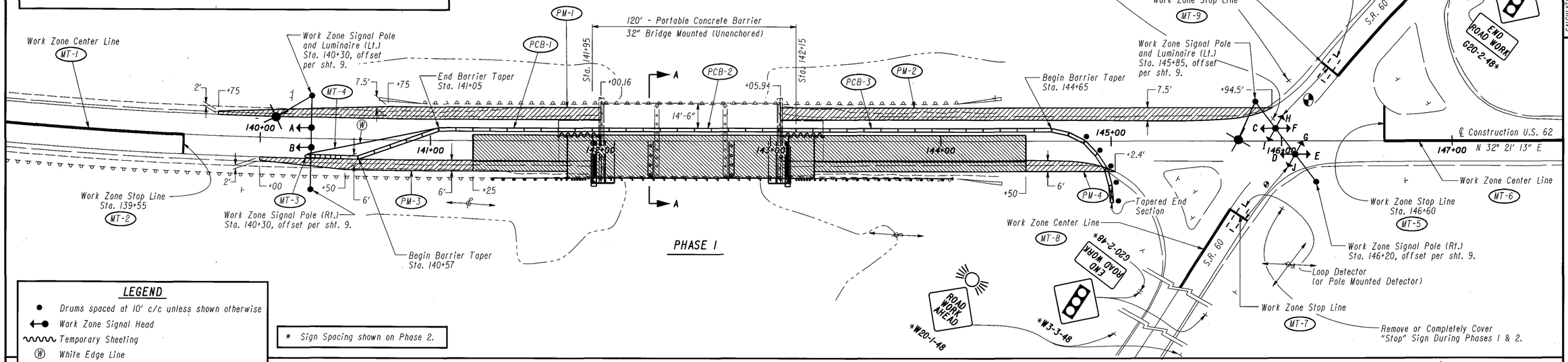


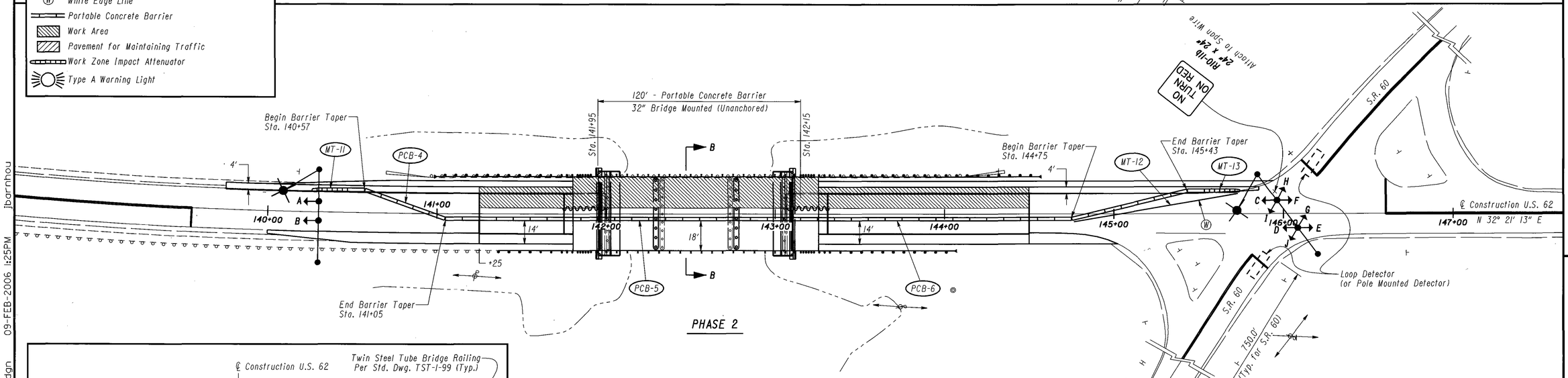
Section A-A

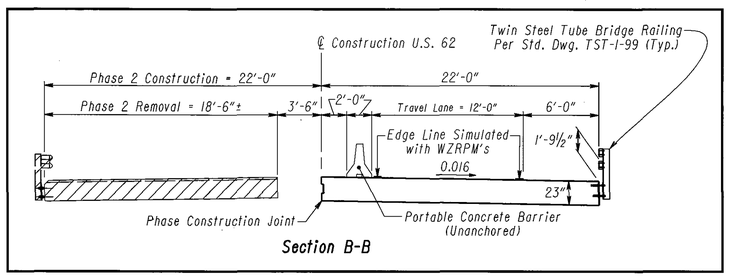


LEGEND

- Drums spaced at 10' c/c unless shown otherwise
- Work Zone Signal Head
- Temporary Sheeting
- (W) White Edge Line
- Portable Concrete Barrier
- Work Area
- Pavement for Maintaining Traffic
- Work Zone Impact Attenuator
- Type A Warning Light

* Sign Spacing shown on Phase 2.





Section B-B

CALCULATIONS :

Item 615 - Pavement For Maintaining Traffic, Class B, As Per Plan :

- (PM-1) : [(1100' x 4.75' avg.) + (125.16' x 7.5')] ÷ 9 = 157.08 Sq. Yard
- (PM-2) : CADD Generated Area = 1985.13 s.f. ÷ 9 = 220.57 Sq. Yard
- (PM-3) : [(50' x 4' avg.) + (75' x 6')] ÷ 9 = 72.22 Sq. Yard
- (PM-4) : CADD Generated Area = 275.91 s.f. ÷ 9 = 30.66 Sq. Yard

Quantities carried to sheet no. 7.

Stop bar shall be placed a minimum of 40' from the nearest signal head or as directed by the Engineer.

For Signal Indication Chart, See Sheet No. 5.
For Signal Phasing for Phases 1 & 2, See Sheet No. 5.
For Signal Timing Chart, See Sheet No. 5.

For Details not Shown, See Standard Construction Drawings MT-96.11, MT-101.20, MT-101.70, RM-4.2 and PCB-91.

For Maintenance of Traffic Quantities, See Sheet No. 7.
For Structure Transverse Section, See Sheet No. 7.

HORIZONTAL SCALE IN FEET
0 30 60

CALCULATED CCW
CHECKED JPB

MAINTENANCE OF TRAFFIC PLAN PHASE 1 - PHASE 2

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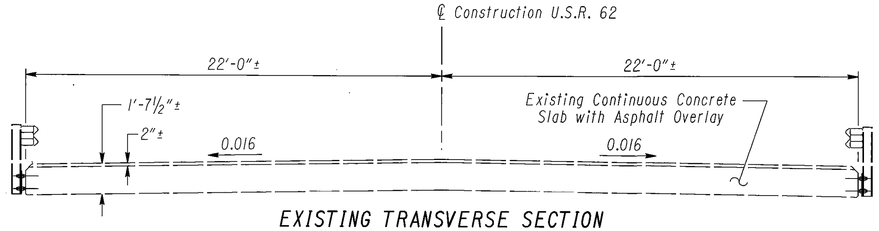
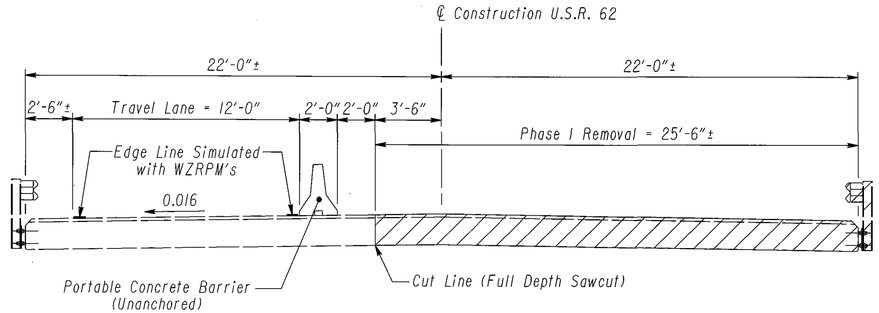
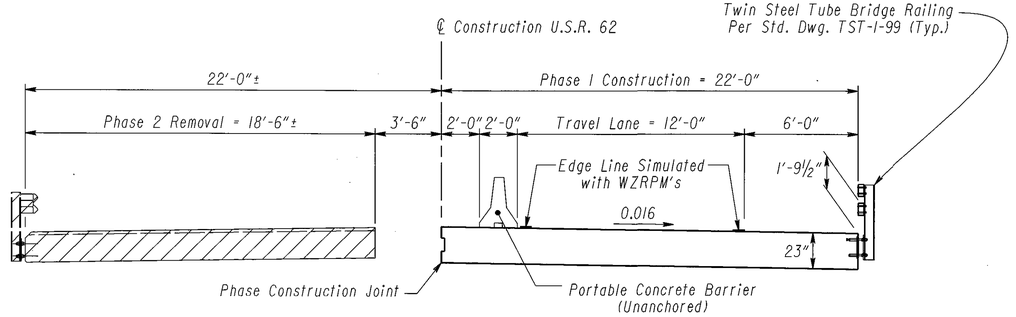


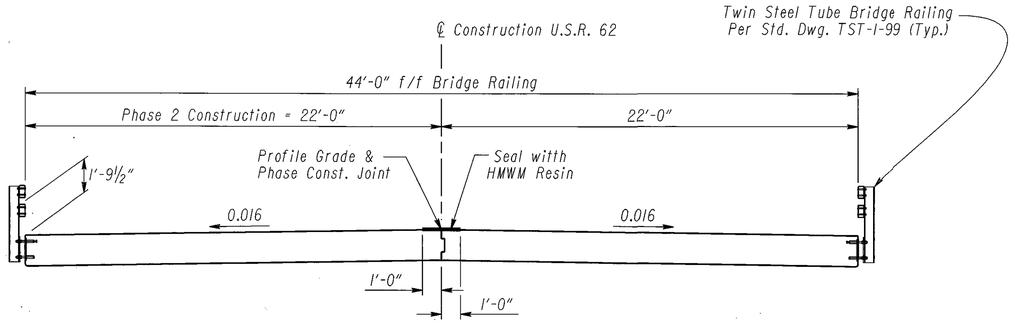
EXISTING TRANSVERSE SECTION
(Looking Upstation)



PHASE I REMOVAL
(Looking Upstation)



PHASE I CONSTRUCTION & PHASE 2 REMOVAL
(Looking Upstation)



PHASE 2 CONSTRUCTION
(Looking Upstation)

Portion of Structure to be Removed

MAINTENANCE OF TRAFFIC QUANTITIES

	Sheet No.	Reference	614 Barrier Reflector, Type B2	614 Object Marker, Two-way		614 Work Zone Impact Attenuator (Bidirectional)	614 Work Zone Edge Line, Class 1, 740.06, Type 1	614 Work Zone Stop Line, Class 1, 740.06, Type 1	614 Work Zone Center Line, Class 1, 642 Paint	615 Pavement For Maintaining Traffic, Class B, As Per Plan	622 Portable Concrete Barrier, 32"	622 Portable Concrete Barrier, 32", Bridge Mounted
			EACH	EACH		EACH	MILE	FEET	MILE	Sq. Yd.	FEET	FEET
PHASE 1	6	MT-1							0.03			
	6	MT-2						12				
	6	MT-3				1						
	6	MT-4					0.02					
	6	MT-5						21				
	6	MT-6							0.03			
	6	MT-7						12				
	6	MT-8							0.03			
	6	MT-9						12				
	6	MT-10							0.03			
	6	PCB-1	3	3							150	
	6	PCB-2	3	3								120
	6	PCB-3	6	6							210	
	6	PM-1								157.08		
	6	PM-2								220.57		
	6	PM-3								72.22		
	6	PM-4								30.66		
	Sub-Total		12	12		1	0.02	57	0.12	480.53	360	120
PHASE 2	6	MT-11				1						
	6	MT-12					0.02					
	6	MT-13				1						
	6	PCB-4	3	3							150	
	6	PCB-5	3	3								120
	6	PCB-6	6	6							240	
	Sub-Total		12	12		2	0.02				390	120
Totals Carried to General Summary			24	24		3	0.04	57	0.12	480.53	750	240

ITEM 614 - WORK ZONE RAISED PAVEMENT MARKERS

	STATIONING FROM	STATIONING TO	SIDE	SPACING FEET	TYPE A W	TYPE A Y	TYPE A Y/Y	REMARKS (LINE TYPE)
PHASE 1	138+05	139+55	℄	20			18	SUPPLEMENT CENTERLINE ((U.S. 62)
	146+60	148+10	℄	20			18	SUPPLEMENT CENTERLINE (U.S. 62)
	SOUTH APPROACH		℄	20			18	SUPPLEMENT CENTERLINE (S.R. 60)
	NORTH APPROACH		℄	20			18	SUPPLEMENT CENTERLINE (S.R. 60)
	139+55	144+65	LT.	5	102	102		SIMULATE EDGE LINE
	141+05	144+65	RT.	5	73	73		SIMULATE EDGE LINE
	144+65	145+75	LT.	5	23			SIMULATE EDGE LINE
PHASE 2	139+55	141+05	RT.	5	30			SIMULATE EDGE LINE
	141+05	144+75	LT.	5	75	75		SIMULATE EDGE LINE
	141+05	145+00	RT.	5	80	80		SIMULATE EDGE LINE
	Sub-total				383	330	72	
Totals Carried to General Summary					785			

NOTE : SIDE is in relation to increasing station.

CALCULATED CCW CHECKED JPB

MAINTENANCE OF TRAFFIC

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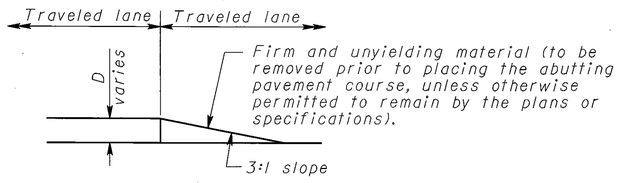
GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for **Item 614 - Maintaining Traffic.**
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with **SCD RM-4.2** and Item 622.
6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-155 (Shoulder Drop-Off) signs or OW-171 (Uneven Lanes) signs are required, they shall be placed 750' [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10' [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" [125] and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60' [18 m] - utilize appropriate treatment from Condition I.
    b. Lengths of 60' [18 m] or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 sign required.

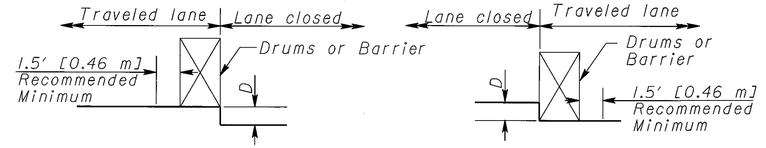


CONDITION I
DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D	Treatment
≤1½" [≤40]	Erect OW-171 sign.
1½"-3" [40-75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>3"-5" [>75-125]	Lane closure utilizing drums as shown below.
>5" [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.

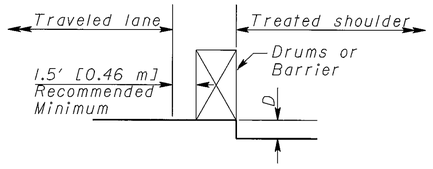


CONDITION II
DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12' [3.6 m].

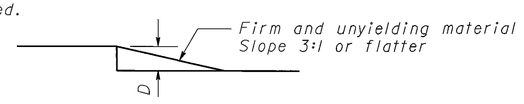
D	Treatment
≤1½" [≤40]	1) Erect OW-155 signs.
>1½"-5" [>40-125]	1) If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>5"-12" [125-305] Daylight only	If minimum lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>5"-24" [>125-610]	1) If minimum lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width* requirements cannot be met, close adjacent lane utilizing drums.
>24" [>610]	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 10' [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.
2. OW-151 signs required.

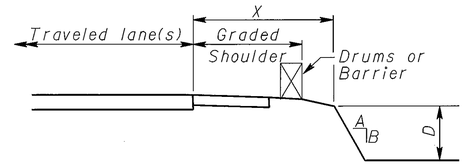


CONDITION III
DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

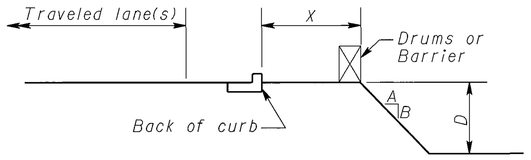
USE FOR: 1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6" [150] in height.
   b. Curbs are 6" [150] or greater in height and the legal speed is greater than 40 mph [70 km/h].



X	D	A/B	Treatment Required	
			Day	Night
0-4' [0-1.2 m]	Any	Any	(a)	(a)
4'-30' [1.2-9.1 m]	Any	3:1 or Flatter	None	None
4'-12' [1.2-3.6 m]	≤3" [≤75]	Steeper than 3:1	None	None
4'-12' [1.2-3.6 m]	>3"-≤12" [>75-≤305]	Steeper than 3:1	Drums	Drums
4'-12' [1.2-3.6 m]	>12" [>305]	Steeper than 3:1	Drums	Barrier
>12'-20' [>3.6-6.1 m]	<12" [<305]	Steeper than 3:1	None	None
>12'-20' [>3.6-6.1 m]	>12"-≤24" [>305-≤610]	Steeper than 3:1	Drums	Drums
>12'-20' [>3.6-6.1 m]	>24" [>610]	Steeper than 3:1	Drums	Barrier
>20'-30' [>6.1-9.1 m]	<24" [<610]	Steeper than 3:1	None	None
>20'-30' [>6.1-9.1 m]	>24" [>610]	Steeper than 3:1	Drums	Barrier
>30' [>9.1 m]	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 6" [150] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X	D	A/B	Treatment Required	
			Day	Night
0-10' [0-3.0 m]	<12" [<305]	Any	None	Drums
0-10' [0-3.0 m]	>12" [>305]	Any	Drums	Drums
>10' [>3.0 m]	Any	Any	None	None

NOTE: All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

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DROPOFFS IN WORK ZONES

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AREA ILLUMINATION SHALL BE PROVIDED BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES

SUPPORT POLE

MINIMUM MOUNTING HEIGHT 27' (8.2 m) LUMINAIRE TO EXTEND TO AT LEAST THE EDGE OF PAVEMENT.

ON BRIDGE PROJECT CABLE MAY ALSO BE ROUTED UNDER BRIDGE IF PROPERLY SUPPORTED. SEE DETAIL "C"

POWER IN SHALL BE AN INDIVIDUAL CIRCUIT DIRECTLY FROM POWER TRANSFORMER

R Y G

ALL 12" (300 mm) LENSES

STEEL STRAP OR BANDING (TYPICAL)

2'(0.6 m)

8' (2.4 m) MIN.

16' (4.9 m) MIN. CLERANCE

12' (3.6 m) MIN. W/O GUARDRAIL

METER (IF REQUIRED)

30 AMP DISCONNECT SWITCH SEE DETAIL "A"

CONTROLLER CABINET

5' (1.5 m) NOMINAL NO. 4 GROUND WIRE

2'6" (0.8 m) MIN. 4' (1.2 m) MAX.

6'6" (2.0 m) MIN.

12' (3.6 m) MIN.

SHOULDER

EXISTING GUARDRAIL

GROUND ROD

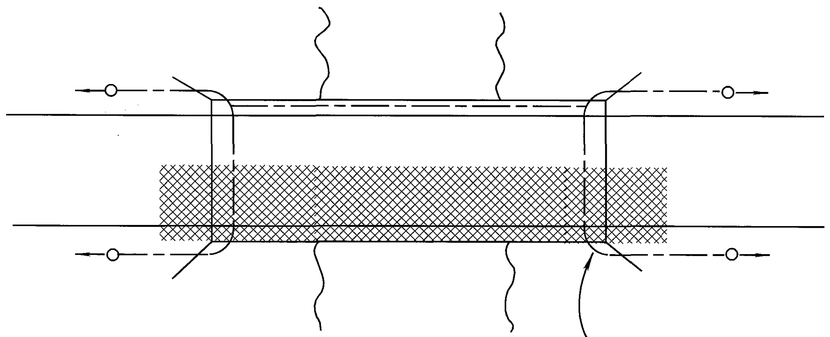
EDGE OF PAVEMENT

SHOULDER

LOCATE POLES BEHIND DITCH WHERE POSSIBLE

1½" (38 mm) CONDUIT
WEATHERPROOF CONNECTOR
METER BASE (IF REQUIRED)
WEATHERPROOF CONNECTOR
2-15A SINGLE POLE CIRCUIT BREAKERS
DISCONNECT SWITCH ENCLOSURE
LIGHTING CIRCUIT
SIGNAL CIRCUIT
TO GROUND ROD

DETAIL "A"



ALTERNATE CABLE ROUTING

DETAIL "B"

CABLES WITHIN REACH OF PEDESTRIANS SHALL BE PLACED IN CONDUIT. CABLE RUNS WITHOUT CONDUIT SHALL BE SUPPORTED AT 10' (3.0 m) INTERVALS.

DETAILS FOR SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY-OVERHEAD MOUNTED (5-PHASE)

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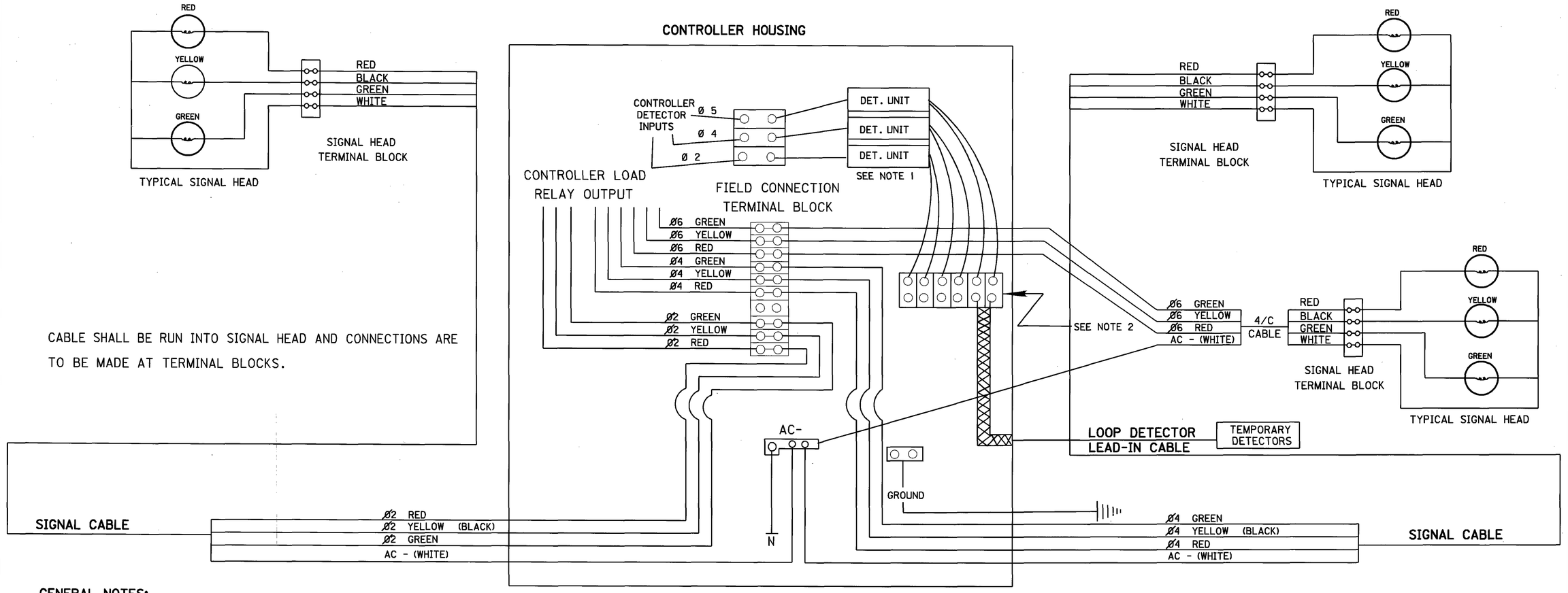


TYPICAL SIGNAL HEAD HOOK-UP

CABLE SHALL BE RUN INTO SIGNAL HEAD AND CONNECTIONS ARE TO BE MADE AT TERMINAL BLOCKS.

GENERAL NOTES:

1. Detection may be loop, magnetometer, sonic or infra-red but shall be chosen, installed and operated to provide dependable accurate detection on each approach without false calls resulting from other traffic. Cabling shown is for loop detectors. However, suitable cable types, as recommended by the manufacturers shall be used for other detectors.

2. Lightning protection, as required in 733.04 shall be provided for solid state electronic controllers and detectors.

3. Signal cable shall be 5/c No. 14 AWG as specified in 732.19. All electrical connections to be made at terminal blocks using lock fork terminals. Splices in signal cable should be avoided but if necessary splice kits shall be used. All connections at splice points shall be soldered.

4. Signal timing settings shall be as shown in the plans or provided to the Contractor by the Engineer prior to implementation of signal control. The Contractor shall periodically monitor the signal operation to determine failure or inefficient operation.

   All equipment failures including timing mechanisms and detectors shall be reported to the Engineer and fully repaired by the Contractor as soon as possible, but in no case longer than 8 hours following notification of the Contractor by the Engineer. All failures resulting in unsafe operations of the signal (i.e., signal or lamp failure, short-timing of yellow or all red intervals, mis-aimed signals, conflictiong displays) shall result in the Contractor using 2-way radios to control traffic through the work area until the signal is fully repaired. Failures shall include situations caused by traffic accidents, acts of God or any other cause whether under the control of the Contractor or not.

   If the Engineer determines that the signal operation, although in accordance with the plans and previous orders, is not providing acceptable safe and efficient movement of traffic, the Engineer shall order that appropriate changes such as timing alterations, signal or detector relocations, etc. be made to remedy the situation, at no additional cost to the State. Timing changes and signal relocations shall be implemented within four hours, detector relocations and changes within 24 hours. Failure to make required changes within these time limits shall result in the assessment of liquidated damages of $100.00 per calendar day until the changes are completed.

