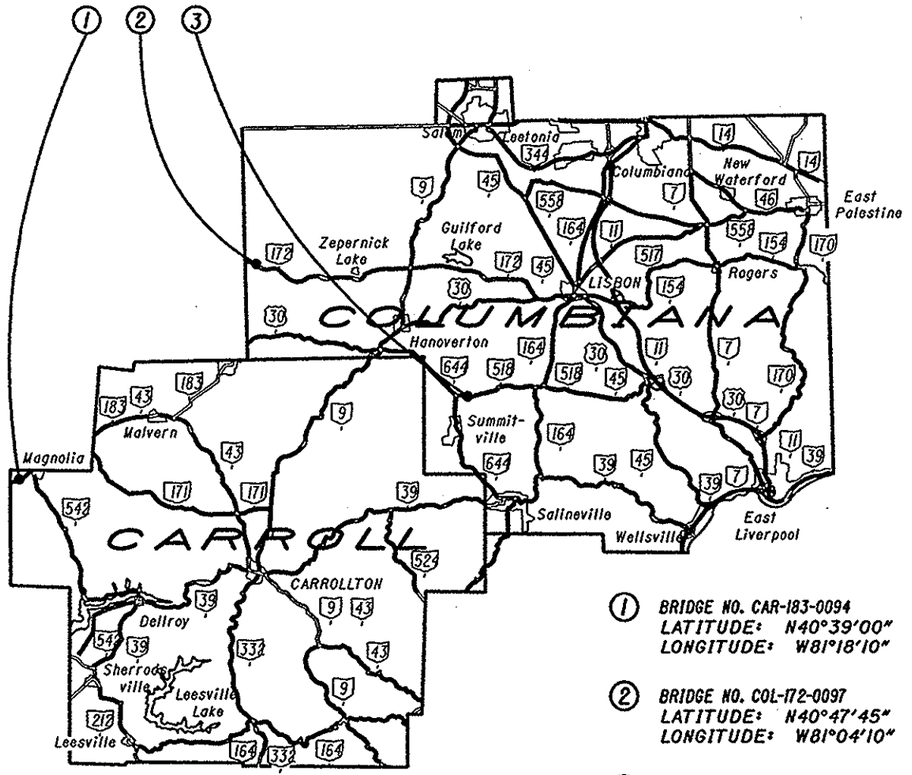
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOCATION MAP



① BRIDGE NO. CAR-183-0094
LATITUDE: N40°39'00"
LONGITUDE: W81°18'10"

② BRIDGE NO. COL-172-0097
LATITUDE: N40°47'45"
LONGITUDE: W81°04'10"

③ BRIDGE NO. COL-518-0100
LATITUDE: N40°42'05"
LONGITUDE: W80°52'00"

● PORTIONS TO BE IMPROVED

BRIDGE REPAIR
CAR-183-0.94
AND
VARIOUS
CARROLL COUNTY &
COLUMBIANA COUNTY

THE 2005 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 THESE IMPROVEMENTS WILL REQUIRE THE CLOSING OF S.R. 183 AND S.R. 172 HIGHWAYS TO TRAFFIC AND THAT THE DETOURS WILL BE PROVIDED AS INDICATED IN THE PLANS. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS INDICATED IN THE PLANS AND ESTIMATES.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC FOR S.R. 518 HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFTEY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PROJECT EDA:	N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EDA:	N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EDA:	N/A (MAINTENANCE PROJECT)

8/6/07
APPROVED DATE

Richard A. Bibler, P.E.
DISTRICT DEPUTY DIRECTOR

2-29-08
APPROVED DATE

James G. Beasley
DIRECTOR, DEPARTMENT OF TRANSPORTATION

ENGINEER'S SEAL:
STATE OF OHIO
RAYMOND PAUL TRIVOLI
E-63963
REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: Aug. 6, 2007

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	7-16-04	DBR-2-73	7-19-02	TC-41.20	1-19-01	800	1-18-08
		DS-1-92	7-18-03	TC-52.10	1-19-07	832	4-25-06
GR-1.1	7-16-04			TC-52.20	1-19-07	848	4-15-05
GR-2.1	1-16-04	PCB-91	7-19-02	TC-73.10	1/19/01		
GR-3.4	1-20-06						
GR-4.1	4-18-03			MT-97.10	9-05-06		
GR-4.2	1-19-07			MT-101.20	10-18-02		
				MT-101.70	10-18-02		
				MT-105.10	10-18-02		
RM-4.2	10-20-06			MT-105.11	10-18-02	SPECIAL PROVISIONS	
						NWP #3 12/11/07	
DM-4.3	7-19-02						
DM-4.4	7-19-02						

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
PRODUCTION DEPT.
NEW PHILADELPHIA, OHIO

INDEX OF SHEETS

FEDERAL PROJECT NO. E060(537)
PID NO. 24865
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NORFOLK SOUTHERN
CAR-183-0.94
1/33

CAR - SR-183-0.94/VARIOUS
080324 PID - 24865
Dist 11 5/21/2008

REFERENCES:

RFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

DBR-2-73	DATED	07-19-02
DS-1-92	DATED	07-18-03
PCB-91	DATED	07-19-02

AND TO SUPPLEMENTAL SPECIFICATIONS:

848	DATED	4-15-2005

DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD:

2½" CONCRETE COVER
MICRO SILICA MODIFIED CONCRETE OVERLAY
EMBEDDED GALVANIC ANODES

EXISTING STRUCTURE VERIFICATION

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 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.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING AND CONCRETE OVERLAY SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. (PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL ALIGNMENT AND PROFILE ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 11 OFFICE).

EXISTING PLANS

THE FOLLOWING EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT OFFICE IN NEW PHILADELPHIA, OHIO.

CAR-183-0.94, 1978
CAR-183-0.94, 1987
CAR-183-0.94, 1993
COL-518-0.65, 1967
COL-172-0.97, 1971

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

Ohio Edison Company
730 South Avenue
Youngstown, Ohio 44501
330-740-7635
Attn: Bill Speece

Verizon
6223 Norwalk Road
Medina, Ohio 44256
330-3640-0510
Attn: Robert Carducci

AEP Ohio Power Company
P. O. Box 24400
Canton, Ohio 44701
330-438-7718
Attn: Ray Zitney

Columbia Gas of Ohio, Inc.
7080 Fry Road
Middleburg Heights, Ohio 44130
440-891-2428
Attn: Dan Suren

AT&T Ohio, Inc.
50 West Bowery Street
Akron, Ohio 44308
330-384-3525
Attn: Jason Lavernik

The Honorable Robert Leach
Village of Magnolia
P. O. Box 331
Magnolia, Ohio 44643
330-866-2620

ITEM 201 - CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE PROJECT LIMITS, A LUMP SUM QUANTITY FOR ITEM 201, CLEARING AND GRUBBING HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

ALL TREES, STUMPS AND VEGETATION UNDERNEATH THE STRUCTURES AND/OR WITHIN 20 FEET OF THE STRUCTURES SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.

ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THE ITEM SHALL BE FOLLOWED, AND ALL COSTS BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

LIMITATIONS OF OPERATIONS

THE FOLLOWING LIMITATIONS SHALL APPLY TO THE CAR-183-0094 STRUCTURE:

THE CONTRACTOR'S ACTIVITIES AND WORK SCHEDULE SHALL BE CONSTRAINED BY THE FOLLOWING SPECIAL LIMITATIONS:

1. MAINTENANCE OF TRAFFIC RESTRICTIONS (REFER TO THE MAINTENANCE OF TRAFFIC SHEETS IN THIS PLAN FOR DETAILS.
2. WORK SHALL NOT BEGIN BEFORE JUNE 15, 2008.
3. ALL WORK SHALL BE COMPLETED BY JULY 15, 2008.

THE FOLLOWING LIMITATIONS SHALL APPLY TO THE COL-172-0097 STRUCTURE:

THE CONTRACTOR'S ACTIVITIES AND WORK SCHEDULE SHALL BE CONSTRAINED BY THE FOLLOWING SPECIAL LIMITATIONS:

1. MAINTENANCE OF TRAFFIC RESTRICTIONS (REFER TO THE MAINTENANCE OF TRAFFIC SHEETS IN THIS PLAN FOR DETAILS.
2. WORK SHALL NOT BEGIN BEFORE JULY 15, 2008.
3. ALL WORK SHALL BE COMPLETED BY AUGUST 15, 2008.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' 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. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILLNOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

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

MATERIALS FURNISHED FOR FINE AND COURSE AGGREGATES USED IN THIS ITEM SHALL EXCLUDE ALL STONE AND CRUSHED CARBONATE STONE.

ITEM 509, REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW UNCOATED (BLACK) REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 509, REINFORCING STEEL, AS PER PLAN

THIS ITEM OF WORK SHALL BE IN ACCORDANCE WITH ITEM 509 EXCEPT AS MODIFIED HEREIN.

ALL REINFORCING STEEL SHALL BE UNCOATED (BLACK) REINFORCING STEEL.

ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE

THIS ITEM OF WORK SHALL BE AS PER CMS 511 AND THE DETAILS IN THE PLAN.

PLACE THE PROPOSED REBUILT DECK EDGE CONCRETE TO MATCH THE ELEVATION OF THE REMAINING DECK ONCE THE HYDRODEMOLITION IS COMPLETED.

AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY OPT TO PLACE THE PROPOSED REBUILT DECK EDGE CONCRETE TO THE ELEVATION OF THE EXISTING DECK PRIOR TO HYDRODEMOLITION. IN THIS CASE, THE NEW DECK EDGE SHALL THEN HAVE HYDRODEMOLITION PERFORMED ON IT SIMULTANEOUSLY WITH THE EXISTING DECK.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

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.

CALCULATED TKB CHECKED RPT

GENERAL AND STRUCTURE NOTES
CAR-183-0.94, COL-172-0.97 & COL-518-1.00

CAR-183-0.94

ITEM SPECIAL - STRUCTURE, MISC.: EMERGENCY ASPHALT PAVING OPERATION ON STANDBY (S.R.183):

THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO HAVE AN ASPHALT CONCRETE SUPPLIER AND ASPHALT PAVING COMPANY ON CALL THE FOUR CONSECUTIVE CALENDAR DAYS THE BRIDGE DECK OVERLAY IS SCHEDULED. IF THE CONTRACTOR HAS NOT STARTED TO POUR THE CONCRETE OVERLAY BY 30 HOURS PRIOR TO THE TRAFFIC OPENING REQUIREMENTS DESIGNATED IN THE MAINTENANCE OF TRAFFIC RESTRICTIONS, THE PROJECT ENGINEER WILL DIRECT THE CONTRACTOR TO STOP OPERATIONS AND PAVE THE BRIDGE WITH ASPHALT. THE ASPHALT CONTRACTOR WILL HAVE THE ABILITY TO MOBILIZE OPERATIONS WITHIN 12 HOURS. THIS INCLUDES PROVIDING 448 ASPHALT AND A PAVING CREW WITH COMPACTION EQUIPMENT.

THE PAVING AND ALL EXISTING TRAFFIC CONTROL MUST BE IN PLACE BY THE END OF THE FOUR CONSECUTIVE CALENDAR DAY LIMITATION.

THE FOLLOWING ITEMS SHALL BE USED IN THIS OPERATION:

ITEM	UNIT	DESCRIPTION
614	CU. YD.	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
848	SQ. YD.	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN

AND SHALL BE PAID FOR UNDER THIS ITEM SPECIAL - STRUCTURE, MISC.: EMERGENCY ASPHALT PAVING OPERATION ON STANDBY.

THE STATE WILL PAY FOR ALL COSTS ASSOCIATED WITH PLACING AND REMOVING THE ASPHALT IF THE CONTRACTOR WAS NOT RESPONSIBLE FOR THE DELAY. IF THE CONTRACTOR WAS RESPONSIBLE FOR THE DELAY, HE WILL HAVE TO PAY ALL THE COST ASSOCIATED WITH THE PLACEMENT AND REMOVAL OF THE ASPHALT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - STRUCTURE, MISC.: EMERGENCY ASPHALT PAVING OPERATION ON STANDBY WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (1¼" NOMINAL THICKNESS)

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2" THICK):

ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN:

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN:

ITEM 848 - WEARING COURSE REMOVED, ASPHALT, AS PER PLAN:

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRODEMOLITION" WITH THE FOLLOWING REVISIONS:

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 3' BETWEEN THE EDGE OF THE TRAVELLED LANE AND THE BIDWELL MACHINE DURING WEARING SURFACE PLACEMENT OPERATIONS.

(SEE 848.17 & 848.18) THE REMOVAL OPERATIONS SHALL NOT BEGIN IF SUSTAINED RAINS (5 HOURS OR MORE WITH BREAKS BETWEEN SHOWERS LESS THAN 1½ HOURS) ARE PREDICTED WITHIN 48 HOURS OF COMMENCEMENT.

(SEE 848.21) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 848.23) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE ORIGINAL DECK CONCRETE THICKNESS IS SOUND.

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE 1 OR 1D, AS PER CMS 511.17 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL AS DIRECTED BY THE ENGINEER AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 848.29) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE , AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PSI.

(SEE 848.30) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 9:30 AM.

(SEE 848.31) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI. TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI.

ITEM 848 - CONTINUED...

IF THE CONTRACTOR CANNOT COMMENCE THE CONCRETE POUR BY 30 HOURS PRIOR TO THE TRAFFIC OPENING REQUIREMENTS DESIGNATED IN THE MAINTENANCE OF TRAFFIC RESTRICTIONS, THE CONTRACTOR SHALL FOLLOW ITEM SPECIAL - STRUCTURE, MISC.: EMERGENCY ASPHALT PAVING OPERATION ON STANDBY.

WHEN THE OVERLAY OPERATION IS COMPLETE IT SHOULD BE FLUSH WITH THE PROPOSED APPROACH PAVEMENT.

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

ITEM SPECIAL - PILE ENCASEMENT

THIS ITEM SHALL INCLUDE THE FOLLOWING: EXCAVATION AROUND PIER PILING, REPLACEMENT OF THE EMBANKMENT TO ITS NATURAL STATE AT THE EXISTING PILES, PILE CLEANING TO REMOVE DEBRIS, CLASS C CONCRETE, POLYETHYLENE OR PVC PIPE, GALVANIZED STEEL BANDS, NUTS AND BOLTS. THE POLYETHYLENE (707.33) OR PVC (707.42) SHALL BE CUT LENGTHWISE ON ONE SIDE OR IN TWO (2) SECTIONS AS NEEDED TO ENCOMPASS THE EXISTING 14" CAST-IN-PLACE PILES, EXISTING 12" CAST-IN-PLACE PILES, OR THE EXISTING HP12X53 PILES. POSITION PIPE SO THAT AT LEAST 3 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE. THE BANDS SHALL BE 1" IN WIDTH AND THICKNESS SHALL NOT BE LESS THAN 11 GAUGE (0.1196"). BANDS SHALL BE TIGHTENED SO AS NOT TO ELONGATE THE PIPE WHEN THE CONCRETE IS PLACED. MAXIMUM SPACING OF THE BANDS SHALL BE 1'-0". ALTERNATE METHODS MAY BE USED TO CLAMP THE SECTIONS TOGETHER AS APPROVED BY THE ENGINEER. THE POLYETHYLENE OR PVC PIPE SHALL BE FILLED WITH CLASS C CONCRETE HAVING A SLUMP BETWEEN 6 AND 8 INCHES WITH THE USE OF SUPERPLASTICIZER. THE DEPARTMENT WILL MEASURE PILE ENCASEMENT BY THE NUMBER OF FEET.

THE DEPARTMENT WILL DETERMINE THE SUM AS THE LENGTH MEASURED ALONG THE AXIS OF EACH PILE FROM THE BOTTOM OF THE ENCASEMENT TO THE BOTTOM OF THE PIER CAP. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM SPECIAL, PILE ENCASEMENT.

ASBESTOS CONTAINING MATERIAL

ASBESTOS ABATEMENT

PREVIOUS CONSTRUCTION PLANS FOR THE EXISTING COL-518-01.04 BRIDGE INDICATE THAT APPROXIMATELY 90 SQUARE FEET OF 1/16" THICK SHEET ASBESTOS PACKING AND 7 SQUARE FEET OF EXPANSION JOINT FILLER WERE UTILIZED DURING THE CONSTRUCTION OF THE BRIDGE.

CONSTRUCTION WILL REQUIRE THE REMOVAL AND DISPOSAL OF THIS MATERIAL. THE CONTRACTOR SHALL ENSURE THAT ASBESTOS CONTAINING MATERIALS DO NOT BECOME FRIABLE (BROKEN-UP OR DISPERSED) AND THAT NO VISIBLE FIBER EMISSIONS WILL OCCUR. ADDITIONALLY, THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL SHALL COMPLY WITH CHAPTER 3745-20 OF THE OHIO ADMINISTRATIVE CODE, THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS (29 CFR 1926.1101).

BASIS OF PAYMENT

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY REMOVE, ENCAPSULATE, HANDLE, TRANSPORT, AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID OF LUMP SUM. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E98400 ITEM SPECIAL - MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS — LUMP SUM

CALCULATED TKB | CHECKED RPT

GENERAL AND STRUCTURE NOTES
CAR-183-0.94, COL-172-0.97 & COL-518-1.00

CAR-183-0.94

ITEM 511, CONCRETE MISC.: EMBEDDED GALVANIC ANODE (EGA)

PART 1 GENERAL

1.01 SUMMARY

A. THIS SECTION INCLUDES FURNISHING ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO PROPERLY INSTALL EMBEDDED GALVANIC ANODES.

B. EMBEDDED GALVANIC NODES ARE DESIGNED TO PROVIDE LOCALIZED CORROSION PROTECTION. WHEN PLACED AT THE APPROPRIATE SPACING ALONG THE PERIMETER OF CONCRETE PATCHES OR ALONG THE INTERFACE BETWEEN NEW/EXISTING CONCRETE, THE ANODES MITIGATE THE FORMATION OF NEW CORROSION SITES IN THE EXISTING CONCRETE.

1.02 REFERENCES

A. ACI/ICRI 1999 CONCRETE REPAIR MANUAL

B. ICRI GUIDELINE NO. 03730 GUIDE FOR SURFACE PREPARATION FOR THE REPAIR OF DETERIORATED CONCRETE RESULTING FROM REINFORCING STEEL CORROSION.

C. ASTM A615/A615M-00 STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BAR FOR CONCRETE REINFORCEMENT.

D. ASTM B418-95A (2000) STANDARD SPECIFICATION FOR CAST AND WROUGHT GALVANIC ZINC ANODES.

PART 2 PRODUCTS

2.01 MATERIALS

A. EMBEDDED GALVANIC ANODES SHALL BE PUCK-SHAPED. APPROXIMATELY 2½ INCHES IN DIAMETER BY 1 INCH HIGH, PRE-MANUFACTURED, AND CONSIST OF ELECTROLYTIC HIGH GRADE ZINC IN COMPLIANCE WITH ASTM B418 CAST AROUND A PAIR OF STEEL TIE WIRES AND ENCASED IN A HIGHLY ALKALINE CEMENTITIOUS SHELL WITH A PH OF 14 OR GREATER.

B. EMBEDDED GALVANIC ANODES (EGAs) SHALL BE GALVASHIELD XP AVAILABLE FROM VECTOR CORROSION TECHNOLOGIES (330) 723-1177 OR APPROVED EQUAL.

C. REPAIR MORTARS, CONCRETE AND BONDING AGENTS SHALL BE PORTLAND CEMENT-BASED MATERIALS WITH SUITABLE ELECTRICAL CONDUCTIVITY. NON-CONDUCTIVE REPAIR MATERIALS SUCH AS EPOXY, URETHANE, OR MAGNESIUM PHOSPHATE SHALL NOT BE PERMITTED.

PART 3 EXECUTION

3.01 CLEANING AND REPAIR OF REINFORCING STEEL

A. CLEAN EXPOSED REINFORCING STEEL OF RUST, MORTAR, ETC. TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND MECHANICAL BOND.

B. IF SIGNIFICANT REDUCTION IN THE CROSS SECTION OF THE REINFORCING STEEL HAS OCCURRED, REPLACE OR INSTALL SUPPLEMENTAL REINFORCEMENT AS DIRECTED BY THE ENGINEER.

C. SECURE LOOSE REINFORCING STEEL BY TYING TIGHTLY TO OTHER BARS WITH STEEL TIE WIRES.

3.02 GALVANIC ANODE INSTALLATION

A. GALVANIC ANODES SHALL BE INSTALLED ALONG THE PERIMETER OF THE REPAIR AT SPACING AS SPECIFIED ON THE DRAWINGS. IN NO CASE SHALL THE DISTANCE BETWEEN ANODES EXCEED 30 INCHES.

B. PROVIDE SUFFICIENT CLEARANCE BETWEEN ANODES AND SUBSTRATE TO ALLOW REPAIR MATERIAL TO ENCASE ANODE.

3.02 GALVANIC ANODE INSTALLATION (CONTINUED)

C. SECURE THE GALVANIC ANODES AS CLOSE AS POSSIBLE TO THE PATCH EDGE USING THE ANODE TIE WIRES. THE TIE WIRES SHOULD BE TIGHTENED TO ALLOW LITTLE OR NO FREE MOVEMENT.

1. IF THE ANODE IS TO BE TIED ONTO A SINGLE BAR. OR IF LESS THAN 1 INCH OF CONCRETE COVER IS EXPECTED, PLACE ANODE BENEATH THE BAR AND SECURE TO CLEAN REINFORCING STEEL.

2. IF SUFFICIENT CONCRETE COVER EXISTS, THE ANODE MAY BE PLACED AT THE INTERSECTION BETWEEN TWO BARS AND SECURED TO EACH CLEAN BAR.

D. ELECTRICAL CONTINUITY

1. CONFIRM ELECTRICAL CONNECTION BETWEEN ANODE TIE WIRE AND REINFORCING STEEL WITH A MULTI-METER.

2. CONFIRM ELECTRICAL CONTINUITY OF THE EXPOSED REINFORCING STEEL WITHIN THE REPAIR AREA. IF NECESSARY, ELECTRICAL CONTINUITY SHALL BE ESTABLISHED WITH STEEL TIE WIRE.

3.03 CONCRETE REPLACEMENT

A. COMPLETE THE REPAIR FOLLOWING NORMAL CONCRETE REPAIR PROCEDURES, TAKING CARE NOT TO CREATE ANY AIR VOIDS AROUND EMBEDDED GALVANIC ANODE.

PART 4 LOCATION OF ANODES

A. DECK EDGE

1. SEE DETAIL ON SHEET NO. 20, (COL-172-0.97) AND SHEET NO. 32, (COL-518-1.00) FOR ANODE SPACING IN DECK EDGE REPAIR.

B. FULL DEPTH REPAIRS

1. SEE DETAIL ON SHEET NO. 20, (COL-172-0.97) AND SHEET NO. 32, (COL-518-1.00) FOR ANODE SPACING IN FULL DEPTH REPAIR AREAS.

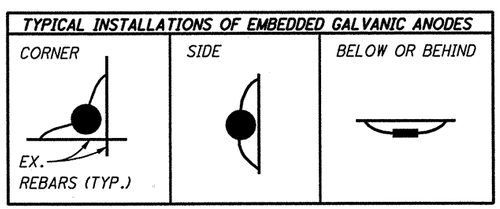
2. A CONTINGENCY QUANTITY OF 50 ANODES HAS BEEN PROVIDED FOR USE IN FULL DEPTH REPAIR AREAS NOT DELINEATED.

(THIS QUANTITY HAS BEEN CARRIED TO THE BRIDGE SUMMARY ON SHEET NO. 9.)

EACH EGA PROVIDED AND INSTALLED, WITH ALL INCIDENTALS INCLUDED, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR:

ITEM	DESCRIPTION	UNIT
511E81300	CONCRETE MISC.: EMBEDDED GALVANIC ANODE (EGA)	EACH

TYPICAL INSTALLATIONS OF EMBEDDED GALVANIC ANODES



ITEM 606 - GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING GUARDRAIL, TYPE 5

WHERE DESIGNATED ON THE PLAN, THE EXISTING GUARDRAIL, TYPE 5 SHALL BE RAISED OR LOWERED ON THE EXISTING WOOD POSTS AS PER STANDARD DRAWING GR-2.1 SO AS TO OBTAIN THE STANDARD 27¾ INCH HEIGHT. THE RAIL SHALL BE REATTACHED TO THE POSTS USING NEW POST BOLTS. FOR RAIL THAT REQUIRES BEING LOWERED THE POSTS SHALL BE CUT OR TRIMMED AND THE TOPS SHALL BE TREATED.

THE RAIL SHALL BE DISMANTLED ONLY TO THE EXTENT NECESSARY TO FIELD BORE NEW BOLT HOLES IN THE WOOD POSTS, AND TO RECONNECT THE RAIL AND BLOCK TO EXISTING POSTS.