ACTUATED-WIRING DIAGRAM FOR SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY (5-PHASE)

HOL-62-12.15

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE PLAN SHEET NO.
	3					14										
															ROADWAY	
	LUMP										201	11000	LUMP		CLEARING AND GRUBBING	
						437.5					202	38000	437.5	FT	GUARDRAIL REMOVED	
						233.5					202	38500	233.5	FT	BRIDGE RAILING REMOVED	
						8					202	54000	8	EACH	RAISED PAVEMENT MARKER REMOVED	
						200					203	10000	200	CU YD	EXCAVATION	
						127					203	20000	127	CU YD	EMBANKMENT	
						625					204	10000	625	SQ YD	SUBGRADE COMPACTION	
						237.50					606	13000	237.50	FT	GUARDRAIL, TYPE 5	
						3					606	22010	3	EACH	ANCHOR ASSEMBLY, TYPE E-98	3
						4					606	32160	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
															EROSION CONTROL	
						2					659	00100	2	EACH	SOIL ANALYSIS TEST	
						278					659	00300	278	CU YD	TOPSOIL	
						2508					659	10000	2508	SQ YD	SEEDING AND MULCHING	
						0.34					659	20000	0.34	TON	COMMERCIAL FERTILIZER	
						0.52					659	31000	0.52	ACRE	LIME	
						14					659	35000	14	M GAL	WATER	
											832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
											832	30000	3620	EACH	EROSION CONTROL	
															DRAINAGE	
						24					605	31101	24	FT	AGGREGATE DRAINS, AS PER PLAN	3
															PAVEMENT	
						451					254	01000	451	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
						85					301	46000	85	CU YD	ASPHALT CONCRETE BASE, PG64-22	
						95					304	20000	95	CU YD	AGGREGATE BASE	
						34					407	10000	34	GALLON	TACK COAT	
						14					407	14000	14	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
						153					408	10000	153	GALLON	PRIME COAT	
						17					448	46050	17	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
						28					448	47021	28	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	3
															TRAFFIC CONTROL	
						9					626	00100	9	EACH	BARRIER REFLECTOR, TYPE A	
						27.6					630	02100	27.6	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
						15.0					630	03100	15.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
						3					630	85100	3	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
						3					630	86002	3	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						0.23					642	00100	0.23	MILE	EDGE LINE, TYPE 1	
						0.13					642	00300	0.13	MILE	CENTER LINE, TYPE 1	
															STRUCTURES	
															FOR BRIDGE NO. HOL-62-1216, SEE SHEET NO. 23	

CALCULATED CCW
CHECKED JPB

GENERAL SUMMARY

HOL-62-12.15

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE PLAN SHEET NO.
		4	5		7											
															MAINTENANCE OF TRAFFIC	
			16								614	11100	16	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
					3						614	12338	3	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	4
					785						614	12800	785	EACH	WORK ZONE RAISED PAVEMENT MARKER	
		3									614	13000	3	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		7									614	13202	7	EACH	BARRIER REFLECTOR, TYPE A2	
					24						614	13302	24	EACH	BARRIER REFLECTOR, TYPE B2	
					24						614	13360	24	EACH	OBJECT MARKER, TWO WAY	
					0.12						614	21100	0.12	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
					0.04						614	22200	0.04	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
					57						614	26400	57	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
					481						615	25001	481	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN	4
					750						622	40020	750	FT	PORTABLE CONCRETE BARRIER, 32"	
					240						622	40040	240	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
		LUMP									614	11000	LUMP		MAINTAINING TRAFFIC	
											619	16010	6	MONTH	FIELD OFFICE, TYPE B	
											623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
											624	10000	LUMP		MOBILIZATION	

CALCULATED CCW
CHECKED JPB

GENERAL SUMMARY

HOL-62-12.16

TOTAL PROJECT AREA ——— 1.42 ACRES

PROJECT EDA ——— 1.12 ACRES

CONTRACTOR EDA ——— 0.30 ACRES

NOI EDA ——— 4.9 ACRES

IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE ——— 0.44 ACRES

IMPERVIOUS (PAVED) AREA FOR POST-CONNSTRUCTION SITE ——— 0.05 ACRES

RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE ——— 0.70

RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE ——— 0.70

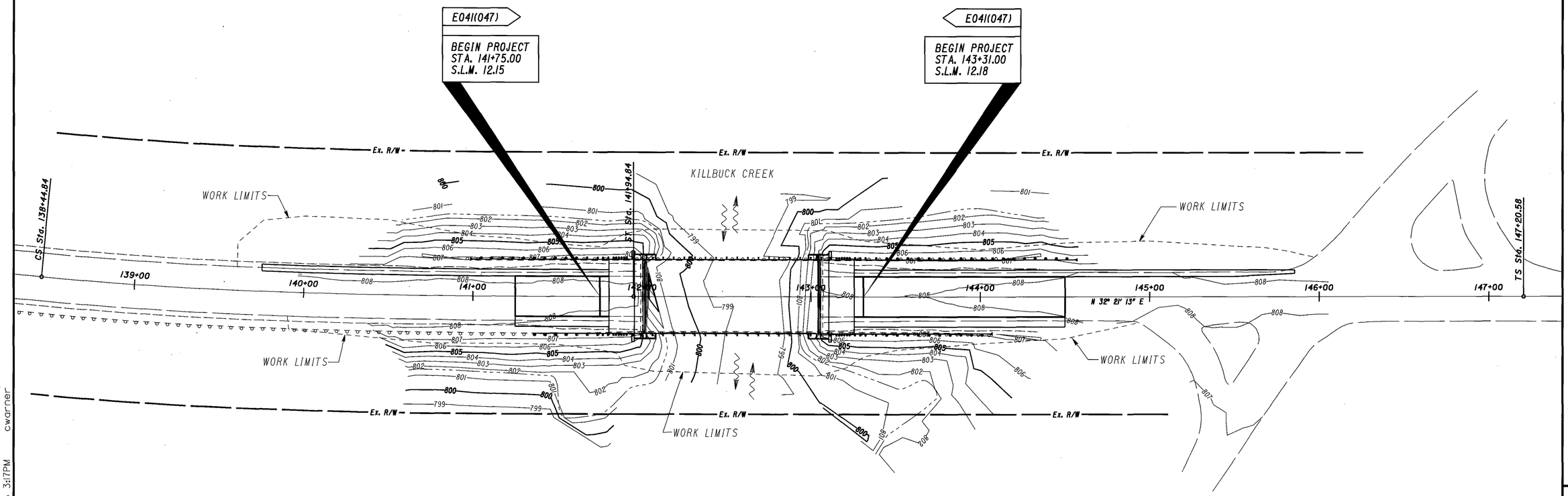
IMMEDIATE RECEIVING WATERS ——— KILLBUCK CREEK

USGS QUADRANGLE MAP ——— KILLBUCK, OHIO 1985
DMA 4664 IV NW - SERIES V852

LATITUDE: N 40°29'05"
LONGITUDE: W 81°58'55"

PROJECT DESCRIPTION

IMPROVEMENT OF 156 FEET (0.03 MILES) OF U.S. 62 BY REPLACING EXISTING STRUCTURE NO. HOL-62-1216 WITH A CONTINUOUS SLAB BRIDGE, NEW CAST IN PLACE SUBSTRUCTURE AND NEW APPROACH SLABS. ALSO MINIMAL PAVEMENT WORK WITH THE REPLACEMENT OF GUARDRAIL.



HORIZONTAL SCALE IN FEET
0 15 30 60

CALCULATED CCW
CHECKED JPB

PROJECT SITE PLAN

HOL-62-12.15

12A
32

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HORIZONTAL CONTROL POINTS

STATION	OFFSET	NORTH	EAST	ELEVATION	REMARKS
135+58.69	28.98' RT	297,722.280	2,112,174.351	809.52	BENCH MARK #1
144+05.17	45.29' RT	298,399.130	2,112,692.176	805.25	BENCH MARK #2
140+00.00	℄	298,082.098	2,112,435.541	- - -	SURVEY NAIL
145+00.00	℄	298,503.479	2,112,704.662	- - -	SURVEY NAIL

For Estimated Quantities, See Sheet No. 14.

BEGIN WORK
STA. 139+55.00

ADOPT A HIGHWAY
LITTER CONTROL
KILLBUCK VALLEY
CHRISTIAN CHURCH

I-HI4-48
Remove & Reerect on New Posts at Sta. 140+18, offset per Std. Dwg. TC-42.20

E041(047)
BEGIN PROJECT
STA. 141+75.00
S.L.M. 12.15

Sta. 141+94.84 ST

Killbuck Creek Overflow

E041(047)
END PROJECT
STA. 143+31.00
S.L.M. 12.18

WEST
M3-4
62
MI-H4
Remove & Reerect on New Posts at Sta. 144+32, offset per Std. Dwg. TC-42.20

END WORK
STA. 146+60.00

Ex. R/W

Construction Limits

S-1 · S-2 · GR-1 · GR-2 · GR-3 · GR-4 · R-1 · R-2

4' · 304 Backfill · Anchor Assembly Type E

Sta. 140+98.48 · Sta. 144+57.32

+75 · +25 · +90.87 · +80.38 · +15.14 · +25.63 · +50

140+00 · 141+00 · 142+00 · 143+00 · 144+00 · 145+00

12' · 12' · 22' · 22' · 44' f/f guardrail

℄ CONST. US 62
N 32° 21' 13" E

6' ℄

Pavement for Maintaining Traffic To Remain in Place

Connect to Existing Sta. 141+36.25

℄ Slab Bearing at Rear Abutment Sta. 141+96.00

℄ Pier 1 Sta. 142+29.25

℄ Pier 2 Sta. 142+76.75

℄ Slab Bearing at Fwd. Abutment Sta. 143+10.00

BM#2 ◎ Sta. 144+07.32

Existing Piers and Abutments to be Removed to 1.0' Below Ground Line (Typ.)

Pavement Planing Areas

Full Depth Pavement Areas

Curve Data

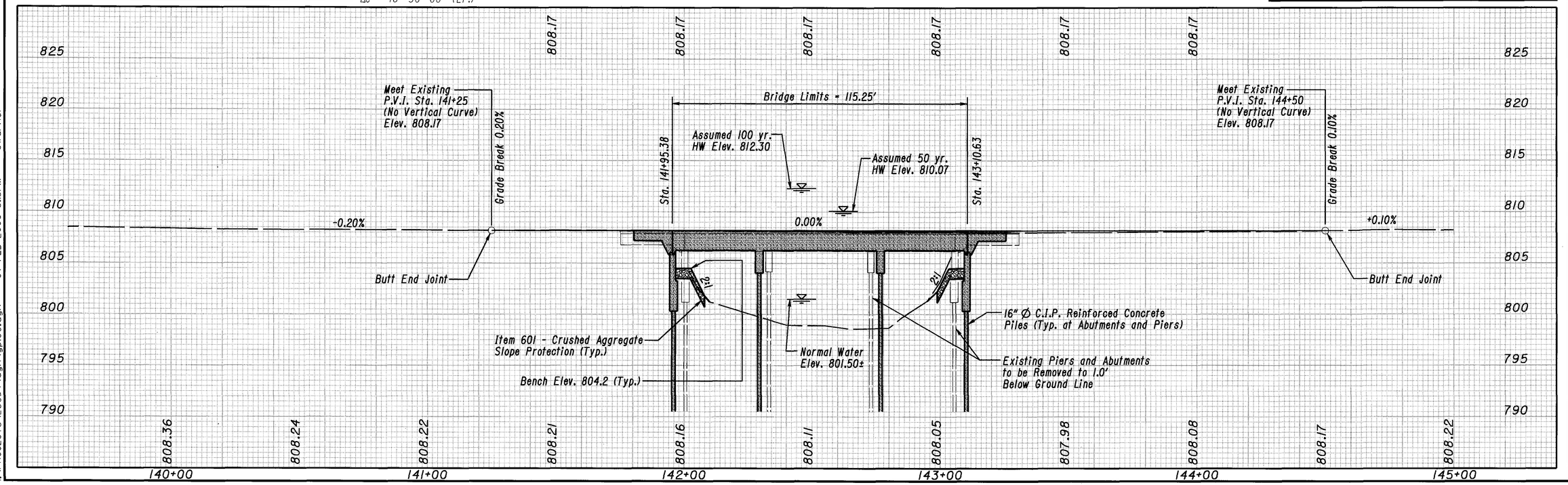
P.I. Sta. = 131+35.18
Δ = 59° 00' 00" (LT.)
Dc = 3° 00' 00"
R = 1,909.86'
Ls = 350.00'
θs = 5° 15' 00"
LT = 233.44'
ST = 116.76'
x = 349.70'
y = 10.68'
k = 174.95'
p = 2.67'
Δc = 48° 30' 00" (LT.)

Lc = 1,616.67'
Ts = 1,257.01'
Es = 287.55'
emax = 0.070
T.S. = Sta. 118+78.17
S.C. = Sta. 122+28.17
C.S. = Sta. 138+44.84
S.T. = Sta. 141+94.84

℄ References - U.S. 62

Sta. 140+00.00	Sta. 145+00
I.P. 27.53 27.90 I.P.	I.P. 27.65 32.21 I.P.
℄ U.S. 62	℄ U.S. 62
SURVEY NAIL — 19.28 — I.P.	SURVEY NAIL — 27.48 — I.P.

BENCH MARK #1	BENCH MARK #2
Sta. 135+58.69 ℄ U.S. 62, 28.98' Right	Sta. 144+05.17 ℄ U.S. 62, 45.29' Right
Elev. 809.52	Elev. 805.25
Concrete Monument with ODOT cap	Concrete Monument with ODOT cap



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CCW
CHECKED JPB

PLAN AND PROFILE
STA. 139+50 TO STA. 145+45

HOL-62-12.15

13
32

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REFERENCE NO.	PLAN SHEET NO.	STATION FROM	STATION TO	SIDE	LENGTH	WIDTH	THICKNESS	202 GUARDRAIL REMOVED	202 BRIDGE RAILING REMOVED	202 RPM REMOVED	204 SUBGRADE COMPACTION	254 PAVEMENT PLANING, ASPHALT CONCRETE	301 8" ASPHALT CONCRETE BASE, PG64-22	304 6" AGGREGATE BASE	407 TACK COAT FOR INTERMEDIATE COURSE AT 0.04 GAL./Sq. YARD	407 TACK COAT APPLIED AT 0.075 GAL./Sq. YARD	408 PRIME COAT APPLIED AT 0.4 GAL./Sq. YARD	448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	448 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	606 GUARDRAIL, TYPE 5	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST	606 ANCHOR ASSEMBLY, TYPE E-98	REMARKS
					FT	FT	INCHES	FT	FT	EACH	SQ. YARD	SQ. YARD	CU. YARD	CU. YARD	GALLON	GALLON	GALLON	CU. YARD	CU. YARD	FT	EACH	EACH	
R-1	13	140+69.77	144+35.74	LT.				250	116.75														
R-2	13	141+36.25	144+35.98	RT.				187.5	116.75														
GR-1	13	140+98.48	141+94.63	LT.																43.75	1	1	
GR-2	13	141+36.25	141+94.63	RT.																56.25	1		
GR-3	13	143+11.38	144+57.32	LT.																93.75	1	1	
GR-4	13	143+11.38	144+07.32	RT.																43.75	1	1	
		141+25.00	144+50.00	℄						8													
PAVEMENT CALCULATIONS :																							
		141+25.00	141+75.00	--	50.0	24.0	--					133.33				10.0		4.63					
		141+75.00	143+31.00	--	*10.75	24.0	--				28.67		6.37	4.78	1.15		11.47	1.00	1.39				Roadway
		143+31.00	144+50.00	--	119.0	24.0	--					317.33				23.80		11.02					
		139+75.00	145+94.50	LT.	*474.25	4.0	--								8.43			7.32	10.25				
		141+25.00	144+50.00	RT.	*179.75	6.0	--								4.79			4.16	5.83				
		139+75.00	145+94.50	LT.	*474.25	4.33	--						50.70				91.27						
		141+25.00	144+50.00	RT.	*179.75	6.33	--						28.09				50.57						Shoulders
		139+75.00	145+94.50	LT.	*474.25	4.83	6							42.42									
		141+25.00	144+50.00	RT.	*179.75	6.83	6							22.74									
		139+75.00	145+94.50	LT.	*474.25	5.5	--				289.82												
		141+25.00	144+50.00	RT.	*179.75	7.5	--				149.79												
		141+80.38	143+25.63	--	**30	45	6							25.0									
		141+80.38	143+25.63	--	**30	47	--				156.67												Approach Slabs
TOTALS (CARRIED TO GENERAL SUMMARY)								437.50	233.50	8	624.95	450.66	85.16	94.94	14.37	33.80	153.31	28.13	17.47	237.50	4	3	

PAVEMENT MARKINGS

Item 642 - Edge Line, Type 1 :

Sta. 139+55.00 to Sta. 145+02.40, (Rt.)
547.40 Ft. ÷ 5280 = 0.10 Mile

Sta. 139+55.00 to Sta. 145+94.50, (Lt.)
639.50 Ft. ÷ 5280 = 0.12 Mile

Sta. 145+24.88 to Sta. 145+65.78, (Rt.)
40.90 Ft. ÷ 5280 = 0.01 Mile

Total = 0.23 Mile **(Use 0.23 Mile)**

Item 642 - Center Line, Type 1 :

Sta. 139+55.00 to Sta. 145+61.00
606.0 Ft. ÷ 5280 = 0.12 Mile

Sta. 146+33.00 to Sta. 146+60.00
27.0 Ft. ÷ 5280 = 0.01 Mile

Total = 0.13 Mile **(Use 0.13 Mile)**

BARRIER REFLECTORS

Item 626 - Barrier Reflectors, Type A

Sta. 140+98.48 to Sta. 144+57.32, (Lt.) = 358.84 Ft.
358.84' ÷ 100 = 3.59 + 1 = 4.59 (Use 5 Each)

Sta. 141+36.25 to Sta. 144+07.32, (Rt.) = 271.07 Ft.
271.07' ÷ 100 = 2.71 + 1 = 3.71 (Use 4 Each)

Total = 9 Each

SEEDING AND MULCHING

Item 659 - Seeding & Mulching: 1508 sq. yd. + 1000 sq. yd. = 2508 sq. yd.

Item 659 - Commercial Fertilizer :

2508 sq. yd. x 9 x 30 lbs/1000 sq. ft. ÷ 2000 = 0.34 Ton

Item 659 - Topsoil :

2508 sq. yd. x 111 cu. yd./1000 sq. yd. = 278 Cu. Yd.

Item 659 - Lime :

2508 sq. yd. x 9 ÷ 43560 sq. ft./Acre = 0.52 Acre

Item 659 - Water :

2508 sq. yd. x 9 x 300 Gal/1000 sq. ft. x 2 app. ÷ 1000 sq.ft. = 13.54 M Gal

(Use 14 M Gal.)

Item 659 - Soil Analysis Test : 2 Each

Item 605 - Aggregate Drains, As Per Plan

Left Side:
Sta. 141+77.00 = 12 Ft.
Right Side:
Sta. 143+27.00 = 12 Ft.
Total = 24 Ft.
(Use 24 Ft.)

(S-1) Station 140+18.00, Lt.

Item 630 - Removal of Ground Mounted Post Support and Disposal = 2 EACH
Item 630 - Removal of Ground Mounted Sign and Reerection = 1 EACH
Item 630 - Ground Mounted Support, No. 2 Post
Farside Post = 14.11 Ft.
Nearside Post = 13.49 Ft.
27.60 Ft. **(Use 27.6 Ft.)**

(S-2) Station 144+32.00, Lt.

Item 630 - Removal of Ground Mounted Post Support and Disposal = 1 EACH
Item 630 - Removal of Ground Mounted Sign and Reerection = 2 EACH
Item 630 - Ground Mounted Support, No. 3 Post
1 Post at 15' = **15 FT.**

EARTHWORK SUMMARY TABLE

FROM SHEET NO.	203 EXCAVATION CU. YD.	203 EMBANKMENT CU. YD.	659 SEEDING & MULCHING SQ. YD.
15	17	42	342
16	32	17	290
17	37	6	100
18	17	14	98
19	65	31	389
20	32	17	289
TOTALS	200	127	1508

* Deduct 145.25' for Bridge & Approach Slabs
** Deduct 115.25' for Bridge

Quantities Carried to General Summary, Unless Otherwise Noted.

CALCULATED CCW CHECKED JPB

ESTIMATED QUANTITIES

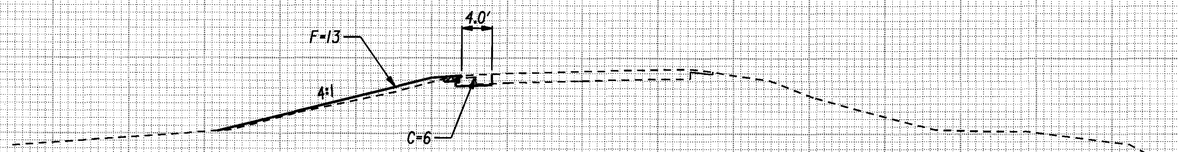
HOL-62-12.15

SEEDING END WIDTH	SEEDING SQ. YDS.
35	194
35	97
35	51
2	
	342

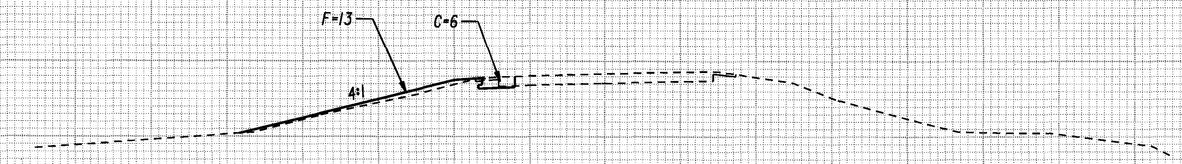
Sheet Total

120 100 80 60 40 20 0 20 40 60 80 100 120

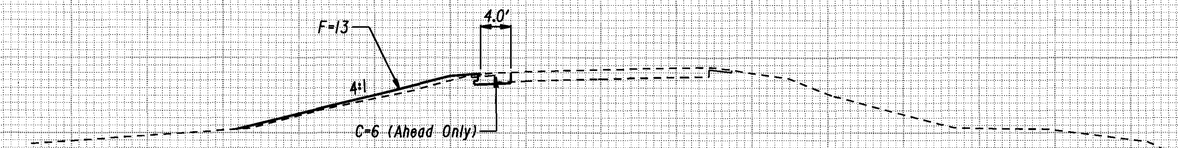
℄ Construction U.S. 62



140+50.00
808.24



140+00.00
808.36



139+75.00
808.41

304 Backfill Per Item 615, Pavement for Maintaining Traffic, Class B, As Per Plan

139+50.00

Begin Earthwork & Seeding

℄ Construction U.S. 62

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	13		
		11	24
6	13		
		6	12
Ahead 6	13		
Back 0	13		
		0	6
0	0		
Sheet Totals Carried to Sheet No. 14.		17	42

CALCULATED CCW

CHECKED JPB

CROSS SECTION SHEET

STA. 139+50.00 TO STA. 140+50.00

HOL-62-12.15

15
32

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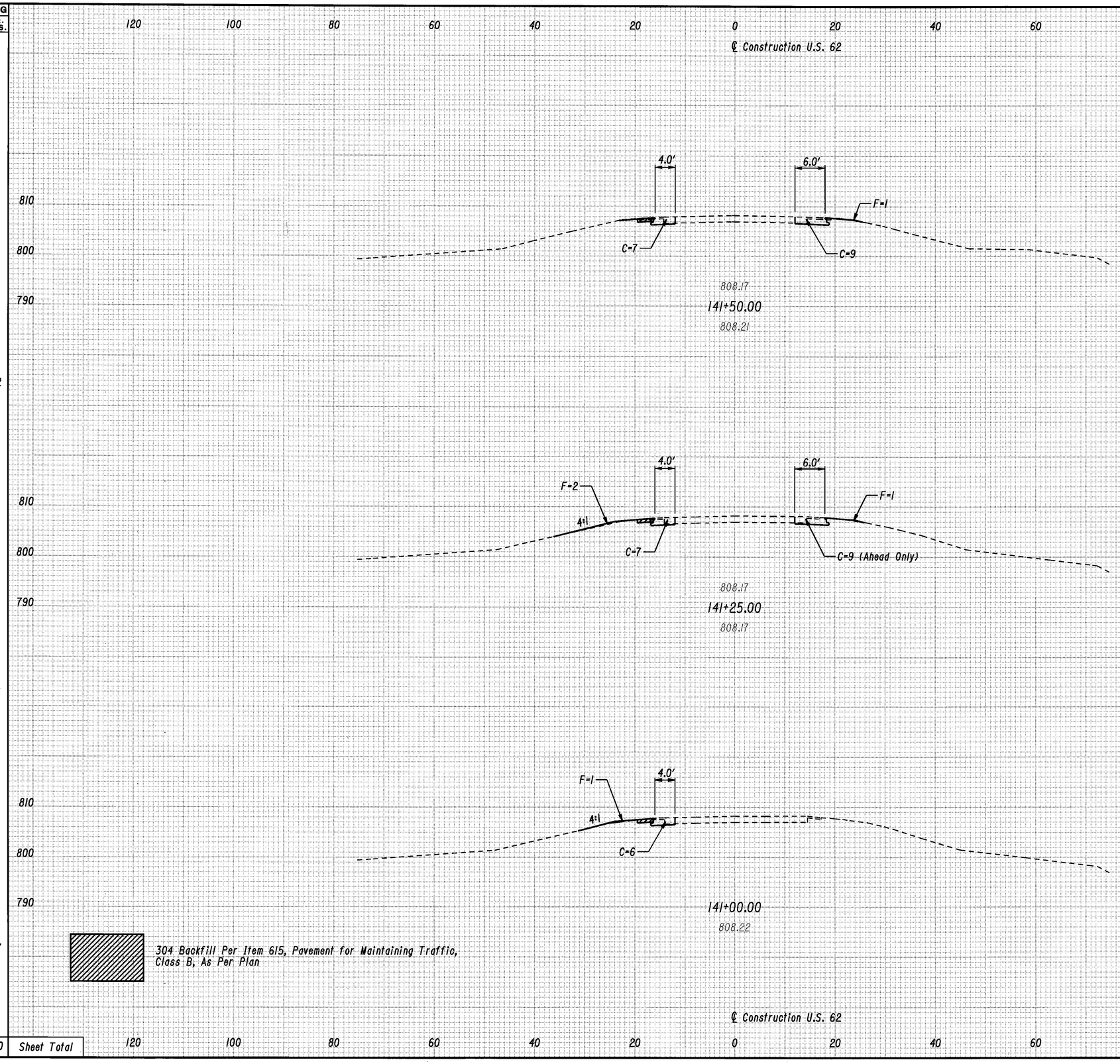
SEEDING END WIDTH	SEEDING SQ. YDS.
19	72
33	71
18	147
290	Sheet Total



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	1		
		15	2
Ahead 16	3		
Back 7	3		
		6	2
6	1		
		11	13
Sheet Totals Carried to Sheet No. 14.		32	17

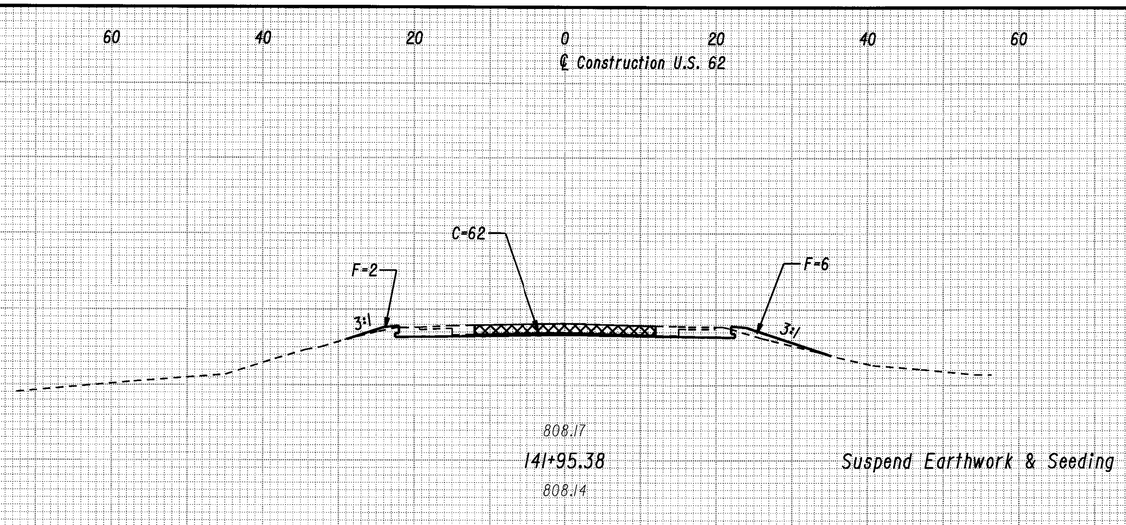
CALCULATED CCW
CHECKED JPB

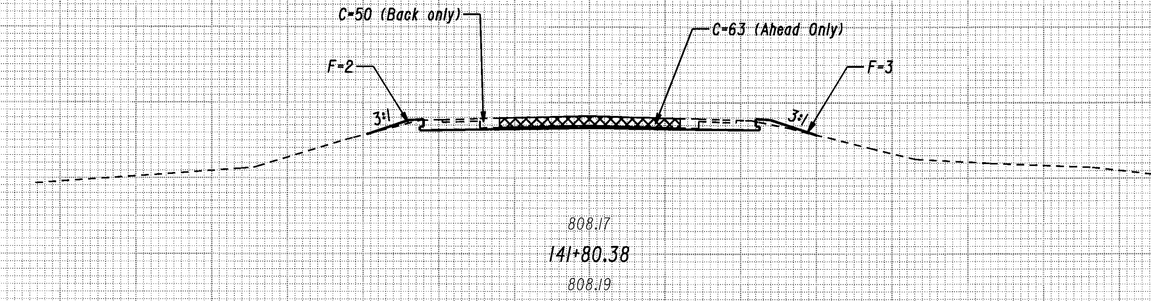
CROSS SECTION SHEET
STA. 141+00.00 To STA. 141+50.00

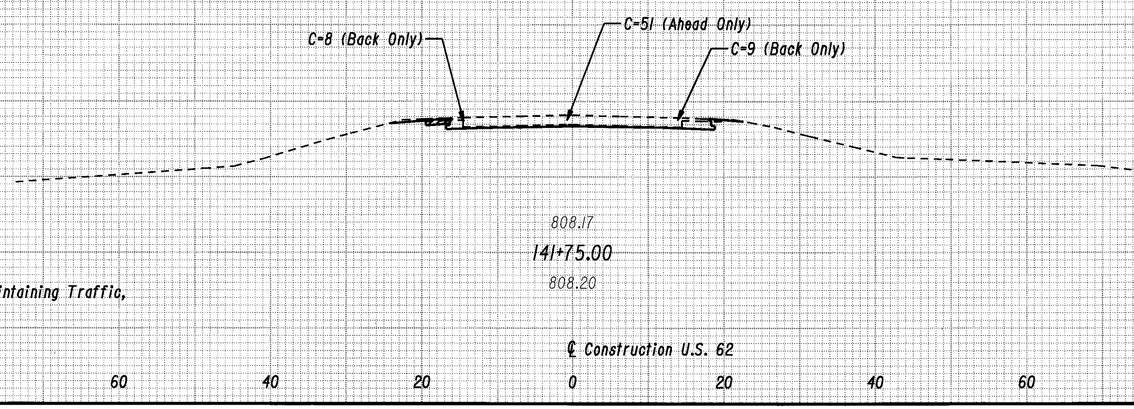
HOL-62-12.15

16
32

SEEDING END WIDTH	SEEDING SQ. YDS.
25	38
20	12
17	50
100	Sheet Total







Item 202 - Approach Slab Removed

304 Backfill Per Item 615, Pavement for Maintaining Traffic, Class B, As Per Plan

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	
62	8			
		18	4	Quantity Reflects 17 C.Y. Deduct for Approach Slab Removal 15' x 24' x 1.25' ÷ 27 = 16.667 C.Y.
63	5			Ahead
50	5			Back
		4	1	Quantity Reflects 6 C.Y. Deduct for Approach Slab Removal 5.05' x 24' x 1.25' ÷ 27 = 5.611 C.Y.
51	0			Ahead
17	0			Back
		15	1	
Sheet Totals Carried to Sheet No. 14.		37	6	

CALCULATED CCW
CHECKED JPB

CROSS SECTION SHEET
STA. 141+75.00 TO STA. 141+95.38

HOL-62-12.15

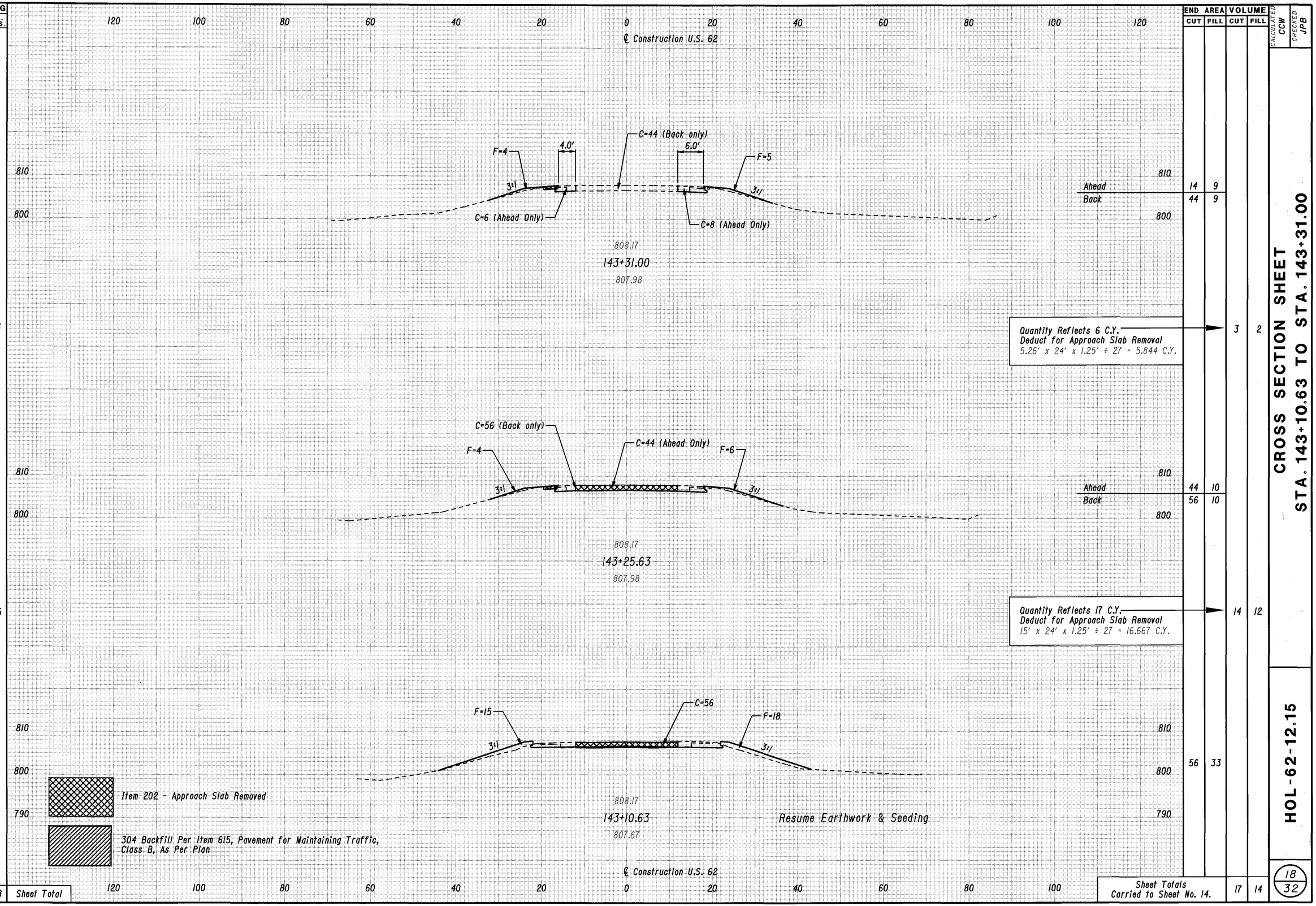
17
32

CROSS SECTION SHEET
STA. 143+10.63 TO STA. 143+31.00

CALCULATED CCW | CHECKED JPB

HOL-62-12.15

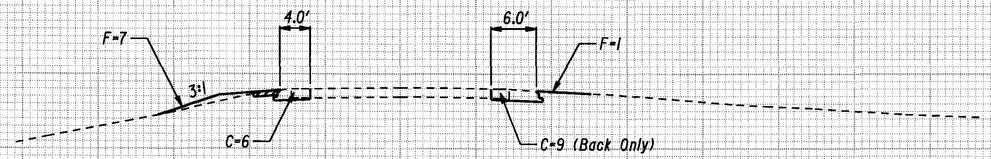
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38		Ahead 14	9		
		Back 44	9		
	23			3	2
40		Ahead 44	10		
		Back 56	10		
	75			14	12
50		56	33		
98	Sheet Total			17	14



SEEDING END WIDTH	SEEDING SQ. YDS.
28	150
26	164
33	75
	389 Sheet Total

120 100 80 60 40 20 0 20 40 60 80 100 120

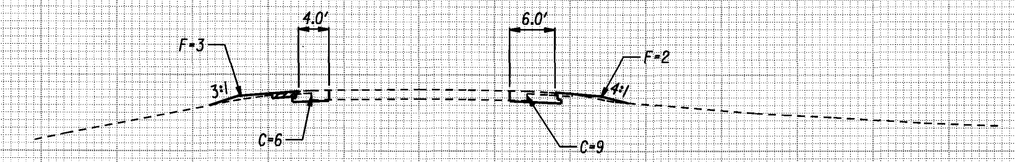
℄ Construction U.S. 62



808.17

144+50.00

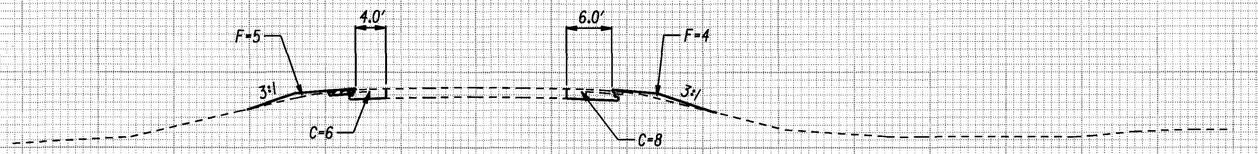
808.17



808.17

144+00.00

808.08



808.17

143+50.00

807.98

304 Backfill Per Item 615, Pavement for Maintaining Traffic, Class B, As Per Plan

℄ Construction U.S. 62

120 100 80 60 40 20 0 20 40 60 80 100 120

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	8		
15	8		
		28	12
15	5		
		27	13
14	9		
		10	6
65	31		

Ahead

Back

810

800

Sheet Totals Carried to Sheet No. 14.

CALCULATED CCW

CHECKED JPB

CROSS SECTION SHEET

STA. 143+50.00 TO STA. 144+50.00

HOL-62-12.15

19
32

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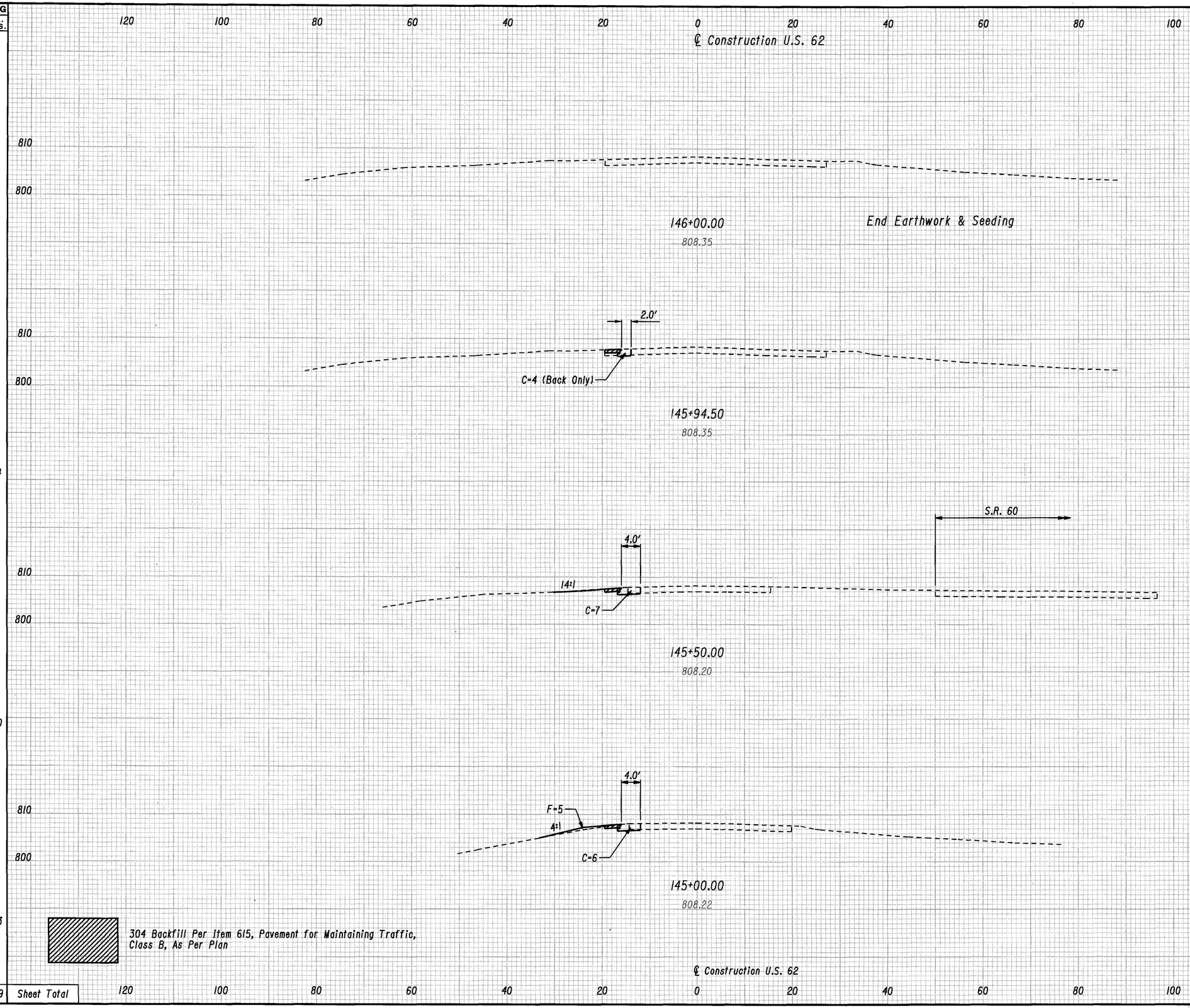

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7	0		
		12	5
6	5		
		11	12
Sheet Totals Carried to Sheet No. 14.		32	17

CALCULATED CCW
CHECKED JPB

CROSS SECTION SHEET
STA. 145+00.00 TO STA. 145+94.50

HOL-62-12.15

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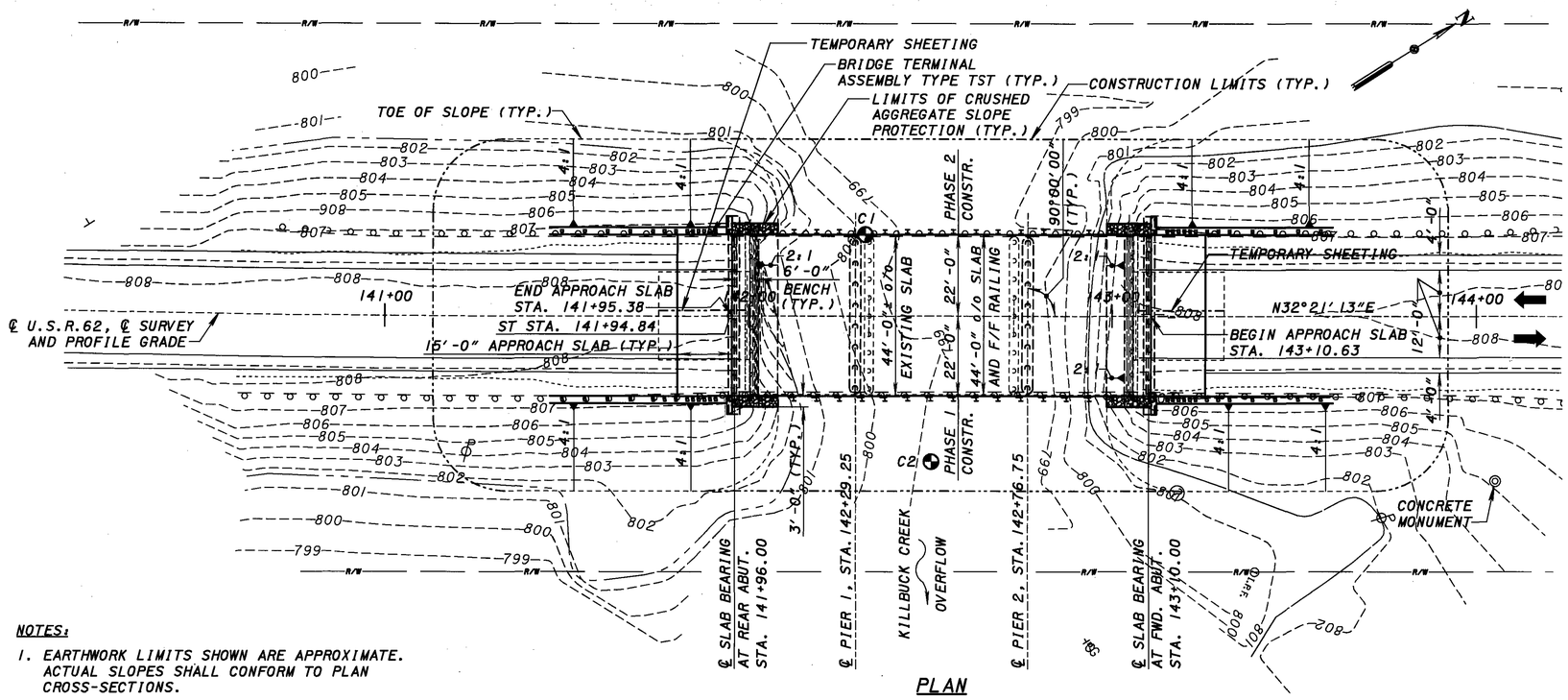


NOTES:

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.
2. ALL EXISTING UTILITIES SHALL REMAIN UNLESS OTHERWISE NOTED.
3. ELEVATIONS SHOWN ALONG TOP OF PROFILE ARE PROPOSED TOP OF PAVEMENT AT PROFILE GRADE.
4. ELEVATIONS SHOWN ALONG BOTTOM OF PROFILE ARE EXISTING TOP OF PAVEMENT AT ℄ U.S.R. 62.
5. ELEVATIONS SHOWN ALONG BOTTOM OF PROFILE IN PARENTHESIS ARE EXISTING GROUND ELEVATIONS.

HORIZONTAL SPIRAL DATA ALONG ℄ U.S.R. 62

P.I. Sta = 139+61.60
Ls = 350.00'
θs = 5° 15' 00"
LT = 233.44'
ST = 116.76'
Xc = 349.71'
Yc = 10.68'
k = 174.95'
p = 2.67'

HYDRAULIC DATA (KILLBUCK CREEK)

Q (100 YEAR) = 34,300 CFS
Q (50 YEAR) = 23,700 CFS
ELEV. (100 YEAR) = 812.30
ELEV. (50 YEAR) = 810.07

TRAFFIC DATA U.S.R. 62

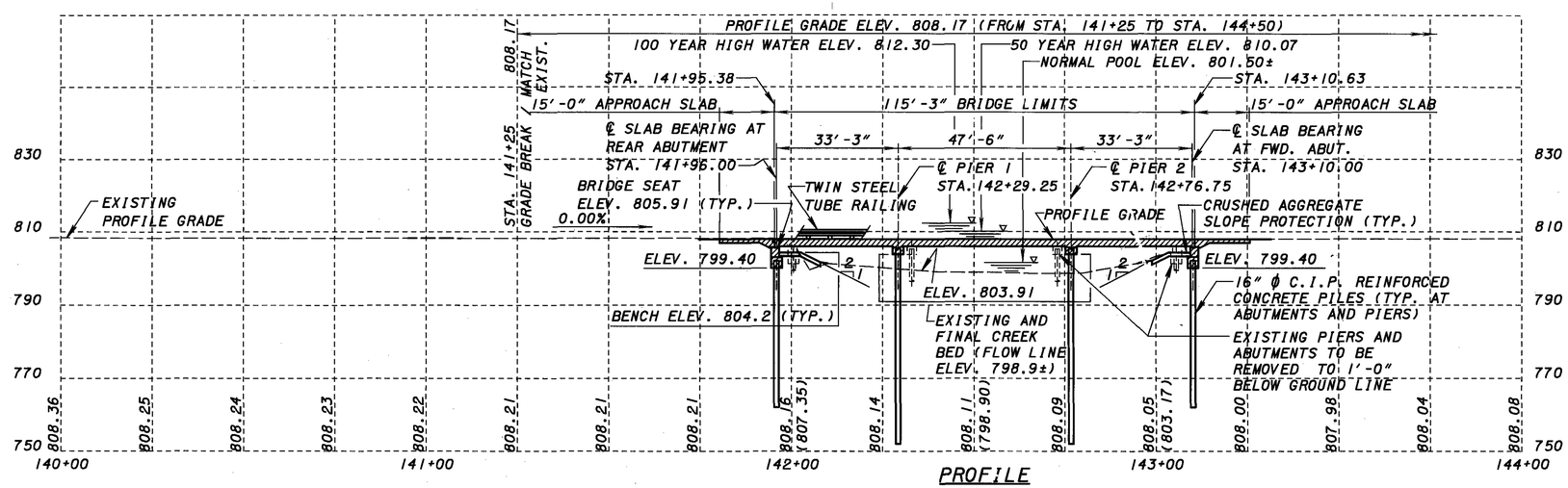
	ADT
YEAR 2003 (BOTH DIRECTIONS)	2400
YEAR 2023 (BOTH DIRECTIONS)	2900

BORING LOCATIONS

	STATION	OFFSET
C1	142+32	22' LT.
C2	142+50	40' RT.

BENCH MARKS

℄ U.S.R. 62 STATION	OFFSET	ELEVATION
135+58.66±	28.98'± RT.	809.52
144+05.17±	45.29'± RT.	805.25



PROFILE

ESTIMATED PILE LENGTHS	
REAR ABUTMENT	40 FEET
PIER 1	55 FEET
PIER 2	55 FEET
FORWARD ABUTMENT	40 FEET

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE
SPANS: 32'-0", 40'-0", 32'-0" CTR TO CTR BEARING
ROADWAY: 44'-0" OUT TO OUT CONCRETE DECK. 44'-0"± FACE TO FACE OF GUARDRAILS.
LOADING: CF 130 (57)
SKEW: NONE
WEARING SURFACE: 2"±ASPHALT OVERLAY
APPROACH SLABS: 25'-0" LONG
ALIGNMENT: TANGENT
CROWN: NORMAL 3/16" PER FOOT
YEAR BUILT: 1960
STRUCTURE FILE NUMBER: 3801268

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE
SPANS: 33'-3", 47'-6", 33'-3" CTR TO CTR BEARING
ROADWAY: 44'-0" OUT TO OUT CONCRETE DECK AND FACE TO FACE OF TWIN STEEL TUBE RAILING
LOADING: HS25 AND THE ALTERNATE MILITARY LOADING. 60 PSF FUTURE WEARING SURFACE.
SKEW: NONE
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-81 (15'-0" LONG)
ALIGNMENT: TANGENT
CROWN: NORMAL 3/16" PER FOOT
BRIDGE COORDINATES: N40°29'02" W81°58'58"

STATE OF OHIO
RICHARD H. WALTERS
E - 46950
REGISTERED PROFESSIONAL ENGINEER

SIGNED:
DATE: 12-13-05
SHEETS 21-32

DESIGN AGENCY
HNTB
ARCHITECTS/ENGINEERS/PLANNERS

DATE 07/28/03
REVIEWED RHW
STRUCTURE FILE NUMBER 3801276
DRAWN JLV
REVISED 12/6/05
DESIGNED DHS/JAO
CHECKED BBB

HOLMES COUNTY
STA. 141+95.38
STA. 143+10.63

SITE PLAN
BRIDGE NO. HOL-62-12.16
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.16
PID 20054

1 / 12
21 / 32

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STRUCTURE GENERAL NOTES

PROPOSED WORK
MAJOR ITEMS OF WORK CONTAINED IN THE BRIDGE PLANS ARE SUMMARIZED BELOW. DETAILS OF THIS WORK ARE SHOWN IN THE PLANS. DETAILS OF THE CONSTRUCTION PHASES ARE DETAILED IN THE MAINTENANCE OF TRAFFIC PLANS AND IN THE BRIDGE PLANS.

PHASE 1
* ROUTE TRAFFIC TO THE WEST SIDE OF THE EXISTING BRIDGE.
* INSTALL PORTABLE CONCRETE BARRIER ON THE EXISTING BRIDGE.
* REMOVE THE EXISTING APPROACH SLABS TO THE PHASE 1 LIMITS.
* INSTALL THE TEMPORARY SHEET PILING BEHIND THE EXISTING ABUTMENTS.
* REMOVE THE EXISTING DECK SLAB TO THE PHASE 1 LIMITS.
* REMOVE THE EXISTING ABUTMENTS AND PIERS TO THE PHASE 1 LIMITS.
* CONSTRUCT THE NEW ABUTMENTS AND PIERS TO THE PHASE 1 LIMITS.
* REGRADE SLOPES IN FRONT OF THE NEW ABUTMENTS AND PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION TO LIMITS SHOWN.
* CONSTRUCT THE NEW APPROACH SLABS AND DECK SLAB TO THE PHASE 1 LIMITS.
* INSTALL PORTABLE CONCRETE BARRIER ON THE NEW BRIDGE.
* ROUTE TRAFFIC TO THE EAST SIDE OF THE NEW BRIDGE

PHASE 2
* REMOVE REMAINDER OF THE EXISTING APPROACH SLABS AND DECK SLAB.
* REMOVE REMAINDER OF THE EXISTING ABUTMENTS AND PIERS.
* CONSTRUCT REMAINDER OF THE NEW ABUTMENTS AND PIERS.
* REGRADE SLOPES IN FRONT OF THE NEW ABUTMENTS AND PLACE NEW CRUSHED AGGREGATE SLOPE PROTECTION TO LIMITS SHOWN.
* CONSTRUCT REMAINDER OF THE NEW APPROACH SLABS AND DECK SLAB.
* REMOVE PORTABLE CONCRETE BARRIER.
* RESUME NORMAL TRAFFIC.

STANDARD DRAWINGS
REFER TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81	DATED(REVISED)	07-19-02
CPA-5-94	DATED(REVISED)	07-19-02
CPP-2-94	DATED(REVISED)	07-19-02
PCB-91	DATED(REVISED)	07-19-02
TST-1-99	DATED (REVISED)	10-17-03

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

898	DATED	07-16-04

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS(17TH EDITION) AND THE JANUARY 2003 ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING
HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 LBS./SQ. FT.

DESIGN STRESSES
QC/QA CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE - DECK AND APPROACH SLABS)
QC/QA CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE - CAPPED PILE PIERS)
QC/QA CONCRETE CLASS QSC1 - COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE - CAPPED PILE ABUTMENTS)
REINFORCING STEEL - ASTM A615, OR A996 GRADE 60
MINIMUM YIELD STRENGTH 60,000 P.S.I.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

DIMENSIONS
DIMENSIONS ARE MEASURED HORIZONTALLY AND AT 60°F UNLESS NOTED OTHERWISE.

DECK PROTECTION METHOD
EPOXY COATED REINFORCING STEEL, 2½ INCH CONCRETE COVER, AND SEALING OF CONCRETE SURFACES.

MONOLITHIC WEARING SURFACE
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION, AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

SUPERSTRUCTURE
PERFORM WORK CAREFULLY DURING DECK REMOVAL TO PROTECT PORTIONS OF THE EXISTING BRIDGE THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PHASE 1 MAINTENANCE OF TRAFFIC. IN THIS RESPECT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED DURING PHASE 1.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT,ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN THE TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, FOR PAYMENT.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION, OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR FOR REVIEW AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

SUBSTRUCTURE
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE SALVAGED AND INCORPORATED INTO THE PHASE 1 MAINTENANCE OF TRAFFIC. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED DURING PHASE 1.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

SCREED ELEVATIONS AND FALSE WORK
THE CONTRACTOR SHALL PROVIDE DEFLECTIONS AND CALCULATED SCREED ELEVATIONS BASED UPON THE FINISHED DECK ELEVATIONS AND CROSS-SLOPES THAT ARE PROVIDED IN THE PLANS (REFER TO 508.4). ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF ANY FALSE WORK MEMBERS SUPPORTING THE ACTUAL CONCRETE PLACEMENT. FALSE WORK SHALL NOT BE REMOVED UNTIL CONCRETE FOR BOTH PHASES HAVE REACHED 28 DAY STRENGTH. PAYMENT SHALL BE INCLUDED WITH ITEM 898, QC/QA CONCRETE CLASS QSC2, SUPERSTRUCTURE.

UTILITY LINES
INFORMATION SHOWN IN THE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

ANY EXISTING, PRIVATELY-OWNED UTILITY FACILITIES ENCOUNTERED AT THE SITE OF THE WORK WHICH WILL INTERFERE WITH PORTIONS OF THE FINISHED ROADWAYS OR STRUCTURES SHALL BE REMOVED OR RELOCATED BY THE UTILITY. THE UTILITIES SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS (SEE ROADWAY PLANS).

REFER TO BRIDGE SITE PLAN SHEETS FOR APPROXIMATE UTILITY LOCATIONS. FOR ADDRESSES AND TELEPHONE NUMBERS OF UTILITY OWNERS, SEE ROADWAY GENERAL NOTES.

PLANS OF EXISTING BRIDGES
CONSTRUCTION PLANS FOR THE EXISTING BRIDGES ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 11 OFFICE, 2201 REISER AVENUE S.E., NEW PHILADELPHIA, OHIO AND ARE AVAILABLE FOR REFERENCE.

EXISTING STRUCTURE VERIFICATION
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

FRICTION TYPE PILES:
PILE DESIGN LOADS (ULTIMATE BEARING VALUE)
THE ULTIMATE BEARING VALUE IS 108 TONS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 166 TONS PER PILE FOR THE PIER PILES.

ABUTMENT PILES:	16 PILES 45 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM
PIER PILES:	16 PILES 60 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

MECHANICAL CONNECTORS
AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF THE CONNECTORS SHALL CONFORM WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE BARS CONNECTED AND SHALL BE EPOXY COATED. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS. THE CONNECTORS SHALL CONFORM AND BE INCLUDED WITH ITEM 509 FOR PAYMENT.

ITEM 898, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN
FURNISH APPROACH SLABS CONFORMING TO CMS 526 EXCEPT CONCRETE SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 898, QC/QA CONCRETE, CLASS QSC2. THE ACCEPTED QUANTITIES SHALL INCLUDE: CONCRETE, CURBS, REINFORCING STEEL, JOINT FILLERS, JOINT SEALERS, JOINT SEALS, AND WATERPROOFING. THE DEPARTMENT WILL MEASURE APPROACH SLABS BY THE NUMBER OF SQUARE YARDS. THE DEPARTMENT WILL INITIALLY PAY THE FULL BID PRICE TO THE CONTRACTOR UPON COMPLETING THE WORK. THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

DESIGN AGENCY: HNTB
DESIGNED JLV | DRAWN JLV | CHECKED BBB
REVIEWED RHW | DATE 07/28/03
REVISED 12/6/05
STRUCTURE FILE NUMBER 380/276

STRUCTURE GENERAL NOTES
BRIDGE NO. HOL-62-12/15/16
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

2 / 12

22 / 32

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STRUCTURE GENERAL NOTES

ITEM 898, QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN

THE DEPARTMENT WILL CALCULATE THE FINAL ADJUSTED PAYMENT ACCORDING TO 898.17 AND INCLUDE APPROACH SLAB CONCRETE AND DECK CONCRETE IN THE SAME LOT TO DETERMINE FINAL PAY FACTORS.

ITEMS NOT INCLUDED IN THE BRIDGE PLANS

THE FOLLOWING ITEMS ARE NOT INCLUDED IN THE BRIDGE PLANS. SEE ROADWAY PLANS FOR DETAILS.