THE EXISTING TYPE "A" ANCHOR ASSEMBLIES, THAT ARE TO REMAIN, SHALL NOT BE ADJUSTED. THE LAST RAIL ELEMENT SHALL BE TRANSITIONED TO MEET THESE ASSEMBLIES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR ITEM 606, GUARDRAIL MISC.: ADJUST HEIGHT, EXISTING GUARDRAIL, TYPE 5, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

CALCULATED TKB
CHECKED RPT

GERNERAL AND STRUCTURE NOTES
CAR-183-0.94, COL-172-0.97 & COL-518-1.00

CAR-183-0.94

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ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (CAR-183-0.94 & COL-172-0.97)

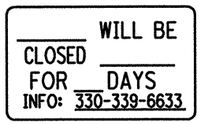
CAR-183-0.94

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 4 CONSECUTIVE CALENDAR DAYS, BETWEEN JUNE 15, 2008 AND JULY 15, 2008. TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET NO. 6. LIQUIDATED DAMAGES SHALL BE ASSESSED IN THE AMOUNT OF $3,000 PER DAY FOR EACH CALENDAR DAY THE ROAD REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

COL-172-0.97

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 21 CONSECUTIVE CALENDAR DAYS, BETWEEN JULY 15, 2008 AND AUGUST 15, 2008. TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS NO. 7. LIQUIDATED DAMAGES SHALL BE ASSESSED IN THE AMOUNT OF $4,000 PER DAY FOR EACH CALENDAR DAY THE ROAD REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST TWO WEEKS IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.



W20-H13-60

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND BARRICADES AS DETAILED ON STD. CONSTRUCTION DRAWING MT-101.60 AT THE BRIDGE SITES. ODOT WILL PROVIDE, INSTALL AND MAINTAIN THE SIGNING FOR THE DETOUR ROUTE.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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 ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THESE ROUTES ARE SHOWN ON SHEET NO. 6, (CAR-183-0.94) AND SHEET NO. 7, (COL-172-0.97). DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THESE ROUTES IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

CAR-183-0.94 -	10	CU. YD.
COL-172-0.97 -	10	CU. YD.

ITEM 617, COMPACTED AGGREGATE

CAR-183-0.94 -	5	CU. YD.
COL-172-0.97 -	5	CU. YD.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

THE CONTRACTOR WILL NOTIFY THE ENGINEER AT LEAST EIGHTEEN (18) DAYS PRIOR TO INPLEMENTING ANY WORK ZONE RESTRICTIONS WHICH WILL REDUCE THE WIDTH OR VERTICAL CLEARANCE OF ANY LANE ON WHICH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION.

THE ENGINEER WILL IMMEDIATELY NOTIFY THE DISTRICT ROADWAY SERVICE MANAGER TO ADVISE THE OFFICE OF HIGHWAY MANAGEMENT OF THE RESTRICTIONS.

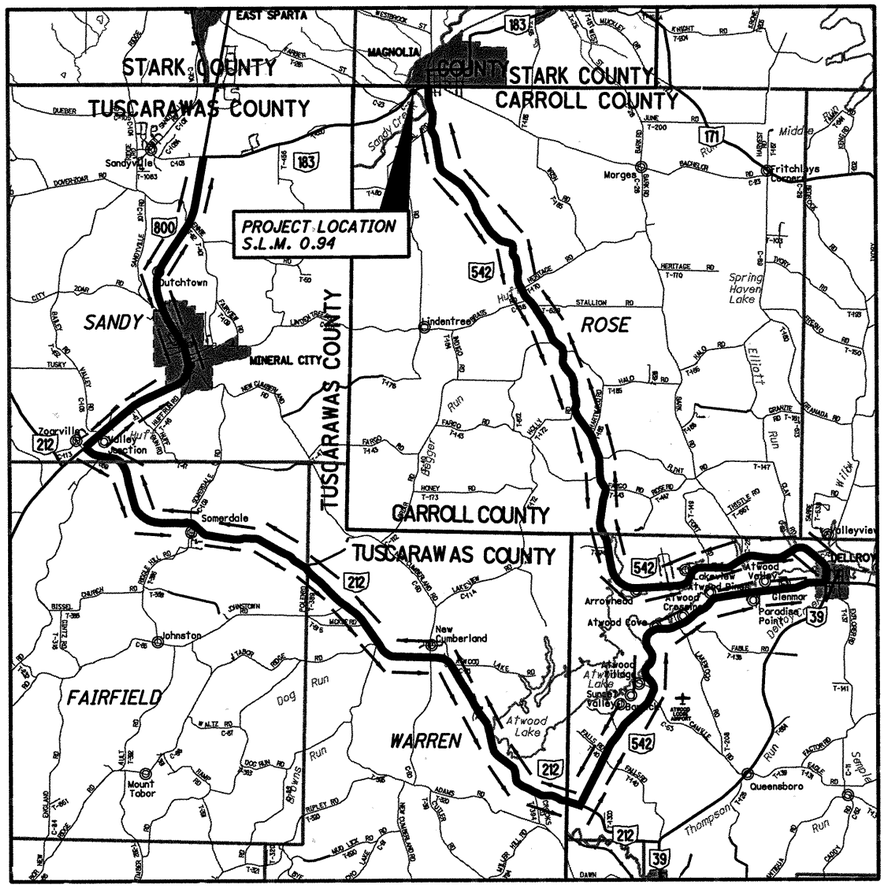
DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE DISTRICT ROADWAY SERVICE MANAGER EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. PHONE 330-339-6633. THE ROADWAY SERVICE MANAGER SHALL PROMPTLY INFORM THE OFFICE OF HIGHWAY MANAGEMENT, HAULING PERMITS SECTION AND THE DISTRICT TRAFFIC PERSONNEL.

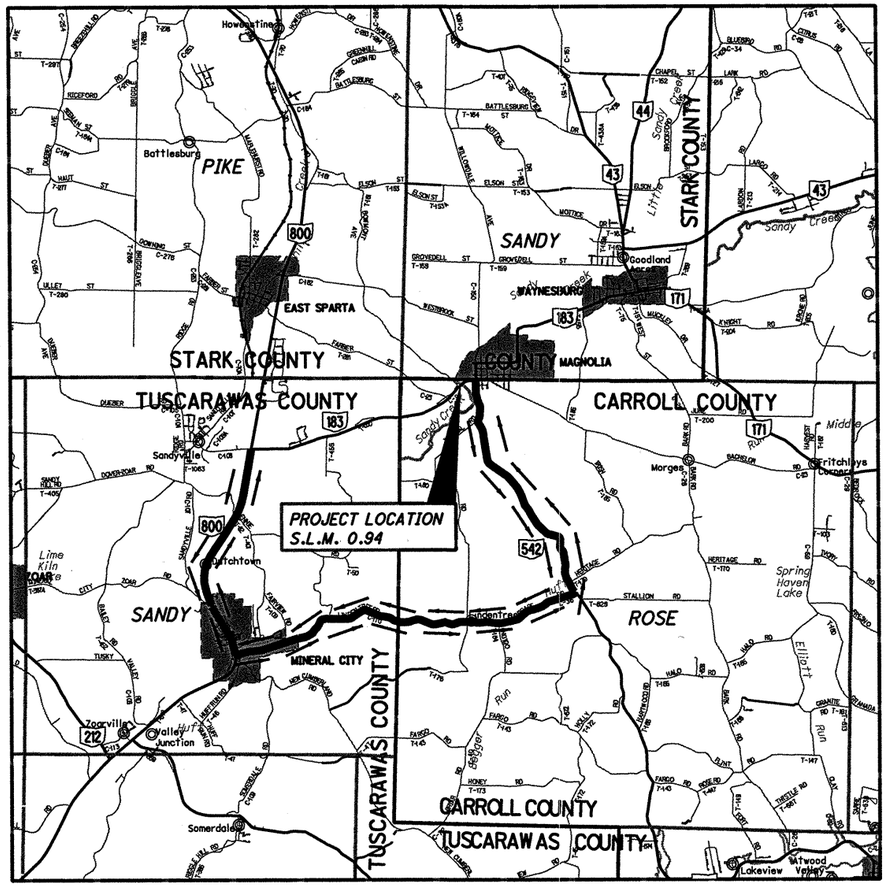
CALCULATED TKB
CHECKED RPT

MAINTENANCE OF TRAFFIC GENERAL NOTES CAR-183-0.97 AND COL-172-0.94

CAR-183-0.94



S.R. 183 DETOUR MAP



DESIGNATED LOCAL S.R. 183
DETOUR MAP

CALCULATED TKB
CHECKED RPT

MAINTENANCE OF TRAFFIC - DETOUR MAP
CAR-183-0.94

CAR-183-0.94

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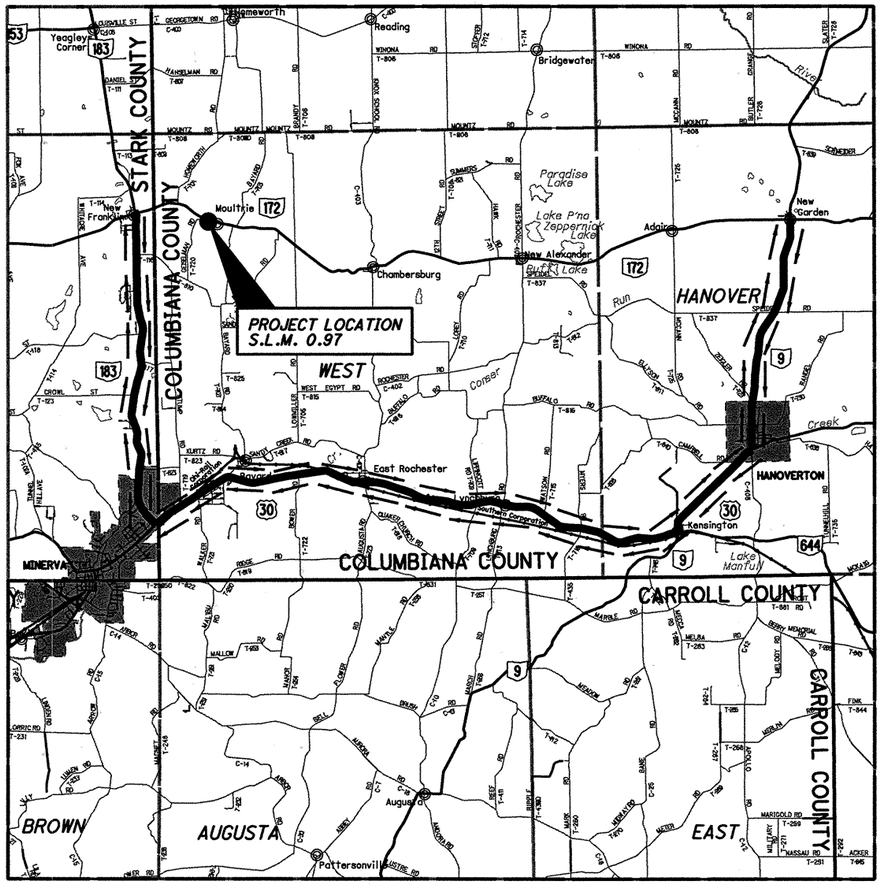
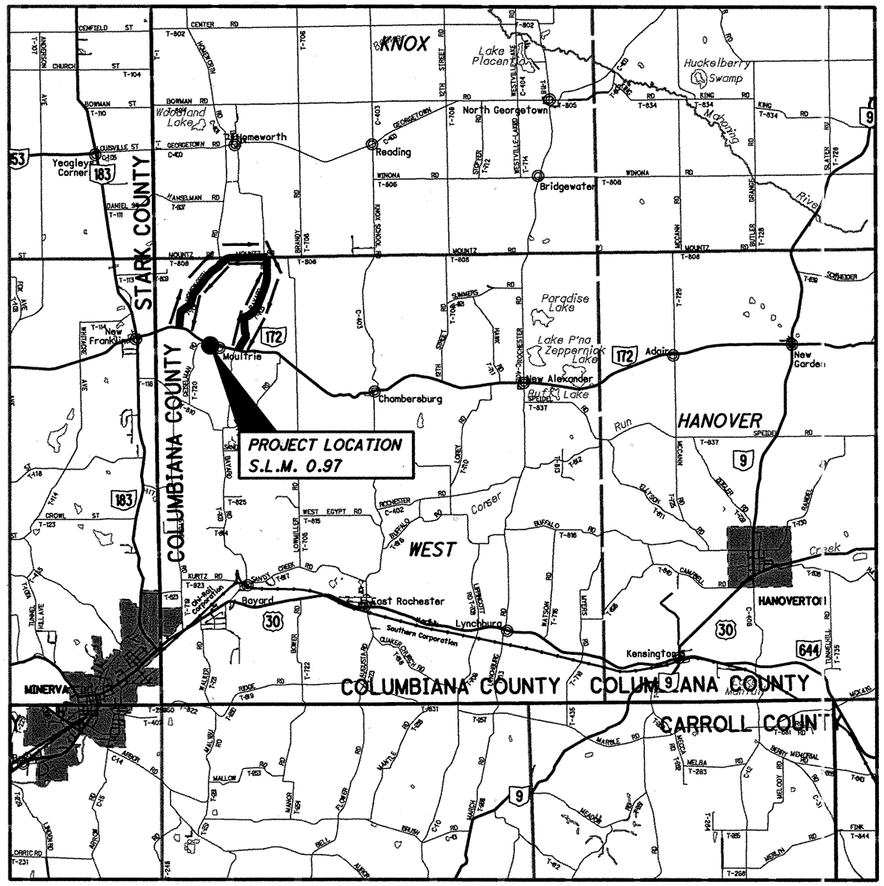


S.R. 172 DETOUR MAP



DESIGNATED LOCAL S.R. 172

DETOUR MAP

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CALCULATED TKB
CHECKED RPT

MAINTENANCE OF TRAFFIC - DETOUR MAP
COL-172-0.97

CAR-183-0.94

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33

SHEET NUMBER													OFFICE CALCS	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
2		5		10		22		23											
																		ROADWAY	
LUMP														201	11000	LUMP		CLEARING AND GRUBBING	2
				262.5										202	38000	262.5	FT	GUARDRAIL REMOVED	
				312.5										202	38500	312.5	FT	BRIDGE RAILING REMOVED	
				7										202	54000	7	EACH	RAISED PAVEMENT MARKER REMOVED	
				6										203	10000	6	CU YD	EXCAVATION	
				4										209	15000	4	STATION	RESHAPING UNDER GUARDRAIL	
				237.5										606	13000	237.5	FT	GUARDRAIL, TYPE 5	
				2										606	25000	2	EACH	ANCHOR ASSEMBLY, TYPE A	
				4										606	35140	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
				100										606	98000	100	FT	GUARDRAIL, MISC.: ADJUST HEIGHT OF EXISTING GUARDRAIL, TYPE 5	4
																		EROSION CONTROL	
				256										659	10000	256	SQ YD	SEEDING AND MULCHING	
				0.03										659	20000	0.03	TON	COMMERCIAL FERTILIZER	
				0.05										659	31000	0.05	ACRE	LIME	
				2										659	35000	2	M GAL	WATER	
														832	30000	1000	EACH	EROSION CONTROL	
																		PAVEMENT	
													913	254	01000	913	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
													5	301	46000	5	CU YD	ASPHALT CONCRETE BASE, PG64-22	
													70	407	10000	70	GALLON	TACK COAT	
													12	408	10000	12	GALLON	PRIME COAT	
													31	448	47021	31	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	2
		10												617	10100	10	CU YD	COMPACTED AGGREGATE	
																		TRAFFIC CONTROL	
				8										626	00300	8	EACH	BARRIER REFLECTOR, TYPE A2	
				0.36										642	00100	0.36	MILE	EDGE LINE, TYPE 1	
				0.15										642	00300	0.15	MILE	CENTER LINE, TYPE 1	
				21										642	00500	21	FT	STOP LINE, TYPE 1	
																		STRUCTURES (CAR-183-0.94, COL-172-0.97, & COL-518-1.00)	
																		FOR BRIDGE SUMMARY SEE SHEET NO.9.	
																		MAINTENANCE OF TRAFFIC	
								4						614	12338	4	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	22
								612						614	12800	612	EACH	WORK ZONE RAISED PAVEMENT MARKER	
		20												614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
								29						614	13302	29	EACH	BARRIER REFLECTOR, TYPE B2	
								29						614	13360	29	EACH	OBJECT MARKER, TWO WAY	
								0.06						614	21100	0.06	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
								0.03						614	22200	0.03	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
								38						614	26400	38	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
								375						615	25001	375	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN	22
								510						622	40020	510	FT	PORTABLE CONCRETE BARRIER, 32"	
								160						622	40040	160	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
		LUMP				LUMP								614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16000	4	MONTH	FIELD OFFICE, TYPE A	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED TKB
CHECKED RPT

GENERAL SUMMARY

CAR-183-0.94

STRUCTURE NO.											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
CAR-183-0094		COL-172-0097		COL-518-0100		9										
															STRUCTURES	
		LUMP		LUMP							202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	2
		117									SPECIAL	50771200	117	FT	PILE ENCASEMENT	3
		100		100							509	20001	200	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	2
		3304		4677							509	25001	7981	POUND	REINFORCING STEEL, AS PER PLAN	2
		260		256							510	10000	516	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
		12		15							511	34400	27	CU YD	CLASS S CONCRETE, SUPERSTRUCTURE	2
		67		74		50					511	81300	191	EACH	CONCRETE, MISC.: EMBEDDED GALVANIC ANODE (EGA)	4
229		112		269							512	10100	610	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
				16							512	10300	16	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
		150		162.5							517	72300	312.5	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL	
															POSTS AND ANCHOR BOLTS)	
527		174		182							SPECIAL	51822300	883	FT	STEEL DRIP STRIP	
81		33		57							519	11101	171	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2
1											SPECIAL	53000400	1	EACH	STRUCTURE, MISC.: EMERGENCY ASPHALT PAVING OPERATION ON STANDBY	3
				LUMP							SPECIAL	69098400	LUMP		MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS	3
				292							848	10000	292	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (2")	
708		325									848	10001	1033	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2")	3
				256							848	20000	256	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION	
708		299									848	20001	1007	SQ YD	SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN	3
				16							848	30000	16	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
39		14									848	30001	53	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL	
															ONLY, AS PER PLAN	3
14		5		6							848	50000	25	SQ YD	HAND CHIPPING	
LUMP		LUMP		LUMP							848	50100	LUMP		TEST SLAB	
				292							848	50300	292	SQ YD	WEARING COURSE REMOVED, ASPHALT	
708		325									848	50301	1033	SQ YD	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN	3
		255									848	50321	255	SQ YD	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (1¼" NOMINAL THICKNESS)	3

CALCULATED TKB
CHECKED RPT

BRIDGE SUMMARY

CAR-183-0.94

BRIDGE NO.	LENGTH (O/O DECK)	202			203	209	606				626	642			659			
		GUARDRAIL REMOVED	BRIDGE RAILING REMOVED	RAISED PAVEMENT MARKER REMOVED	EXCAVATION	RESHAPING UNDER GUARDRAIL	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE A	BRIDGE TERMINAL ASSEMBLY, TYPE 4	GUARDRAIL MISC.: ADJUST HEIGHT OF EXISTING GUARDRAIL, TYPE 5	BARRIER REFLECTOR, TYPE A2	STOP LINE, TYPE 1	CENTER-LINE, TYPE 1	EDGE LINE, TYPE 1	SEEDING AND MULCHING	COMMERCIAL FERTILIZER	WATER	LIME
	FEET	FEET	FEET	EACH	CU. YD.	STATION	FEET	EACH	EACH	FEET	EACH	FEET	MILE	MILE	SQ. YD.	TON	M GAL.	ACRE
CAR-183-0094	212.26												0.06	0.12				
COL-172-0097	67.55		150	3	6	1				100	2	21	0.05	0.10	89*	0.01	0.5	0.02
COL-518-0100	73.00	262.5	162.5	4		3	237.5	2	4		6		0.04	0.14	167**	0.02	0.9	0.03
TOTALS (CARRIED TO GENERAL SUMMARY)		262.5	312.5	7	6	4	237.5	2	4	100	8	21	0.15	0.36	256	0.03	2	0.05

* AVG. WIDTH FOR COL-172-0.97 IS 8.0 FT.
** AVG. WIDTH FOR COL-518-1.00 IS 5.0 FT.

CAR-183-0.94

ITEM 642 - CENTERLINE, TYPE 1
STA. 37+63.87 TO STA. 40+73.16
312.26 ÷ 5280 = 0.059 MI.
USE 0.06 MI.

ITEM 642 - EDGELINE, TYPE 1
STA. 37+63.87 TO STA. 40+73.16
312.26 ÷ 5280 = 0.059 MI. x 2 = 0.12 MI.
USE 0.12 MI.

(TOTALS CARRIED IN TABLE ON THIS SHEET)

COL-172-0.97

ITEM 209 - RESHAPING UNDER GUARDRAIL
(AREA USED TO ADJUST GUARDRAIL HEIGHT)
100' x 100 = 1 STATION
USE 1 STATION

ITEM 659 - SEEDING AND MULCHING
LENGTH FOR SEEDING AND MULCHING MATCHES THAT USED FOR RESHAPING UNDER GUARDRAIL, WIDTH IS AVG.
100' x 8' AVG. x 9 = 88.9 SQ. YD.
USE 89 SQ. YD.

ITEM 659 - COMMERCIAL FERTILIZER
89 SQ. YD. x 9 x (20LBS + 10LBS) x 1000 SQ. FT. x 2000 = 0.01 TON
USE 0.01 TON

ITEM 659 - WATER
89 SQ. YD. x 9 x 300 GAL/1000 SQ. FT. /1000 x 2 = 0.5 M GAL.
USE 0.5 M GAL

ITEM 659 - LIME
89 SQ. YD. x 9 x 43,560 SQ. FT. / ACRE = 0.02 ACRE
USE 0.02 ACRE

SHOULDERS ONLY:
ITEM 203 - EXCAVATION
60.70 SQ. FT. x (7" ÷ 12) ÷ 27 = 1.48 CU. YD. x 4 = 5.92 CU. YD.
USE 6 CU. YD.

ITEM 642 - CENTERLINE, TYPE 1

STA. 50+45.00 TO STA. 50+73.34
28.34 ÷ 5280 FT./MI. = 0.01 MI.

STA. 50+82.03 TO STA. 52+83.55
201.52 ÷ 5280 FT./MI. = 0.04 MI.

TOTAL 0.01 MI. + 0.04 MI. = 0.05 MI.
USE 0.05 MI.

ITEM 642 - EDGE LINE, TYPE 1

STA. 50+45.00 TO STA. 50+83.55
238.55' ÷ 5280 FT./MI. = 0.05 MI. x 2 = 0.10 MI.
USE 0.10 MI.

PM-1 - ITEM 642 - STOP LINE, TYPE 1 - 10.5'
PM-2 - ITEM 642 - STOP LINE, TYPE 1 - 10.5'
USE 21 FEET

(TOTALS CARRIED IN TABLE ON THIS SHEET)

COL-518-1.00

ITEM 209 - RESHAPING UNDER GUARDRAIL
STA. 52+09.50 TO STA. 52+63.50
54' ÷ 100 = 0.54' x 2 = 1.08 STATIONS

STA. 53+36.50 TO STA. 54+53.23
116.73' ÷ 100 = 1.17 STATIONS

STA. 53+36.50 TO STA. 54+15.41
78.91' ÷ 100 = 0.79 STATIONS

TOTAL = 1.08 STATIONS + 1.17 STATIONS + 0.79 STATIONS = 3.04 STATIONS
USE 3 STATIONS

ITEM 659 - SEEDING AND MULCHING
LENGTH FOR SEEDING AND MULCHING MATCHES THAT USED FOR RESHAPING UNDER GUARDRAIL, WIDTH IS AVG.
300' x 5' AVG. ÷ 9 = 166.67 SQ. YD.
USE 167 SQ. YD.

ITEM 659 - COMMERCIAL FERTILIZER
167 SQ. YD. x 9 x (20LBS + 10LBS) ÷ 1000 SQ. FT. ÷ 2000 = 0.02 TON
USE 0.02 TON

ITEM 659 - WATER
167 SQ. YD. x 9 x 300 GAL/1000 SQ. FT. /1000 x 2 = 0.90 M GAL.
USE 0.9 M GAL

ITEM 659 - LIME
167 SQ. YD. x 9 ÷ 43,560 SQ. FT. / ACRE = 0.03 ACRE
USE 0.03 ACRE

ITEM 642 - CENTERLINE, TYPE 1
STA. 51+94.00 TO STA. 54+06.00
212' ÷ 5280 = 0.04 MI.
USE 0.04 MI.

ITEM 642 - EDGELINE, TYPE 1
STA. 50+68.00 TO STA. 55+00.00
432' ÷ 5280 = 0.08 MI.

STA. 51+37.50 TO STA. 54+43.50
306' ÷ 5280 = 0.06 MI.