GRADING, APPROACH PAVEMENT, MAINTENANCE OF TRAFFIC PLANS

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DESIGN AGENCY

HNTB

DESIGNED	DRAWN	REVIEWED	DATE
JLV	JLV	RHW	07/28/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB	12/6/05	380/276	

STRUCTURE GENERAL NOTES
BRIDGE NO. HOL-62-12.16
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

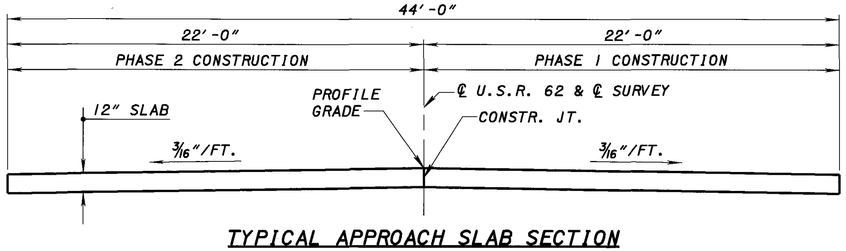
2A / 12

22A / 32

MADE BY: JLV	DATE: 02/28/03
CHECKED BY: BBB	DATE: 03/20/03

ESTIMATED QUANTITIES

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	AS PER PLAN SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/12
202	22900	134	SQ YD	APPROACH SLAB REMOVED				134	
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21100	156	CU YD	UNCLASSIFIED EXCAVATION	156				
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00700	1520	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	640	880			
507	00750	1680	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	720	960			
509	10000	110,448	POUND	EPOXY COATED REINFORCING STEEL	6842	4620	98,986		
512	10100	118	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	26		92		
512	33000	2	SQ YD	TYPE 2 WATERPROOFING	2				
517	70000	245	FT	RAILING (TWIN STEEL TUBE)			245		
518	21200	23	CU YD	POROUS BACKFILL WITH FILTER FABRIC	23				
518	40000	108	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	108				
518	40010	62	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	62				
523	20000	2	EACH	DYNAMIC LOAD TESTING	1	1			
601	20000	123	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	123				
898	10201	382	CU YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN		19	363		2/12
898	10701	147	SQ YD	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (APPROACH SLAB), AS PER PLAN				147	2/12
898	20160	66	CU YD	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE (ABUTMENT INCLUDING FOOTING)	66				



TYPICAL APPROACH SLAB SECTION
(LOOKING UPSTATION)

NOTE:
THE FOLLOWING IS A LIST OF ABBREVIATIONS USED IN THE PLANS.

ABUT.	- ABUTMENT	LT.	- LEFT
CFS	- CUBIC FEET PER SECOND	MIN.	- MINIMUM
		MISC.	- MISCELLANEOUS
C.I.P.	- CAST IN PLACE	N	- NORTH
CLR.	- CLEARANCE	OPT.	- OPTIONAL
CONC.	- CONCRETE	O/O	- OUT TO OUT
CONSTR.	- CONSTRUCTION	PERF.	- PERFORATED
C.P.P.	- CORRUGATED PLASTIC PIPE	PSF	- POUNDS PER SQUARE FOOT
CTR.	- CENTER	Q.	- QUANTITY
CU YD	- CUBIC YARD	REINF.	- REINFORCED/ REINFORCEMENT
DWG.	- DRAWING		
E	- EAST	RT.	- RIGHT
E.F.	- EACH FACE	SPA.	- SPACES
ELEV.	- ELEVATION	SQ. FT.	- SQUARE FOOT
EQ.	- EQUAL	SQ. YD.	- SQUARE YARDS
F/F	- FACE TO FACE	ST	- SPIRAL TO TANGENT
FT.	- FEET/FOOT	STA.	- STATION
FWD.	- FORWARD	STD.	- STANDARD
HORZ.	- HORIZONTAL	STR.	- STRAIGHT
INV.	- INVERT	TYP.	- TYPICAL
JT.	- JOINT	W	- WEST
LBS.	- POUNDS	W/	- WITH

DESIGN AGENCY: HNTB

DESIGNED JLV | DRAWN JLV | CHECKED BBB | REVISED 12/6/05 | REVIEWED RHW | DATE 07/28/03 | STRUCTURE FILE NUMBER 380/276

ESTIMATED QUANTITIES
BRIDGE NO. HOL-62-12.16
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

3 / 12

23 / 32

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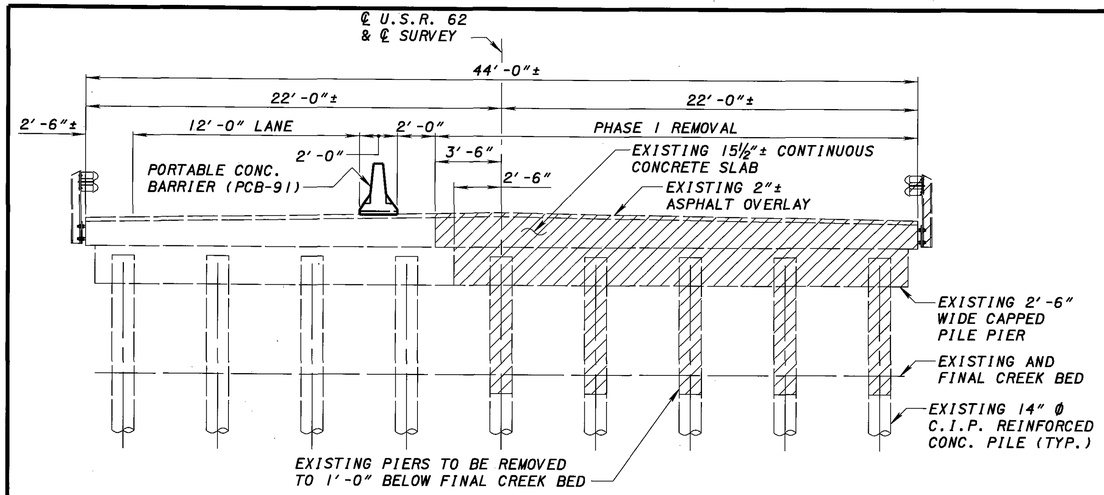
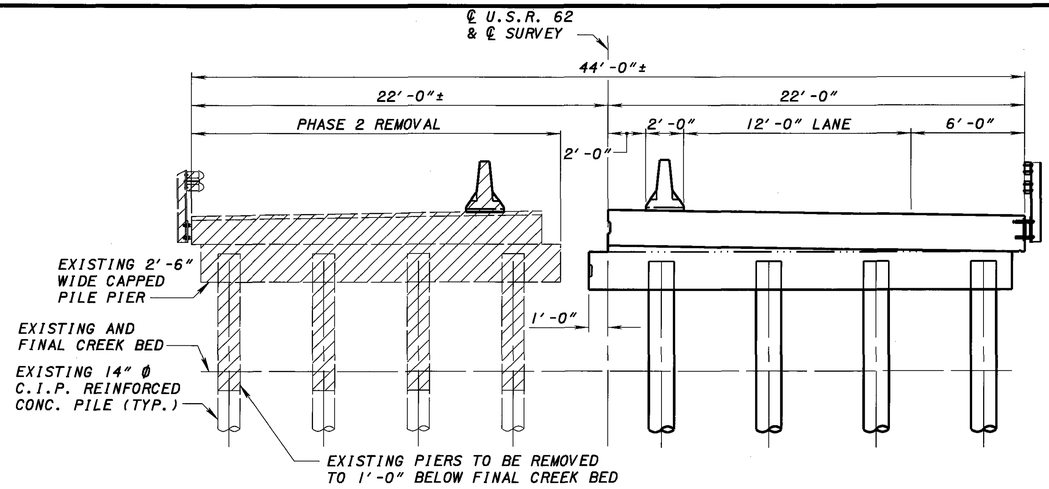
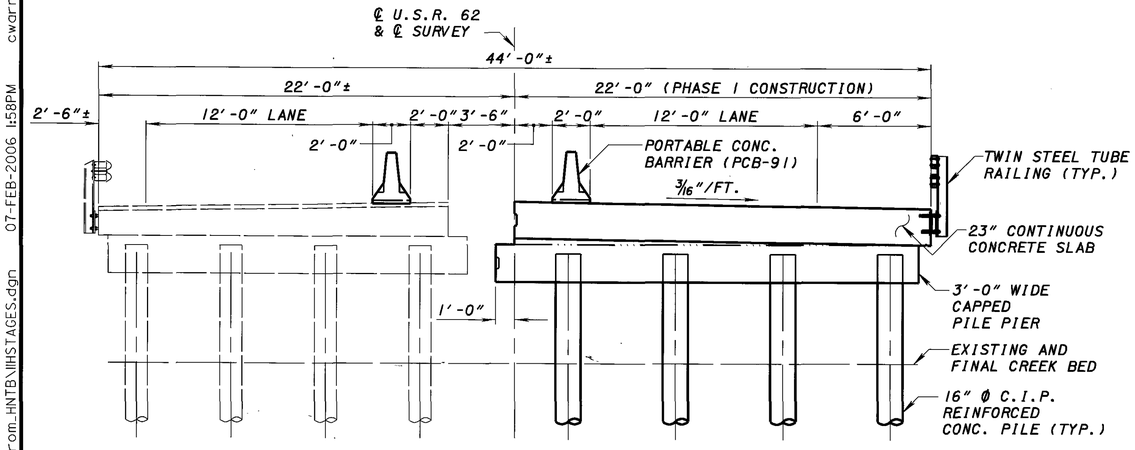


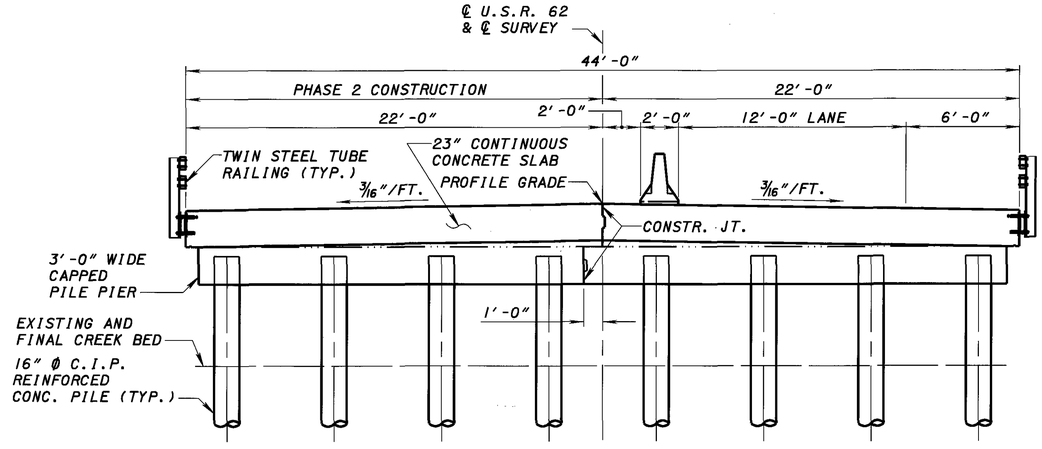
PHASE 1 REMOVAL
(LOOKING UPSTATION)



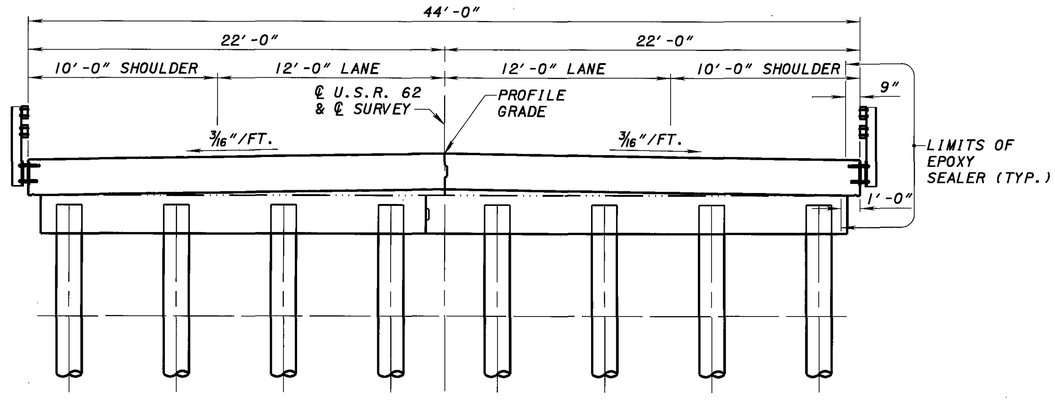
PHASE 2 REMOVAL
(LOOKING UPSTATION)



PHASE 1 CONSTRUCTION
(LOOKING UPSTATION)



PHASE 2 CONSTRUCTION
(LOOKING UPSTATION)



FINAL CROSS-SECTION
(LOOKING UPSTATION)

LEGEND:

1. FOR TWIN STEEL TUBE RAILING DETAILS, SEE STD DRAWING TST-1-99.

LEGEND:

1. ▨ INDICATES REMOVAL.

DESIGN AGENCY: HNTB
DATE: 07/28/03
REVIEWED: RHW
STRUCTURE FILE NUMBER: 3801276
DRAWN: JLV
REVISED:
DESIGNED: DHS/JAO
CHECKED: BBB

PHASE CONSTRUCTION DETAILS
BRIDGE NO. HOL-62-12.16
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

4 / 12

24 / 32

07-FEB-2006 1:58PM cwarner

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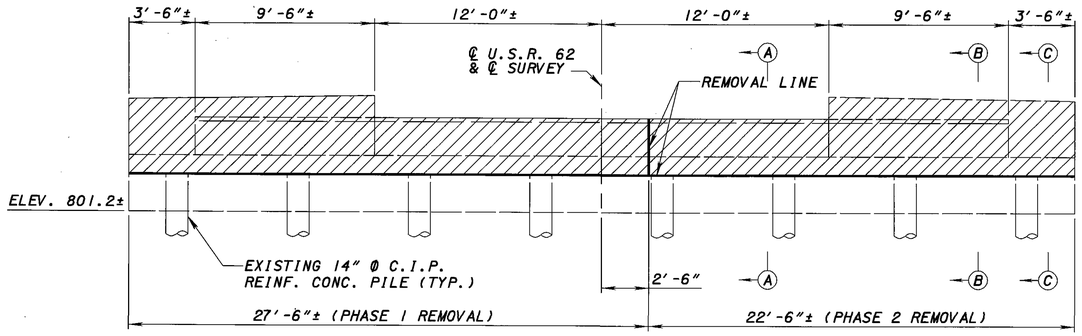
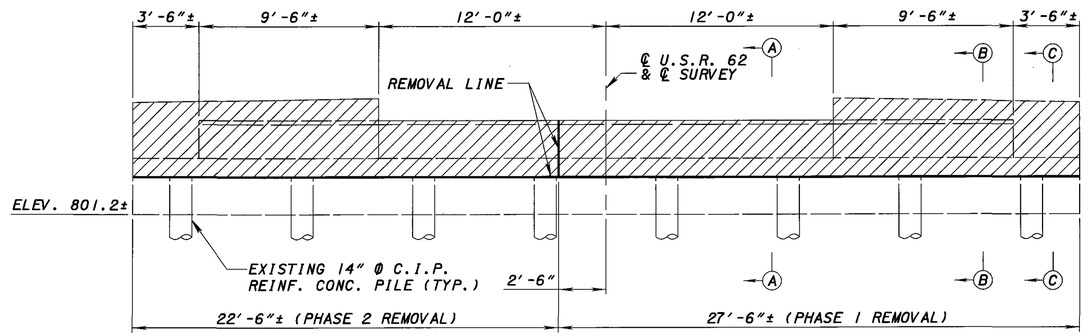


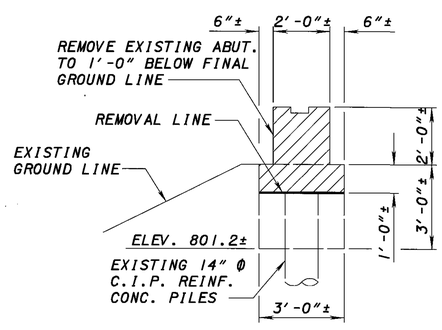
ELEVATION AT REAR ABUTMENT

(LOOKING DOWNSTATION)
(TEMPORARY SHEET PILING NOT SHOWN)



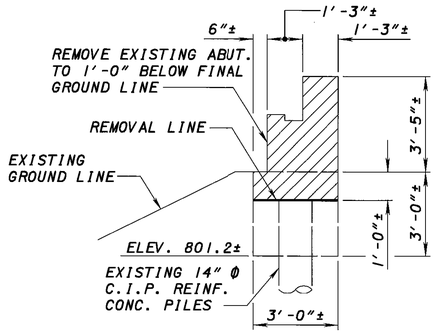
ELEVATION AT FORWARD ABUTMENT

(LOOKING UPSTATION)
(TEMPORARY SHEET PILING NOT SHOWN)



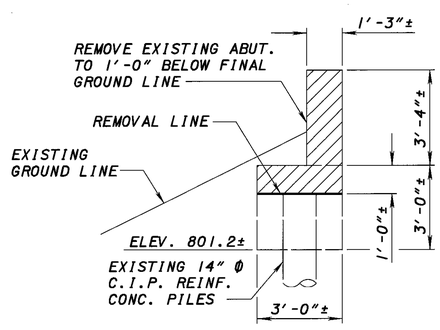
SECTION A-A

(EXISTING DECK AND APPROACH
SLAB NOT SHOWN)



SECTION B-B

(EXISTING DECK SLAB NOT SHOWN)



SECTION C-C

LEGEND:

1. ▨ INDICATES REMOVAL.

NOTES:

1. FOR EXISTING STRUCTURE VERIFICATION SEE GENERAL NOTES, SHEET 2 OF 12.
2. FOR REAR ABUTMENT DETAILS, SEE SHEET 7 OF 12.
3. FOR FORWARD ABUTMENT DETAILS, SEE SHEET 8 OF 12.

DESIGN AGENCY: HNTB

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	07/28/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3801276	

ABUTMENT REMOVAL DETAILS

BRIDGE NO. HOL-62-12.16
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

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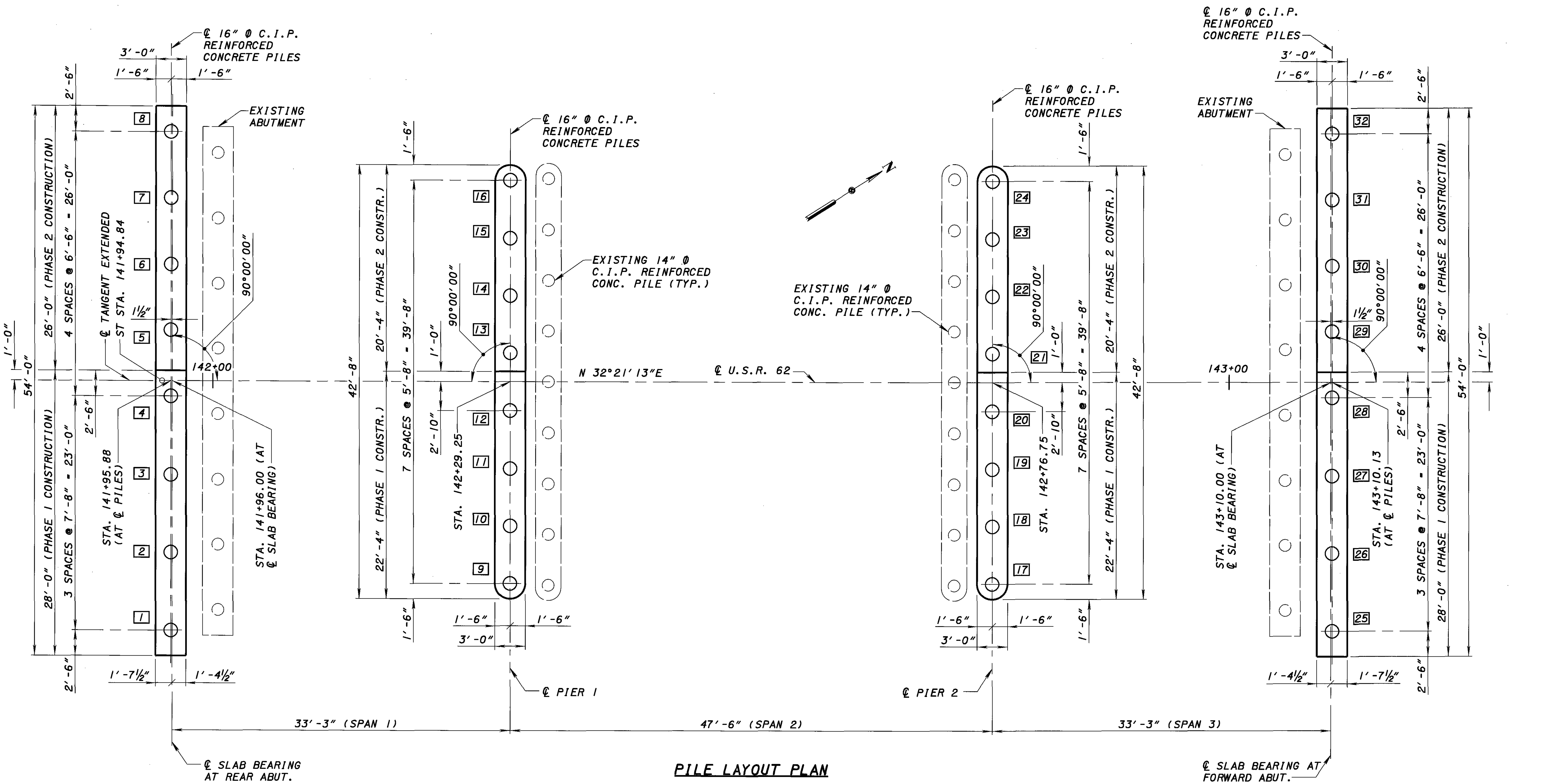


PILE LAYOUT PLAN

ESTIMATED PILE LENGTHS	
REAR ABUTMENT	40 FEET
PIER 1	55 FEET
PIER 2	55 FEET
FORWARD ABUTMENT	40 FEET

NOTES:

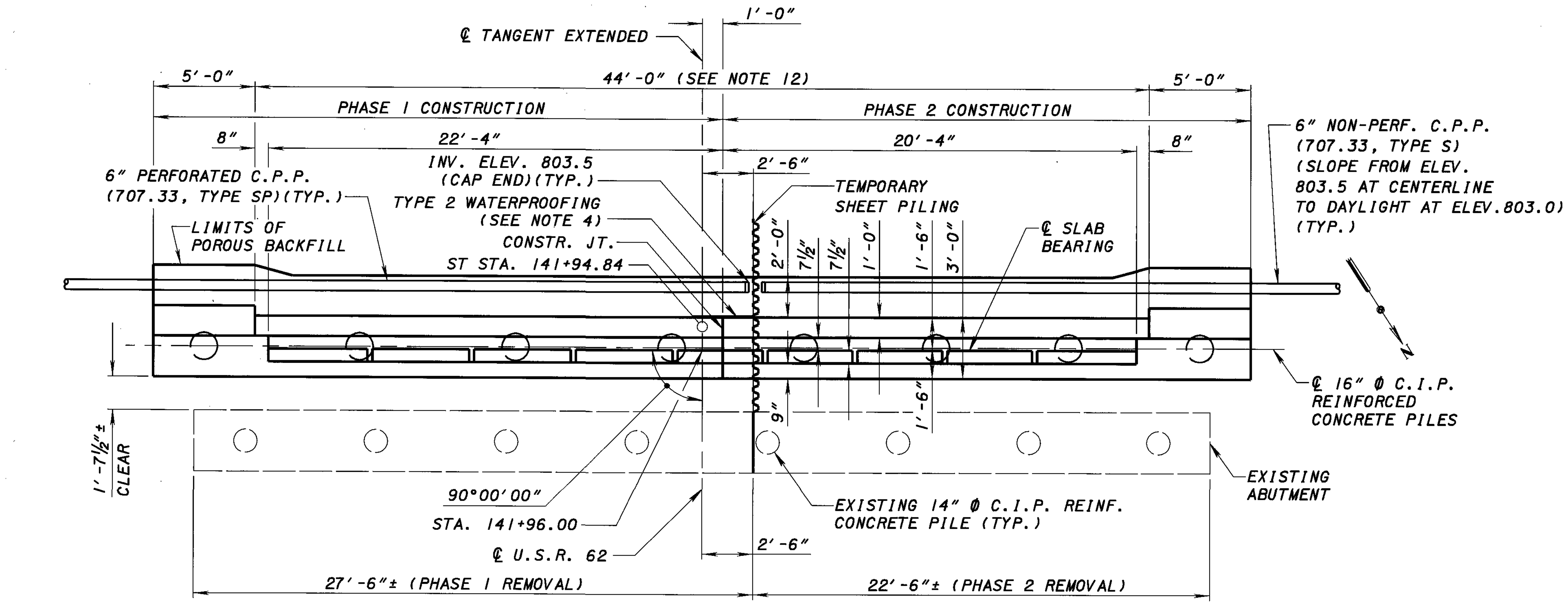
1. ALL NEW PILES SHALL BE 16" Ø C.I.P. REINFORCED CONCRETE PILES.
2. FOR FOUNDATION DATA, SEE SHEET 3 OF 32.
3. FOR ABUTMENT DETAILS, SEE SHEET 7 AND 8 OF 12.
4. FOR PIER DETAILS, SEE SHEET 9 OF 12.

DESIGN AGENCY: HNTB

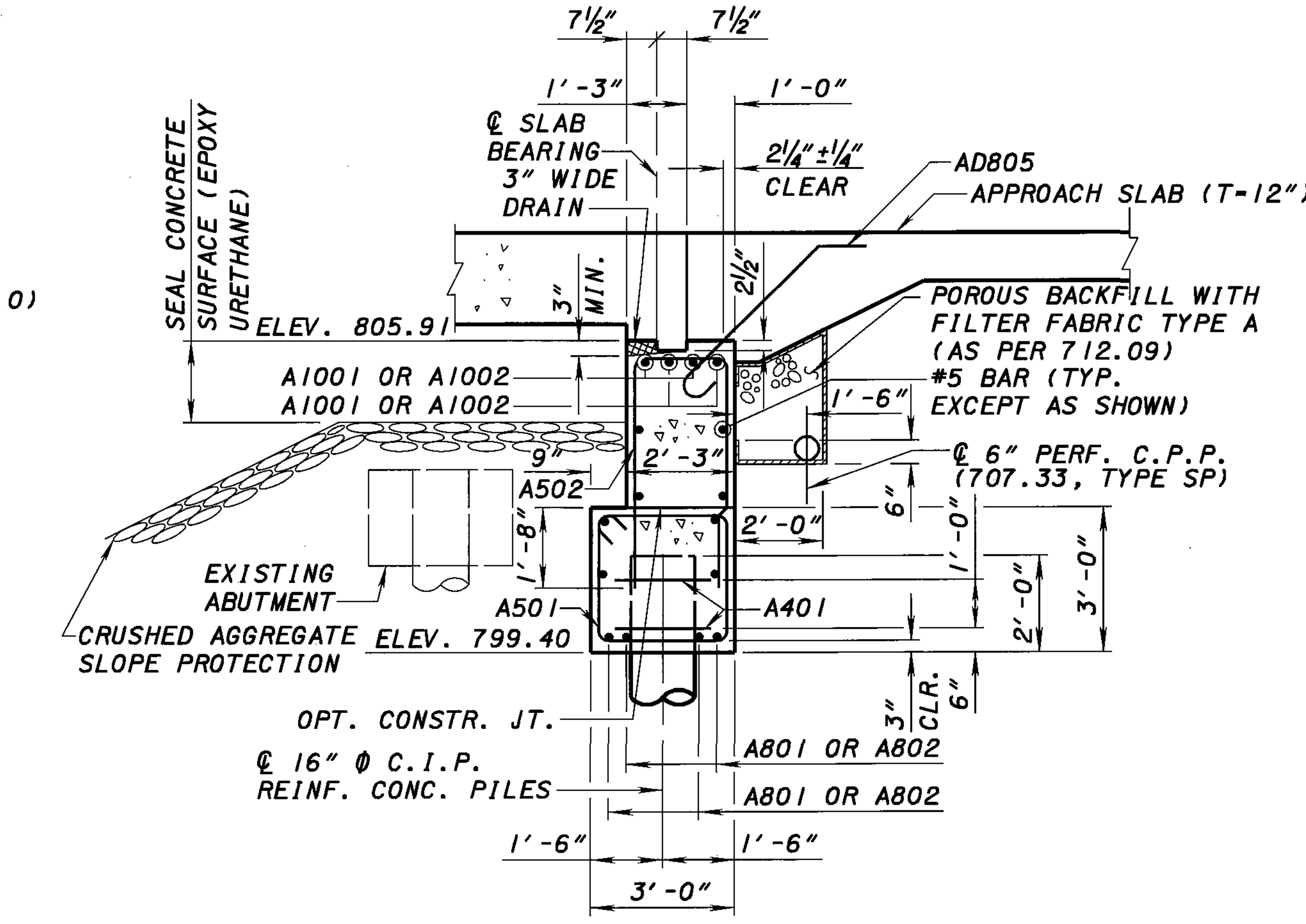
DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	07/28/03
CHECKED BBB	REVISED	STRUCTURE FILE NUMBER 3801276	