TOTAL = 0.08 MI. + 0.06 MI. = 0.14 MI.
USE 0.14 MI.

(TOTALS CARRIED IN TABLE ON THIS SHEET)

CALCULATED TKB CHECKED RPT

ESTIMATED QUANTITIES
CAR-183-0.94, COL-172-0.97 AND COL-518-1.00

CAR-183-0.94

10
33

E060(537)

BEGIN PROJECT
STA. 37+63.87
S.L.M. = 0.93

E060(537)

SUSPEND PROJECT
STA. 40+76.13
S.L.M. = 0.99

P.I. STA. 43+10.20
Δ = 42° 08' 00" (RT.)
Dc = 8° 00' 00"
R = 716.20'
T = 275.88'
L = 526.67'
E = 51.30'

Ex R/W — Ex R/W — Ex R/W — Ex R/W — Ex R/W — Ex R/W — Ex R/W

25'-0"± APPROACH SLAB

BRIDGE LIMITS = 212.26'±

25'-0"± APPROACH SLAB

BIG SANDY CREEK

EXISTING CONDUIT (AT&T) DO NOT DISTURB

℄ PIER

℄ BRIDGE STA. 39+20±

℄ PIER

EXISTING DBR TO REMAIN

BEGIN APPROACH SLAB STA. 40+26.13±

3'-0"± PAVED SHOULDER

2'-0"± PAVED SHOULDER

11'-6"±

11'-6"±

30'-0"± O/O DECK

15'-0"±

15'-0"±

38

39

40

41

23'-0"

11'-6"±

℄ CONSTRUCTION S.R. 183

2'-0"± PAVED SHOULDER

EXISTING DBR TO REMAIN

℄ BEARINGS

20° SKEW

SEE VIEW A

SEE VIEW B

℄ BEARINGS

REFERENCE POINT END APPROACH SLAB STA. 38+13.87±

64'-0"±

80'-0"±

64'-0"±

PC STA. 40+34.32

3'-0"± PAVED SHOULDER

LEVEE FLOOD GATE (DO NOT BLOCK)

GENERAL PLAN

SCALE 0 15 30

PLANING LIMITS = 50'

BRIDGE LIMITS

PLANING LIMITS = 50'

STA. 37+63.87±

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE THICKNESS)

STA. 38+13.87±

ITEM 516 - JOINT SEALER

ITEM 848 - 1¾"± WEARING COURSE REMOVED, ASPHALT, AS PER PLAN

ITEM 848 - 2" MICRO-SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN

ITEM 516 - JOINT SEALER

STA. 40+26.13±

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE THICKNESS)

STA. 40+76.13±

MATCH EXISTING EX. PROFILE

MATCH EXISTING EX. PROFILE

1"*

1¾"* +88.87

1¾"*

TOP OF EXISTING AFTER HYDRODEMOLITION

8¾"± EXISTING DECK THICKNESS

1¾"*

1¾"* +51.13

1"*

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

ITEM 407 - TACK COAT

ITEM 407 - TACK COAT

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

ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION (1" NOMINAL)

PAVEMENT AND PLANING DETAIL

DETAIL SHOWN IS VERTICALLY EXAGGERATED.
* = PLANING DEPTH

A — A
4'-0"±
1'-6"±
1'-6"± 2'-6"±
A — A

VIEW A

BOTTOM SIDE OF CONCRETE DECK

ITEM SPECIAL 518 - DRIP STRIP AS PER DS-1-92

1'-6"±

SECTION A-A

B — B
5'-6"±
1'-0"±
B — B

FACE OF ABUTMENT

VIEW B

BOTTOM SIDE OF CONCRETE DECK

6"±
1'-0"±

SECTION B-B

LEGEND:

PATCHING CONCRETE STRUCTURES, AS PER PLAN

FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.
FOR ROADWAY QUANTITIES, SEE SHEET NO. 10.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS
SPANS: 64'± - 80'± - 64'± c/c BRGS.
ROADWAY: 30'-0"± o/o DECK
LOADING: HS-20
SKEW: 20° R.F.
ALIGNMENT: TANGENT
WEARING SURFACE: ½"± EPOXY WATERPROOFING OVERLAY WITH 1¼"± ASPHALT
RAILING: DBR WITH TYPE 2 POST
APPROACH SLABS: AS-1-72 (25'± LONG)
ABUTMENTS: INTEGRAL TYPE
STRUCTURE FILE NO.: 1001299
CONDITION: FAIR

PROPOSED WORK

1. REMOVE ASPHALT WEARING COURSE AND PERFORM HYDRODEMOLITION.
2. OVERLAY WITH MICRO SILICA MODIFIED CONCRETE.
3. PLANE AND PAVE APPROACHES TO MATCH NEW OVERLAY SURFACE.
4. PATCH SUBSTRUCTURE AND SUPERSTRUCTURE
5. SEAL CONCRETE SURFACES.

DESIGN AGENCY: O.D.O.T. DISTRICT 11 PRODUCTION DEPARTMENT
DATE: 7/16/07
REVIEWED: SAL
STRUCTURE FILE NUMBER: 1001299
DRAWN: CCW
REVISED:
DESIGNED: RPT
CHECKED: SAL

SITE PLAN
BRIDGE NO. CAR-183-0094
OVER BIG SANDY CREEK

CAR-183-0.94
PID No. 24865

1 / 4

11 / 33

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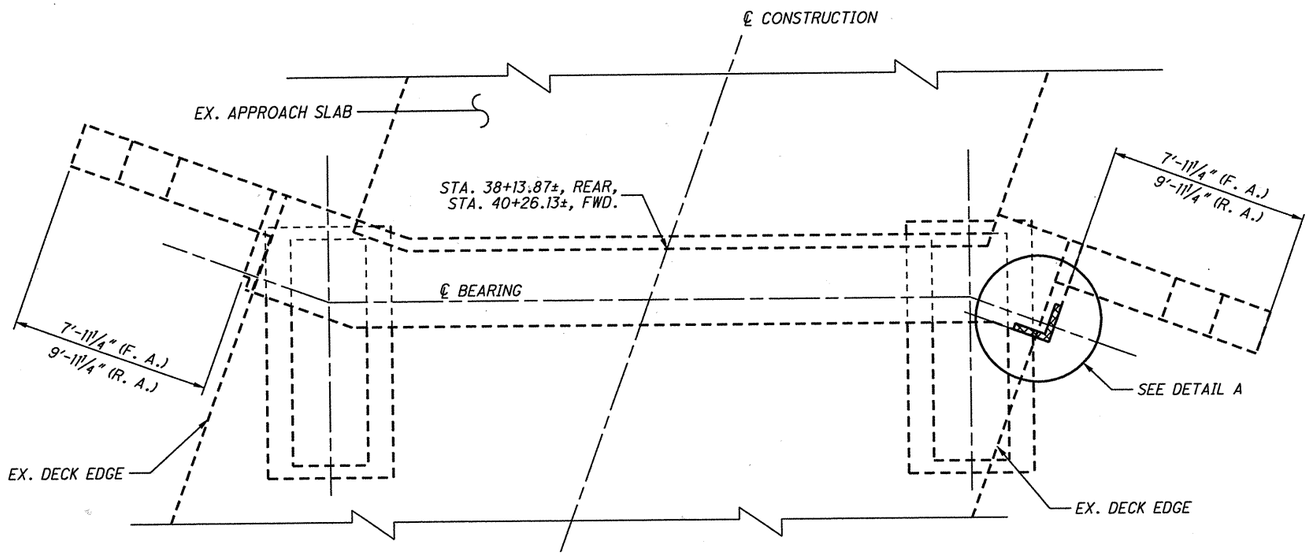
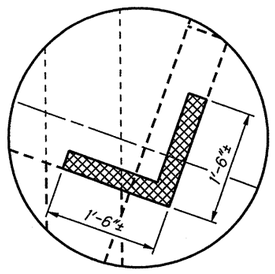
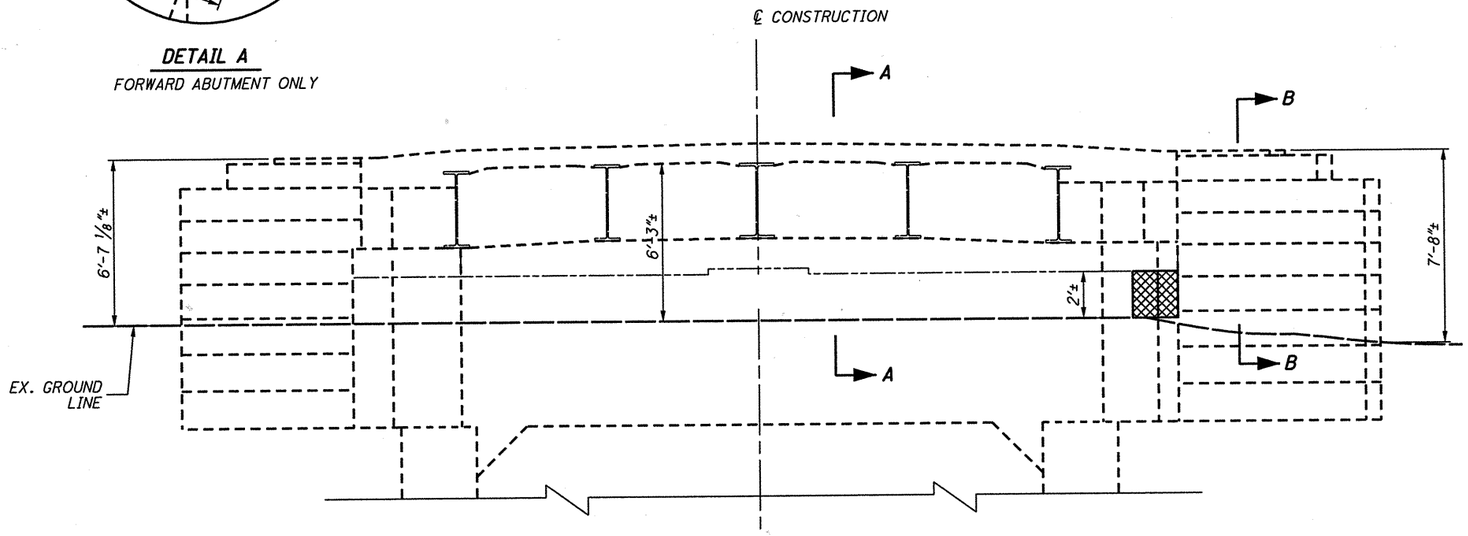


PLAN

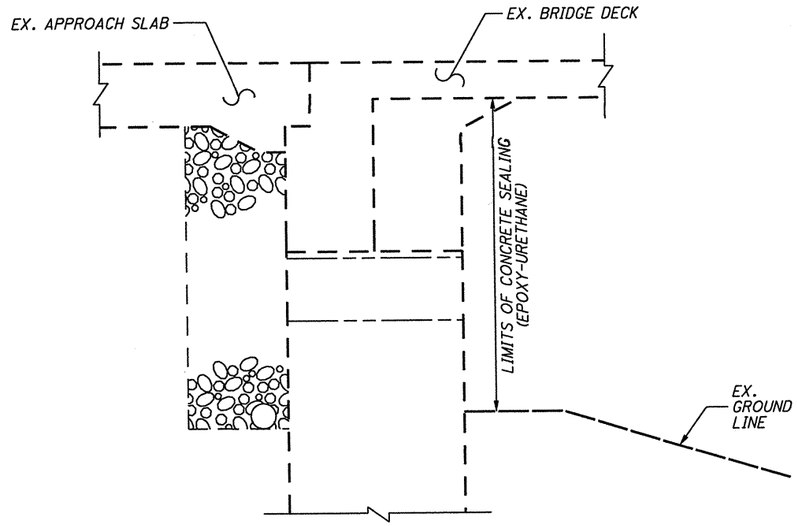


DETAIL A

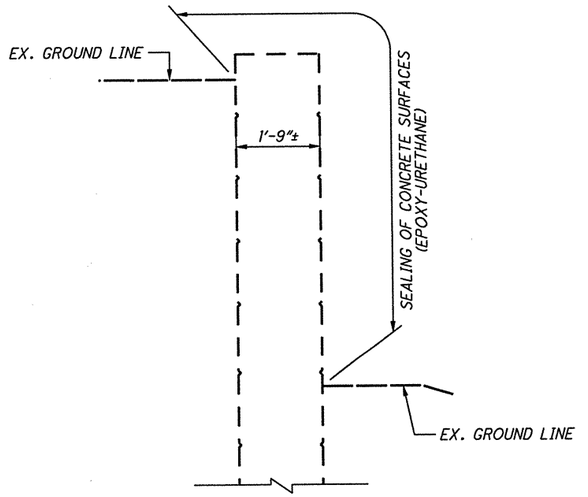
FORWARD ABUTMENT ONLY



ELEVATION



SECTION A-A



SECTION B-B

NOTES:

1. AREA TO BE PATCHED APPLIES ONLY TO THE FORWARD ABUTMENT.

LEGEND:

PATCHING CONCRETE STRUCTURES, AS PER PLAN

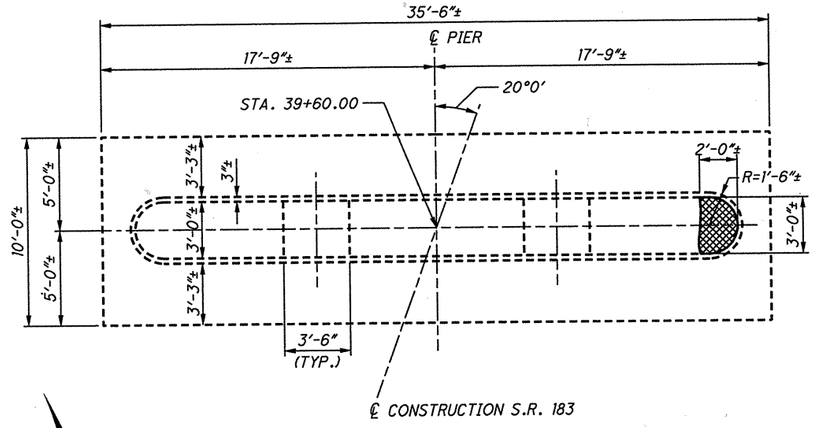
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PRODUCTION DEPARTMENT

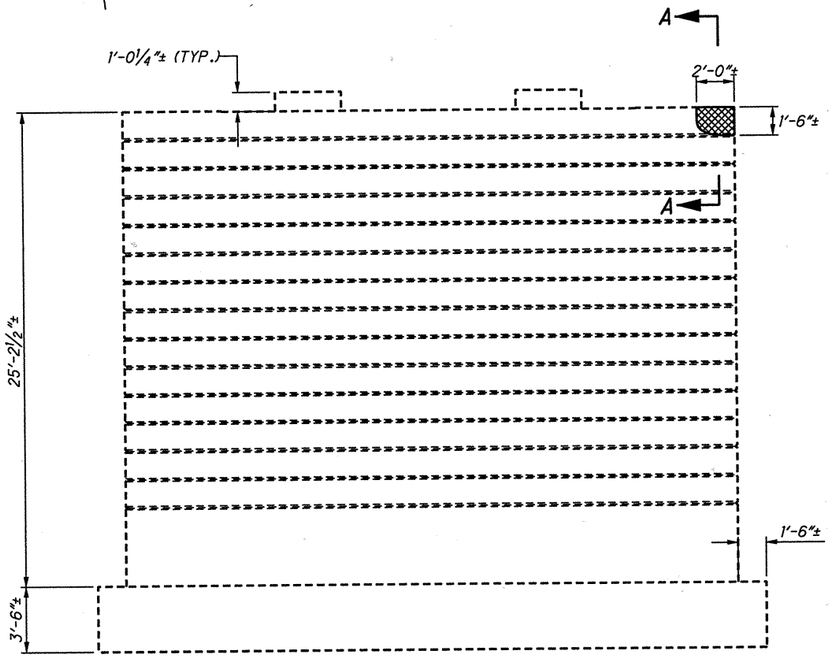
DESIGNED	DRAWN	REVIEWED	DATE
CCW	CCW	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RPT		1001299	

ABUTMENT DETAILS
BRIDGE NO. CAR-183-0094
OVER BIG SANDY CREEK

CAR-183-0.94
PID No. 24865

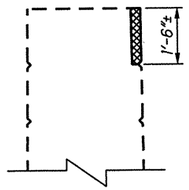


PLAN FORWARD PIER

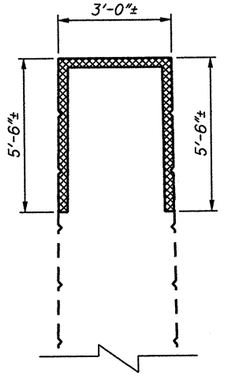


ELEVATION FORWARD PIER

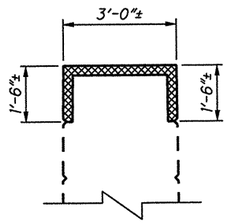
LOOKING UPSTATION



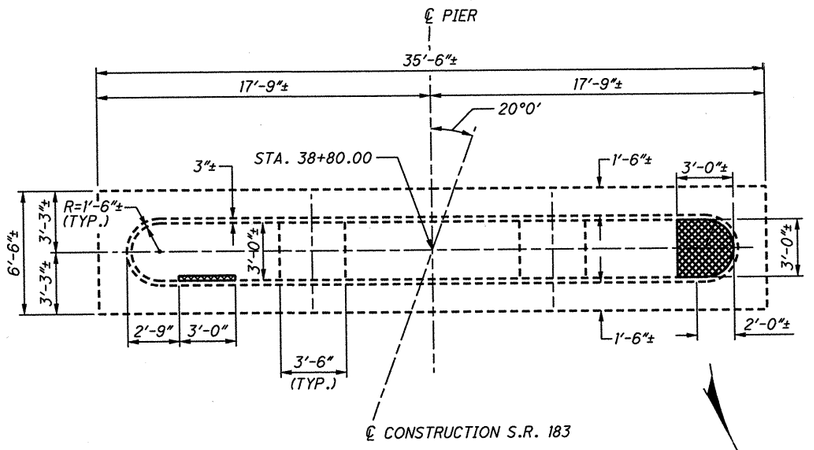
SECTION C-C



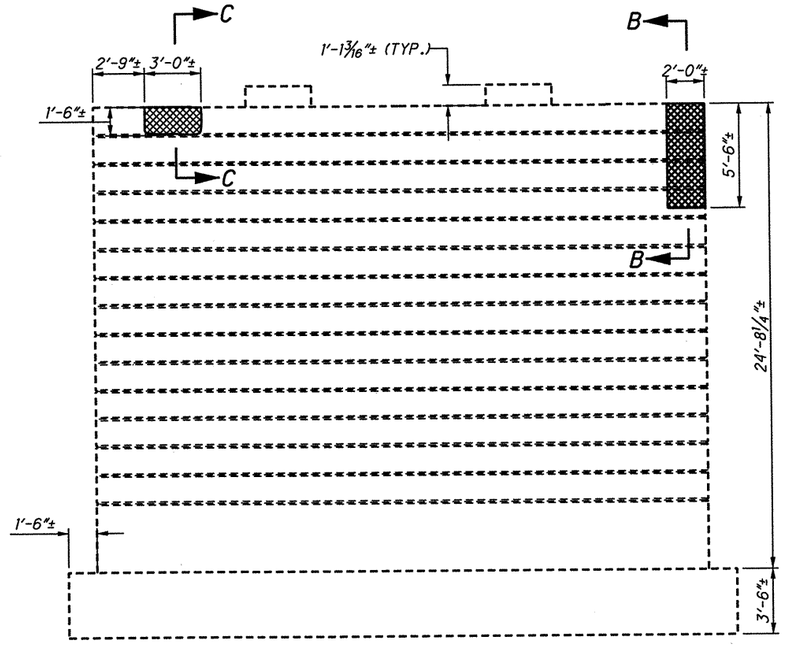
SECTION B-B



SECTION A-A



PLAN REAR PIER



ELEVATION REAR PIER

LOOKING DOWNSTATION

LEGEND:

PATCHING CONCRETE STRUCTURES, AS PER PLAN

FOR STRUCTURE QUANTITIES, SHEET NO. 9.

DESIGN AGENCY: O.D.O.T. DISTRICT 11 PRODUCTION DEPARTMENT

DESIGNED: RPT | DRAWN: CCW | REVIEWED: SAL | DATE: 7/16/07

CHECKED: JPB | REVISED: | STRUCTURE FILE NUMBER: 1001299

PIER DETAILS

BRIDGE NO. CAR-183-0094 OVER BIG SANDY CREEK

CAR-183-0.94

PID No. 24865

3 / 4

13 / 33

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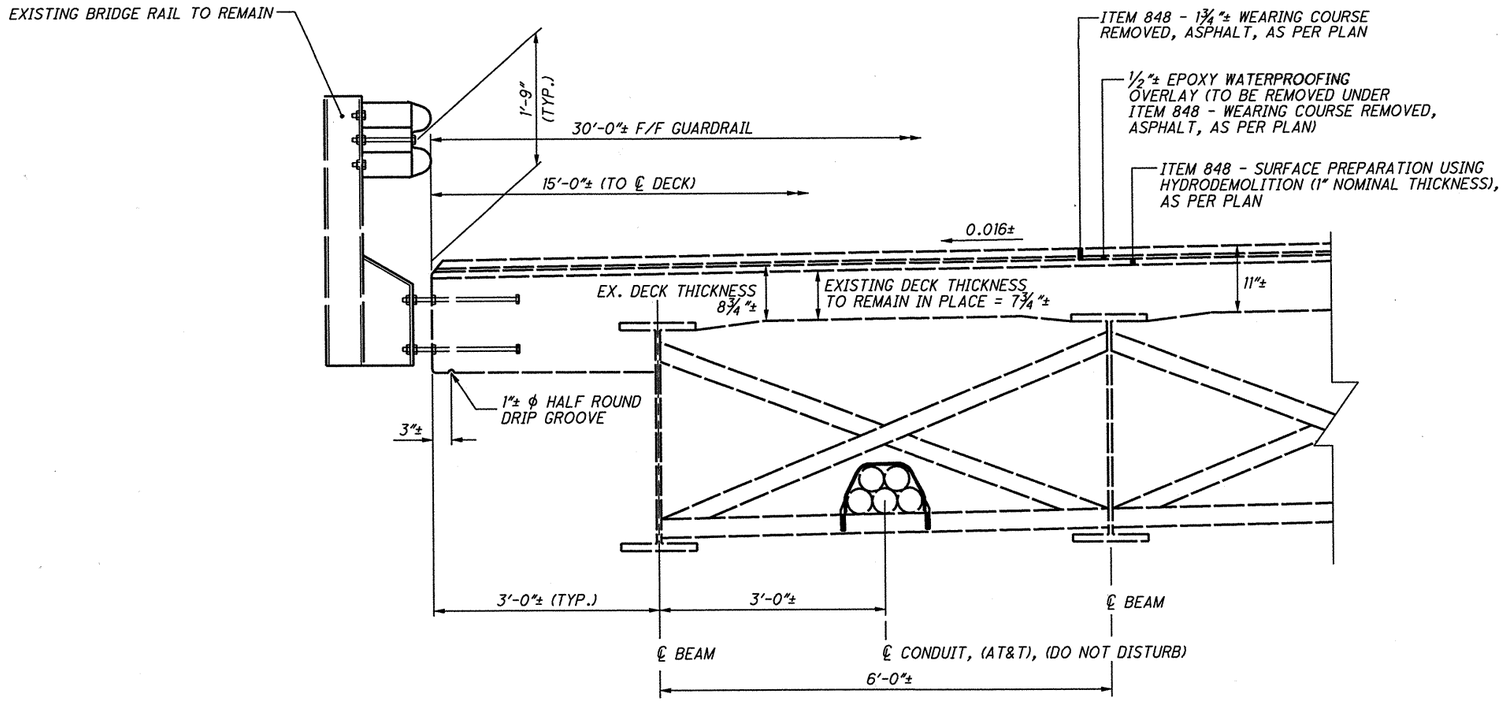
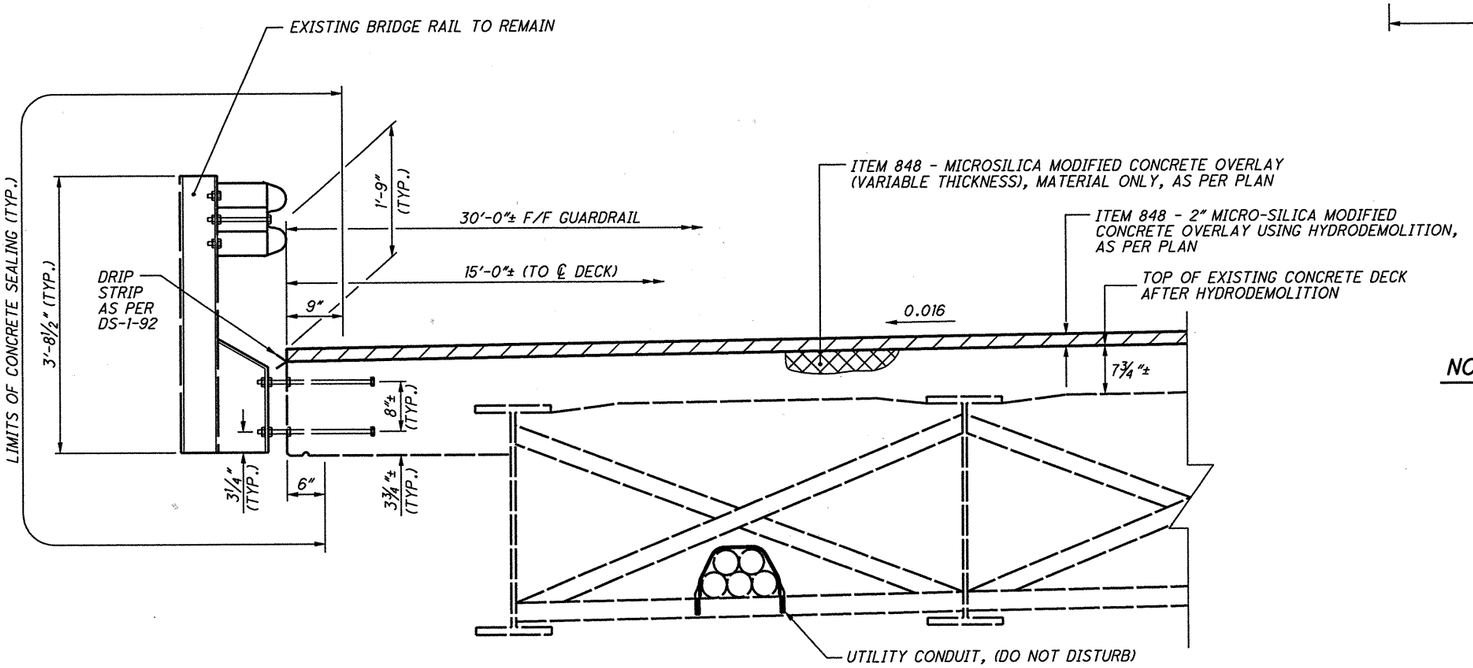


EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION

NOTES:

FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
RPT	CCW	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	1001299

SUPERSTRUCTURE DETAILS
BRIDGE NO. CAR-183-0094
OVER BIG SANDY CREEK

CAR-183-0.94
PID No. 24865

4 / 4

14 / 33

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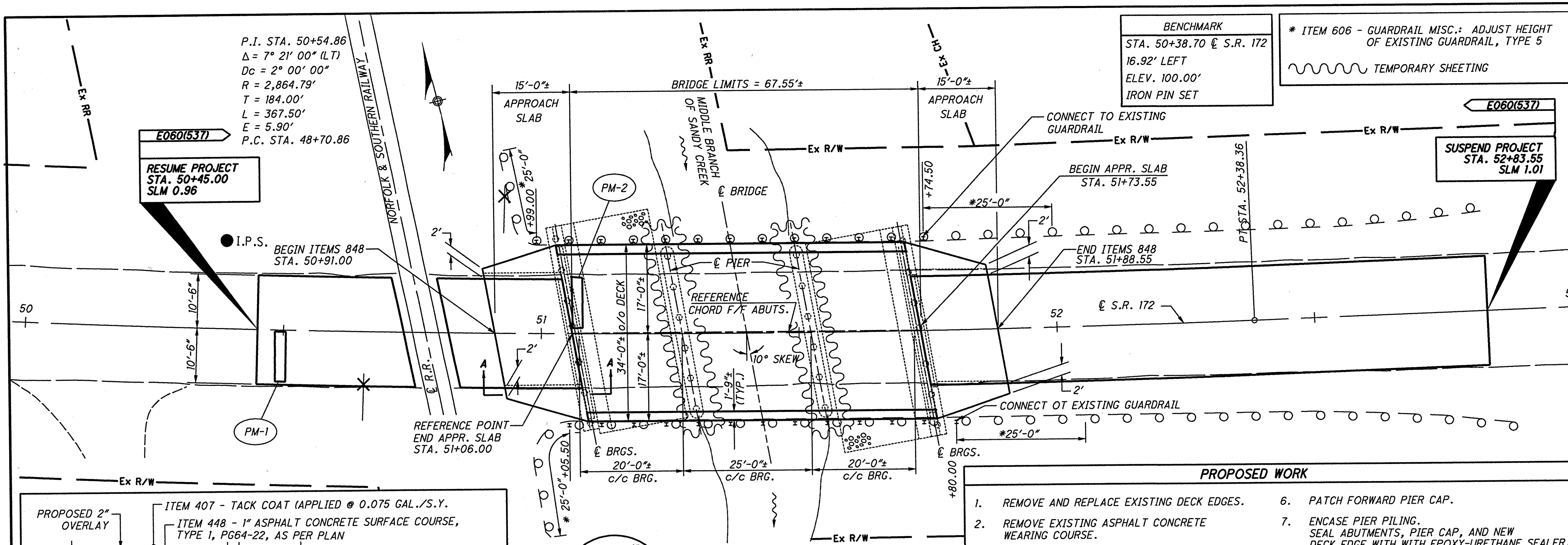
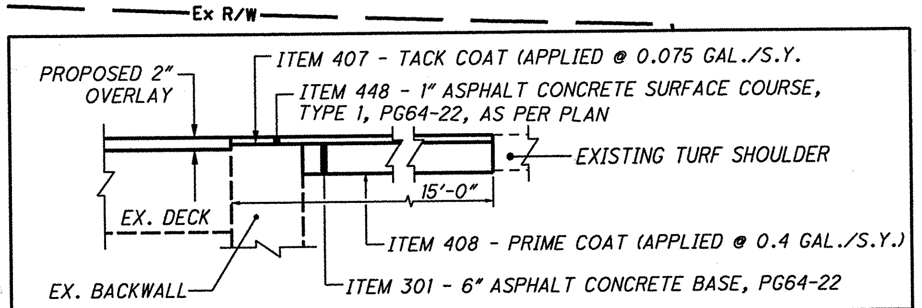


P.I. STA. 50+54.86
Δ = 7° 21′ 00″ (LT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 184.00′
L = 367.50′
E = 5.90′
P.C. STA. 48+70.86
E060(537)
RESUME PROJECT
STA. 50+45.00
SLM 0.96
Ex RR
NORFOLK & SOUTHERN RAILWAY
I.P.S.
BEGIN ITEMS 848
STA. 50+91.00
15′-0″±
APPROACH SLAB
BRIDGE LIMITS = 67.55′±
MIDDLE BRANCH OF SANDY CREEK
PM-2
℄ BRIDGE
℄ PIER
REFERENCE CHORD F/F ABUTS.
34′-0″± o/o DECK
17′-0″±
10° SKEW
1′-9″± (TYP.)
℄ R.R.
PM-1
REFERENCE POINT END APPR. SLAB STA. 51+06.00
℄ BRGS.
20′-0″± c/c BRG.
25′-0″± c/c BRG.
Ex R/W
Ex CH
+74.50
+99.00
*25′-0″
+05.50
+80.00
CONNECT TO EXISTING GUARDRAIL
BEGIN APPR. SLAB
STA. 51+73.55
END ITEMS 848
STA. 51+88.55
℄ S.R. 172
PT STA. 52+38.36
CONNECT OT EXISTING GUARDRAIL
E060(537)
SUSPEND PROJECT
STA. 52+83.55
SLM 1.01
50
51
52
53
PLAN VIEW
HORIZONTAL SCALE IN FEET

BENCHMARK
STA. 50+38.70 ℄ S.R. 172
16.92′ LEFT
ELEV. 100.00′
IRON PIN SET

* ITEM 606 - GUARDRAIL MISC.: ADJUST HEIGHT OF EXISTING GUARDRAIL, TYPE 5

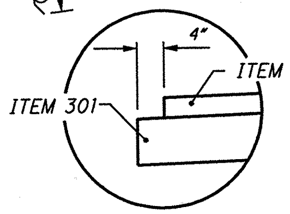
TEMPORARY SHEETING



PROPOSED 2″ OVERLAY
ITEM 407 - TACK COAT (APPLIED @ 0.075 GAL./S.Y.
ITEM 448 - 1″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN
EXISTING TURF SHOULDER
15′-0″
EX. DECK
ITEM 408 - PRIME COAT (APPLIED @ 0.4 GAL./S.Y.)
EX. BACKWALL
ITEM 301 - 6″ ASPHALT CONCRETE BASE, PG64-22

(SECTION A-A AND PAVEMENT STEP DETAIL REFER TO ALL SHOULDERS ABUTTING APPROACH SLABS)

SECTION A-A



PAVEMENT STEP DETAIL

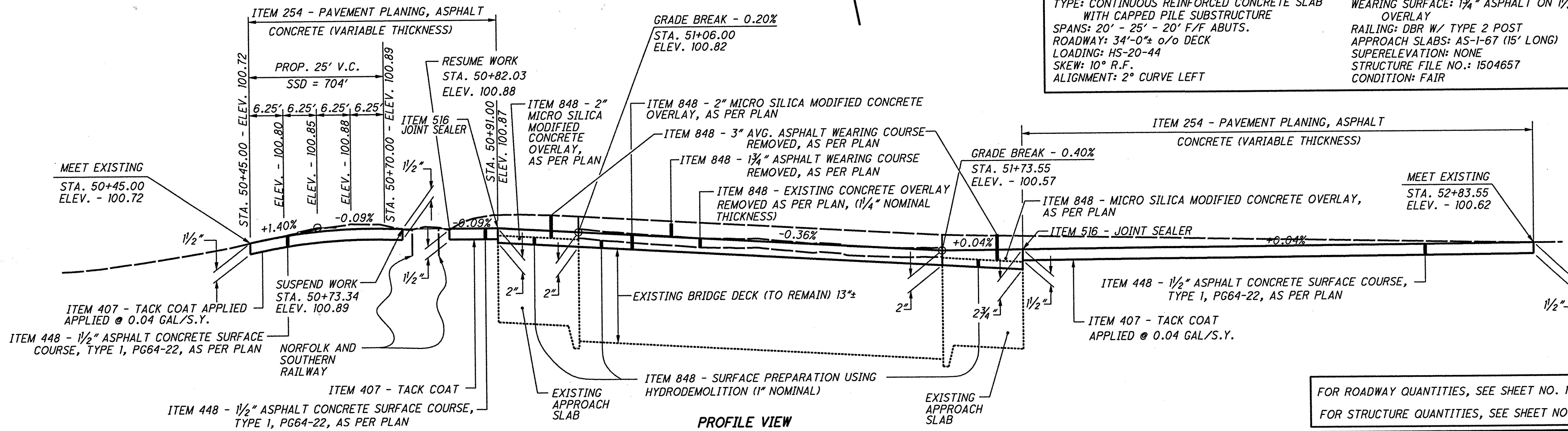
PROPOSED WORK

1. REMOVE AND REPLACE EXISTING DECK EDGES.
2. REMOVE EXISTING ASPHALT CONCRETE WEARING COURSE.
3. REMOVE EXISTING RIGID CONCRETE OVERLAY AND 1″ (NOMINAL THICKNESS) OF EXISTING DECK SLAB CONCRETE BY HYDRODEMOLITION.
4. PLACE NEW MICROSILICA MODIFIED CONCRETE OVERLAY.
5. PATCH ABUTMENT BREASTWALLS.
6. PATCH FORWARD PIER CAP.
7. ENCASE PIER PILING. SEAL ABUTMENTS, PIER CAP, AND NEW DECK EDGE WITH WITH EPOXY-URETHANE SEALER.
8. PERFORM APPROACH PAVEMENT WORK TO MEET NEW DECK ELEVATION.
9. REPLACE BRIDGE RAILING, BRIDGE TERMINAL ASSEMBLIES, AND APPROACH GUARDRAIL.

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE
SPANS: 20′ - 25′ - 20′ F/F ABUTS.
ROADWAY: 34′-0″± o/o DECK
LOADING: HS-20-44
SKEW: 10° R.F.
ALIGNMENT: 2° CURVE LEFT

WEARING SURFACE: 1¾″ ASPHALT ON 1½″ CONC. OVERLAY
RAILING: DBR W/ TYPE 2 POST
APPROACH SLABS: AS-1-67 (15′ LONG)
SUPERELEVATION: NONE
STRUCTURE FILE NO.: 1504657
CONDITION: FAIR



ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE THICKNESS)
PROP. 25′ V.C.
SSD = 704′
6.25′ 6.25′ 6.25′ 6.25′
STA. 50+45.00 - ELEV. 100.72
ELEV. - 100.80
ELEV. - 100.85
ELEV. - 100.88
STA. 50+70.00 - ELEV. 100.89
RESUME WORK
STA. 50+82.03
ELEV. 100.88
ITEM 516 JOINT SEALER
STA. 50+91.00 ELEV. 100.87
ITEM 848 - 2″ MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN
GRADE BREAK - 0.20%
STA. 51+06.00
ELEV. 100.82
ITEM 848 - 2″ MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN
ITEM 848 - 3″ AVG. ASPHALT WEARING COURSE REMOVED, AS PER PLAN
ITEM 848 - 1¾″ ASPHALT WEARING COURSE REMOVED, AS PER PLAN
ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED AS PER PLAN, (1¼″ NOMINAL THICKNESS)
GRADE BREAK - 0.40%
STA. 51+73.55
ELEV. - 100.57
ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY, AS PER PLAN
ITEM 516 - JOINT SEALER
ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (VARIABLE THICKNESS)
MEET EXISTING
STA. 52+83.55
ELEV. - 100.62
MEET EXISTING
STA. 50+45.00
ELEV. - 100.72
+1.40%
-0.09%
-0.09%
-0.36%
+0.04%
+0.04%
1½″
2″
2¾″
SUSPEND WORK
STA. 50+73.34
ELEV. 100.89
ITEM 407 - TACK COAT APPLIED APPLIED @ 0.04 GAL./S.Y.
ITEM 448 - 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN
NORFOLK AND SOUTHERN RAILWAY
ITEM 407 - TACK COAT
ITEM 448 - 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN
EXISTING BRIDGE DECK (TO REMAIN) 13″±
EXISTING APPROACH SLAB
ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION (1″ NOMINAL)
EXISTING APPROACH SLAB
ITEM 448 - 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN
ITEM 407 - TACK COAT APPLIED @ 0.04 GAL./S.Y.

PROFILE VIEW

FOR ROADWAY QUANTITIES, SEE SHEET NO. 10.
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

SITE PLAN

BRIDGE NO. COL-172-0097 OVER MIDDLE BRANCH SANDY CREEK

DESIGN AGENCY: O.D.O.T. DISTRICT 11 PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
RPT	RPT	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAL		1504657	

CAR-183-0.94
PID No. 24865

1/6

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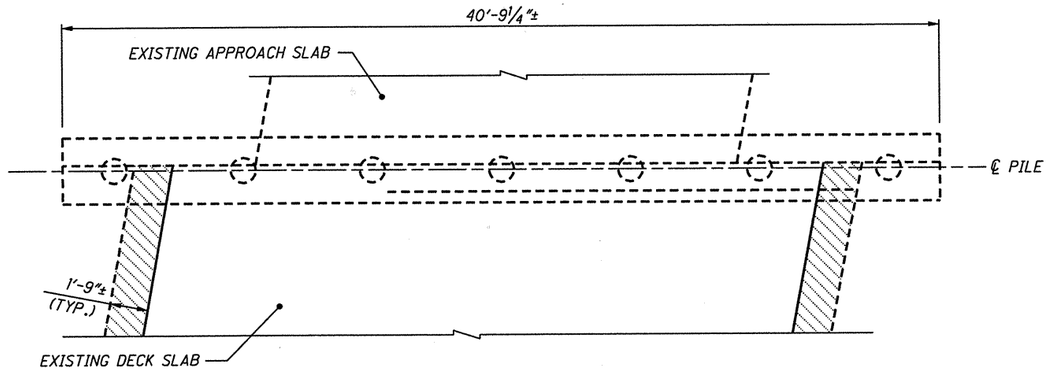
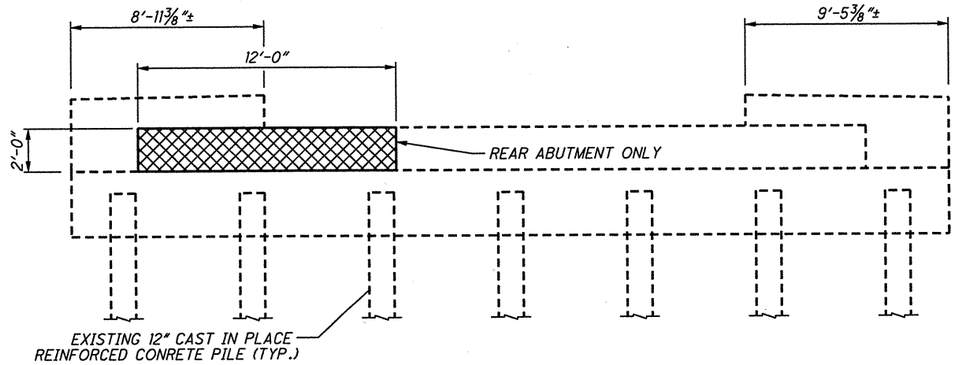


REAR ABUTMENT PLAN

(FORWARD ABUTMENT SIMILAR)



REAR ABUTMENT ELEVATION

(FORWARD ABUTMENT SIMILAR)

NOTES:

1. PATCHING CONCRETE STRUCTURE, AS PER PLAN APPLIES TO REAR ABUTMENT ONLY.
2. SEAL ALL EXPOSED CONCRETE SURFACES ON REAR AND FORWARD ABUTMENTS WITH EPOXY-URETHANE SEALER.

LEGEND

PORTIONS OF STRUCTURE TO BE REMOVED

PATCHING CONCRETE STRUCTURE, AS PER PLAN

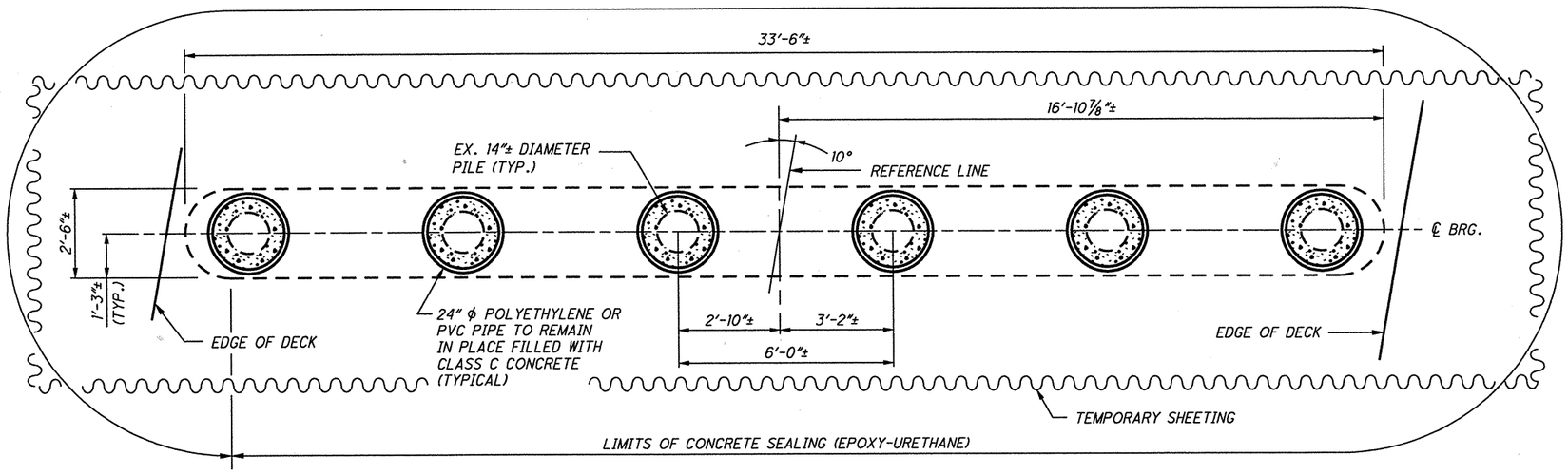
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

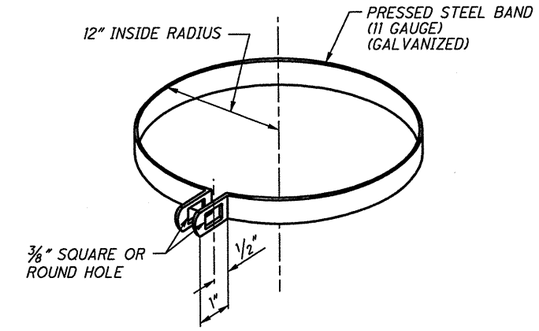
DESIGNED	DRAWN	REVIEWED	DATE
RPT	DAH	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JPB		1504657	

ABUTMENT DETAILS
BRIDGE No. COL-172-0097
OVER MIDDLE BRANCH SANDY CREEK

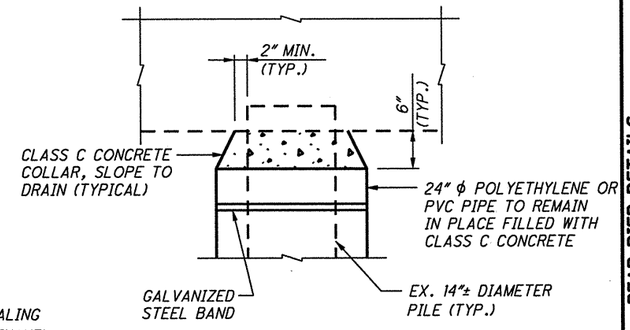
CAR-183-0.94
PID No. 24865



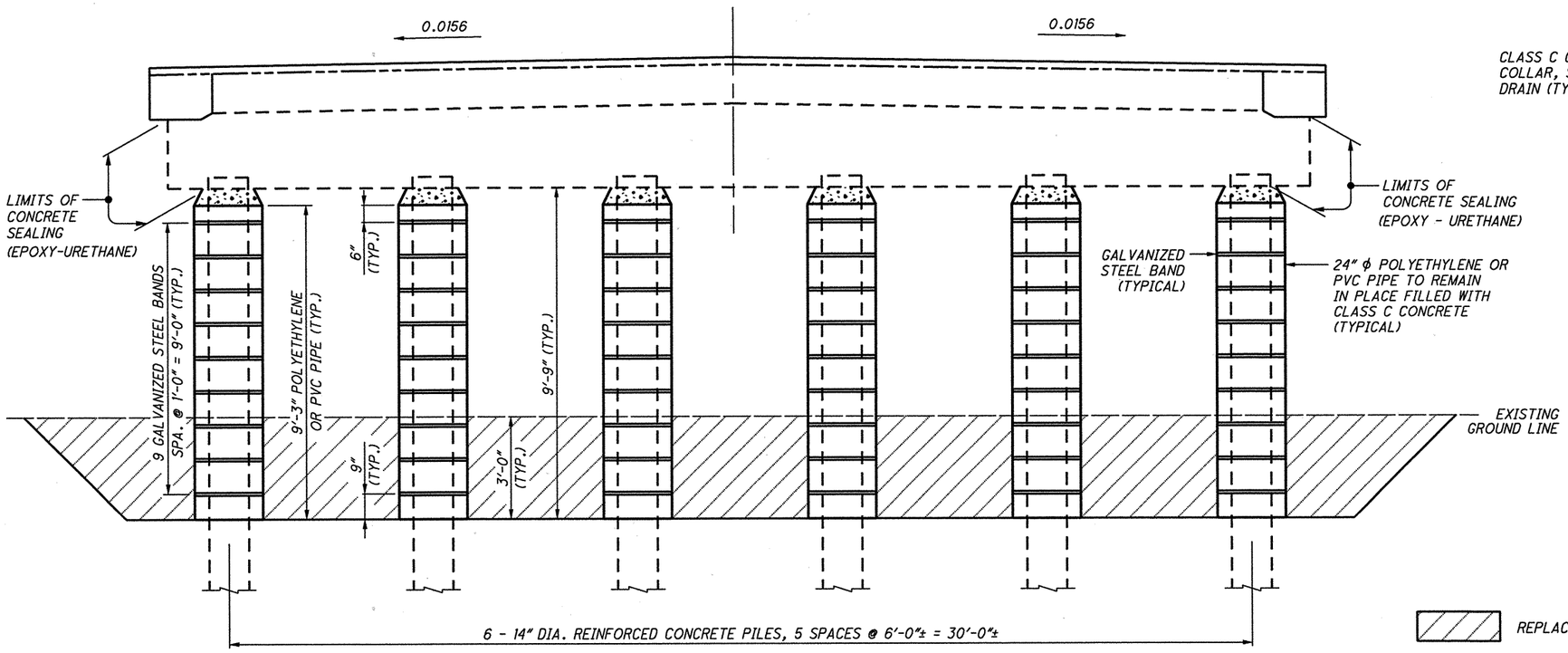
REAR PIER PLAN



STEEL BAND DETAIL



COLLAR DETAIL



REAR PIER ELEVATION

REPLACED EMBANKMENT

FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

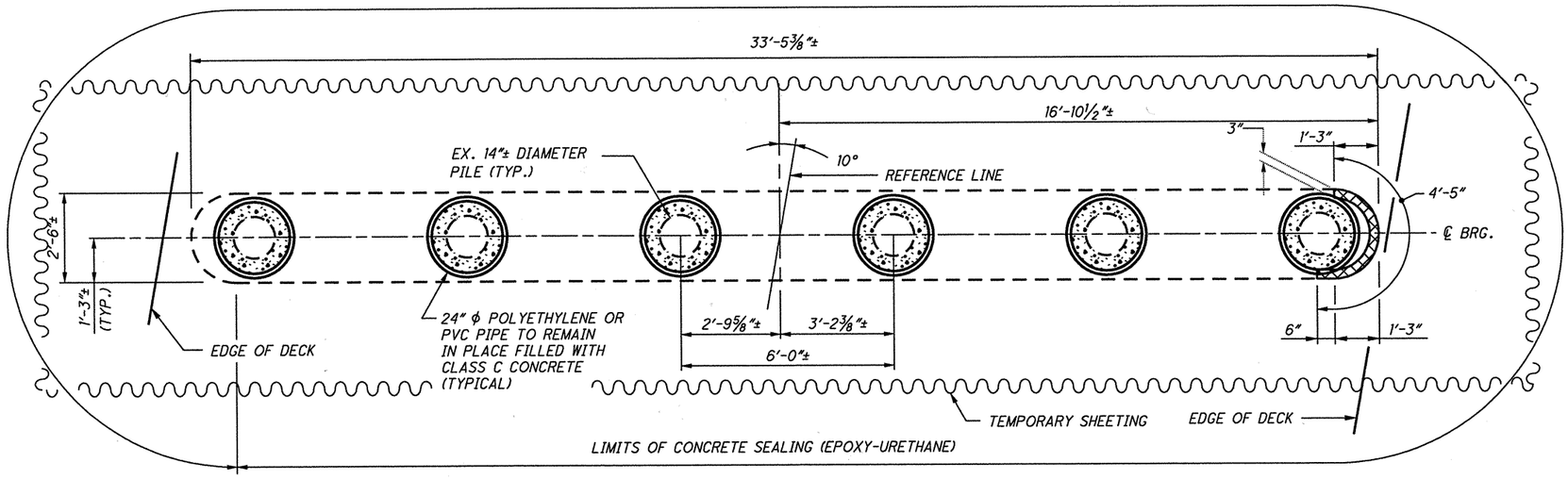
DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
RPT	RPT	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JPB		1504657	