PILE LAYOUT PLAN
BRIDGE NO. HOL-62-1216
OVER KILLBUCK CREEK OVERFLOW

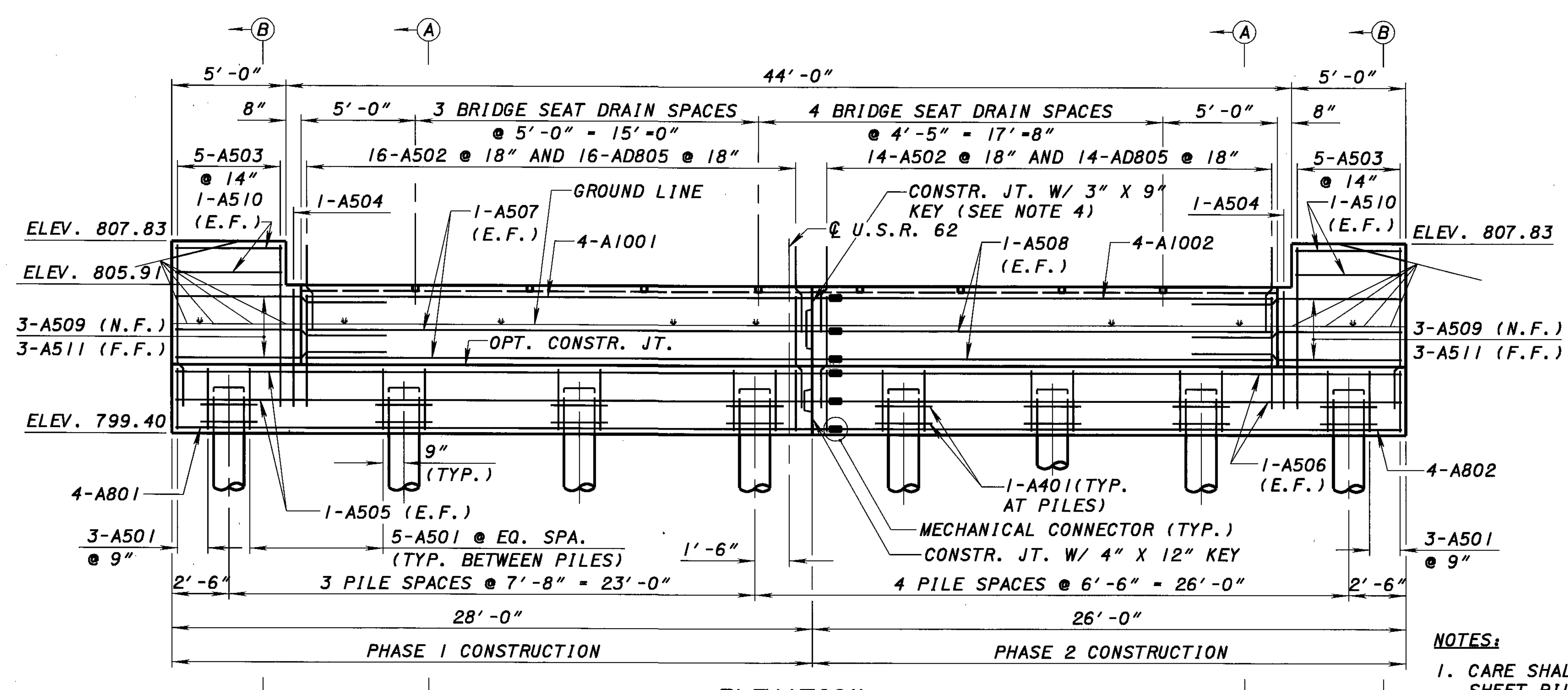
HOL-62-12.15
PID 20054



PLAN

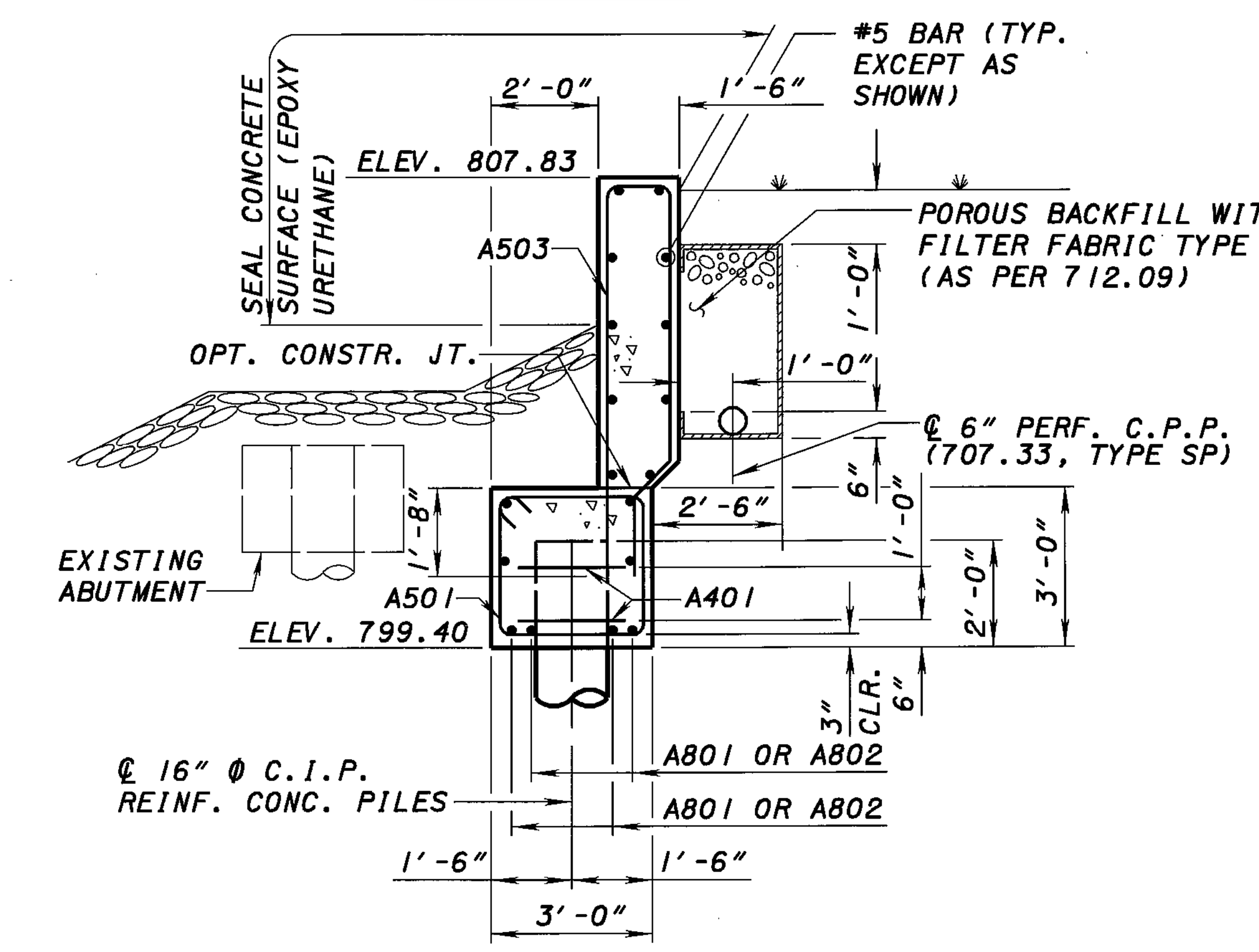


SECTION A-A



ELEVATION

(TEMPORARY SHEET PILING AND 6" C.P.P. NOT SHOWN)



SECTION B-B

NOTES:

1. CARE SHALL BE TAKEN WHEN DRIVING THE TEMPORARY SHEET PILING SO AS NOT TO DAMAGE THE EXISTING ABUTMENT.

2. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE END OF THE WINGWALLS.

3. THE POROUS BACKFILL SHALL BE WRAPPED WITH FILTER FABRIC, 712.09, TYPE A. THE FABRIC SHALL COVER THE VERTICAL FACE BETWEEN THE BACKFILL AND THE EXCAVATION, THE BOTTOM OF THE POROUS BACKFILL AND THE EXCAVATION AND INCLUDES A 6" VERTICAL UPTURN BETWEEN THE POROUS BACKILL AND THE ABUTMENT BARREL.

4. THE VERTICAL CONSTRUCTION JOINT ON THE REAR FACE OF THE ABUTMENT BACKWALL SHALL BE SEALED FROM THE TOP OF THE FOOTING TO THE APPROACH SLAB WITH ITEM 512, TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON THE JOINT.

5. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE BARS CONNECTED.

6. FOR EXISTING ABUTMENT REMOVAL DETAILS, SEE SHEET 5 OF 12.

7. FOR FORWARD ABUTMENT DETAILS, SEE SHEET 8 OF 12.

8. FOR TOP OF BENCH ELEVATION AT THE ABUTMENT SEE SITE PLAN, SHEET 1 OF 12.

9. FOR PILE LAYOUT AND NOTES, SEE SHEET 6 OF 12.

10. FOR ADDITIONAL CAPPED PILE ABUTMENT DETAILS AND TERMINATION OF THE 6" NON-PERF. C.P.P. AT SIDE SLOPE, SEE ODOT STD. DRAWING CPA-5-94, SHEETS 1 AND 2 OF 2.

11. FOR REINFORCING BAR SCHEDULE, SEE SHEET 12 OF 12.

12. APPROACH SLAB DETAILS AS SHOWN IN ODOT STD. DRAWING AS-1-81 SHALL BE MODIFIED AS REQUIRED TO CONFORM TO THE PHASE CONSTRUCTION CONSTRAINTS.

REQUIRED LAP LENGTHS	
NO. 5 BARS (HORZ.)	3'-7" MIN. AND SEE NOTE 5
NO. 8 BARS (HORZ.)	SEE NOTE 5
NO. 10 BARS (HORZ.)	SEE NOTE 5

DESIGN AGENCY: HNTB

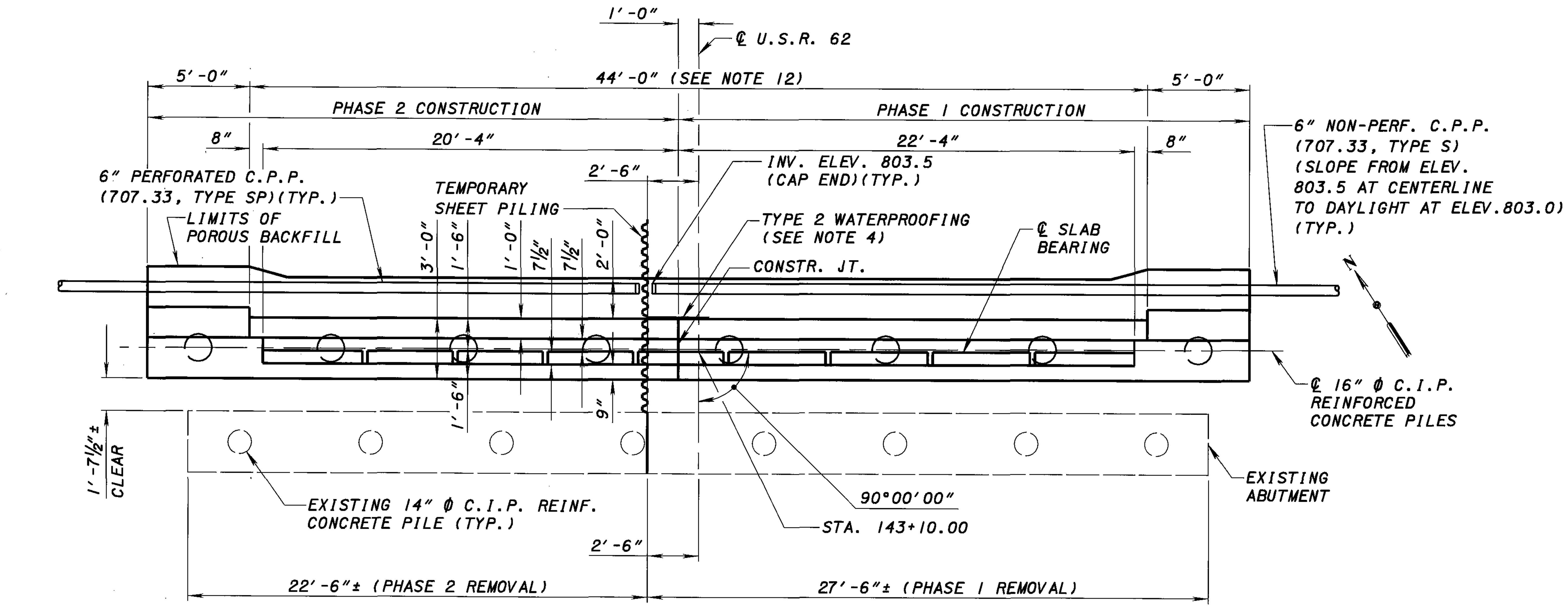
DESIGNED JAO | CHECKED BBB | DRAWN JLV | REVISED | REVIEWED RHW | DATE 07/28/03 | STRUCTURE FILE NUMBER 3801276

REAR ABUTMENT DETAILS

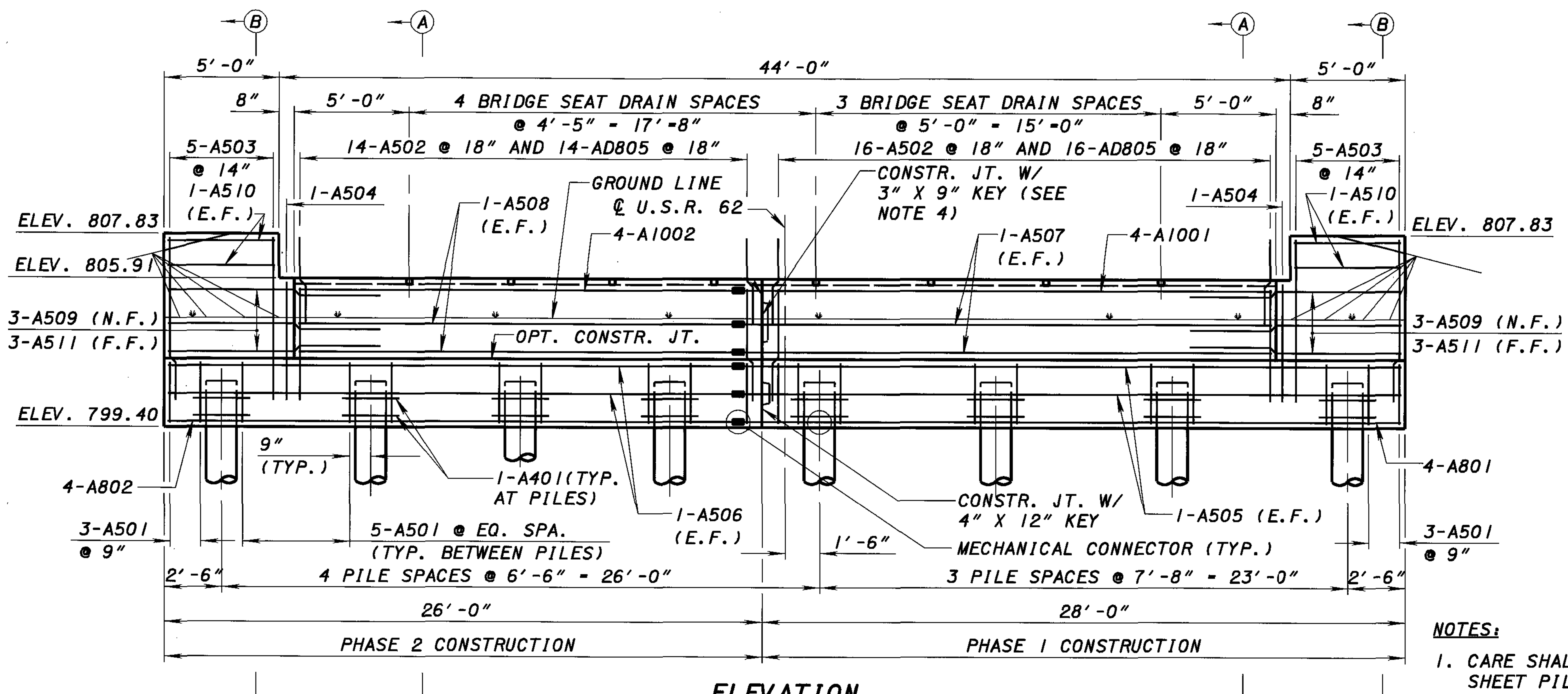
BRIDGE NO. HOL-62-1216
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

7/12

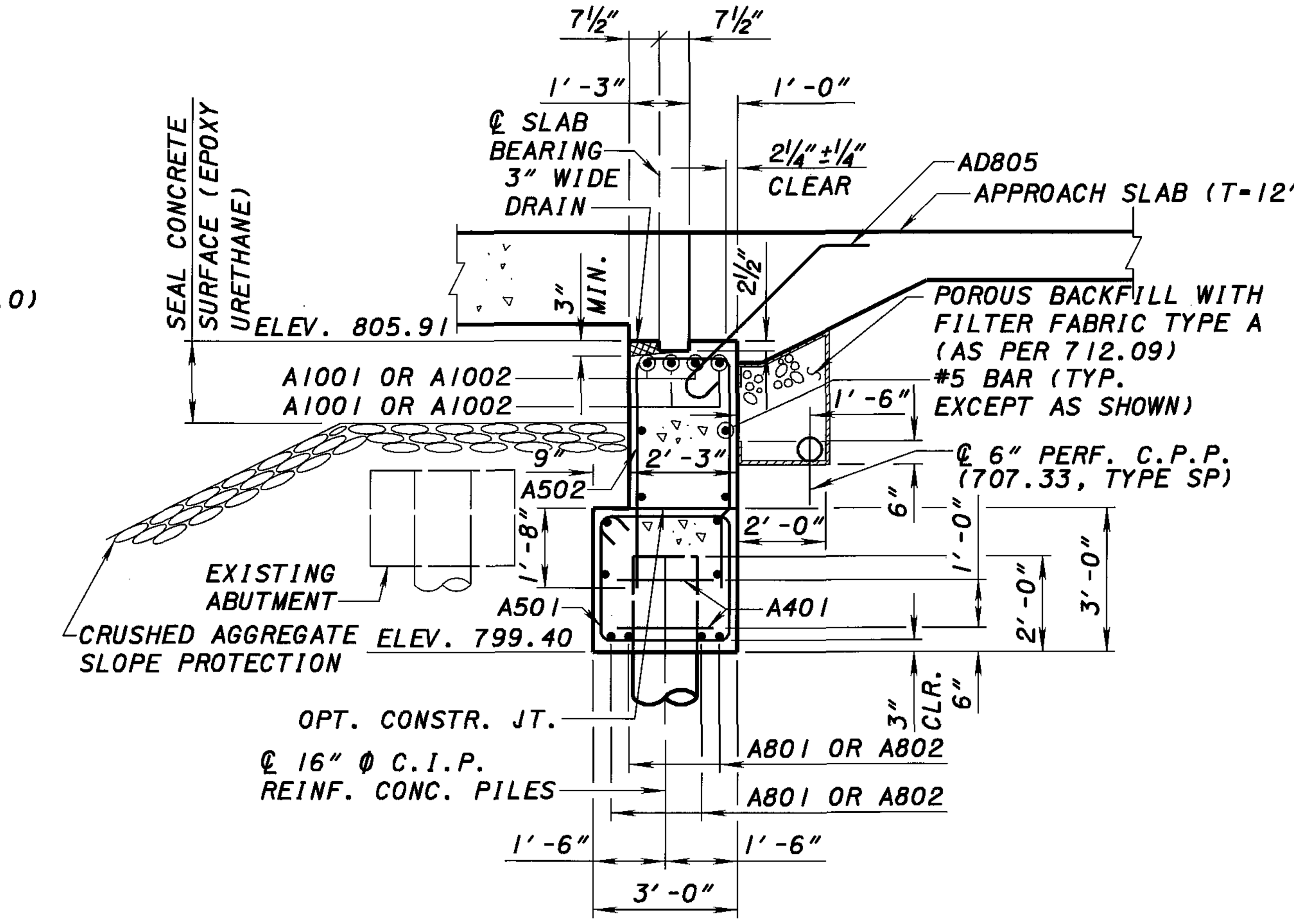


PLAN

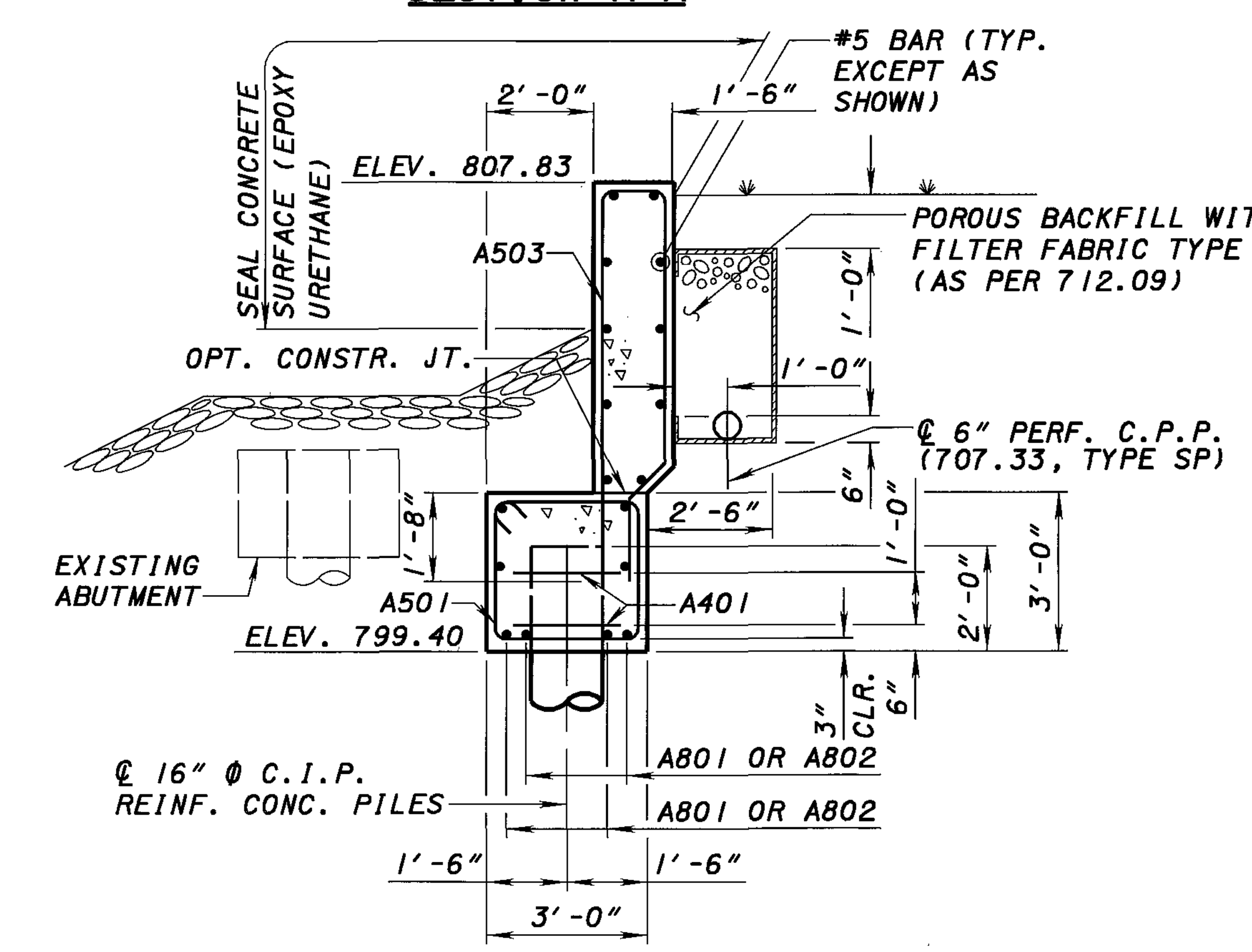


ELEVATION

(TEMPORARY SHEET PILING AND 6" C.P.P. NOT SHOWN)



SECTION A-A



SECTION B-B

NOTES:

1. CARE SHALL BE TAKEN WHEN DRIVING THE TEMPORARY SHEET PILING SO AS NOT TO DAMAGE THE EXISTING ABUTMENT.

2. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE END OF THE WINGWALLS.

3. THE POROUS BACKFILL SHALL BE WRAPPED WITH FILTER FABRIC, 712.09, TYPE A. THE FABRIC SHALL COVER THE VERTICAL FACE BETWEEN THE BACKFILL AND THE EXCAVATION, THE BOTTOM OF THE POROUS BACKFILL AND THE EXCAVATION AND INCLUDES A 6" VERTICAL UPTURN BETWEEN THE POROUS BACKILL AND THE ABUTMENT BARREL.

4. THE VERTICAL CONSTRUCTION JOINT ON THE REAR FACE OF THE ABUTMENT BACKWALL SHALL BE SEALED FROM THE TOP OF THE FOOTING TO THE APPROACH SLAB WITH ITEM 512, TYPE 2 WATERPROOFING, 3'-0" WIDE CENTERED ON THE JOINT.

5. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE BARS CONNECTED.

6. FOR EXISTING ABUTMENT REMOVAL DETAILS, SEE SHEET 5 OF 12.

7. FOR REAR ABUTMENT DETAILS, SEE SHEET 7 OF 12.

8. FOR TOP OF BENCH ELEVATION AT THE ABUTMENT SEE SITE PLAN, SHEET 1 OF 12.

9. FOR PILE LAYOUT AND NOTES, SEE SHEET 6 OF 12.

10. FOR ADDITIONAL CAPPED PILE ABUTMENT DETAILS AND TERMINATION OF THE 6" NON-PERF. C.P.P. AT SIDE SLOPE, SEE ODOT STD. DRAWING CPA-5-94, SHEETS 1 AND 2 OF 2.

11. FOR REINFORCING BAR SCHEDULE, SEE SHEET 12 OF 12.

12. APPROACH SLAB DETAILS AS SHOWN IN ODOT STD. DRAWING AS-1-81 SHALL BE MODIFIED AS REQUIRED TO CONFORM TO THE PHASE CONSTRUCTION CONSTRAINTS.