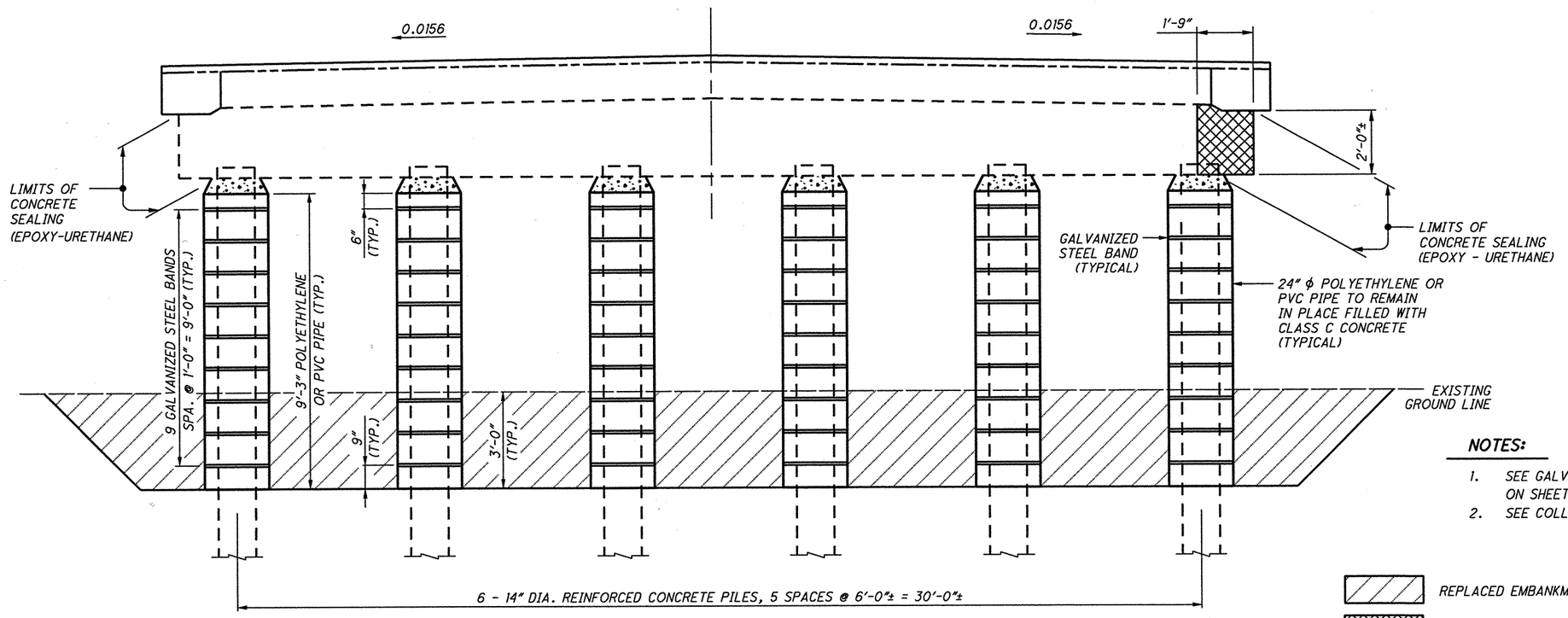
REAR PIER DETAILS

BRIDGE No. COL-172-0097
OVER MIDDLE BRANCH SANDY CREEK

CAR-183-0.94
PID No. 24865



FORWARD PIER PLAN



FORWARD PIER ELEVATION

NOTES:

1. SEE GALVANIZED STEEL BAND DETAIL ON SHEET NO. 17.
2. SEE COLLAR DETAIL ON SHEET NO. 17.

REPLACED EMBANKMENT

PATCHING CONCRETE STRUCTURE, AS PER PLAN

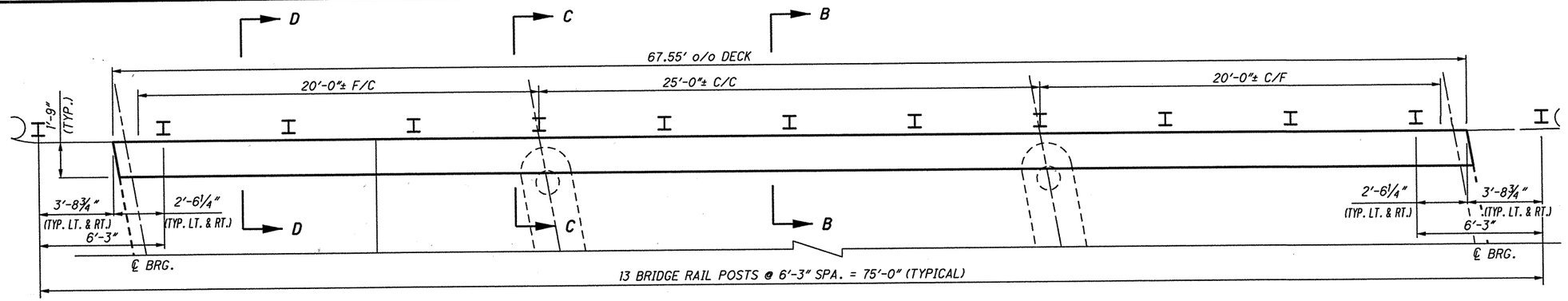
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

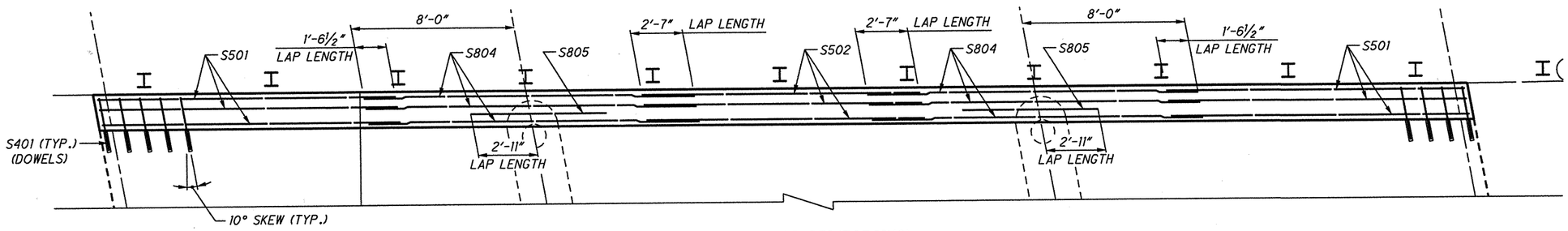
DESIGNED	DRAWN	REVIEWED	DATE
RPT	RPT	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JPB		1504657	

FORWARD PIER DETAILS
BRIDGE No. COL-172-0097
OVER MIDDLE BRANCH SANDY CREEK

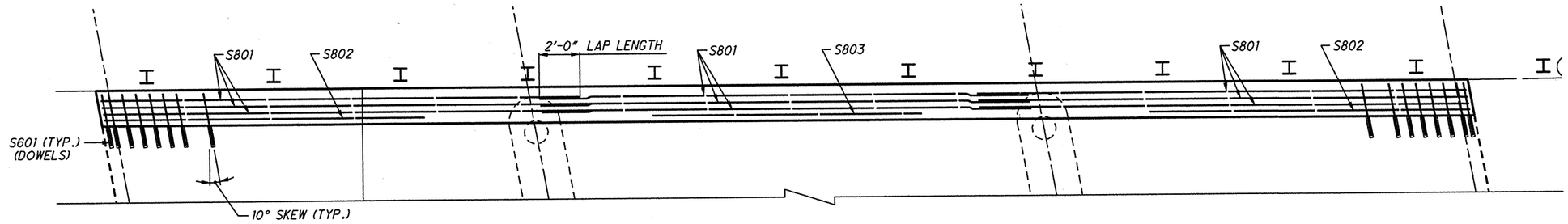
CAR-183-0.94
PID No. 24865



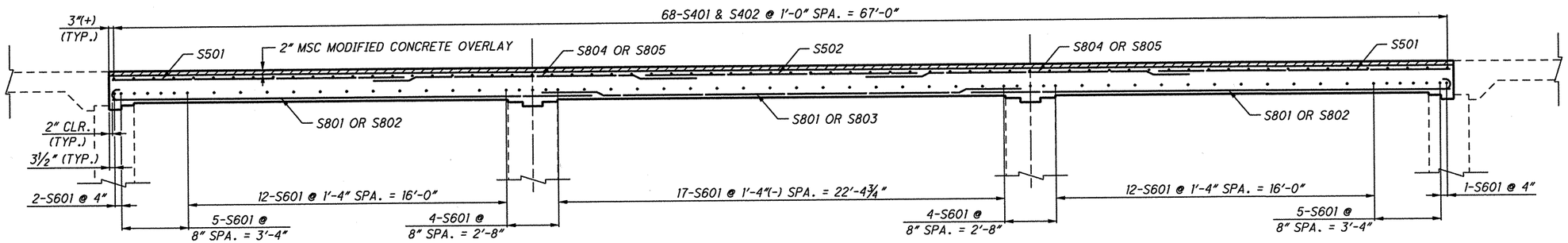
PLAN (DIMENSIONS)



PLAN (TOP REINFORCING)



PLAN (BOTTOM REINFORCING)



SLAB ELEVATION

NOTES:

1. LONGITUDINAL REINFORCING IS SYMMETRIC ABOUT ℄ SR 172
2. ALL DOWEL HOLE DEPTHS ARE 1'-0" MIN. AND SHALL BE INSTALLED ALONG THE SKEW ANGLE
3. FOR SECTIONS B-B, C-C, AND D-D, SEE SHEET NO. 20.
4. FOR REINFORCING STEEL LIST, SEE SHEET NO. 33.

DESIGN AGENCY
O.D.O.T DISTRICT 11
PRODUCTION DEPARTMENT

REVIEWED SAL | DATE 7/16/07 | STRUCTURE FILE NUMBER 1504657

DESIGNED RPT | DRAWN RPT | CHECKED JPB | REVISED

SUPERSTRUCTURE DETAILS
BRIDGE NO. COL-172-0097
OVER MIDDLE BRANCH OF SANDY CREEK

CAR-183-0.94
PID No. 24865

5 / 6

19 / 33

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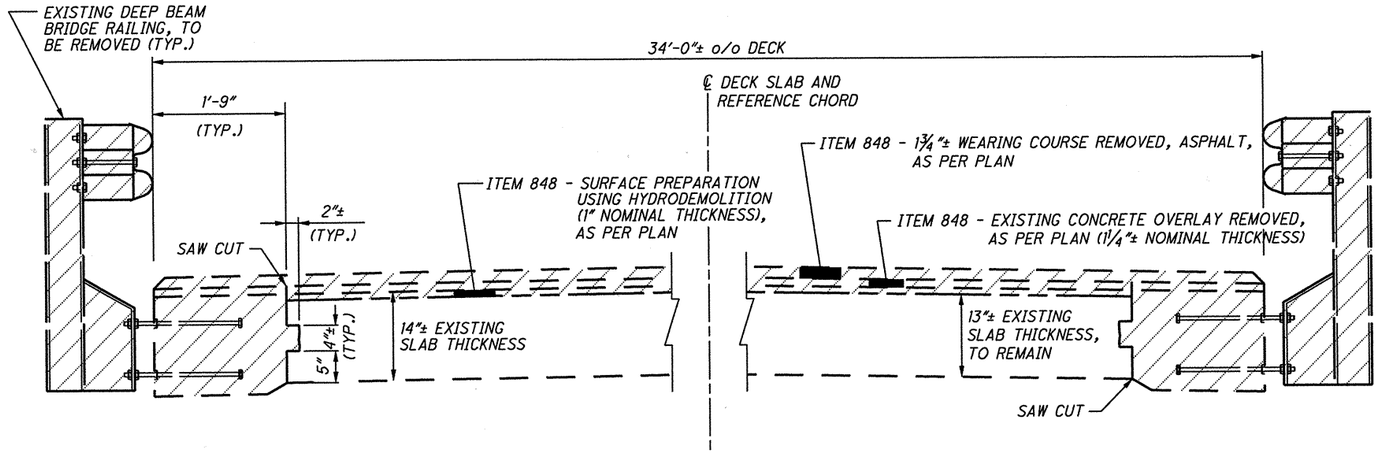
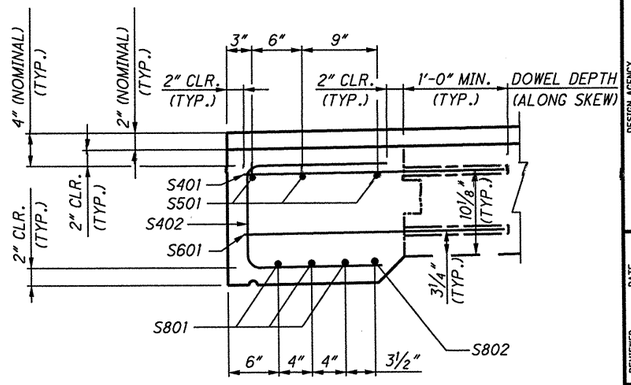
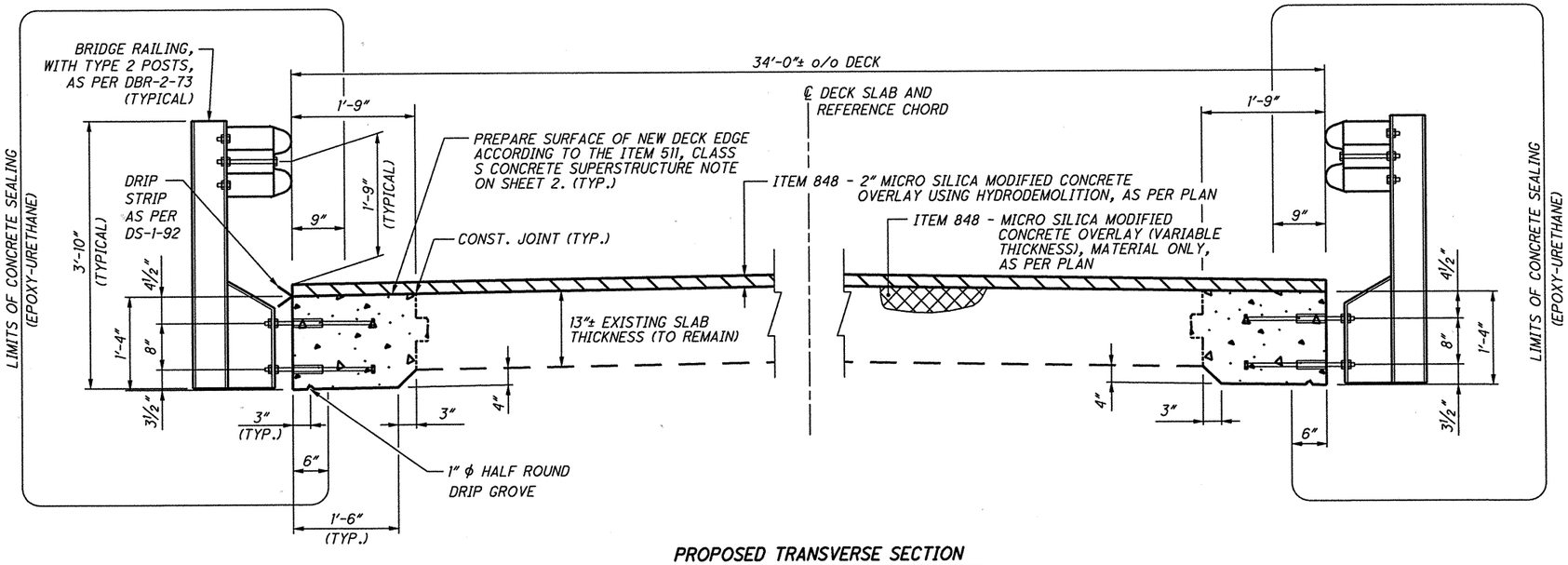


EXISTING TRANSVERSE SECTION

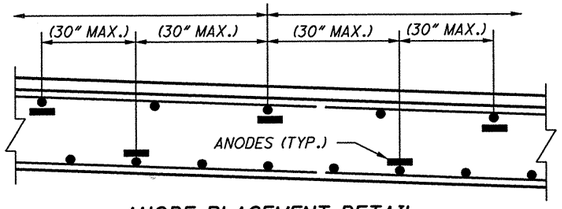


SECTION D-D



PROPOSED TRANSVERSE SECTION

SECTION C-C

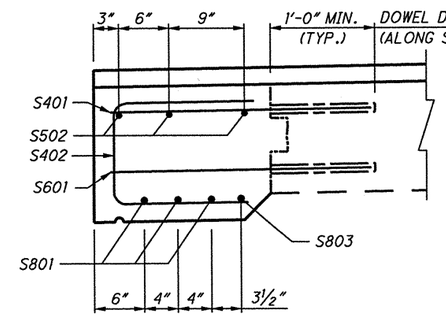


ANODE PLACEMENT DETAIL

ATTACH EGA'S TO PROPOSED DOWEL BARS ALONG DECK EDGE AND TO EX. REINFORCING STEEL IN FULL DEPTH REPAIR AREAS. ALTERNATE BETWEEN TOP AND BOTTOM MATS.

NOTES:

1. THE S401 AND S601 BARS SHALL BE DOWELED INTO THE EXISTING DECK ALONG THE SKEW ANGLE. SEE SHEET NO.19 FOR ADDITIONAL DETAILS AND INFORMATION.
2. FOR LOCATIONS OF SECTIONS B-B, C-C, AND D-D, SEE SHEET NO. 19.
3. FOR REINFORCING STEEL LIST, SEE SHEET NO. 33.



SECTION B-B

FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY: O.D.O.T. DISTRICT ELEVEN, PRODUCTION DEPARTMENT
DESIGNED: RPT | DRAWN: RPT | CHECKED: JPB | REVIEWED: SAL | DATE: 7/18/07 | REVISED | STRUCTURE FILE NUMBER: 1504657

TRANSVERSE SECTION
BRIDGE NO. COL-172-0097
OVER MIDDLE BRANCH SANDY CREEK

CAR-183-0.94
PID No. 24865

6/6
20/33

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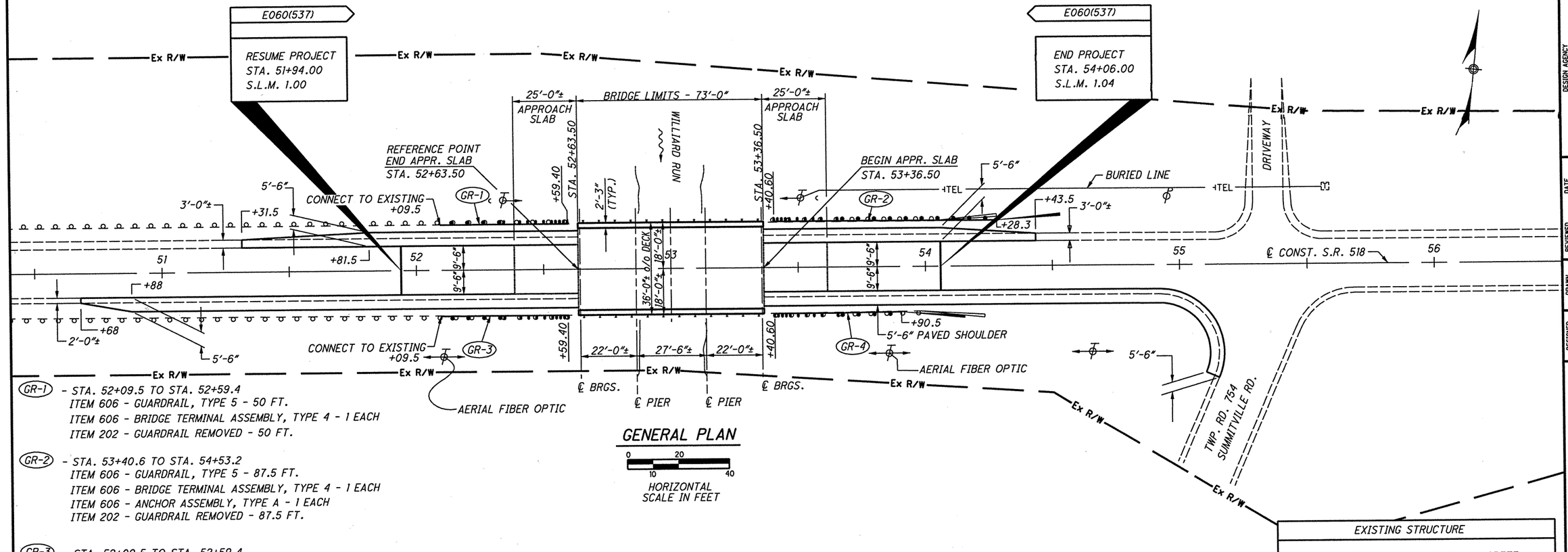


GENERAL PLAN

0 20 10 40

HORIZONTAL SCALE IN FEET

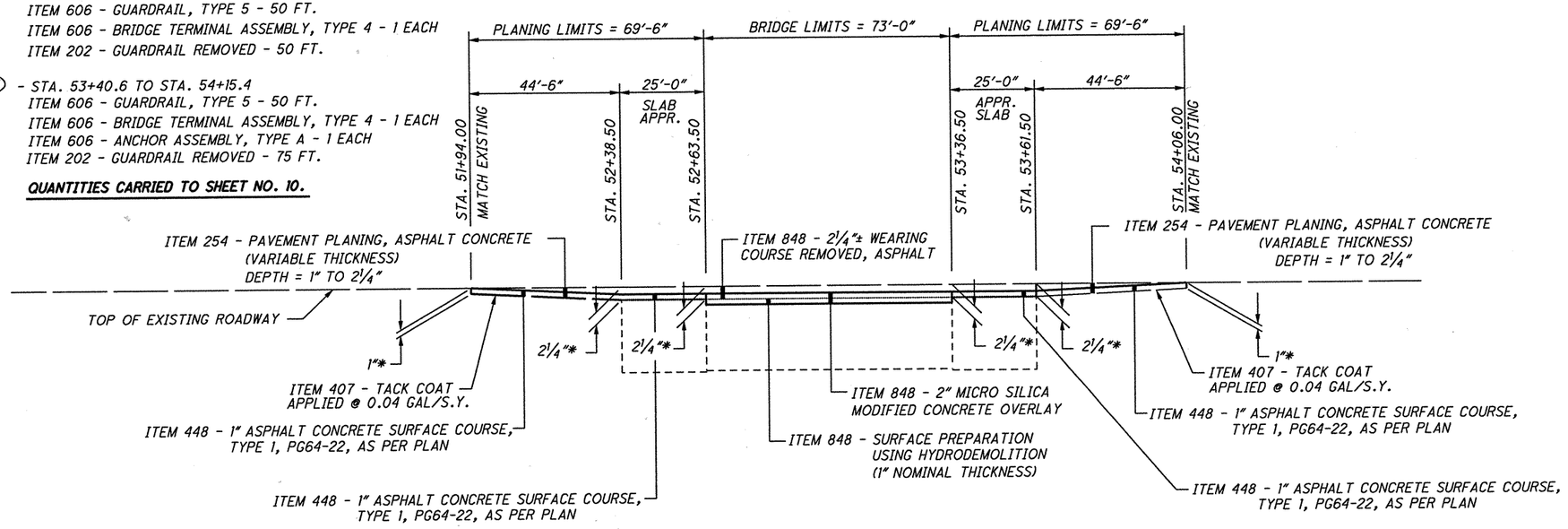
GR-1 - STA. 52+09.5 TO STA. 52+59.4
ITEM 606 - GUARDRAIL, TYPE 5 - 50 FT.
ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4 - 1 EACH
ITEM 202 - GUARDRAIL REMOVED - 50 FT.

GR-2 - STA. 53+40.6 TO STA. 54+53.2
ITEM 606 - GUARDRAIL, TYPE 5 - 87.5 FT.
ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4 - 1 EACH
ITEM 606 - ANCHOR ASSEMBLY, TYPE A - 1 EACH
ITEM 202 - GUARDRAIL REMOVED - 87.5 FT.

GR-3 - STA. 52+09.5 TO STA. 52+59.4
ITEM 606 - GUARDRAIL, TYPE 5 - 50 FT.
ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4 - 1 EACH
ITEM 202 - GUARDRAIL REMOVED - 50 FT.

GR-4 - STA. 53+40.6 TO STA. 54+15.4
ITEM 606 - GUARDRAIL, TYPE 5 - 50 FT.
ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4 - 1 EACH
ITEM 606 - ANCHOR ASSEMBLY, TYPE A - 1 EACH
ITEM 202 - GUARDRAIL REMOVED - 75 FT.

QUANTITIES CARRIED TO SHEET NO. 10.



PAVEMENT AND PLANING DETAIL

DETAIL SHOWN IS VERTICALLY EXAGGERATED
* = PLANING DEPTH

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH CAPPED PILE SUBSTRUCTURE
SPANS: 22.0'± - 27.5'± - 22.0'± c/c BRGS.
ROADWAY: 36'-0"± o/o DECK, 34.6'± f/f RAIL
LOADING: H-15
SKEW: NONE
ALIGNMENT: TANGENT
WEARING SURFACE: 2¼"± ASPHALT CONC.
RAILING: DBR W/ TYPE 1 POST
APPROACH SLABS: AS-1-54 (25' LONG)
STRUCTURE FILE NO.: 1505408
CONDITION: FAIR

PROPOSED WORK

1. REPLACE DECK EDGES
2. PERFORM HYDRODEMOLITION
3. OVERLAY WITH MICRO SILICA MODIFIED CONCRETE.
4. UPGRADE BRIDGE RAILING, BRIDGE TERMINAL ASSEMBLIES AND APPROACH GUARDRAIL.
5. PAVE APPROACHES TO MATCH NEW OVERLAY SURFACE.
6. PATCH SUBSTRUCTURE
7. SEAL CONCRETE SURFACES

FOR ROADWAY QUANTITIES, SEE SHEET NO. 10.
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY: O.D.O.T. DISTRICT ELEVEN, PRODUCTION DEPARTMENT
DESIGNED: RPT | DRAWN: TKB | CHECKED: RPT | REVISED:
REVIEWED: SAL | DATE: 7/16/07
STRUCTURE FILE NUMBER: 1505408

SITE PLAN

BRIDGE NO. COL-518-0100
OVER WILLIARD RUN

CAR-183-0.94
PID No. 24865

1/13
21/33

MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614 AND THE CONSTRUCTION PHASING DESCRIBED ON SHEET NO. 29. THE ROAD MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 10 MINUTES FOR THE MOVEMENT OF EQUIPMENT AND MATERIALS INTO AND OUT OF THE JOB SITE.

IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURE 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.

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION THAT WILL REQUIRE THE CLOSURE OF EXISTING LANES TO TRAFFIC, ALL WORK ZONE SIGNALS, RPM'S, SIGNS, LIGHTS, PORTABLE CONCRETE BARRIER, AND WORK ZONE PAVEMENT MARKINGS SHALL BE FURNISHED AND INSTALLED AS SHOWN ON SHEETS 24 THRU 29. 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.

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 ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

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

(PMT-1), (PMT-2), (PMT-3), (PMT-4) - SHALL BE CONSTRUCTED WITH FLEXIBLE MATERIAL AND SHALL REMAIN IN PLACE UPON THE COMPLETION OF THE PROJECT.

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 CMS 626, EXCEPT THAT THE SPACING SHALL BE 25 FEET.

WORK ZONE TRAFFIC SIGNALS

ALL WORK ZONE TRAFFIC SIGNALS SHALL HAVE HARDWARE INSTALLED 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 TEMPORARY TRAFFIC SIGNALS IN THE EVENT OF AN ELECTRICAL POWER OUTAGE.

IN LIEU OF THE PRECEEDING 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 CONTRACTOR 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 SIGNS FUNCTIONING FOR THE ENTIRE DURATION OF THE POWER OUTAGE. 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 FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 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.

DWG.#	DRAWING NAME	DWG. /REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD 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
354051z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, 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 TRINITY INDUSTRY, 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 PREAPPROVED SHOP DRAWINGS:

DWG.#	DRAWING NAME	DWG. /REV. DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. 1	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. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS, INC.,SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515 (TELEPHONE: 330-799-9291).

   THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT 24' LONG AND 35" 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:

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL) CONTINUED...

DWG.#	DRAWING NAME	DWG. /REV. DATE	ODOT APPROVAL DATE
A040416	UNIVERSAL TAU-II PARTS LIST	4/22/04	10/16/04
A040420	UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP	4/28/04	10/16/04
A040105	UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)	1/07/04	10/16/04
B040239	APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)	4/21/04	10/16/04

4. 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 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.

OVERHEAD MOUNTED WORK ZONE SIGNALS

SIGNALS SHALL BE OVERHEAD MOUNTED IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET NO. 26.

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 THE 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.

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DESIGN AGENCY: O.D.O.T. DISTRICT ELEVEN, PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
RPT	TKB	SAL	7/16/07	1505408
CHECKED	REVISED			
SAL				

MAINTENANCE OF TRAFFIC NOTES

COL-518-1.00

CAR-183-0.94 PID No. 24865

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 I, 740.06, Type I	614 Work Zone Stop Line, Class I, 740.06, Type I	614 Work Zone Center Line, Class I, 642 Paint	615 Pavement For Maintaining Traffic, Class B, As Per Plan	622 Portable Concrete Barrier, 32" Bridge Mounted	622 Portable Concrete Barrier, 32"
			EACH	EACH	EACH	MILE	FEET	MILE	SQ. YD.	FEET	FEET
PHASE 1	24	MT-1						0.03			
	24	MT-2					12				
	24	MT-3			1						
	24	MT-4			1						
	24	MT-5					13				
	24	MT-6						0.03			
	24	MT-7				0.01					
		MT-8					13				
	24	PCB-1	15	15						80	270
	24	PMT-1							74		
	24	PMT-2							60		
	24	PMT-3							116		
	24	PMT-4							125		
Phase 1 Sub-Total			15	15	2	0.01	38	0.06	375	80	270
PHASE 2	24	MT-9				0.02					
	24	MT-10			1						
	24	MT-11			1						
	24	PCB-2	14	14						80	240
Phase 2 Sub-Total			14	14	2	0.02				80	240
Totals Carried to General Summary			29	29	4	0.03	38	0.06	375	160	510

(PMT-1) (4.25' AVG. x 50') + (5.5' x 82') = 663.5 SQ. FT. ÷ 9 = 73.7 SQ. YD.
USE 74 SQ. YD.

(PMT-2) (5.5' x 69.5') + (4.25' AVG. x 37.5') = 541.6 SQ. FT. ÷ 9 = 60.1 SQ. YD.
USE 60 SQ. YD.

(PMT-3) (3.75' AVG. x 20') + (5.5' x 175.5') = 1040.3 SQ. FT. ÷ 9 = 115.6 SQ. YD.
USE 116 SQ. YD.

(PMT-4) (5.5' x 205')= 1127.5 SQ. FT. ÷ 9 = 125.2 SQ. YD.
USE 125 SQ. YD.

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	48+81.50	50+31.50	℄	20			18	SUPPLEMENT CENTERLINE
	56+11.50	57+61.50	℄	20			18	SUPPLEMENT CENTERLINE
	50+31.50	51+81.50	RT.	5	31			SIMULATE EDGE LINE
	51+81.50	54+92.00	RT.	5	63	63		SIMULATE EDGE LINE
	50+31.50	54+21.50	LT.	5	78	78		SIMULATE EDGE LINE
PHASE 2	50+31.50	54+11.50	LT.	5	77	77		SIMULATE EDGE LINE
	54+11.50	54+92.00	LT.	5	17			SIMULATE EDGE LINE
	51+81.50	54+11.50	RT.	5	46	46		SIMULATE EDGE LINE
Sub-Total					312	264	36	
Total Carried to General Summary						612		

Note: Side is in relation to increasing stations.

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

DESIGNED RPT | DRAWN TKB | REVIEWED SAL | DATE 7/16/07
CHECKED SAL | REVISED | STRUCTURE FILE NUMBER 1505408

MAINTENANCE OF TRAFFIC QUANTITIES
BRIDGE NO. COL-518-0100
OVER WILLIARD RUN

CAR-183-0.94
PID No. 24865

3/13

23/33

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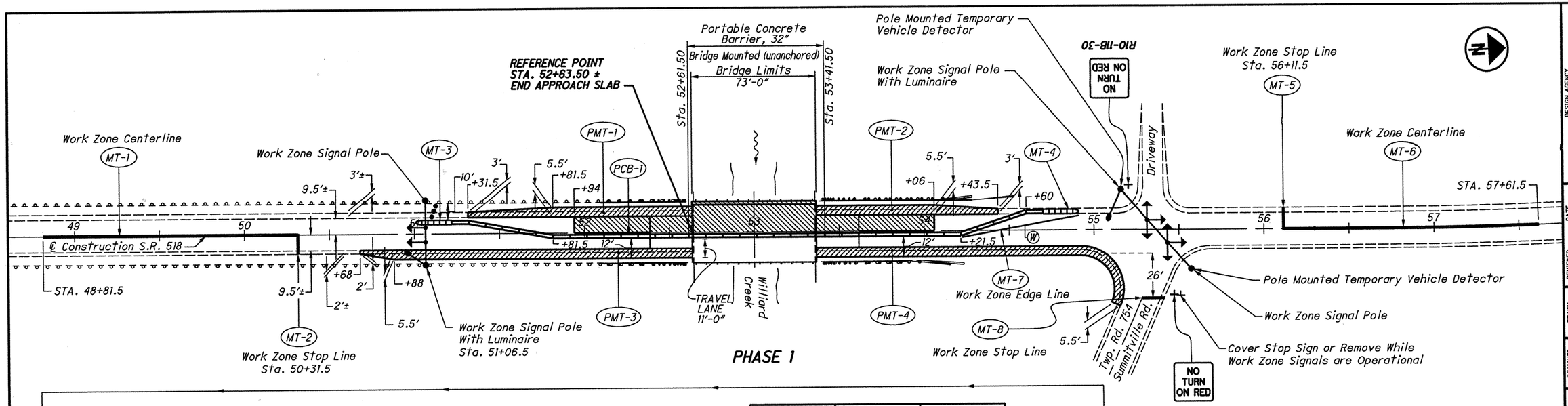


WORK ZONE TRAFFIC SIGNAL TIMING

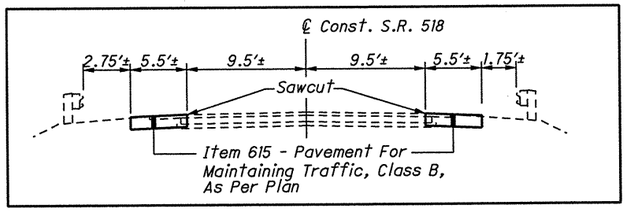
INTERVAL	1	2	3	4	5	6
	T	T	T	T	T	T
	16 SEC.	10 SEC.	4 SEC.	16 SEC.	10 SEC.	4 SEC.

INTERVAL	7	8	9
	T	T	T
	16 SEC.	6 SEC.	4 SEC.

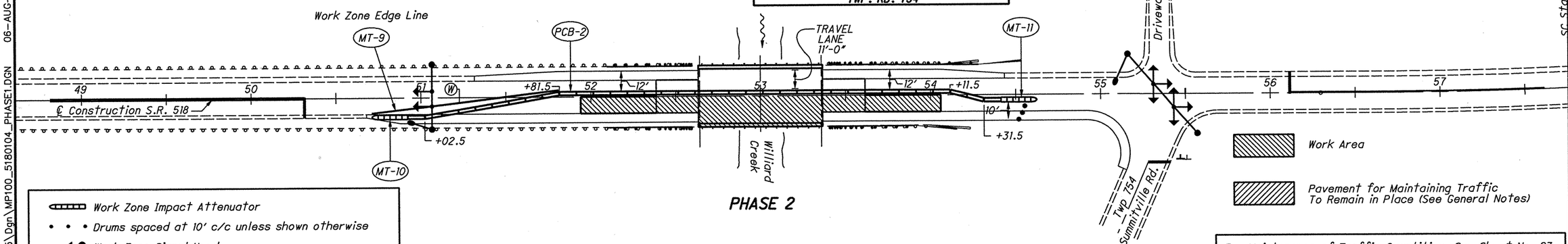
SKIP INTERVALS 7,8 & 9
UNLESS ACTUATED -
DRIVEWAY

INTERVAL	10	11	12
	T	T	T
	16 SEC.	6 SEC.	4 SEC.

SKIP INTERVALS 10,11 & 12
UNLESS ACTUATED -
TWP. RD. 754



TYPICAL SECTION



PHASE 2

- Work Zone Impact Attenuator
- • • • Drums spaced at 10' c/c unless shown otherwise
- Work Zone Signal Head
- (W) White Edge Line
- Portable Concrete Barrier
- Type 3 Barricade

HORIZONTAL SCALE IN FEET
0 15 30 60

For Maintenance of Traffic Quantities, See Sheet No. 23.

For Maintenance of Traffic Notes, See Sheet No. 22.

For Details not shown, See Standard Construction Drawings MT-97.10, MT-101.20, MT-101.70, MT-105.10, MT-105.11, RM-4.2, And Sheets No. 25-29.

DESIGN AGENCY: O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

DATE: 7/16/07
REVIEWED: SAL
STRUCTURE FILE NUMBER: 1505408
DRAWN: TKB
REVISED:
DESIGNED: TKB
CHECKED: RPT

MAINTENANCE OF TRAFFIC PLAN - (COL-518-1.00) PHASE 1 AND 2

CAR-183-0.94
PID No. 24865

4/13
24/33

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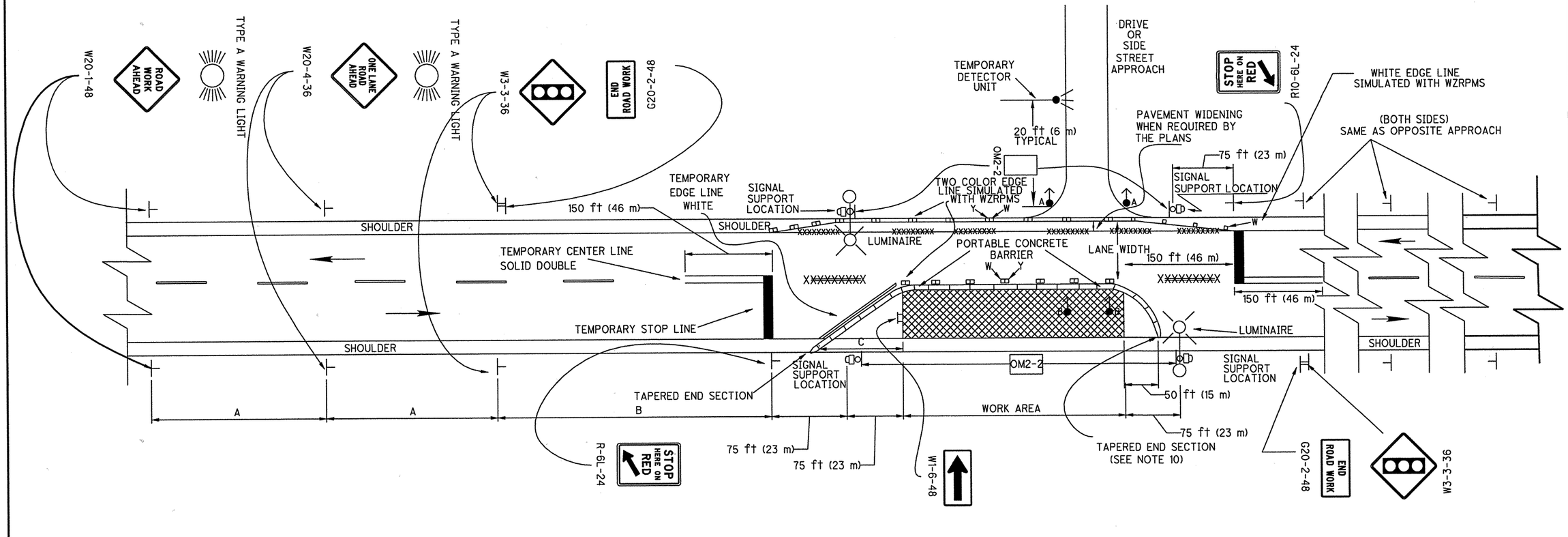
SC Sta. 57+79.69



GENERAL NOTES:

1. Initial signal timing and phasing shall be as shown in the plans. Changes shall be approved by the Engineer.
2. Signals shall be installed and operated in accordance with the requirements of Part 6 of the Ohio Manual of Uniform Traffic Control Devices.
3. Temporary center line, solid, double, shall be installed and maintained when existing center line, solid double is not in place. 12 inch (300 mm) stop lines shall be installed. Work Zone Raised Pavement Markers (WZRPMs) to simulate a two color edge line shall be provided. Existing conflicting pavement markings and raised pavement marker reflectors shall be removed. Temporary edge lines which would conflict with final traffic lanes shall be removable (740.06 Type 1) tape unless the area will be resurfaced in the next work phase. After completion of the work, pavement markings other than 740.06 Type 1 shall be removed in accordance with 641.10. The originial markings and raised pavement marker reflectors shall be restored at no additional cost.
4. The horizontal or vertical alignment of the roadway may require adjustments in the location of the Advance Warning signs or the signal heads. Tree or brush trimming to provide adequate sight distance to sign and signals shall be provided as directed by the Engineer. The distances shown for Advance Warning Sign spacings are minimum.
5. The spacing between proposed signs should be adjusted to not conflict with and to provide a minimum of 200 feet (60 m) clear to existing signs.
6. All traffic signal and lighting equipment used in this installation, such as signal or lighting cable, signal heads, luminaires or signal controller shall be in conformance with specification Items 625, 632, 633, 713, 732 and 733. However, the performance tests of 625.55e and 632.27(6), the working drawing requirements of 625.04, 632.03, and 633.03, the wiring diagram and service manual requirement of 633.04 and the testing and prequalification requirement of 633.05 are waived. Also the requirements of 733.01 concerning expansible 3-dial units and twelve signal circuits are waived. Used equipment is acceptable. Conflict monitors shall be used except with electromechanical pretimed controllers with cam shaft.
7. If the signal is changed to flashing operation, red shall be flashed to all approaches on all signal heads.
8. Existing barrier between temporary stop lines shall be delineated with Item 614-barrier reflectors.
9. For overhead mounted signals, see sheet 26.
10. During working hours only a length of barrier sufficient to provide a 10 feet (3m) access on the shoulder and part of roadway, may be removed for access. A similar barrier removal at the opposite end of the work area may also be permitted only when necessary.
11. Work zone raised pavement markers shall be provided as per Standard Construction Drawing MT-101.20.

3 - PHASE SIGNAL

A-A and B-B are alternate signal locations. Signals at A-A shall be 8 ft above grade. Signals at B-B shall be 15 feet above grade. The temporary detector unit shall be; (1) a magnetic sensor attached to a light wood post at roadside if only a single approach lane, (2) loops or magnetometers imbedded in or fastened to the drive surface (imbedment shall not be used for concrete or asphalt concrete unless the surface is to be surfaced over later as a part of the work) or (3) sonic detectors, mounted on a suitable support beside or over the road.