REQUIRED LAP LENGTHS	
NO. 5 BARS (HORZ.)	3'-7" MIN. AND SEE NOTE 5
NO. 8 BARS (HORZ.)	SEE NOTE 5
NO. 10 BARS (HORZ.)	SEE NOTE 5

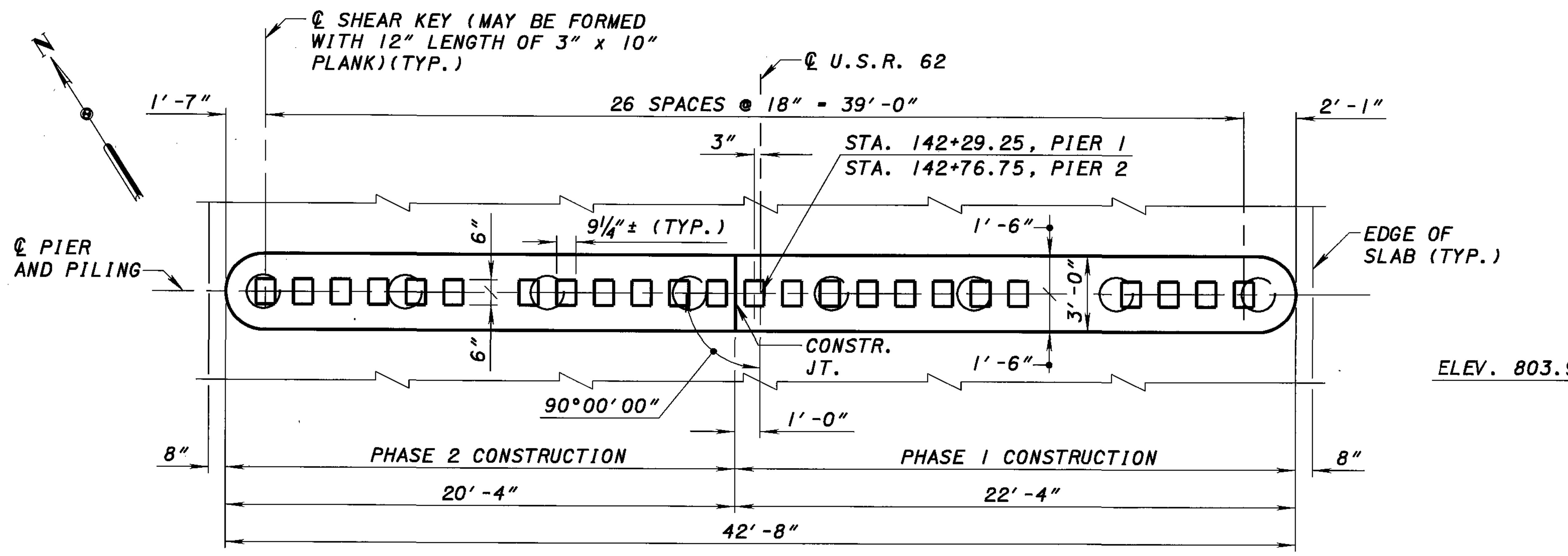
FORWARD ABUTMENT DETAILS
BRIDGE NO. HOL-62-1216
OVER KILLBUCK CREEK OVERFLOW

DESIGN AGENCY: HNTB

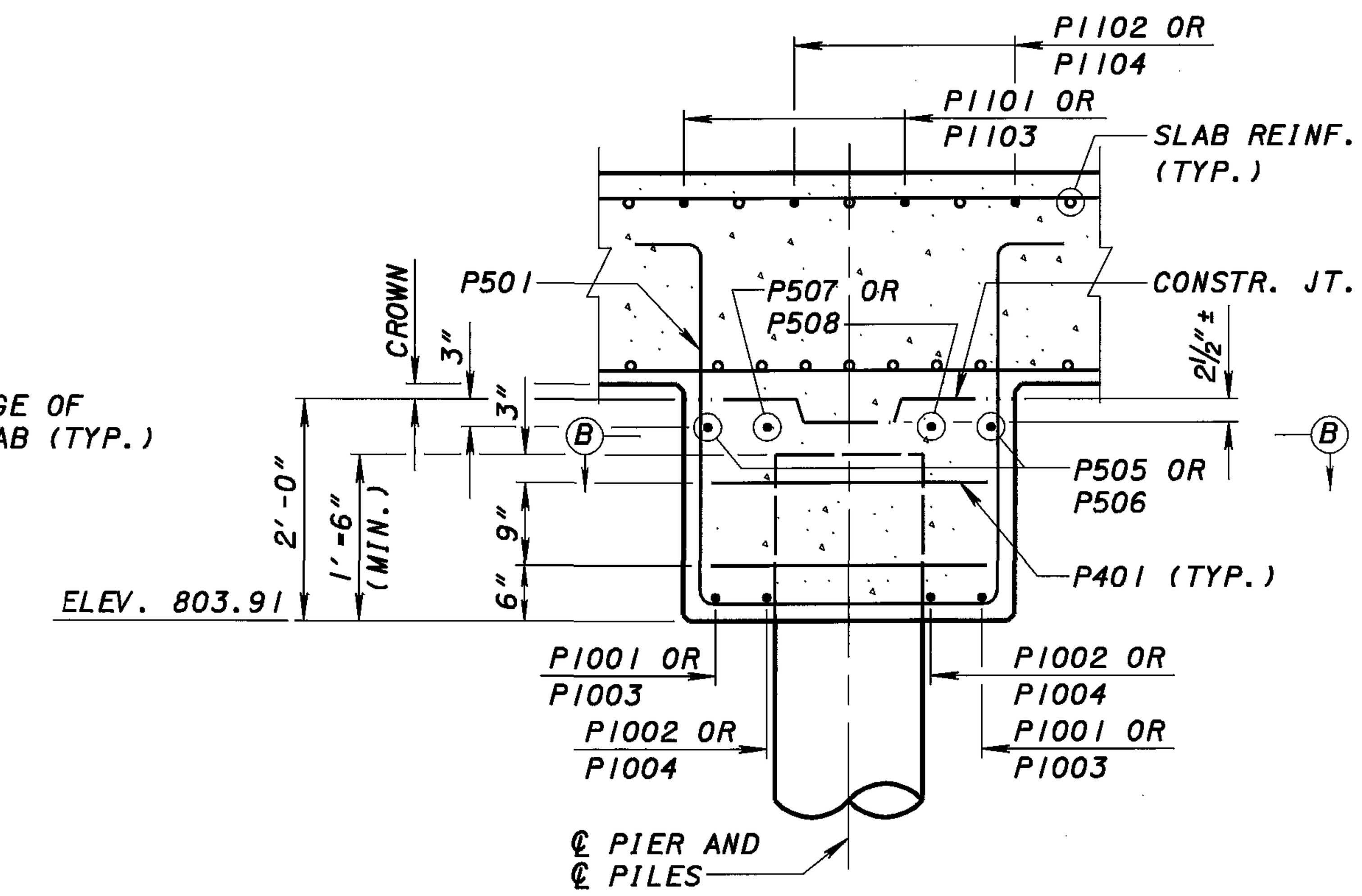
DESIGNED JAO | CHECKED BBB | DRAWN JLV | REVISED | REVIEWED RHW | DATE 07/28/03 | STRUCTURE FILE NUMBER 3801276

HOL-62-12.15
PID 20054

8/12

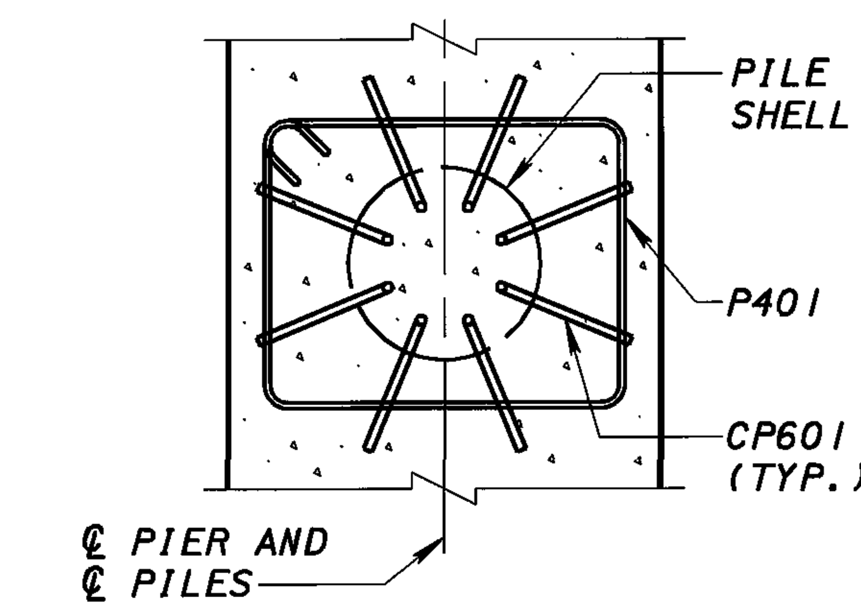


PART PLAN AT PIERS



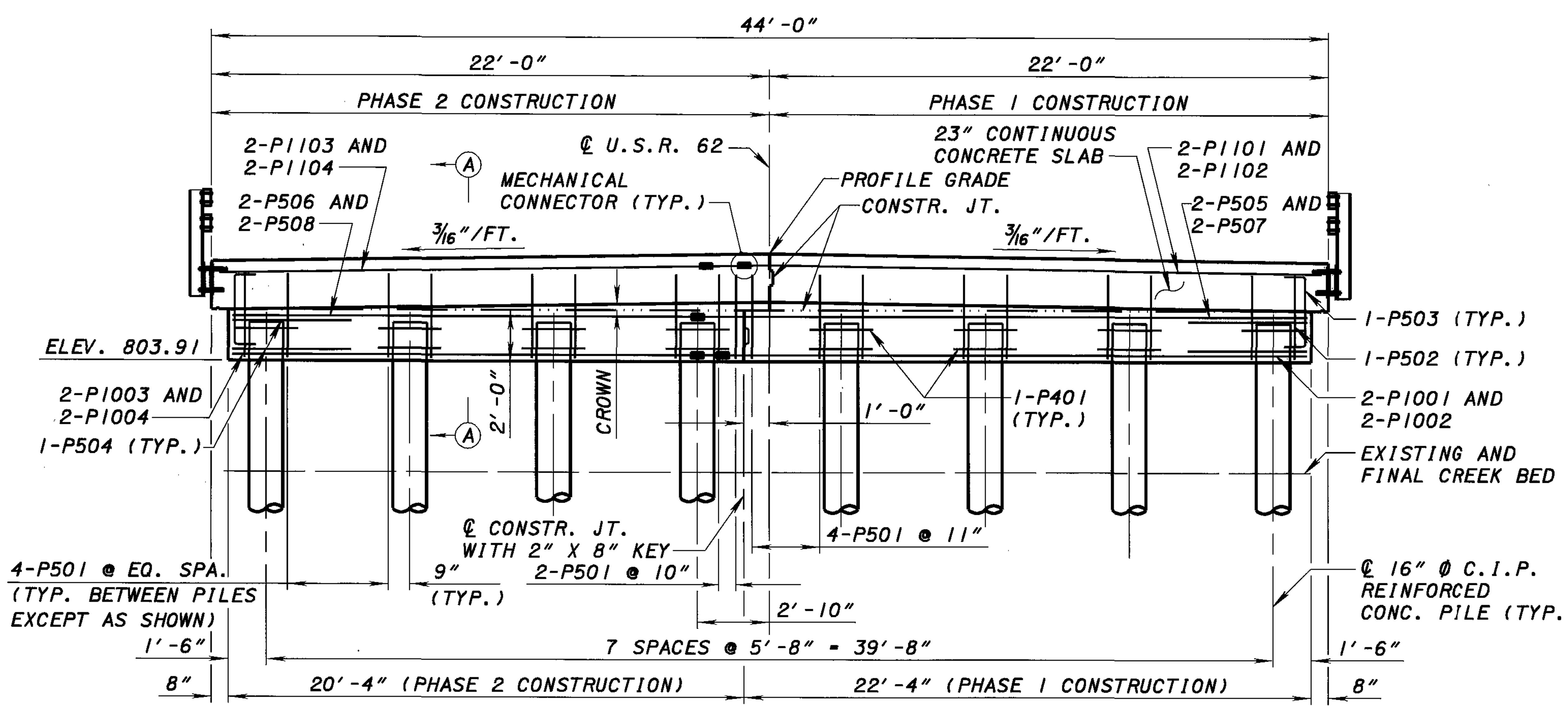
SECTION A-A

(CP401 AND CP601 BARS NOT SHOWN)



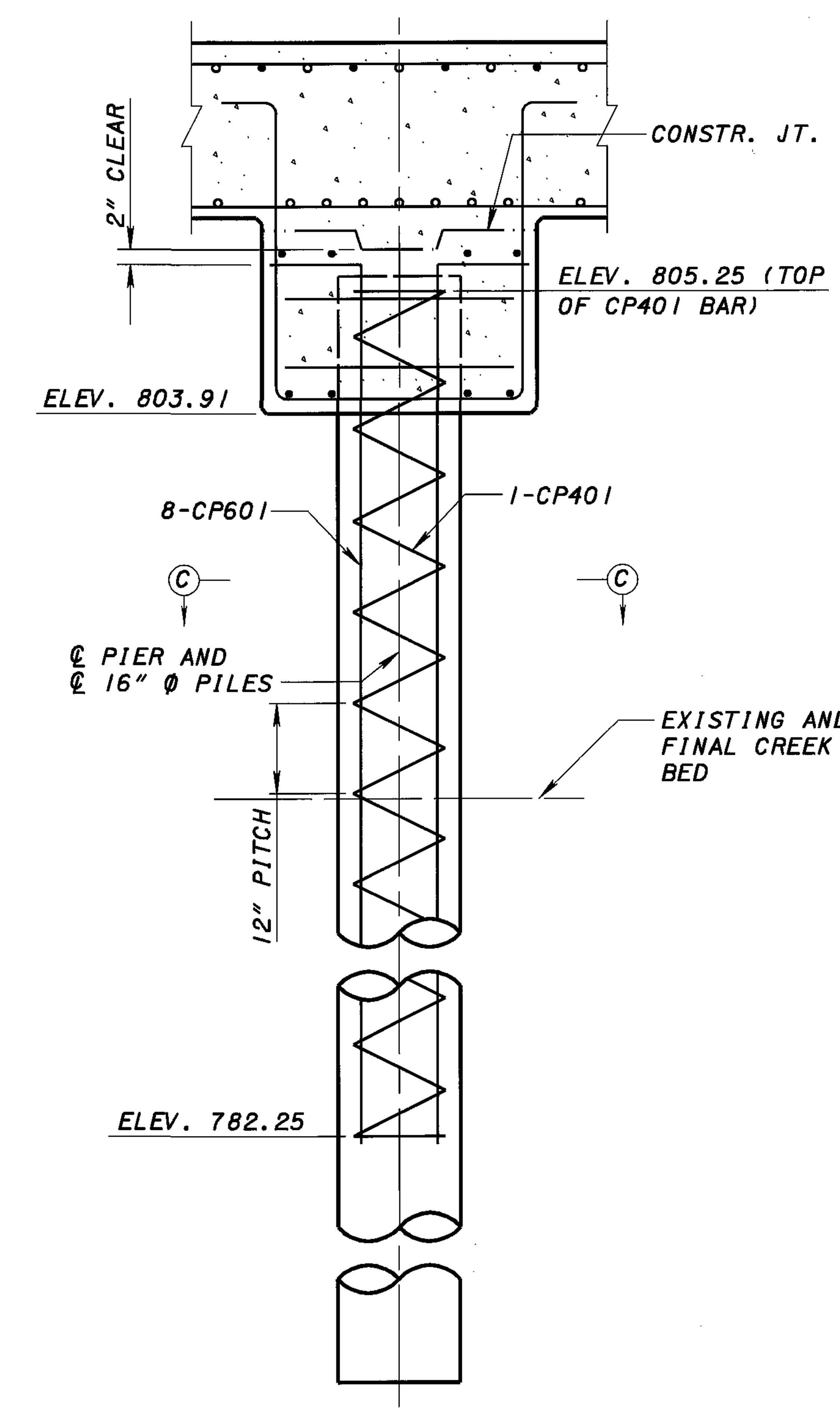
SECTION B-B

(CP401 AND P501 BARS NOT SHOWN)

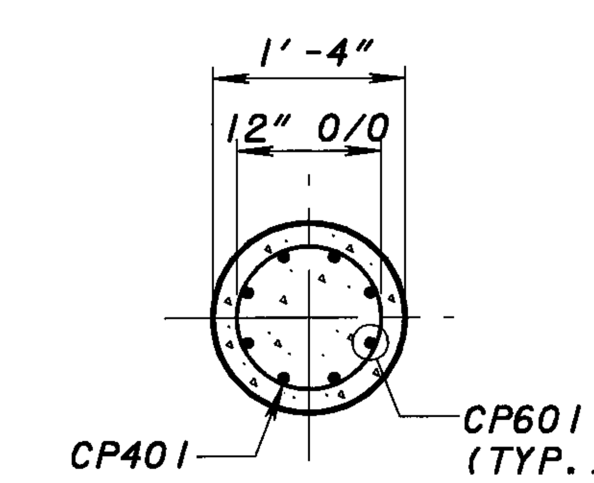


TYPICAL CROSS-SECTION AT PIERS

(LOOKING UPSTATION)



CONCRETE PILE REINFORCEMENT DETAIL



SECTION C-C

REQUIRED LAP LENGTHS	
NO. 5 BARS (HORZ.)	3'-7" MIN. AND SEE NOTE 2
NO. 10 BARS (HORZ.)	SEE NOTE 2
NO. 11 BARS (HORZ.)	SEE NOTE 2

NOTES:

1. MECHANICAL CONNECTORS SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE YIELD STRENGTH OF THE BARS CONNECTED.
2. BARS CP401 AND CP601 ARE TO BE INCLUDED IN ITEM 507, 16" CAST-IN-PLACE REINFORCED PILES FURNISHED, FOR PAYMENT.
3. FOR PILE LAYOUT AND NOTES, SEE SHEET 6 OF 12.
4. FOR REINFORCING BAR SCHEDULE, SEE SHEET 12 OF 12.
5. FOR ADDITIONAL PIER AND PILE DETAILS SEE ODOT STD. DRAWING CPP-2-94.

DESIGN AGENCY: HNTB

DESIGNED JAO | CHECKED BBB | DRAWN JLV | REVISED | REVIEWED RHW | DATE 07/28/03 | STRUCTURE FILE NUMBER 3801276

PIER DETAILS
BRIDGE NO. HOL-62-1216
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

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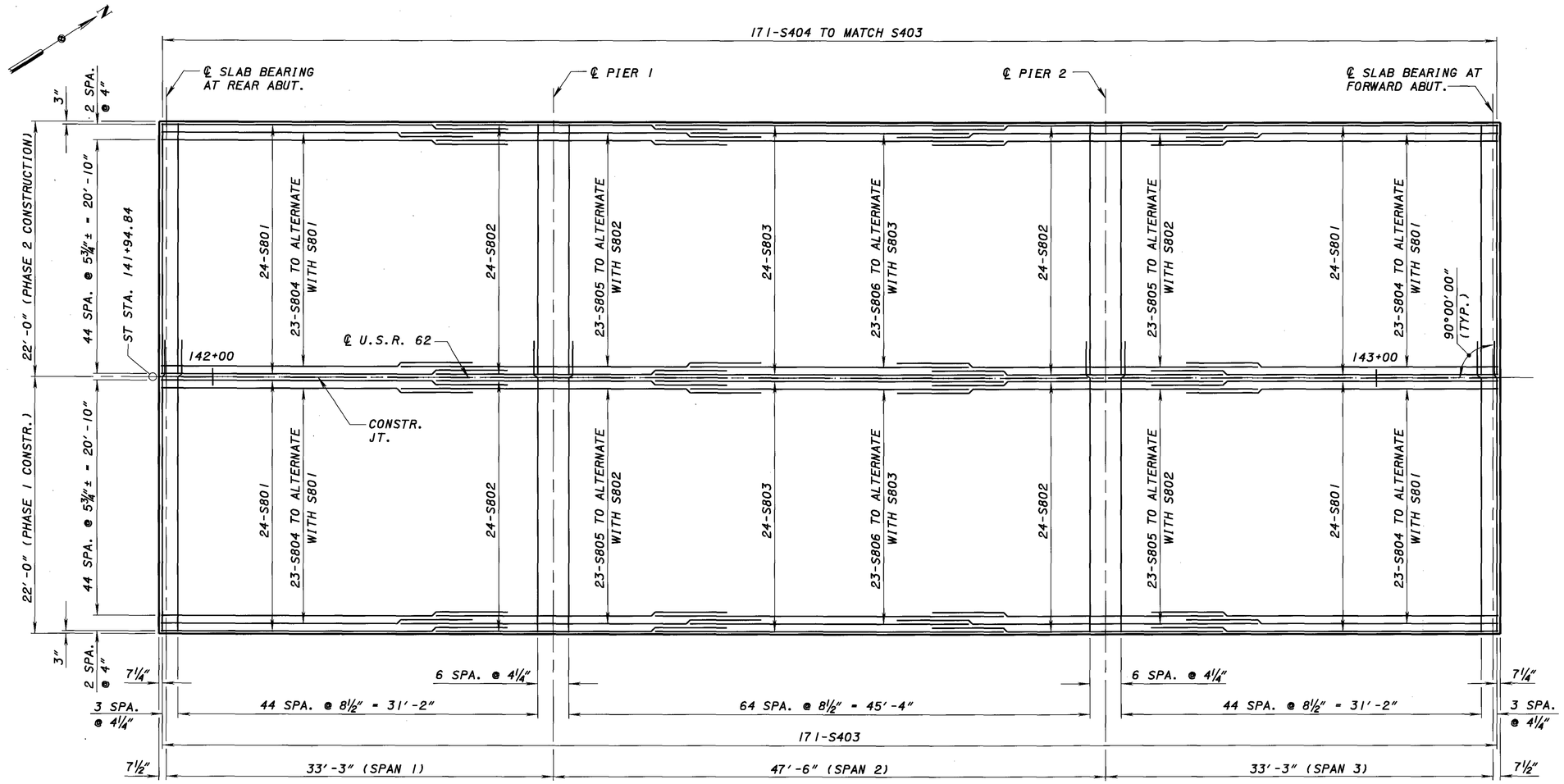
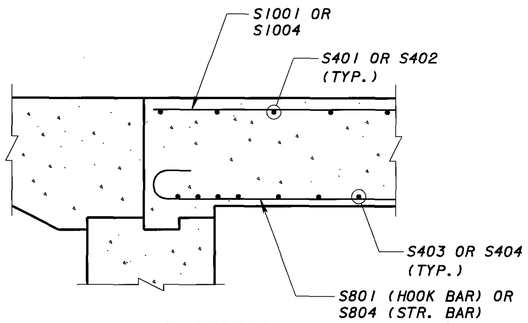
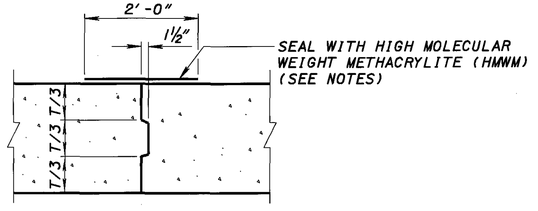


PLAN - BOTTOM OF SLAB REINFORCEMENT



PART SECTION AT ABUTMENT



PART SECTION AT CONSTRUCTION JOINT

REQUIRED LAP LENGTHS	
NO. 4 BARS	2'-9" MIN.
NO. 8 BARS	6'-2" MIN.
NO. 10 BARS	11'-3" MIN.

NOTES:

1. SEALING OF THE DECK CONSTRUCTION JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLITE (HMWM) PAYMENT INCLUDED WITH ITEM 898-0C/0A CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK), AS PER PLAN.
2. FOR PLAN - TOP OF SLAB REINFORCEMENT, TYPICAL DECK SECTION AND ADDITIONAL NOTES, SEE SHEET 11 OF 12.
3. FOR ABUTMENT DETAILS, SEE SHEET 7 AND 8 OF 12.
4. FOR PIER DETAILS, SEE SHEET 9 OF 12.
5. FOR REINFORCING BAR SCHEDULE, SEE SHEET 12 OF 12.

DESIGN AGENCY: HNTB

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	07/28/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB	12/6/05	3801276	

DECK SLAB DETAILS
BRIDGE NO. HOL-62-12.15
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

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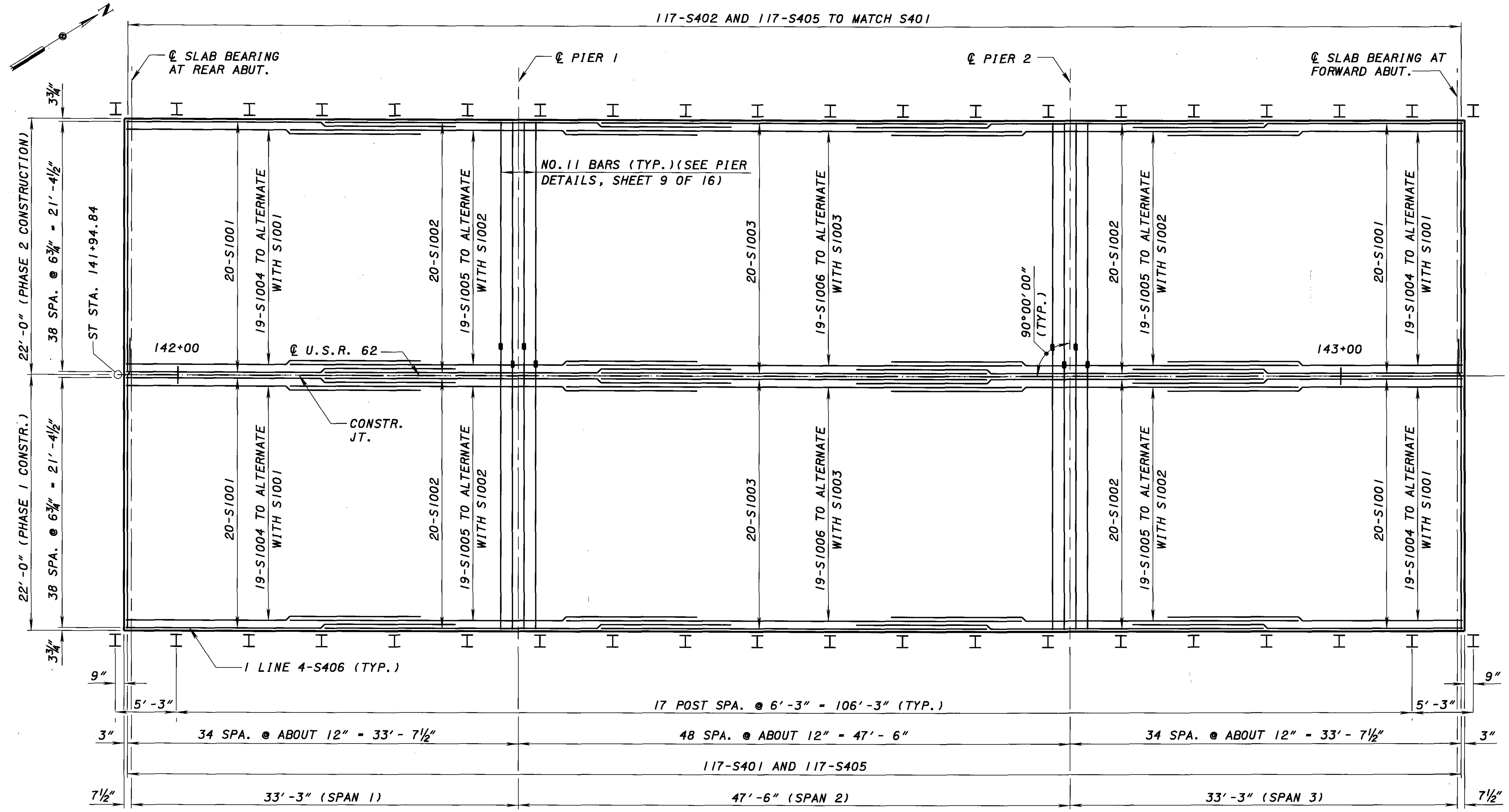
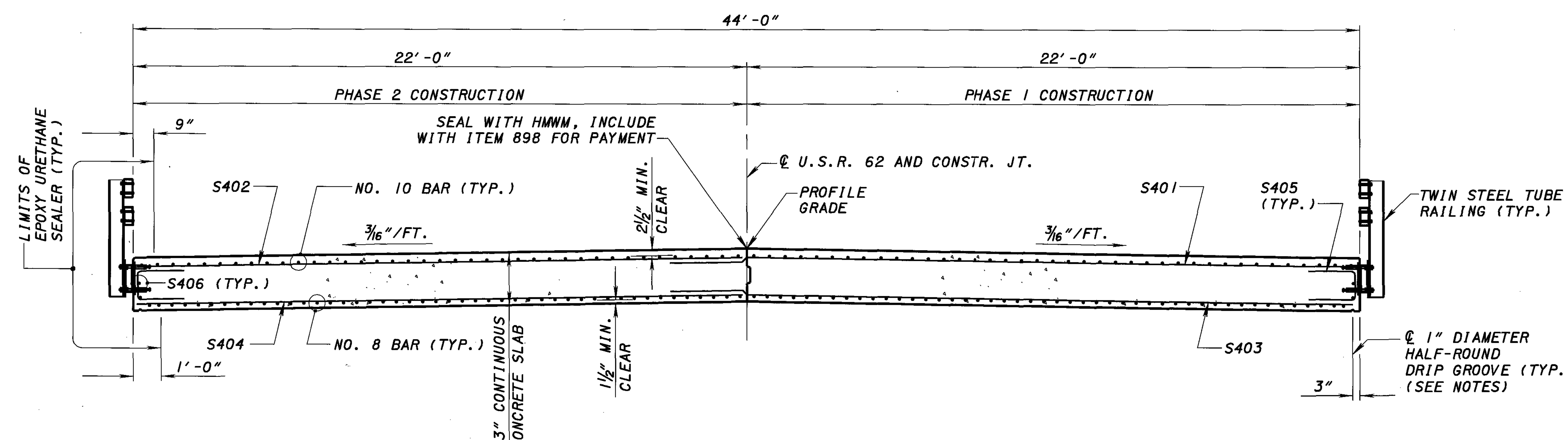


PLAN - TOP OF SLAB REINFORCEMENT



TYPICAL CROSS-SECTION
(LOOKING UPSTATION)

REQUIRED LAP LENGTHS	
NO. 4 BARS	2'-9" MIN.
NO. 8 BARS	6'-2" MIN.
NO. 10 BARS	11'-3" MIN.

NOTES:

1. FOR DECK SLAB DEFLECTION AND SCREED ELEVATION REQUIREMENTS, SEE GENERAL NOTES, SHEET 2 OF 12.
2. DRIP GROOVES SHALL TERMINATE 2'-0" FROM THE FACE OF THE ABUTMENT BARRELS.
3. FOR PLAN - BOTTOM OF SLAB REINFORCEMENT, MISC. DECK DETAILS AND ADDITIONAL NOTES, SEE SHEET 10 OF 12.
4. FOR ABUTMENT DETAILS, SEE SHEET 7 AND 8 OF 12.
5. FOR PIER DETAILS, SEE SHEET 9 OF 12.
6. FOR REINFORCING BAR SCHEDULE, SEE SHEET 12 OF 12.
7. FOR TWIN STEEL TUBE RAILING DETAILS, SEE STD DRAWING TST-1-99.