DISTANCE FT (m)	A	B	C
URBAN (≤ 40 MPH)	200 (60)	350 (105)	50 (15)
URBAN (≥ 45 MPH)	350 (105)	750 (230)	100 (30)
RURAL	500 (150)	750 (230)	100 (30)

xxxxxxxxx —— EXISTING MARKINGS REMOVED

W —— TRPM, WHITE, 1-WAY

Y W —— TWO TRPM'S BACK TO BACK

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 11/27/06 | CHECKED

PIS NUMBER 209630

PLAN INSERT SHEET - BRIDGE NO. COL-518-0100

SIGNALIZED CLOSING 1 LANE OF A 2-LANE HIGHWAY WITH PCB (3-PHASE)

CAR-183-0.94

PID NO. 24865

5 / 13

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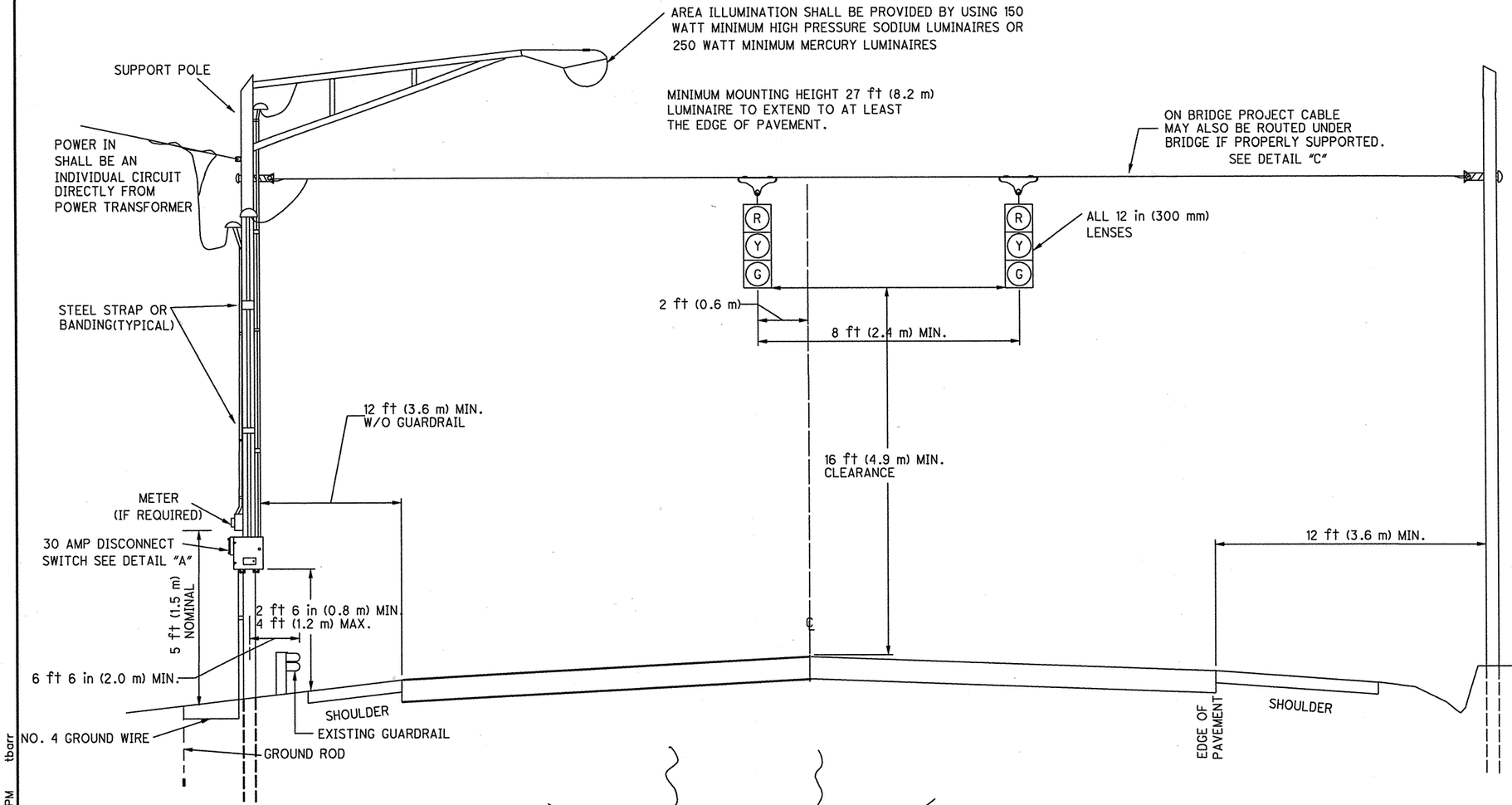
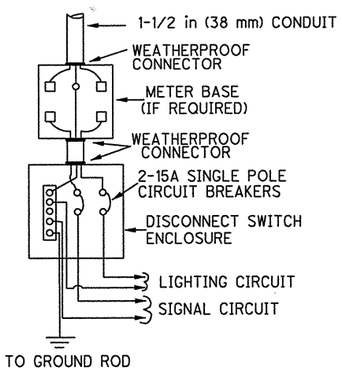
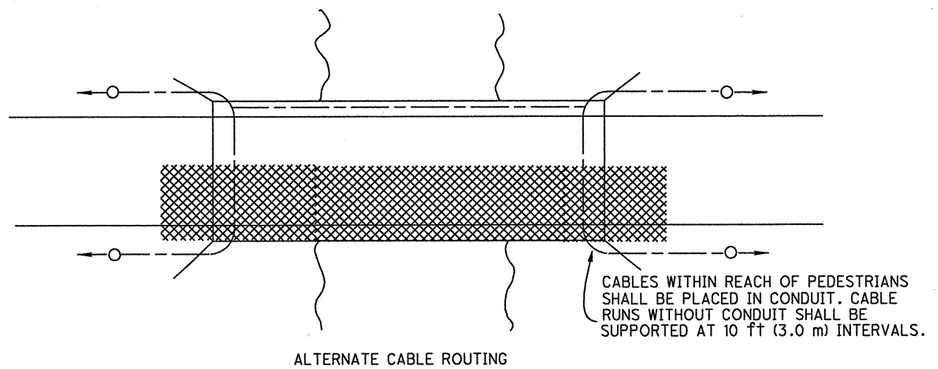




DETAIL "A"



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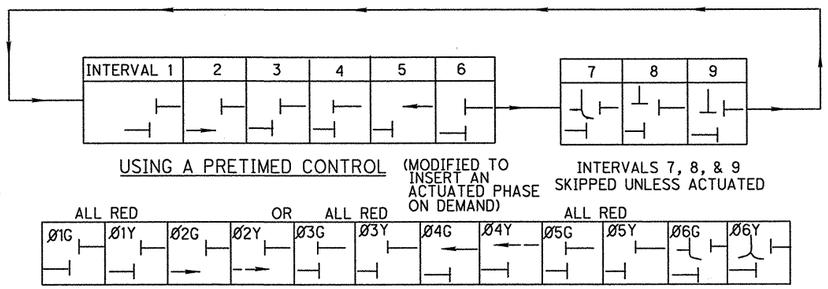

WHEN CALLED FOR IN THE PLANS, Ø2 GREEN, Ø4 GREEN AND Ø6 GREEN SHALL BE ACTUATED BY DETECTORS AT APPROACH TO THE WORK ZONE. Ø1, Ø3 AND Ø5 ARE DUMMY PHASES TO TIME ALL RED INTERVAL. TIMING INITIALIZES ON PHASE ONE.

USING A 6 PHASE ACTUATED CONTROL

DETAIL " B "
SIGNAL PHASING

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DESIGNED | REVIEWED LAM

REVISION DATE 11/27/06 | CHECKED

PIS NUMBER 209632

PLAN INSERT SHEET - BRIDGE NO. COL-518-0100

DETAILS FOR SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY-OVERHEAD MOUNTED (3-PHASE)

CAR-183-0.94
PID NO. 24865

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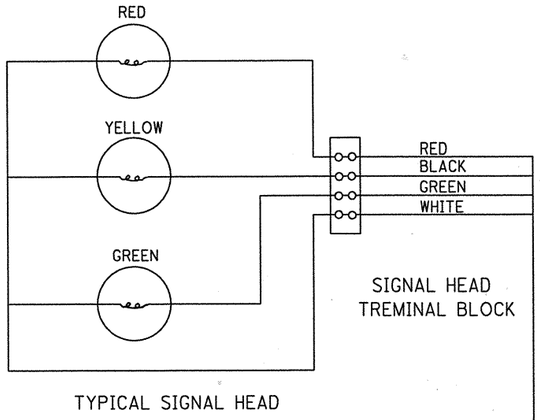
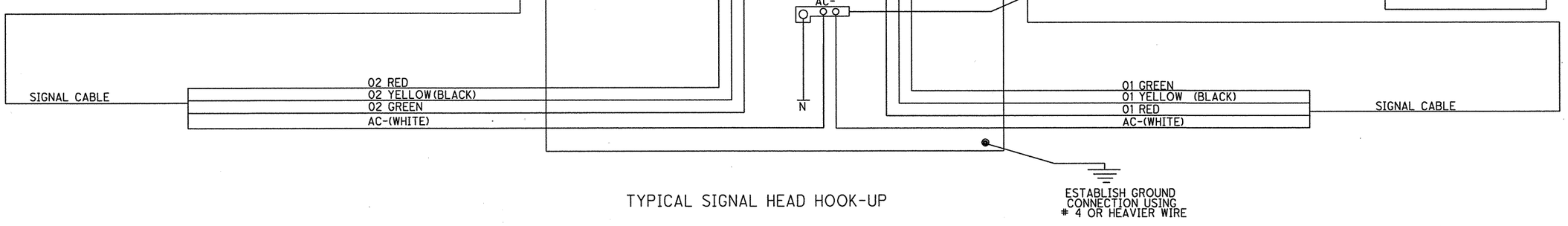


TYPICAL SIGNAL HEAD

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



TYPICAL SIGNAL HEAD HOOK-UP

GENERAL NOTES:

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

2. 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.

3. 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, conflicting 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.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 11/27/06 | CHECKED

PIS NUMBER 209633

PLAN INSERT SHEET - BRIDGE NO. COL-518-0100

PRE-TIMED WIRING DIAGRAM - SIGNALIZED

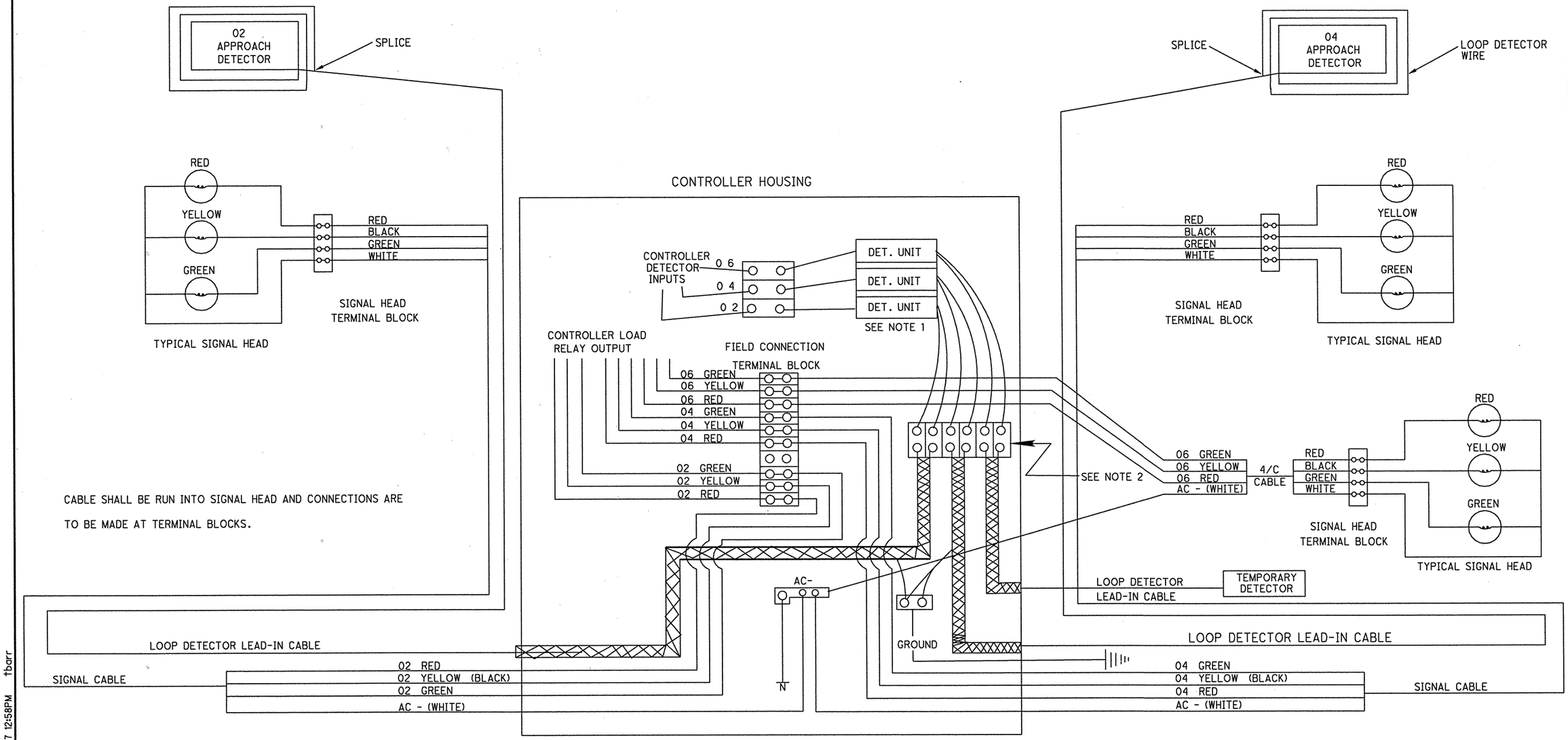
CLOSING 1 LANE OF A 2 LANE HIGHWAY (3-PHASE)

CAR-183-0.94

PID NO. 24865

7 / 13

27 / 33



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

TYPICAL SIGNAL HEAD HOOK-UP

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, conflicting 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.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 11/27/06 | CHECKED

PIS NUMBER 209634

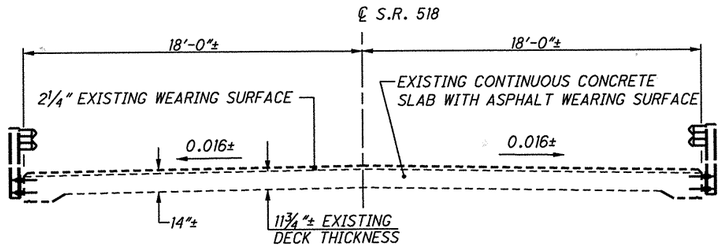
PLAN INSERT SHEET - BRIDGE NO. COL-518-0100

ACTUATED-WIRING DIAGRAM FOR SIGNALIZED CLOSING 1 LANE OF A 2-LANE HIGHWAY (3-PHASE)

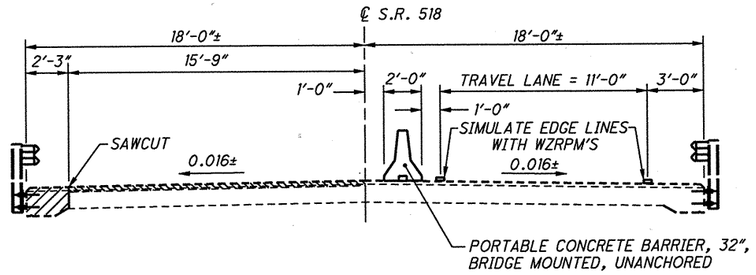
CAR-183-0.94
PID NO. 24865

8 / 13

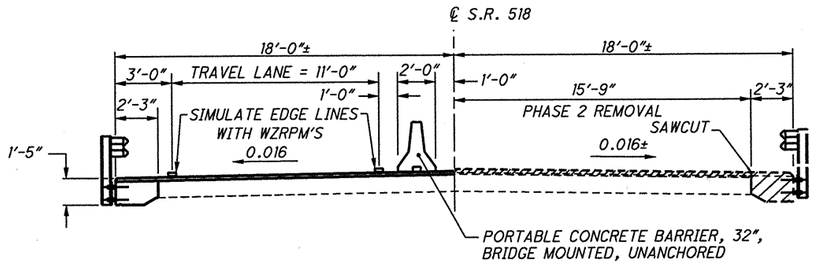
28 / 33



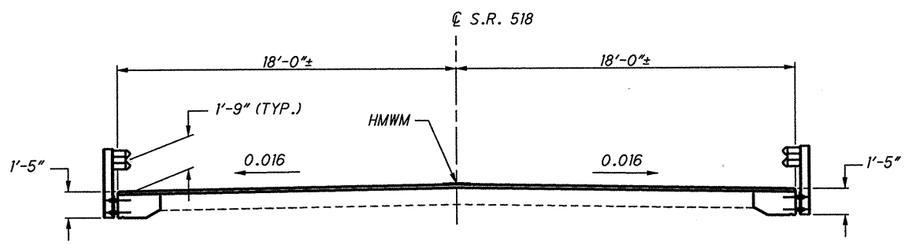
EXISTING TRANSVERSE SECTION
(LOOKING UP STATION)



PHASE 1 REMOVAL
(LOOKING UP STATION)



PHASE 1 CONSTRUCTION AND PHASE 2 REMOVAL
(LOOKING UP STATION)



PHASE 2 CONSTRUCTION
(LOOKING UP STATION)

PHASE 1 REMOVAL

1.) CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC ON RIGHT SIDE OF ROADWAY.

2.) INSTALL AND MAINTAIN CONSTRUCTION WORK ZONE SIGNS, SIGNALS, AND LUMINAIRES AS SHOWN ON SHEET NO. 24. FOR DETAILS NOT SHOWN SEE SHEETS NO. 25-28.

3.) INSTALL AND MAINTAIN THE UNANCHORED PORTABLE CONCRETE BARRIER AS SHOWN PER STD. DWG. PCB-91, REMOVE CONFLICTING EXISTING PAVEMENT MARKINGS AND INSTALL WORK ZONE RAISED PAVEMENT MARKERS AS SHOWN IN THE PLANS. PROVIDE ALL MAINTENANCE OF TRAFFIC DEVICES.

4.) MAINTAIN 1-LANE, 2-WAY TRAFFIC ON THE RIGHT SIDE OF S.R. 518 VIA SIGNAL CONTROL PER THE DETAILS ON SHEETS NO. 24-28.

5.) REMOVE ASPHALT WEARING COURSE, AND PERFORM HYDRODEMOLITION FOR THE LEFT SIDE OF THE DECK.

6.) SAWCUT AND REMOVE THE LEFT EDGE OF THE DECK, FULL DEPTH, AS SHOWN IN THE PLANS.

PHASE 1 CONSTRUCTION AND PHASE 2 REMOVAL

1.) CONSTRUCT THE LEFT PORTION OF THE PROPOSED STUCTURE, PAVEMENT AND GUARDRAIL. MARKINGS AND WORK ZONE RAISED PAVEMENT MARKERS AS SHOWN IN THE PLANS.

2.) CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC ON THE LEFT SIDE OF SR 518.

3.) INSTALL AND MAINTAIN THE UNANCHORED PORTABLE CONCRETE BARRIER ON THE EXISTING STRUCTURE AS SHOWN PER STD. DWG. PCB-91. REMOVE CONFLICTING EXISTING PAVEMENT MARKINGS AND INSTALL WORK ZONE RAISED PAVEMENT MARKERS AS SHOWN IN THE PLANS. PROVIDE ALL MAINTENANCE OF TRAFFIC DEVICES.

4.) MAINTAIN 1-LANE, 2-WAY TRAFFIC ON THE LEFT SIDE OF SR 518 VIA SIGNAL CONTROL PER THE DETAILS ON SHEETS NO. 24-28.

5.) REMOVE THE ASPHALT WEARING COURSE, AND PERFORM HYDRODEMOLITION ON THE RIGHT SIDE OF THE DECK.

6.) SAWCUT AND REMOVE THE RIGHT EDGE OF THE DECK, FULL DEPTH, AS SHOWN IN THE PLANS.

PHASE 2 CONSTRUCTION

1.) CONSTRUCT THE RIGHT PORTION OF THE STRUCTURE, PROPOSED PAVEMENT, AND GUARDRAIL.

2.) APPLY HMWM RESIN TO THE DECK.

3.) REMOVE WORK ZONE PAVEMENT MARKINGS AND APPLY PERMANENT PAVEMENT MARKINGS.

4.) OPEN ROAD TO TWO-WAY OPERATIONS.

NOTES:

1.) FOR MAINTENANCE OF TRAFFIC DETAILS, SEE SHEET NO.'S 24-28.

LEGEND

PORTIONS OF STRUCTURE TO BE REMOVED

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
RPT	TKB	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RPT		1505408	

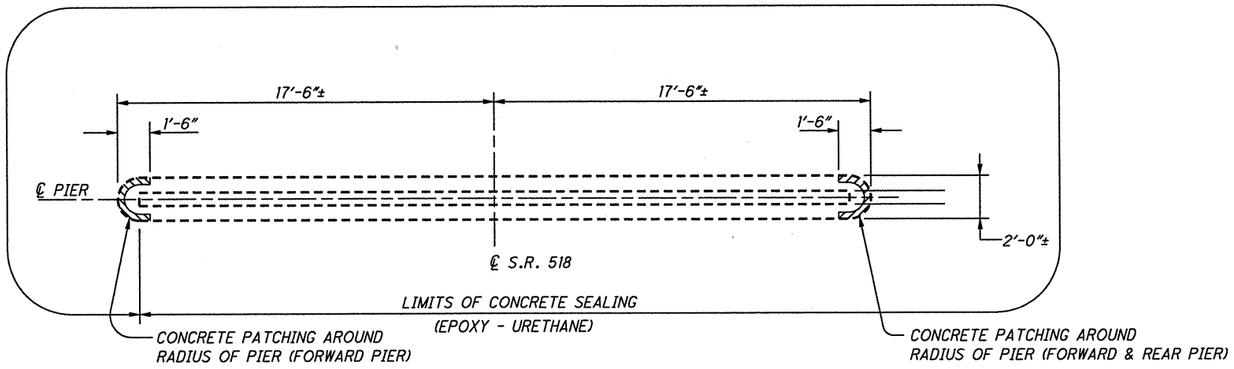
PHASE CONSTRUCTION DETAILS

BRIDGE NO. COL-518-0100
OVER WILLIARD RUN

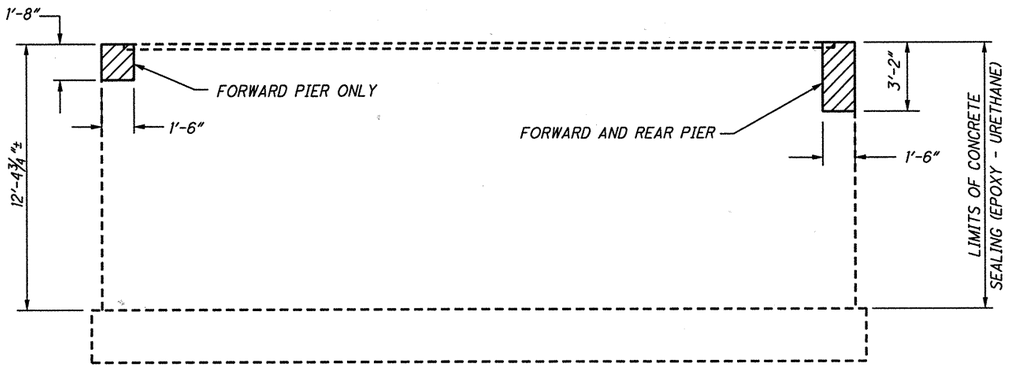
CAR-183-0.94
PID No. 24865

9 / 13

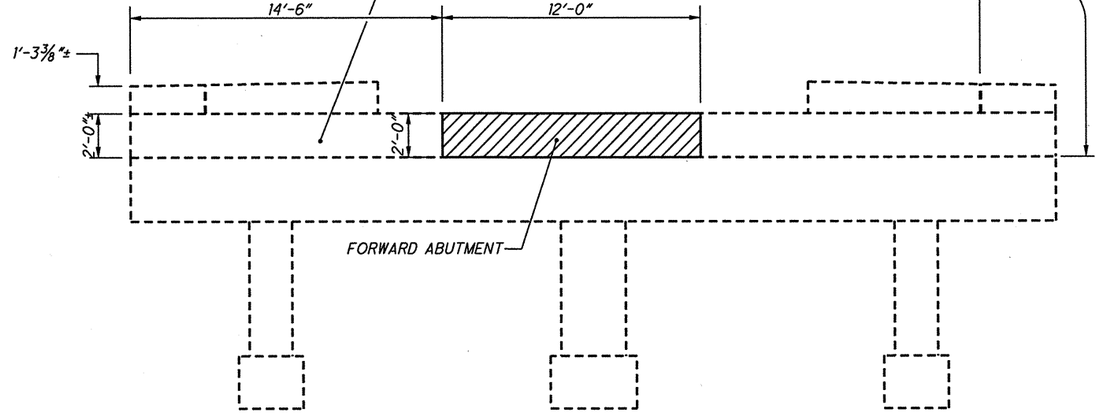
29
33



PIER PLAN



PIER ELEVATION



FORWARD ABUTMENT ELEVATION
(REAR ABUTMENT SIMILAR)

NOTES:

1. SEAL ALL EXPOSED SURFACES OF ALL SUBSTRUCTURE UNITS WITH EPOXY - URETHANE SEALER.

LEGEND

PATCHING CONCRETE STRUCTURES, AS PER PLAN

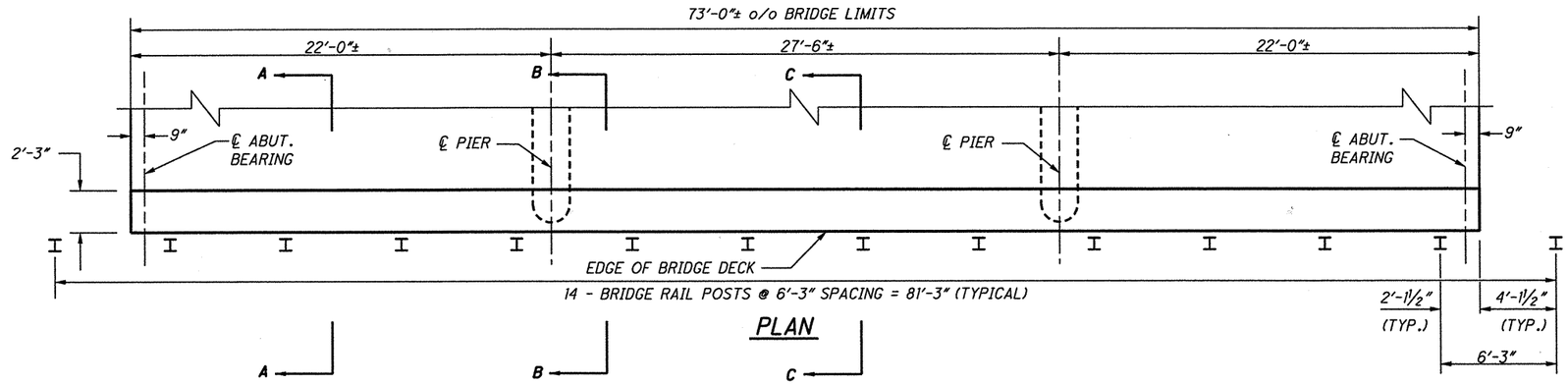
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

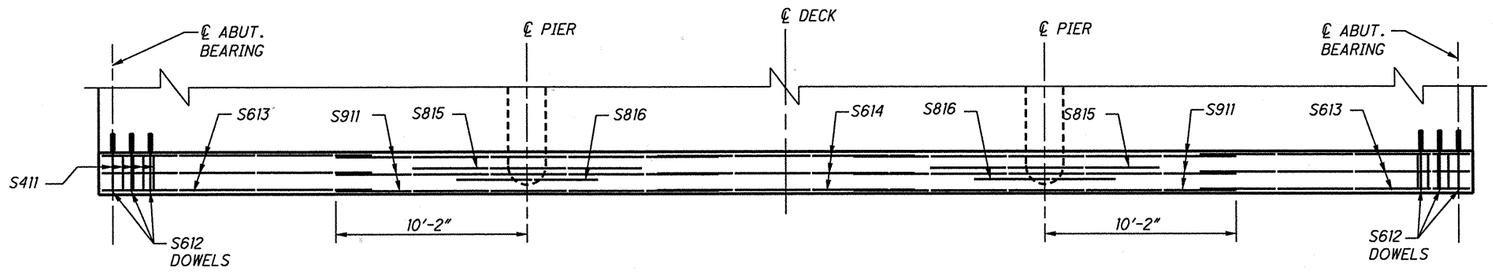
DESIGNED	DRAWN	REVIEWED	DATE
RPT	DAH	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SAL		1505408	