DESIGN AGENCY: HNTB

DESIGNED	DRAWN	REVIEWED	DATE
JAO	JLV	RHW	07/28/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BBB		3801276	

DECK SLAB DETAILS
BRIDGE NO. HOL-62-1216
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

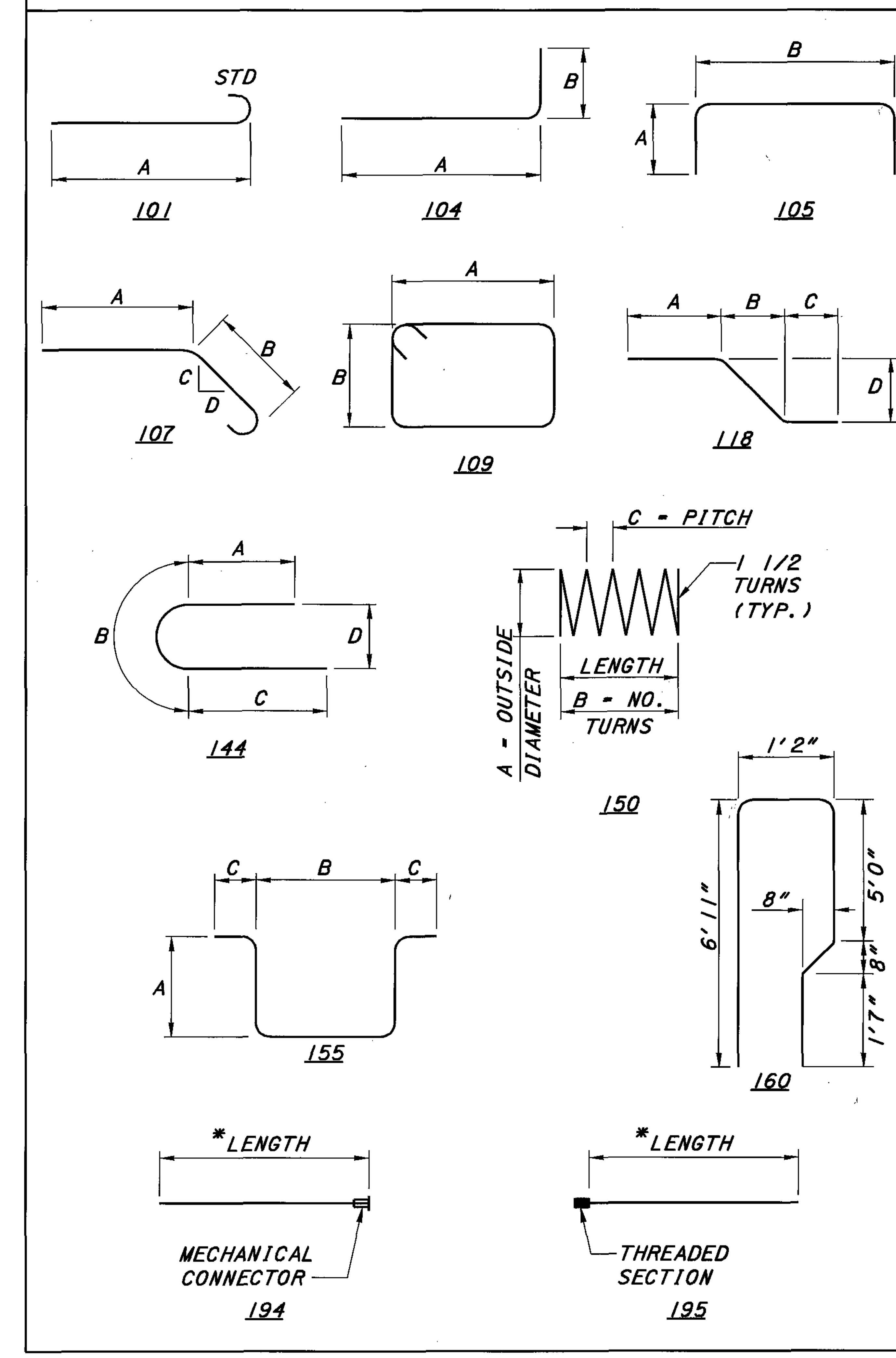
BAR SCHEDULE

MARK	NUMBER REQ'D	LENGTH	TYPE	A	B	C	D	SERIES INCR.	WEIGHT
REAR ABUTMENT - EPOXY COATED REINFORCEMENT									
A401	16	9'-6"	109	2'-0"	2'-6"				102
A501	41	11'-0"	109	2'-8"	2'-7"				470
A502	30	11'-2"	105	4'-9"	1'-11"				349
A503	10	15'-4"	160						160
A504	2	10'-5"	105	5'-0"	0'-8"				22
* A505	4	28'-6"	194						119
* A506	4	25'-2"	195						105
* A507	4	22'-10"	194						95
* A508	4	19'-6"	195						81
A509	6	8'-7"	STR						54
A510	8	4'-8"	STR						39
A511	6	8'-11"	118	4'3"	0'8"	3'7"	0'8"		56
* A801	4	28'-6"	194						304
* A802	4	25'-2"	195						269
AD805	30	5'-10"	107	1'-5"	3'-6"	12	12		467
* A1001	4	22'-10"	194						393
* A1002	4	19'-6"	195						336
					TOTAL (REAR ABUTMENT) =				3421
FORWARD ABUTMENT - EPOXY COATED REINFORCEMENT									
A401	16	9'-6"	109	2'-0"	2'-6"				102
A501	41	11'-0"	109	2'-8"	2'-7"				470
A502	30	11'-2"	105	4'-9"	1'-11"				349
A503	10	15'-4"	160						160
A504	2	10'-5"	105	5'-0"	0'-8"				22
* A505	4	28'-6"	194						119
* A506	4	25'-2"	195						105
* A507	4	22'-10"	194						95
* A508	4	19'-6"	195						81
A509	6	8'-7"	STR						54
A510	8	4'-8"	STR						39
A511	6	8'-11"	118	4'3"	0'8"	3'7"	0'8"		56
* A801	4	28'-6"	194						304
* A802	4	25'-2"	195						269
AD805	30	5'-10"	107	1'-5"	3'-6"	12	12		467
* A1001	4	22'-10"	194						393
* A1002	4	19'-6"	195						336
					TOTAL (FORWARD ABUTMENT) =				3421
PIER 1 - EPOXY COATED REINFORCEMENT									
P401	16	9'-6"	109	2'-6"	2'-0"				102
P501	30	10'-4"	155	3'-3"	2'-8"	0'-10"			323
P502	2	9'-11"	155	3'-3"	2'-3"	0'-10"			21
P503	2	4'-8"	105	0'-10"	3'-3"				10
P504	4	10'-9"	144	3'-5"	3'-11"	3'-5"	2'-6"		45
* P505	2	23'-2"	194						48
* P506	2	17'-7"	195						37
* P507	2	23'-8"	194						49
* P508	2	18'-1"	195						38
* P1001	2	23'-2"	194						199
* P1002	2	22'-8"	194						195
* P1003	2	17'-7"	195						151
* P1004	2	19'-1"	195						164

BAR SCHEDULE

MARK	NUMBER REQ'D	LENGTH	TYPE	A	B	C	D	SERIES INCR.	WEIGHT
PIER 1 - EPOXY COATED REINFORCEMENT (CONTINUED)									
* P1101	2	24'-4"	194						259
* P1102	2	22'-10"	194						243
* P1103	2	19'-4"	195						205
* P1104	2	20'-10"	195						221
CP401	8	95'-9"	150	1'-0"	26	1'-0"			SEE NOTES
CP601	64	24'-6"	104	23'-8"	1'-0"				SEE NOTES
							TOTAL (PIER 1) =		2310
PIER 2 - EPOXY COATED REINFORCEMENT									
P401	16	9'-6"	109	2'-6"	2'-0"				102
P501	30	10'-4"	155	3'-3"	2'-8"	0'-10"			323
P502	2	9'-11"	155	3'-3"	2'-3"	0'-10"			21
P503	2	4'-8"	105	0'-10"	3'-3"				10
P504	4	10'-9"	144	3'-5"	3'-11"	3'-5"	2'-6"		45
* P505	2	23'-2"	194						48
* P506	2	17'-7"	195						37
* P507	2	23'-8"	194						49
* P508	2	18'-1"	195						38
* P1001	2	23'-2"	194						199
* P1002	2	22'-8"	194						195
* P1003	2	17'-7"	195						151
* P1004	2	19'-1"	195						164
* P1101	2	24'-4"	194						259
* P1102	2	22'-10"	194						243
* P1103	2	19'-4"	195						205
* P1104	2	20'-10"	195						221
CP401	8	95'-9"	150	1'-0"	26	1'-0"			SEE NOTES
CP601	64	24'-6"	104	23'-8"	1'-0"				SEE NOTES
							TOTAL (PIER 2) =		2310
DECK SLAB - EPOXY COATED REINFORCEMENT									
S401	117	24'-10"	STR						1941
S402	117	21'-8"	STR						1693
S403	171	24'-10"	STR						2837
S404	171	21'-8"	STR						2475
S405	234	4'-7"	105	1'-8"	1'-5"				716
S406	8	31'-0"	STR						166
S801	96	30'-9"	101	29'-10"					7882
S802	96	25'-0"	STR						6408
S803	48	30'-0"	STR						3845
S804	92	26'-10"	STR						6591
S805	92	31'-0"	STR						7615
S806	46	24'-0"	STR						2948
S1001	80	28'-6"	STR						9811
S1002	80	35'-0"	STR						12,048
S1003	40	33'-6"	STR						5766
S1004	76	25'-6"	STR						8339
S1005	76	35'-0"	STR						11,446
S1006	38	39'-6"	STR						6459
							TOTAL (DECK SLAB) =		98,986

BAR BENDING DIAGRAMS



NOTES:

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.

*2. REINFORCING BAR UTILIZES A MECHANICAL CONNECTOR. BAR LENGTH ADJUSTMENT AND/OR END PREPARATION MAY BE NECESSARY DEPENDING UPON THE TYPE OF CONNECTOR USED.

3. THE BAR NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT OR THE FIRST TWO DIGITS INDICATES THE BAR SIZE. FOR EXAMPLE A 401 BAR IS A NUMBER 4 BAR AND A 1001 BAR IS A NUMBER 10 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

4. CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT TO EXCEED 10'-0") TO ENSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF AN APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE 16" Φ C.I.P. REINFORCED CONCRETE PILES AT THE PIERS. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE THE MINIMUM CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION OF THE PILE (AS SHOWN IN THE PLANS).

5. THE LENGTH SHOWN FOR BAR CP401 IS THE LENGTH ALONG THE AXIS OF THE SPIRAL BAR INCLUDING THE ONE AND ONE HALF CLOSED COIL TURNS AT THE ENDS.

6. BARS CP401 AND CP601 ARE TO BE INCLUDED IN ITEM 507, 16" CAST-IN-PLACE REINFORCED PILES FURNISHED, FOR PAYMENT.

DESIGN AGENCY: HNTB

DATE: 07/28/03 | REVIEWED: RHW | STRUCTURE FILE NUMBER: 3801276

DRAWN: JLV | REVISED:

DESIGNED: JLV | CHECKED: BBB

REINFORCEMENT SCHEDULE

BRIDGE NO. HOL-62-1216
OVER KILLBUCK CREEK OVERFLOW

HOL-62-12.15
PID 20054

SPECIAL PROVISIONS

WATERWAY PERMITS
FOR

CRS: HOL-62-12.16 (PID 20054)

U.S. ARMY CORPS OF ENGINEERS
PERMIT NUMBER: NWP #3 & #33

OHIO EPA
PERMIT NUMBER: 033754

EFFECTIVE DATE: September 25, 2003

HOL-62-12.16
PID 20054

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS
Lazarus Government Center
122 S Front Street
Columbus, Ohio 43215

TELE (614) 644-3020 FAX (614) 644-3184

MAILING ADDRESS
P O Box 1049
Columbus, OH 43216-1049

Certified Mail

September 25, 2003

Ohio Department of Transportation
Gordon Proctor, Director
1980 West Broad Street
Columbus, Ohio 43223

Attn. Timothy M. Hill, Administrator, OES, ODOT

Re: Holmes County / Killbuck Township
Grant of Section 401 Water Quality Certification (Minimum Degradation Alternative)
Project to replace the Route 62 bridge over Killbuck Creek, in Killbuck Township, Holmes County, Ohio
Ohio EPA ID No. 033754
Ohio Department of Transportation ID #: HOL-62-12 16, PID 20054

Ladies and Gentlemen:

The Director of Ohio Environmental Protection Agency hereby authorizes the above referenced project under the following authority.

Section 401 Water Quality Certification
Pursuant to Section 401 of the Federal Water Pollution Control Act, Public Law 95-217, the Director of Ohio Environmental Protection Agency hereby certifies that the above-referenced project will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act.

This authorization is specifically limited to a 401 water quality certification with respect to water pollution and does not relieve the applicant of further certifications or Permits as may be necessary under the law. I have determined that a lowering of water quality in a Category 3 jurisdictional wetland in the Walhonding River Watershed, Holmes County, Ohio as authorized by this certification, is necessary. I have made this determination based upon the consideration of all public comments, and including the technical, social, and economic considerations concerning this application and its impact on waters of the state.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.
By: Donna L Clements Date: Sep 25 03

I. **Impacts**

a. **Wetland**: Approximately 0.304 acres of Wetland W-1, a category 3 palustrine-emergent wetland, will be impacted by the project. The wetland also has scrub/scrub, forested, aquatic bed, and open water features. The wetland is part of a wetland complex that receives hydrology primarily from Killbuck Creek overflow.

II. **General Conditions:** This Section 401 Water Quality Certification is issued subject to the following modifications and/or conditions:

A. All water resources and their buffers which are to be avoided shall be clearly indicated on site drawings. They also shall be demarcated in the field with suitable materials and adequately protected with suitable materials, including silt fencing if appropriate, prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process.

B. Steps must be employed throughout the course of this project to avoid the creation of unnecessary turbidity which may degrade water quality or adversely affect aquatic life outside of the project area.

C. Work shall only take place during low water conditions in order to minimize adverse impacts to water quality away from the project site.

D. Temporary fill shall consist of suitable non-erodible material or shall be stabilized to prevent erosion.

E. Steps shall be taken during construction to minimize erosion.

F. Procedures shall be developed and implemented to eliminate the possibility of spills and to control dust that may enter the waterway by runoff or point discharge.

G. Unpermitted impacts to surface water resources and/or their buffers occurring as a result of this project will be reported within 24 hours of occurrence to Ohio EPA for further evaluation.

H. In temporary impact areas where trees have been removed to facilitate construction, they shall be replaced with appropriate native tree species.

I. Stormwater basins on the site which have Extended Detention or Permanent Pool water quality features shall meet the design specifications in Ohio EPA Permit OHC000002. Stormwater basins on site which have water quality features (Forebay, Aquatic Benches and Wetlands, Optimum Flow Length, Reverse Flow Pipe, Optimum Pool Depth, Shading and Buffer Plants, and Runoff Reuse) shall meet the design specifications contained in the Ohio Department of Natural Resources Rainwater and Land Development document, second edition, 1996, or successor document.

J. This proposal may require other permits from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office at the following address:

Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio 44087

III. **Mitigation**

A. **Description and Conditions of Wetland Mitigation**

1. The Permittee has purchased 0.76 credits equivalent to 0.76 acres at the Big Island Wetland Mitigation Bank in Marion County, Ohio. The Permittee shall provide Ohio EPA with the appropriate documentation, including the Permittee's updated balance sheet, showing the Permittee's remaining balance credits at Big Island, within one (1) year of the issuance date of this certification. The temporary construction materials impacting the wetland shall be removed and the impacted wetland restored to its preconstruction condition, to the best extent practicable.

IV. **Notification To Ohio EPA**

All notifications, correspondence, and reports regarding this Section 401 Water Quality Certification shall reference the following information:

US Route 62 Bridge Replacement Project (HOL-62-12.16, PID 20054) Ohio EPA ID # 033754, and shall be sent to:

Ohio EPA, Division of Surface Water
401/Wetland Unit
Lazarus Government Center
122 South Front Street
P.O. Box 1049
Columbus, Ohio 43216-1049

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code by any person who was a party to this proceeding. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after the notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of the filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission, 309 South Fourth Street, Room 222, Columbus, Ohio 43266-0557.

Sincerely,

Christopher Jones
Director

cc: Kimberly Dawn Courts-Brown, U.S. Army Corps of Engineers, Huntington District
Mike Pettegrew, OES, ODOT Tatman, OES, ODOT
Kevin Pierard, U.S. EPA, Region 5
Ken Lammers, U.S. Fish & Wildlife Service
Randy Sanders, ODNR, Division of Real Estate & Land Management
Dave Stroud, DSW, NEDO, Ohio EPA
Marc Smith, EAS
Art Coleman, 401/Wetland Section, Ohio EPA
401 file

DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

May 7, 2003

RECEIVED
MAY 14 2003
OFFICE OF
ENVIRONMENTAL SERVICES

REPLY TO
ATTENTION OF
Operations and Readiness Division
Regulatory Branch
Killbuck Creek-200201394

Gordon Proctor, Director
Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

Dear Mr. Proctor:

I refer to a permit application and plans received in this office on April 14, 2003 concerning your proposal to replace the existing U.S. Route 62 Bridge over the Killbuck Creek Marsh/Overflow in Holmes County, Ohio. The new bridge will be constructed on the same alignment as the old bridge and will not be widened. In order to facilitate construction of the new bridge, approximately 820 cubic yards of clean, granular fill will be placed into 0.30 acre of jurisdictional wetland to construct a temporary work pad to provide the contractor access to the channel piers and for deck slab removal and construction. The work pad will measure 112' long by 106' wide by 2' deep. Steel sheet pile cofferdams, totaling 1 cubic yard, will also be installed around each abutment to facilitate construction of the new abutments. A total of 82 cubic yards of fill material, including porous backfill and crushed aggregate slope protection, will be placed along the bridge abutments. Upon the completion of construction activities, all temporary fill material will be removed from the wetland and the wetland will be restored, to the maximum extent practicable, to its pre-construction conditions. All material removed from the wetland will be disposed at a contained upland location. A total of 0.30 acre of waters of the United States will be temporary impacted by the work. No waters of the United States will be permanently impacted as the new bridge will be constructed on the same alignment as the existing bridge. The CRS and PID numbers for this project are HOL-62-12.16 (20054).

In order to mitigate for temporary impacts to 0.30 acre of jurisdictional wetland, you have purchased 0.76 acre (2.5 to 1 ratio) of wetland credit at the Big Island Mitigation Bank in Marion County, Ohio.

The proposal meets the requirements of nationwide permit #3 and #33 (attached), under the January 15, 2002 Federal Register, Final Notice of Issuance and Modification of Nationwide Permits (67 FR 2020) **provided you obtain the required Section 401 Water Quality Certification from the Ohio Environmental Protection Agency (OEPA)**. The wetland proposed to be temporarily impacted by the work is a Category 3

wetland. OEPA has denied the required Section 401 Water Quality Certification for any work in Category 3 wetlands. You have made application to OEPA for the required Section 401 Water Quality Certification.

In view of the above, your project is permitted subject to the terms and conditions of the enclosed material provided you obtain the required Section 401 Water Quality Certification. It is your responsibility to ensure that your work conforms to all of the environmental management conditions and special conditions listed within the enclosed material. Upon completion of the work, the attached certification must be signed and returned to this office.

Please be aware that the nationwide permit authorization does not obviate the requirement to obtain state or local assent required by law for the activity. If you have any questions concerning the above, please contact Kimberly Courts-Brown at 304-529-5210.

Sincerely,

Ginger Mullins

Ginger Mullins, Chief
Regulatory Branch

Enclosure

Copy Furnished:

Randy Bournique
Ohio Environmental Protection Agency
Division of Surface Water
Post Office Box 1049
Columbus, Ohio 43215

NATIONWIDE PERMIT #3 - MAINTENANCE

Activities related to:
(i) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards which are necessary to make repair, rehabilitation, or replacement, are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the District Engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(ii) Discharges of dredged or fill material, including excavation, into all waters of the United States to remove accumulated sediments and debris in the vicinity of, and within, existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional rip rap to protect the structure, provided the permittee notifies the District Engineer in accordance with General Condition 13. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. The placement of rip rap must be the minimum necessary to protect the structure or to ensure the safety of the structure. All excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the District Engineer under separate authorization. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the District Engineer.

(iii) Discharges of dredged or fill material, including excavation, into all waters of the United States for activities associated with the restoration of upland areas damaged by a storm, flood, or other discrete event, including the construction, placement, or installation of upland protection structures and minor dredging to remove obstructions in water of the US. (Uplands lost as a result of a storm, flood, or other discrete event can be replaced without a Section 404 permit provided the uplands are

restored to their original pre-event location. This NWP is for the activities in waters of the US associated with the replacements of the uplands.) The permittee must notify the District Engineer, in accordance with General Condition 13, within 12 months of the date of the damage and the work must commence, or be under contract to commence, within two years of the date of the damage. The permittee should provide evidence, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. The restoration of the damaged areas cannot exceed the contours, or ordinary high water mark, that existed before the damage. The District Engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this permit. Minor dredging to remove obstructions from the adjacent waterbody is limited to 50 cubic yards below the plane of the ordinary high water mark, and is limited to the amount necessary to restore the pre-existing bottom contours of the waterbody. The dredging may not be done primarily to obtain fill for any restoration activities. The discharge of dredged or fill material and all related work needed to restore the upland must be part of a single and complete project. This permit cannot be used in conjunction with NWP 18 or NWP 19 to restore damaged upland areas. This permit cannot be used to reclaim historic lands lost, over an extended period, to normal erosion processes.

This permit does not authorize maintenance dredging for the primary purpose of navigation and beach restoration. This permit does not authorize new stream channelization or stream relocation projects. Any work authorized by this permit must not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream, or increase flooding (See General Conditions 9 and 21).

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure of fill that does not qualify for the Section 404(f) exemption for maintenance.

Nationwide 3 Specific Regional Conditions

i. Notification required prior to the use of vertical sheet piling and closed structures in the special habitat waters of Lake Erie (See General Conditions, Critical Resource waters (1)).

ii. The Pre-Construction Notification (PCN) for activities involving the removal of accumulated sediments and debris in the vicinity of existing structures, to restore the waterway to the approximate dimensions that existed when the structure was built, must include evidence of such dimensions. If this information is not available, the PCN must include evidence of the existing depths immediately outside the proposed work area.

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, the Ohio Environmental Protection Agency hereby certifies that activities authorized by these Permits, undertaken in accordance with all of the special and general conditions listed below, will comply with the applicable provisions of the Clean Water Act and applicable Ohio water quality standards. Those NWPs with no special Water Quality Certification (WQC) conditions remain subject to general WQC conditions unless otherwise

indicated (Reference 1 below).

Water Quality Certification – Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit.

Ohio State Water Quality Certification Special Conditions and Limitations:

1. Total surface water and vegetation impacts on either side of the replacement structure shall be limited to the greater of 25 feet beyond the structure, or 25 feet beyond the toe of the slope of the structure's approach embankment. [Where the use of a crane is necessary to conduct a maintenance activity, total impacts shall not exceed 50 feet on either side of the structure or approach embankment]. In either case, total impacts, including the structure, shall not exceed 200 feet [except for stabilization projects]. Width shall be measured at the structure's narrowest point as it crosses the waterbody, and be measured parallel to stream flow.

2. Culvert replacement:
   a. This Certification shall only authorize minor deviations from the existing structure's centerline and minor deviations in culvert dimensions, unless these deviations are necessary to follow current safety standards.

3. Bridge Replacement:
   a. This Certification shall only authorize minor deviations from the existing structure's centerline, unless these deviations are necessary to follow current safety standards.
   b. Bridge replacements shall not result in additional lanes unless necessary to follow current safety standards.

4. Maintenance or repair of existing fills (stabilization projects):
   a. Impacts from maintenance or repair of existing fills shall not exceed the dimensions of the fill prior to the damage; and
   b. This nationwide shall not authorize the replacement of existing structures that are open to the flow of water with structures that are not open to the flow of water.

5. For replacement vertical bulkheads, the following conditions apply:
   a. For ship channels and harbors adjacent to federal navigation channels within the following harbors: Sandusky Harbor, Huron Harbor, Vermilion Harbor, Lorain Harbor, Conneaut Harbor, Port Clinton Harbor, Rocky River Harbor, Cleveland Harbor, Fairport Harbor, Ashtabula Harbor, and Toledo Harbor, 1,000 feet of existing vertical bulkheads may be replaced if recessed areas for aquatic habitat, or other aquatic habitat improvements, are incorporated within the design and construction of the replacement vertical bulkhead;
   b. For all other areas, except Lake Erie, Lake Erie Islands, or Sandusky Bay, up to 1,000 feet of existing vertical bulkheads may be replaced. Toe stone shall be placed at the base of these

replacement vertical bulkheads except in areas where the shoreline is composed of bedrock and slopes are predominately greater than 75 percent;

ç. Replacement vertical bulkheads are not to be placed more than one foot waterward of the intersection of the ordinary high water level of the waterbody and the existing shoreline;

d. Minor dredging necessary for the installation of the replacement vertical bulkhead is authorized;

e. Placement of fill between the replacement vertical bulkhead and existing shoreline is authorized; and

f. Toe stone shall be placed at the base of these replacement vertical bulkheads except in areas where the original shoreline is composed of bedrock and slopes are predominately greater than 75 percent or where the placement of toe stone would interfere with shipping activity. When required, toe stone shall be placed at an average rate of one-third the total height of the replacement vertical bulkhead at a 2:1 slope.

6. Removal of accumulated sediment:

a. Removal of accumulated sediment shall occur only once per year, except in cases of emergency situations which threaten life of property.

B. Removal of accumulated sediments shall be limited to low-flow conditions whenever practicable, except in cases of emergency situations which threaten life or property.

NATIONWIDE PERMIT #13 - BANK STABILIZATION

Bank stabilization activities necessary for erosion prevention provided the activity meets all of the following criteria:

a. No material is placed in excess of the minimum needed for erosion protection;
b. The bank stabilization activity is less than 500 feet in length;
c. The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line;
d. No material is placed in any special aquatic site, including wetlands;
e. No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any wetland area;
f. No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and,
g. The activity is part of a single and complete project.

Bank stabilization activities in excess of 500 feet in length or greater than an average of one cubic yard per running foot may be authorized if the permittee notifies the District Engineer in accordance with the "Notification" General Condition 13 and the District Engineer determines the activity complies with the other terms and conditions of the NWP and the adverse environmental effects are minimal both individually and cumulatively. This NWP may not be used for the channelization of waters of the US. **(Sections 10 and 404)**

Nationwide 13 Specific Regional Condition:

1. Notification is required for the use of vertical bulkheads.

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, the Ohio Environmental Protection Agency hereby certifies that activities authorized by these Permits, undertaken in accordance with all of the special and general conditions listed below, will comply with the applicable provisions of the Clean Water Act and applicable Ohio water quality standards. Those NWPs with no special Water Quality Certification (WQC) conditions remain subject to general WQC conditions unless otherwise indicated (Reference 1 below).

Water Quality Certification – Special Conditions:

The Ohio State Certification General Limitations and Conditions apply to this nationwide permit.

Ohio State Certification Special Limitations and Conditions:

1) The following conditions apply to new vertical bulkheads:

a) Up to 1,000 feet of new vertical bulkhead may be placed on shorelines on Lake Erie, Lake Erie Islands, and Sandusky Bay that are composed of bedrock with slopes predominately greater than 75 percent. No toe stone shall be placed at the base of these new vertical bulkheads.

b) Up to 50 feet of new vertical bulkhead for boat docking purposes may be placed anywhere on Lake Erie, Lake Erie Islands, and Sandusky Bay. Toe stone shall be placed at the base of these new vertical bulkheads except in areas where the shoreline is composed of bedrock and slopes are predominately greater than 75 percent.

c) For areas not located on Lake Erie, Lake Erie Islands, or Sandusky Bay, up to 200 feet of new vertical bulkheads may be placed in areas with less than 35 percent of the existing shoreline in the immediate area already with vertical bulkheads. The 35 percent threshhold is exceeded when more than 700 of the 2,000 feet of adjacent shoreline (1,000 feet measured from both sides of the proposed vertical bulkhead) is already in vertical bulkhead. Toe stone shall be placed at the base of these new vertical bulkheads except in areas where the shoreline is composed of bedrock and slopes are predominately greater than 75 percent.

d) Vertical bulkheads may not placed more than one foot waterward of the intersection of the ordinary high water level of the waterbody and the existing shoreline;

e) Minor dredging necessary for the installation of the vertical bulkhead is authorized;

f) Placement of fill between the vertical bulkhead and existing shoreline is authorized; and

g) Toe stone, when required, is installed at an average rate of one-third the total height of the vertical bulkhead at a 2:1 slope

2) The following conditions apply to bank stabilization projects not involving vertical bulkheads:

a) This Nationwide Permit shall only authorize the use of rock, stone, vegetative erosion control measures, broken concrete (without exposed reinforcing bar) and clean soil.

b) Bank stabilization projects on Lake Erie shall be in known Coastal Erosion Areas established by the Ohio Department of Natural Resources.

3) The following conditions apply to all bank stabilization projects:

a) No material shall be placed in such a manner so as to restrict surface water flow into or out of any tributary.

b) Any fill used for bank stabilization shall be limited to that amount necessary to provide erosion protection.

c) This Nationwide Permit shall not authorize bank stabilization projects over 1,000 feet in length.

NATIONWIDE PERMIT CONDITIONS

GENERAL CONDITIONS:

The following general conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. No activity may cause more than a minimal adverse effect on navigation.

2. Proper Maintenance. Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.

3. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

4. Aquatic Life Movements. No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

5. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.

6. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions which may have been added by the division engineer (see 33 CFR 330.4(e) and with any case specific conditions added by the Corps or by the State or tribe in its section 401 Water Quality Certification and Coastal Zone management Act consistency determination.

7. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

8. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

9. Water Quality.

(a) In certain States and tribal lands an individual Section 401 water quality certification must be obtained or waived (see 33 CFR 330.4(c)).

(b) For NWPs 12, 14, 17, 18, 32, 39, 40, 42, 43, and 44, where the State or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality) An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs). This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

10. Coastal Zone Management. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see Section 330.4(d)).

11. Endangered Species.

(a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which is likely to destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the

District Engineer if any listed species or critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the FWS or NMFS, the District Engineer may add species-specific regional endangered species conditions to the NWPs.

(b) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the National Marine Fisheries Service (NMFS), both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Web pages at http://www.fws.gov/r9endspp/endspp.html and http://www.nmfs.noaa.gov/prot_res/overview/es.html, respectively.

12. Historic properties. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. Notification.

(a) Timing: where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the PCN is complete within 30 days of the date of receipt and can request the additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed

under the NWP with any special conditions imposed by the District or Division Engineer; or

(2) If notified in writing by the District or Division Engineer that an individual permit is required; or

(3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Notification: The notification must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), Regional General Permit(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) For NWPs 7, 12, 14, 18, 21, 34, 38, 39, 40, 41, 42, and 43, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

(5) For NWP 7 (Outfall Structures and Maintenance), the PCN must include information regarding the original design capacities and configurations of those areas of the facility where maintenance dredging or excavation is proposed.

(6) For NWP 14 (Linear Transportation Crossings), the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the US and a statement describing how temporary losses of waters of the US will be minimized to the maximum extent practicable;

(7) For NWP 21 (Surface Coal Mining Activities), the PCN must include an Office of Surface Mining (OSM) or state-approved mitigation plan, if applicable. To be authorized by this NWP, the District Engineer must determine that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are minimal both individually and cumulatively and must notify the project sponsor of this determination in writing;

(8) For NWP 27 (Stream and Wetland Restoration Activities), the PCN must include documentation of the prior condition of the site that will be reverted by the permittee.

(9) For NWP 29 (Single-Family Housing), the PCN must also include:

(i) Any past use of this NWP by the individual permittee and/or the permittee's spouse;

(ii) A statement that the single-family housing activity is for a personal residence of the permittee;
(iii) A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring 1/4 acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than 1/4 acre in size, formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f));
(iv) A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

(10) For NWP 31 (Maintenance of Existing Flood Control Facilities), the prospective permittee must either notify the District Engineer with a PCN prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:
(i) Sufficient baseline information identifying the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided that the approved flood control protection or drainage is not increased;
(ii) A delineation of any affected special aquatic sites, including wetlands; and,
(iii) Location of the dredged material disposal site;

(11) For NWP 33 (Temporary Construction, Access, and Dewatering), the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources;
(12) For NWPs 39, 43, and 44, the PCN must also include a written statement to the District Engineer explaining how avoidance and minimization for losses of waters of the US were achieved on the project site;
(13) For NWP 39 and NWP 42, the PCN must include a compensatory mitigation proposal to offset losses of waters of the US or justification explaining why compensatory mitigation should not be required. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;
(14) For NWP 40 (Agricultural Activities), the PCN must include a compensatory mitigation proposal to offset losses of waters of the US. This NWP does not authorize the relocation of greater than 300 linear-feet of existing serviceable

drainage ditches constructed in non-tidal streams unless, for drainage ditches constructed in intermittent non-tidal streams, the District Engineer, waives this criterion in writing, and the District Engineer has determined that the project complies with all terms and conditions of this NWP, and that any adverse impacts of the project on the aquatic environment are minimal, both individually and cumulatively;
(15) For NWP 43 (Stormwater Management Facilities), the PCN must include, for the construction of new stormwater management facilities, a maintenance plan (in accordance with state and local requirements, if applicable) and a compensatory mitigation proposal to offset losses of waters of the US. For discharges that cause the loss of greater than 300 linear feet of an intermittent stream bed, to be authorized, the District Engineer must determine that the activity complies with the other terms and conditions of the NWP, determine adverse environmental effects are minimal both individually and cumulatively, and waive the limitation on stream impacts in writing before the permittee may proceed;
(16) For NWP 44 (Mining Activities), the PCN must include a description of all waters of the US adversely affected by the project, a description of measures taken to minimize adverse effects to waters of the US, a description of measures taken to comply with the criteria of the NWP, and a reclamation plan (for all aggregate mining activities in isolated waters and non-tidal wetlands adjacent to headwaters and any hard rock/mineral mining activities);
(17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work; and
(18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) Form of Notification: The standard Individual Permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

(d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation,

the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP. If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either:

(1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an Individual Permit;
(2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or
(3) that the project is authorized under the NWP with specific modifications or conditions.

Where the District Engineer determines that mitigation is required in order to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitgation plan is required under item (2) above, no work in waters of the US will occur until the District Engineer has approved a specific mitigation plan.

(e) Agency Coordination: The District Engineer will consider any comments from Federal and State agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. For activities requiring notification to the District Engineer that result in the loss of greater than ½ acre of waters of the US, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The District Engineer

will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. As required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, the District Engineer will provide a response to NMFS within 30 days of receipt of any Essential Fish Habitat conservation recommendations. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

(f) Wetland Delineations: Wetland Delineations must be prepared in accordance with the current method required by the Corps (For NWP 29 see paragraph (b)(9)(iii) for parcels less than 1/4-acre in size). The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

14. Compliance Certification. Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include:

(a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions;
(b) A statement that any required mitigation was completed in accordance with the permit conditions; and
(c) The signature of the permittee certifying the completion of the work and mitigation .

15. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the US authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the US for the total project cannot exceed 1/3-acre).

16. Water Supply Intakes. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. Shellfish Beds. No activity, including structures and work in navigable waters of the US or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. Suitable Material. No activity, including structures and work in navigable waters of the US discharges of dredged or fill material, may consist of unsuitable material (e.g. trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the CWA).

19. Mitigation. The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse affects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the US to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring a PCN, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, 1/4-acre of wetlands cannot be created to change a 3/4-acre loss of wetlands to a ½-acre loss associated with NWP 39 verification. However, ½-acre of created wetlands can be used to reduce the impacts of a ½-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed;

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineer may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

(g) Compensatory mitigation proposals submitted with the "notification" may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the US.

(h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

20. Spawning Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

21. Management of Water Flows. To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelizing will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow. This condition is only applicable to projects that have the potential to affect waterflows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

22. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restricting its flow shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the US, or discharges of dredged or fill material.

23. Waterfowl Breeding Areas. Activities, including structures and work in navigable waters of the US or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. Removal of Temporary Fills. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, state natural

heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the US are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, and 44 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the US may be authorized by the above NWPs in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the USFWS or the NMFS has concurred in a determination of compliance with this condition.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with General Condition 13, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The District Engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

26. Fills Within 100-Year Floodplains. For purposes of this General Condition, 100-year floodplains will be identified through the existing Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps or FEMA-approved local floodplain maps.

(a) Discharges in Floodplain; Below Headwaters. Discharges of dredged or fill material into waters of the US within the mapped 100-year floodplain, below headwaters (i.e., five cfs), resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, 43, and 44.

(b) Discharges in Floodway; Above Headwaters. Discharges of dredged or fill material into waters of the US within the FEMA or locally mapped floodway, resulting in permanent above-grade fills, are not authorized by NWPs 39, 40, 42, and 44.

(c) The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

27. Construction Period. For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12-months after such date (including any modification that affects the project). For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps. For projects that have been verified by the Corps, an extension of a Corps approved completion date may be requested. This request must be submitted at least one month before the previously approved completion date.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other Federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

DEFINITIONS

Best Management Practices (BMPs): BMPs are policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural. A BMP policy may affect the limits on a development.

Compensatory Mitigation: For purposes of Section 10/404, compensatory mitigation is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Creation: The establishment of a wetland or other aquatic resource where one did not formerly exist.

Enhancement: Activities conducted in existing wetlands or other aquatic resources that increase one or more aquatic functions.

Ephemeral Stream: An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Farm Tract: A unit of contiguous land under one ownership that is operated as a farm or part of a farm.

Flood Fringe: That portion of the 100-year floodplain outside of the floodway (often referred to as "floodway fringe").

Floodway: The area regulated by Federal, state, or local requirements to provide for the discharge of the base flood so the cumulative increase in water surface elevation is no more than a designated amount (not to exceed one foot as set by the National Flood Insurance Program) within the 100-year floodplain.

Independent Utility: A test to determine what constitutes a single and complete project in the

Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent Stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water from stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of Waters of the US: Waters of the US that include the filled area and other waters that are permanently adversely affected by flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent above-grade, at-grade, or below-grade fills that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the US is the threshold measurement of the impact to existing waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and values. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Impacts to ephemeral streams are not included in the linear foot measurement of loss of stream bed for the purpose of determining compliance with the linear foot limits of NWPs 39, 40, 42, and 43. Water of the US temporarily filled, flooded, excavated, or drained, but restored to preconstruction contours and elevations after construction, are not included in the measurement of loss of waters of the US.

Non-tidal Wetland: A non-tidal wetland is a wetland (i.e., a water of the US) that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open Water: An area that, during a year with normal patterns of precipitation, has standing or flowing water for sufficient duration to establish an ordinary high water mark. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. The term "open water" includes rivers, streams, lakes, and ponds. For the purposes of the NWPs, this term does not include ephemeral waters.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Permanent Above-grade Fill: A discharge of dredged or fill material into waters of the US, including wetlands, that results in a substantial increase in ground elevation and permanently

converts part or all of the waterbody to dry land. Structural fills authorized by NWPs 3, 25, 36, etc. are not included.

Preservation: The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the overall aquatic ecosystem.

Restoration: Re-establishment of wetland and/or other aquatic resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

Riffle and Pool Complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Single and Complete Project: The term single and complete project is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers (see definition of independent utility). For linear projects, the single and complete project (i.e., a single and complete crossing) will apply to each crossing of a separate water of the US (i.e., a single waterbody) at that location. An exception is for linear projects crossing a single waterbody several times at separate and distant locations: each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies.

Stormwater Management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater Management Facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and BMPs, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream Bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream Channelization: The manipulation of a stream channel to increase the rate of water flow through the stream channel. Manipulation may include deepening, widening, straightening, armoring, or other activities that change the stream cross-section or other aspects of stream channel geometry to increase the rate of water flow through the stream channel. A channelized stream remains a water of the US, despite the modifications to increase the rate of water flow.

Tidal Wetland: A tidal wetland is a wetland (i.e., water of the US) that is inundated by tidal waters. The definition of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line (i.e., spring high tide line) and are inundated by tidal waters two times per lunar month, during spring high tides.

Vegetated Buffer: A vegetated upland or wetland area next to rivers, streams, lakes, or other open waters which separates the open water from developed areas, including agricultural land. Vegetated buffers provide a variety of aquatic habitat functions and values (e.g., aquatic habitat for fish and other aquatic organisms, moderation of water temperature changes, and detritus for aquatic food webs) and help improve or maintain local water quality. A vegetated buffer can be established by maintaining an existing vegetated area or planting native trees, shrubs, and herbaceous plants on land next to open-waters. Mowed lawns are not considered vegetated buffers because they provide little or no aquatic habitat functions and values. The establishment and maintenance of vegetated buffers is a method of compensatory mitigation that can be used in conjunction with te restoration, creation, enhancement, or preservation of aquatic habitats to ensure that activities authorized by NWPs result in minimal adverse effects to the aquatic environment. (See General Condition 19.)

Vegetated Shallows: Vegetated shallows are special aquatic sties under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: A waterbody is any area that in a normal year has water flowing or standing above ground to the extent that evidence of an ordinary high water mark is established. Wetlands contiguous to the waterbody are considered part of the waterbody.

REGIONAL GENERAL CONDITIONS

1. Notifications for all Nationwide permits should include a location map (USGS topographical map) and project drawings on 8.5" x 11" paper.

2. Nationwide Permits shall not authorize any activity which impact bogs and/or fens.

3. No Nationwide permit may be used in Lake Erie for purposes of diverting water from the Great Lakes.

4. In order to determine if a project meets the terms and conditions of the Ohio EPA's 401 water quality certification, two copies of the following information is necessary:

(a) All wetland delineations must include the latest approved version of the Ohio Rapid Assessment Method (ORAM) for wetland evaluation, long form. (This will assist OEPA in determining the category of wetland the applicant proposes to impact.)

(b) Photographs of the wetland.

NOTE: This information is in addition to the required information listed under General Condition 13 (Notification) of the NWP.

5. Notification is required for all work in the following designated Critical Resource Waters:

Special Habitat water of Lake Erie: Special habitat waters of Lake Erie including the shoreline, off shore islands, rock outcrops, and adjacent waters within the boundaries defined as 82 22' 30" West Longitude, 83 07' 30" West Longitude, 41 33' 00" North Latitude and 42 00' 00" North Latitude.

Piping Plover Critical Habitat: In Ohio, two areas have been designated critical habitat for the piping plover (Charadrius melodus) and are defined as lands 0.62 miles inland from normal high water line. Unit OH-1, extends from the mouth of Sawmill Creek to the western property boundary of Sheldon Marsh State Natural Area, Erie County, encompassing approximately 2.0 miles. Unit OH-2, extends from the eastern boundary line of Headland Dunes Nature Preserve to the western boundary of the Nature Preserve and Headland Dunes State Park, Lake County, encompassing approximately 0.5 mile.

Big and Little Darby Creeks (National Wild and Scenic River System): Big Darby Creek from Champaign-Union County line downstream to the Conrail railroad trestle and from the confluence with the Little Darby Creek downstream to the Scioto River. Little Darby Creek from the Lafayette-Plain City Road Bridge downstream to within 0.8 mile from the confluence with Big Darby Creek. Total designation is approximately 82 miles.

Little Beaver Creek (National Wild and Scenic River System): Little Beaver Creek main stem, from the confluence of West Fork with Middle Fork near Williamsport to mouth; North Fork from confluence of Brush Run and North Fork to confluence of North Fork with main stem at Fredericktown; Middle Fork from vicinity of Co. Rd. 901 (Elkton Road) bridge crossing to confluence of Middle Fork with West Fork near Williamsport; West Form from vicinity of Co. Rd. 914 (Y-Camp Road) bridge crossing east to confluence of West Fork with Middle Fork near Williamsport. Total designation is 33 miles

Little Miami River: (Scenic component of the National System from Clifton to Foster) The portion from Foster to the Ohio River was designated a Recreational component of the National System. Total designation is 92 miles.

6. Notification is required for all activities in state Wild and Scenic Rivers (see list below). The following are **State Wild and Scenic Rivers**:

Little Miami River - Clermont County line at Loveland to headwaters, including North Fork, Clermont County line at Loveland to confluence with East Fork and from the confluence with East Fork to Ohio River. Miles designated (approximate): 105

Sandusky River - US Rt. 30 in Upper Sandusky to Roger Young Memorial Park in Fremont. Miles designated (approximate): 65

Olentangy River - Delaware Dam to Old Wilson Road in Worthington. Miles designated (approximate): 22

Little Beaver Creek - Wild segments - West Fork from 1/4 mile downstream from Twp. Rd. 914 to confluence with Middle Fork. North Fork from Twp. Rd. 952 to confluence with Little Beaver Creek. Little Beaver Creek from confluence of West and Middle Forks downstream to 3/4 mile north of Grimm's Bridge. Scenic segments - North Fork from Ohio-Pennsylvania line downstream to Jackman Road. Middle Fork from Elkton Rd. (Twp. Rd. 901) downstream to confluence with West Fork. Little Beaver Creek from 3/4 mile north of Grimm's Bridge downstream to the Ohio-Pennsylvania line. Miles designated (approximate): Wild 20, Scenic 16

Grand River - Wild segment - from Harpersfield covered bridge downstream to Norfolk and Western Railroad trestle south of Painesville. Scenic segment - from St. Rt. 322 bridge in Ashtabula County downstream to Harpersfield covered bridge. Miles designated (approximate): Scenic 33, Wild 23

Upper Cuyagoga River - Troy-Burton Township line in Geauga County to US Rt. 14. Miles designated (approximate): 25

Maumee River - Scenic segment - Ohio-Indiana line to St. Rt. 24 bridge west of Defiance. Recreational segment - St. Rt. 24 bridge west of Defiance to US Rt. 25 bridge near Perrysburg. Miles designated (approximate): Scenic 43, Recreational 53

Stillwater River System - Recreational segment - Englewood dam to confluence with Great Miami River. Scenic segments - Stillwater River from Riffle Road bridge in Darke Co. to Englewood dam. Greenville Creek from the Ohio-Indiana state line to the confluence with the Stillwater. Miles designated (approximate): Scenic 83, Recreational 10

Chagrin River - Aurora Branch from St. Rt. 82 bridge downstream to confluence with Chagrin. Chagrin River from confluence with Aurora Branch downstream to St. Rt. 6 bridge East Branch from Heath Road bridge downstream to confluence with Chagrin. Miles designated (approximate): 49

Big and Little Darby Creeks - Big Darby Creek from the Champaign-Union County line downstream to the U.S. Rt. 40 Bridge, from the northern boundary of Battelle-Darby Creek Metro Park to the confluence with the Little Darby Creek downstream to the Scioto River. Little Darby Creek from the Lafayette-Plain City Road Bridge downstream to the confluence with Big Darby Creek. Miles designated (approximate): 84

Kokosing River - Knox/Morrow County line to confluence with Mohican River. North Branch of Kokosing from confluence with East Branch downstream to confluence with main stem. Miles designated (approximate): 48

OHIO STATE CERTIFICATION GENERAL LIMITATIONS AND CONDITIONS (WATER QUALITY CERTIFICATION)

1. **Streams**

a) Temporary or permanent impacts to intermittent and perennial streams for any single and complete project are limited to a maximum of two hundred (200) linear feet [except for NWPs 3, 12, 21, 27, and 41];

b) Temporary or permanent impacts to ephemeral streams for any single and complete project are limited to a maximum of three hundred (300) linear feet [except for NWPs 3, 12, 21, 27, and 41];

c) Temporary or permanent impacts to Exceptional Warmwater Habitat (EWH), Cold Water Habitat (CWH), Seasonal Salmonid (SS), or any equivalent designation, or with an antidegradation category of State Resource Water, Superior High Quality Water (except as it applies to Lake Erie), Outstanding National Resource Waters, or Outstanding High Quality Waters are prohibited [except for NWP 3 and maintenance activities covered under NWP 7, 12, and 33];

d) Temporary or permanent impacts to the designated portions of national or state scenic rivers are prohibited [except for NWP 3 and maintenance activities under NWP 12];

e) Stream reconstruction activities shall adhere to natural channel design techniques;

f) Off-site stream or buffer improvements and/or mitigative measures required by the Corps:

i. In order of priority, these measures shall focus on 1) the stream segment being impacted, 2) upstream segments and tributaries, 3) the receiving stream. The

measures should, to the extent practicable, consider the causes and sources of impairment of the stream where the measures would be undertaken if the stream is listed as impaired in the most recent final report submitted to the United States environmental protection agency by the director of Ohio EPA to fulfill the requirements of Section 303(d) of the Clean Water Act. The current list of impaired streams, as of the date of this certification, can be found on the Ohio EPA web site at (Tables 1 through 6):
http://www.epa.state.oh.us/dsw/tmdl/303dnotc.html

ii. If the applicant cannot find appropriate mitigation on streams listed in section a) above, mitigation shall be in the Ohio EPA 8-digit watershed.

g) On-site stream or buffer improvements and/or mitigative measures required by the Corps:

i. Vegetative buffers on both stream banks an appropriate length; and

ii. A minimum width of 25 feet for preservation of existing vegetative buffers; or
iii. A minimum width of 50 feet for re-vegetating buffers cleared during construction.

h) Compensatory mitigation for linear projects (e.g., highways) in streams may be mitigated for by the following, in descending order of practicability:

i. Stream impacts associated with a linear project may be mitigated on-site, defined as within one mile of the linear project, in each Ohio EPA 8-digit watershed as shown in OAC 3745-1-54(F)(2); or
ii. Stream impacts associated with a linear project may be mitigated at a single stream mitigation location or stream mitigation bank (if and when such a bank is established), acceptable to the director, within each Ohio EPA 8-digit watershed in which the impacts occur; or
iii. If no stream mitigation bank, acceptable to the director, is located within the Ohio EPA 8-digit watershed in which the impact occurs, then mitigation may occur in another Ohio EPA 8-digit watershed impacted by the linear project; at a single stream mitigation location, or a stream mitigation bank acceptable to the director; or
iv. In no stream mitigation bank exists within any of the watersheds connected with the linear project, then mitigation should occur within the watershed in which the largest impacts (in terms of area) occur.

2. Wetlands

a) Temporary or permanent impacts to Category 3 wetlands are prohibited.

b) Temporary or permanent impacts to Category 1 and 2 wetlands for any single and complete project are limited to a maximum total of ½ acre [except for NWP 21 & 27].

c) Wetland mitigation shall adhere to the requirements set forth in Ohio EPA's Wetland Water Quality Standards (OAC 3745-1-50 through 54). [In the event that suitable mitigation cannot be located on-site (within one mile) or within the watershed, mitigation may be located outside of the watershed if there are significant ecological reasons to do so].

3. General

a) Impacts shall be measured linearly from upstream to downstream, including the length of stream impoundments, when calculating the total length of stream impacts [except for NWP 12, for which impacts shall be measured bank-to-bank].

b) NWPs cannot be combined to increase any of the aforementioned limitations.

c) Authorization under this Certification does not relieve the permittee from the responsibility of obtaining any other federal, state or local permits, approvals or authorizations required by law including without limitation, National Pollutant Discharge Elimination System (NPDES) permits or Permits to install (PTIs).

d) In order to control pollution of public waters by soil sediment from accelerated stream channel erosion and flood plain erosion caused by accelerated stormwater runoff from development areas, permittees shall comply with Ohio Administrative Code 1501:15-1-05 Stream Channel and Floodplain Erosion, or successor rule, as applicable to the project pursuant to OAC 1501:15-1-02.

e) OAC 1501:15-1-05 states that the peak rates of runoff from an area after development may be no greater than the peak rates of runoff from the same area before development for all twenty-four-hour storms from one to one-hundred-year frequency.

f) Locally required post development stormwater ponds shall incorporate specific design features for water quality such as those listed in Chapter One of the Ohio Department of Natural Resource's *Rainwater and Land Development: Ohio's Standards for Stormwater Management, Land Development and Urban Stream Protection, 2nd Ed. Mecklenburg, Dan. Ohio Department of Natural Resources, Division of Soil and Water Conservation, 1996* (or successor document), to the extent allowed by local stormwater requirements. These features include: infiltration trenches, extended detention, wet pools, forebays, aquatic benches and wetlands, optimum flow length, reverse flow pipe, optimum pool depth, shading and buffer plants, and runoff reuse.

g) The Best Management Practices (BMPs) listed below shall be utilized with all NWPs when applicable.

i. The filling of, and discharge of dredged material into, Category 3 wetlands is prohibited under this permit;
ii. Only suitable material, free of toxic contaminants in other than trace quantities, shall be used as fill material;

iii. The use of asphalt and rubber tires as fill is prohibited under this permit;
iv All hydric topsoil removed from a trench shall be separated and saved for later placement as the topmost backfill layer when the trench is refilled;
v. The stockpiling of side-cast dredged material in wetlands in excess of three (3) months is prohibited;
vi. The applicant will comply with all requirements for final stabilization of the site contained in applicable NPDES construction stormwater permits for the site;
vii. Vegetated buffer strips extending to the top of both stream banks and beyond as stipulated by the Corps or Ohio EPA, using native tree and shrub species with rapid growth characteristics, shall be planted as soon as practicable after impacting stream channel slopes;
viii. Impacts to surface water buffer vegetation shall be minimized to the maximum extent practicable;

ix. Excavating equipment shall not be placed below the Ordinary High Water Mark (OHWM) of any surface water, except when no other alternative is practicable. When no other alternative is practicable to placing excavating equipment below the OHWM, entry to surface waters shall be through a single point of access per stream bank whenever practicable to minimize disturbance to buffer vegetation;
x. In-stream activities shall not result in the permanent destabilization of the stream banks or stream bed so that aquatic habitat from turbidity, erosion or scouring is minimized;
xi. In-stream work shall be conducted during low-flow conditions whenever practicable in order to minimize adverse impacts to water quality away from the project site, except in cases of emergency situations which threaten life or property;
xii. All dredged material placed at an upland site shall be controlled so that sediment runoff to remaining streams and wetlands is minimized to the maximum extent practicable; and
xiii. Disturbed areas shall be controlled so that sediment runoff to remaining streams and wetlands is minimized to the maximum extent practicable.

INFORMATION ON NATIONWIDE PERMIT VERIFICATION

Verification of the applicability of this Nationwide permit is valid for two years from the date of affirmation unless the Nationwide permit is modified, suspended or revoked. This verification will remain valid for two years if during this two year period the Nationwide permit is reissued without modification or your activity complies with any subsequent permit modification. Please note that if you commence or are under contract to commence this activity in reliance of your permit prior to the date this Nationwide permit is suspended or revoked, or is modified such that your activity no longer complies with the terms and conditions, you have twelve months from the date of permit modification, expiration, or revocation to complete the activity under the present terms and conditions of this permit, unless this permit has been subject

to the provisions of discretionary authority.

It is your responsibility to remain informed of changes to the Nationwide Permit program A public notice announcing any changes will be issued when they occur. Finally, note that if your activity is not undertaken within the two year period or the project specifications have changed, you must immediately notify this office to determine the need for further approval or reverification.

Possession of this permit does not obviate you of the need to contact all appropriate state and/or local government officials to insure that the project complies with their requirements.

OR-FN-KDCB

Permit Number: KILLBUCK CREEK-200201394

Name of Permittee: ODOT

Date of Issuance: MAY 7, 2003

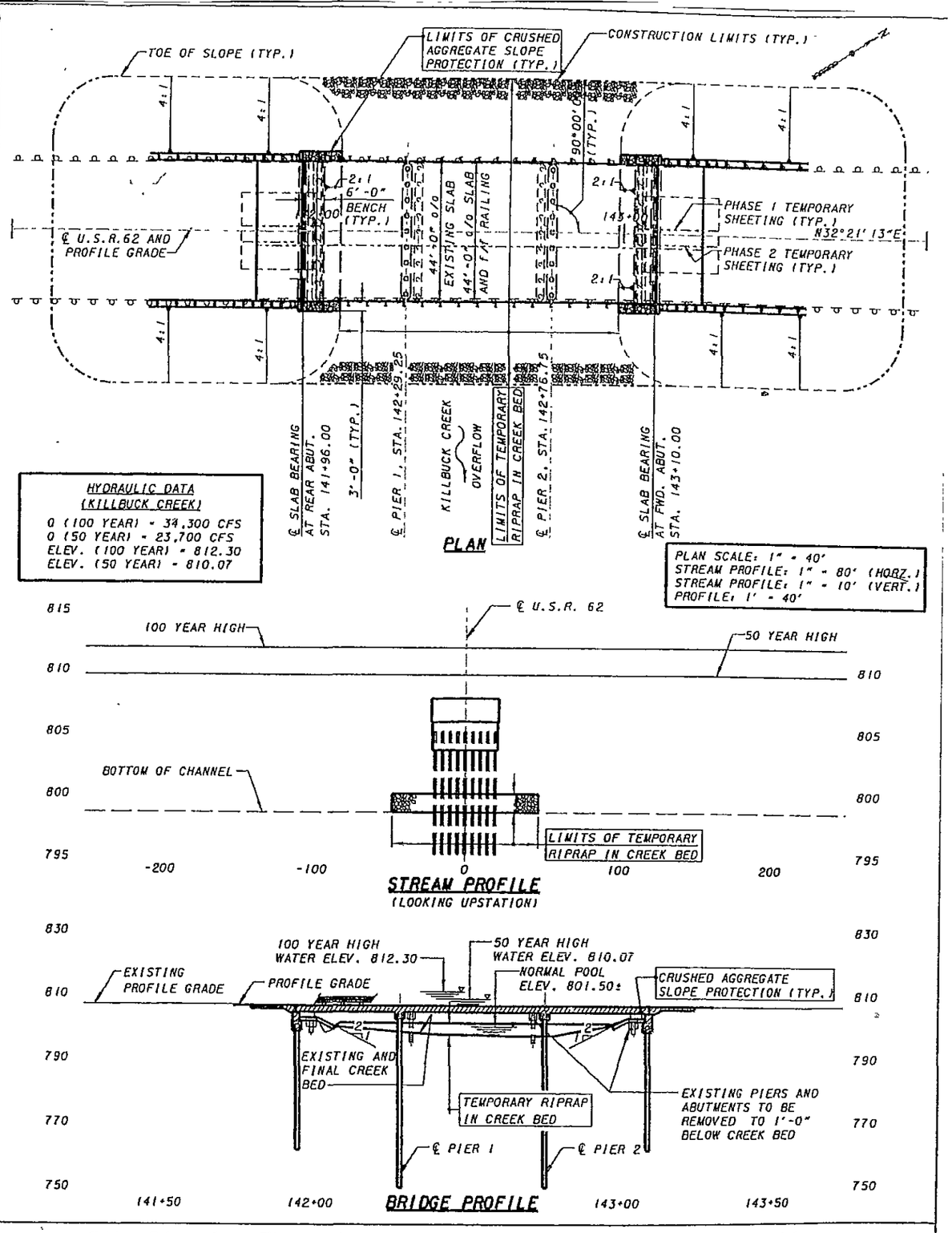
Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Huntington District
U.S. Army Corps of Engineers
502 8th Street
Huntington, West Virginia 25701-2070
Attn: OR-FN

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee _____ Date _____



Site Plan for Three Span Alternative (Min. Deg. Alternative)
Bridge Replacement over Killbuck Creek Overflow