SUBSTRUCTURE DETAILS
BRIDGE No. COL-518-0100
OVER WILLIARD RUN

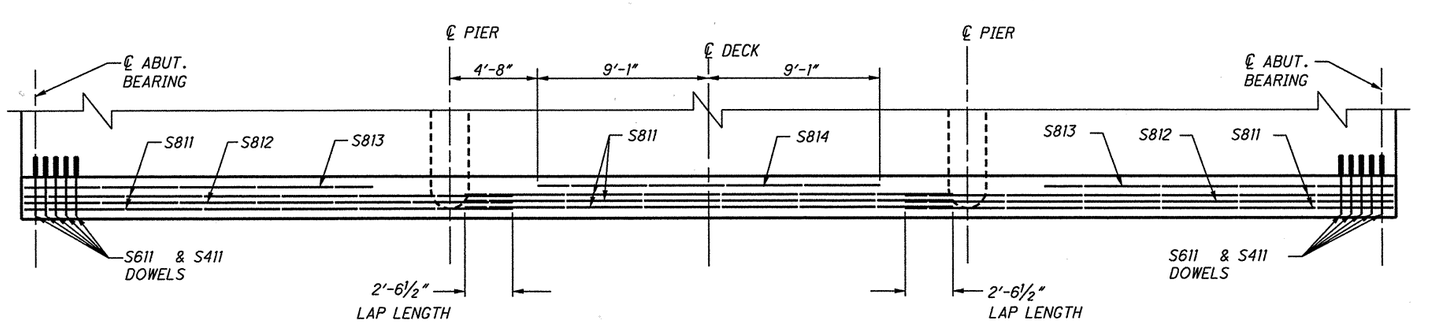
CAR-183-0.94
PID No. 24865



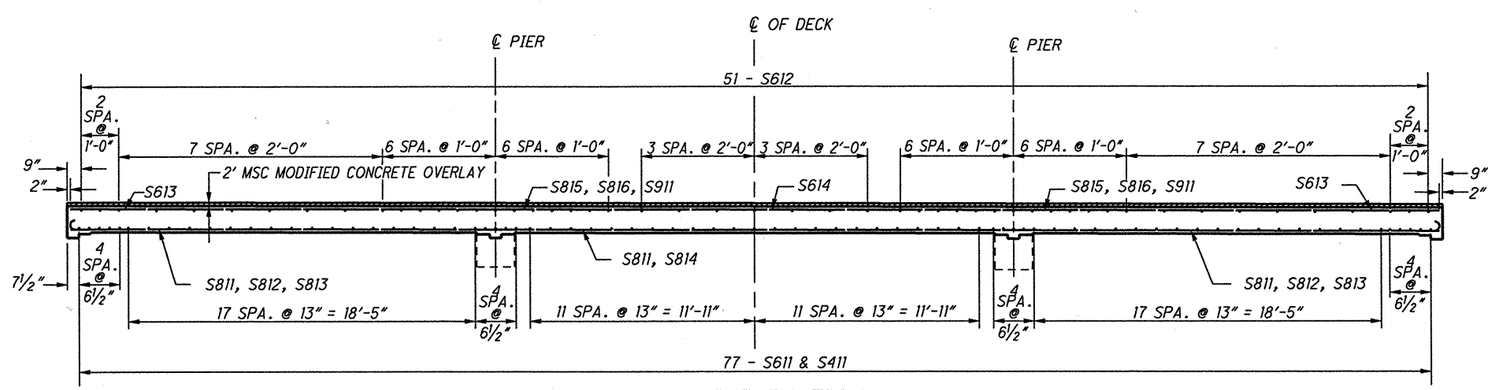
PLAN



PLAN (TOP REINFORCING)



PLAN (BOTTOM REINFORCING)



SLAB ELEVATION

NOTES:

1. REINFORCING IS SYMMETRIC ABOUT ℄ S.R. 518.
2. ALL DOWEL HOLE DEPTHS ARE 1'-0" MIN.
3. FOR SECTIONS B-B, C-C, AND D-D, SEE SHEET NO. 32.
4. FOR REINFORCING STEEL LIST, SEE SHEET NO. 33.

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
RPT	TKB	SAL	7/16/07
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RPT		1505408	

SUPERSTRUCTURE DETAILS

BRIDGE NO. COL-518-0100
OVER WILLIARD RUN

CAR-183-0.94
PID No. 24865

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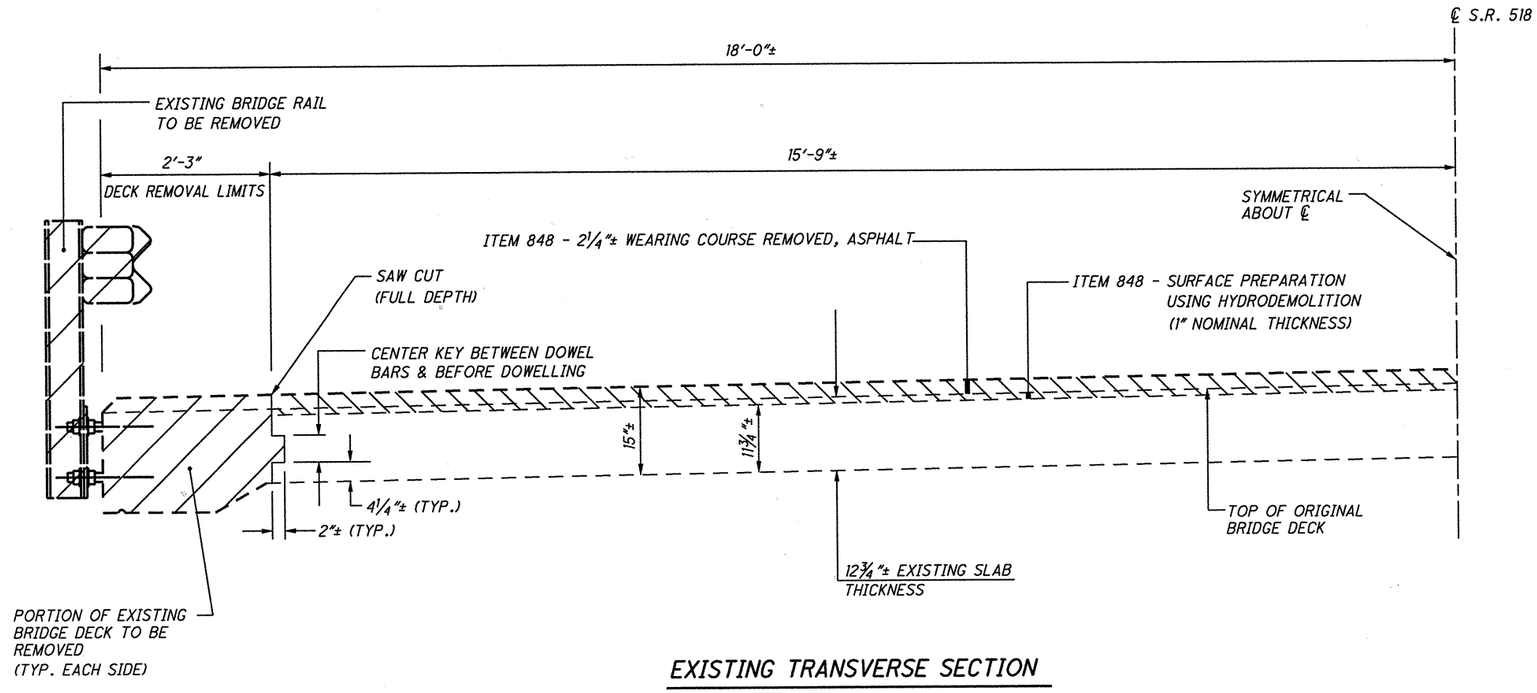
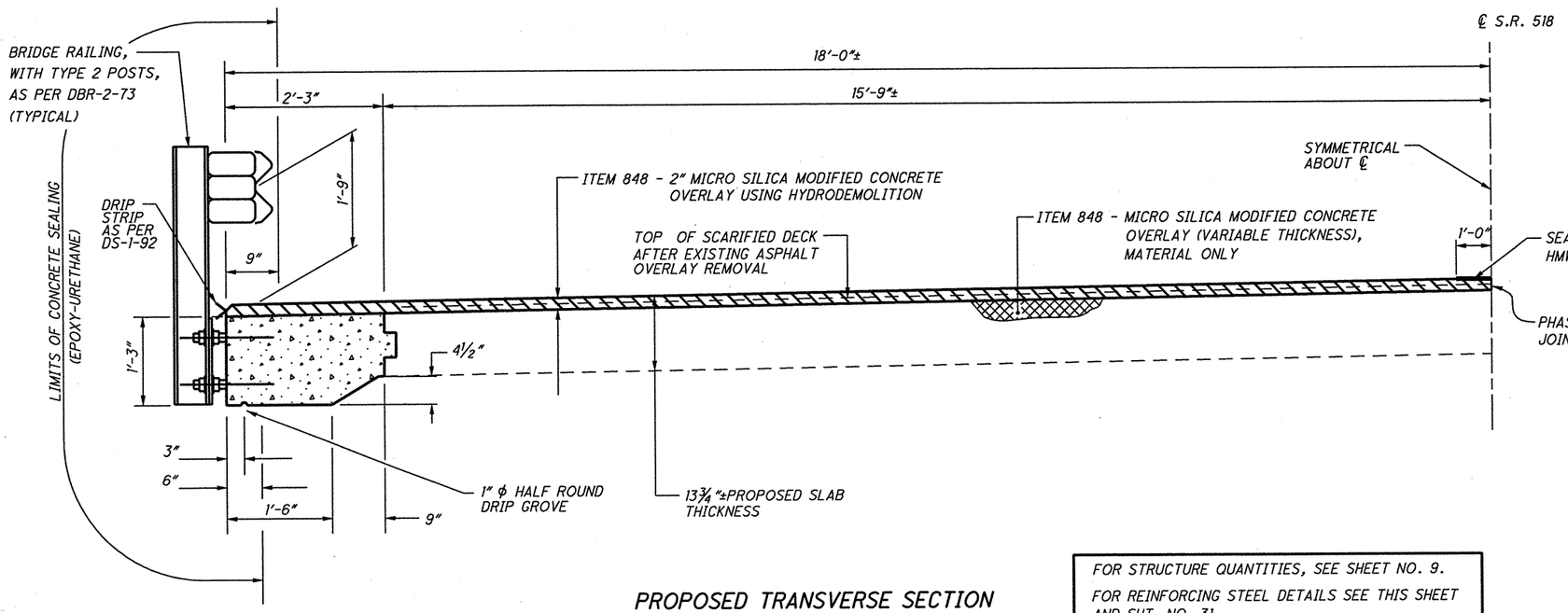


EXISTING TRANSVERSE SECTION

(REMOVAL)

PORTIONS OF STRUCTURE TO BE REMOVED



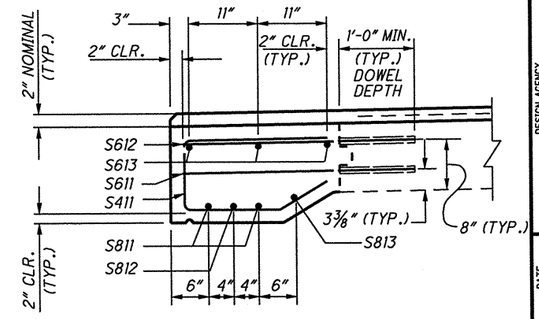
PROPOSED TRANSVERSE SECTION

(REINFORCING STEEL NOT SHOWN)

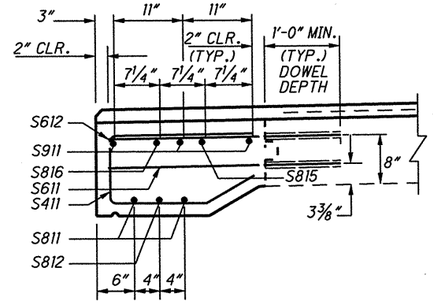
FOR STRUCTURE QUANTITIES, SEE SHEET NO. 9.

FOR REINFORCING STEEL DETAILS SEE THIS SHEET AND SHT. NO. 31.

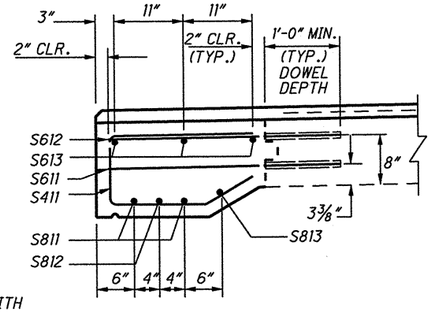
FOR REINFORCING STEEL LIST, SEE SHEET NO. 33.



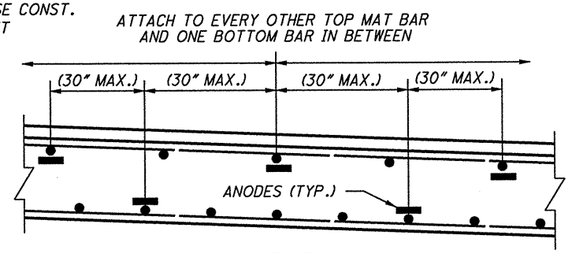
SECTION A-A



SECTION B-B



SECTION C-C



ANODE PLACEMENT DETAIL

ATTACH EGA'S TO PROPOSED DOWEL BARS ALONG DECK EDGE AND TO EX. REINFORCING STEEL IN FULL DEPTH REPAIR AREAS. ALTERNATE BETWEEN TOP AND BOTTOM MATS.

DESIGN AGENCY: O.D.O.T. DISTRICT ELEVEN, PRODUCTION DEPARTMENT

DESIGNED: RPT | DRAWN: TKB | REVIEWED: SAL | DATE: 7/16/07

CHECKED: RPT | REVISED: | STRUCTURE FILE NUMBER: 1505408

SUPERSTRUCTURE DETAILS

BRIDGE NO. COL-518-0100 OVER WILLIARD RUN

CAR-183-0.94

PID No. 24865

12 / 13

32 / 33

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PHASE 1	PHASE 2	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE (COL-172-0097)													
S801	9	9	18	24'- 1"	1157	STR							
S802	2	2	4	16'- 10"	180	16	15'-9"						
S803	1	1	2	13'- 3"	71	STR							
S804	6	6	12	16'- 3"	521	STR							
S805	2	2	4	6'- 8"	71	STR							
S501	6	6	12	14'- 8"	184	STR							
S502	3	3	6	13'- 8"	86	STR							
S601	62	62	124	2'- 7"	481	STR							
S401	68	68	136	2'- 7"	235	STR							
S402	68	68	136	3'- 6"	318	2	1'-5"	1'-0"	1'-3"				
SUB-TOTAL					3304								
SUPERSTRUCTURE (COL-518-0100)													
S411	77	77	154	4'-11 5/8"	511	12	4 1/2"	7 1/2"	1'-4"	10 7/8"	1'-11"		
S611	77	77	154	3'-1"	713	STR							
S612	51	51	102	3'-1"	472	STR							
S613	6	6	12	14'-4"	258	STR							
S614	3	3	6	13'-8"	123	STR							
S811	7	7	14	25'-11"	969	STR							
S812	2	2	4	26'-10"	287	16	25'-11"						
S813	2	2	4	19'-5"	207	16	18'-6"						
S814	1	1	2	18'-2"	97	STR							
S815	2	2	4	12'-2"	130	STR							
S816	2	2	4	7'-6"	80	STR							
S911	6	6	12	20'-4"	830	STR							
SUB-TOTAL					4677								
TOTALS CARRIED TO SHEET NO. 9.					7981								

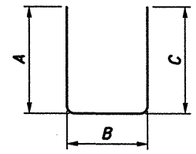
REINFORCING STEEL NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGITS WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE UNCOATED.
3. "STR." IN THE TYPE COLUMN INDICATES STRAIGHT BARS.
4. REFER TO CMS SECTION 509.05 FOR STANDARD BEND DIMENSIONS.
5. * - REQUIRES MECHANICAL CONNECTORS.
6. ** - DENOTES SERIES BAR.

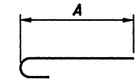
MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING SHALL BE PROVIDED. INSTALLATION OF THE CONNECTORS SHALL CONFORM WITH RECOMMENDED MANUFACTURER'S PROCEDURES. IF A DOWEL BAR SPLICE IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE GIVEN BY THE DIMENSION "L" SHOWN BELOW:

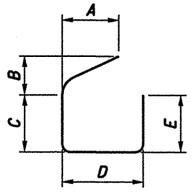
#4 REINFORCING BAR L = 2'-3"
#5 REINFORCING BAR L = 2'-11"
#10 REINFORCING BAR L = 9'-3"



TYPE-2



TYPE-16



TYPE-12

DESIGN AGENCY
O.D.O.T. DISTRICT ELEVEN
PRODUCTION DEPARTMENT

REVIEWED SAL DATE 7/16/07
STRUCTURE FILE NUMBER 1505408

DRAWN RPT REVISED
DESIGNED RPT CHECKED JPB

REINFORCING STEEL LIST
BRIDGE NO. COL-172-0097, COL-518-0100
OVER MIDDLE BRANCH SANDY CREEK, OVER WILLIARD RUN

CAR-183-0.94
PID No. 24865

13 / 13

33 / 33

I:\PROJECTS\24865\Dgn\steel_list_1720097.dgn 06-AUG-2007 12:50PM tbarr

SPECIAL PROVISIONS

WATERWAY PERMITS FOR

CRS: CAR-183-0.94

PID: 24865

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

EFFECTIVE DATE: 12/17/2007

EXPIRATION DATE: 3/18/2012

NATIONWIDE PERMIT #3 – MAINTENANCE

(a) 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 that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is 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.

(b) This NWP also authorizes the removal of 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 riprap to protect the structure. 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. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the district engineer under separate authorization. The placement of riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation or beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). Where maintenance dredging is proposed, the pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. **(Sections 10 and 404)**

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

Nationwide 3 Specific Regional Conditions:

WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. Section 1341; Ohio Revised Code Chapters 119 and 6111; Ohio `Admtnistrati e'Ge e. (QAG) Chapters 3745-1, 3745-32, and 3745-47; and, Corps regional conditions public noticed on October 20, 2006, the director of the Ohio Environmental Protection Agency hereby certifies that the above referenced replacement Nationwide Permits (NWPs) I - as proposed in the March 12, 2007, *Federal Register* will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act. These Certifications are specifically limited to 401 Certifications with respect to water pollution and do not relieve the applicant of further certifications or permits as may be necessary under applicable state and federal laws and/or local ordinances. Corps of Engineers Civil Works Projects in the State of Ohio are subject to the general and special limitations and conditions of this certification.

Water Quality Certification - Special Conditions:
The Ohio State Certification General Limitations and Conditions apply to this nationwide permit except as modified below:

Ohio State Certification Special Limitations and Conditions:

1 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.

2. Maintenance or repair of existing fills (stabilization projects):

a. Minor Deviations from the original filled area are authorized provided these minor deviations are necessary to accommodate safety standards and/or new construction practices/methods/techniques and/or new materials available which

are necessary for the rehabilitationlreplacementlrepair; 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.

3. Replacement vertical bulkheads:

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;

c. Replacement vertical bulkheads are not to be placed more than an average of 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.

4. Removal of accumulated sediment:

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

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

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.

(a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. 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 that 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.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water,

adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

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

12. 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.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

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

15. 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).

16. 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.

17. 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 will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in 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 might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction 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. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.
(d) 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.
(e) 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 U.S. FWS or the 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 U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

18. Historic Properties.

(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.
(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.
(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated

marine sanctuaries, National Estuarine Research Reserves, 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) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(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 27, 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.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States 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 losses that exceed 1/10 acre and require pre-construction notification, 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. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(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., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas 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 losses.

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

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that 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, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. 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 United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified

acreage limit. For example, 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 United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP 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.

27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request 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 until either:

(1) He or she is 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) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify

the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. 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 Pre-Construction Notification: The PCN must be inwriting and include the following information:

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

(2) Location of the proposed project;

(3) A 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. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. 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) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for

non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants 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. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) 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.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), 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 pre-construction 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 pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) 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. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. 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. The compensatory mitigation proposal may be either conceptual or detailed. 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 elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the 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 aremore 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 plan 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 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 plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

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): 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.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds 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.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

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 for 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 United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material 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 United States is a threshold measurement of the impact to jurisdictional 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 services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland 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: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. 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. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

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.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

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.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

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. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. 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, and crossings of such features cannot be considered separately.

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 best management practices, 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's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions 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, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites 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: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

REGIONAL GENERAL CONDITIONS

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

A. STREAMS

1) Temporary or permanent impacts to streams are limited to 500 linear feet, of which no more than 200 linear feet can be impacts to intermittent or perennial streams [except for NWPs 3, 12, 13, 20, 21, 27, 32, 37, 38, 41, 45 and 47]. Impacts shall be measured linearly from upstream to downstream, including the length of permanent or temporary stream impoundments, when calculating the total length of stream impacts [except for NWP 12,

for which impacts shall be measured bank-to-bank];

2) Temporary or permanent impacts to water bodies meeting any of the criteria set forth in a through d below, are prohibited [except for NWP 3, 20, 27, 32, 37, 38, 45, and 47 or maintenance activities covered under NWP 7 and12]:

a. Exceptional Warmwater Habitat, Cold Water Habitat, Seasonal Salmonid, or any equivalent designation;

b. Waters bodies with an antidegradation category of Superior High Quality Water, Outstanding National Resource Waters or Outstanding High Quality Waters; and,

c. General high quality water bodies, such as Killbuck Creek in Coshocton County and Pymatuning Creek in Ashtabula County, which harbor federally listed threatened andlor endangered species.

For an alphabetical listing of the Superior High Quality Waters, go to

http://www.epa.state.oh. usfdsw/rules/antidegHQiistJulyO3.pdf

3) Stream reconstruction activities shall maintain or enhance the habitat values of the stream as determined by an appropriate habitat assessment method and adhere to "natural channel design" principles. Natural channel design means a technique that integrates knowledge of natural stream processes to create a stable stream that maintains its form and function over time and achieves a targeted habitat or biological endpoint.

4) Stream or buffer improvements and/or mitigative measures required by the Corps shall address the following:

a. In order of priority, these measures shall focus on the following:

i. the stream segment being impacted;
ii. upstream segments and tributaries; 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 at on Ohio EPA's web site at:

http://www.epa.state.oh.usldsw/tmdl/20041ntReportlfinal_20041R_appB_2.pdf

b. If the applicant cannot find appropriate mitigation on streams listed in Section "a" above, mitigation shall be in the Ohio EPA 8-digit watershed.

c. Vegetative buffers on both stream banks shall be of an appropriate length (at least the length of the impacted stream segment), and, if practicable,

i. Provide a minimum width of 25 feet for preservation of existing vegetative buffers; or,

ii. Provide a minimum width of 50 feet for re-vegetating buffers cleared during construction.

iii. Buffer width is measured from the top of bank or level of bankfull discharge.

d. Vegetated buffers shall be planted, or restored, as soon as practicable after in-stream work is complete and shall extend to the top of both stream banks, or beyond as stipulated by the Corps or Ohio EPA, using native tree and shrub species with rapid growth characteristics,

e. Impacts to existing vegetative buffers shall be minimized to the *maximum extent* practicable. *Entry* to *surface waters* shall be through a single point of access on each side of the stream whenever practicable to minimize disturbance to buffer vegetation;

5) In-stream activities shall not result in the permanent destabilization of the stream banks or stream bed. The stream bed and substrates shall be restored to conditions that existed prior to work.

6) 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 emergency situations that threaten human life or property.

7) Culverts

a. For an individual stream, the combined length of an existing culvert and culvert extension shall not exceed 500 linear feet, and the individual culvert extension shall not exceed 200 linear feet if installed on an intermittent or perennial stream, or 500 linear feet if installed on an ephemeral stream.

b. For new road construction, flood plain culverts shall be installed where the flood prone area is greater than twice the width of the stream at Ordinary High Water Mark (OHWM).

c. New Culverts on Low Gradient Streams (<3% slope)

i. Culverts shall be installed at the existing streambed slope, not exceeding three percent, to allow for the natural movement of bedload and aquatic organisms.

ii. The culvert base or invert for intermittent and perennial streams with bottom substrate shall be installed below the sediment to allow natural channel bottom to develop and to be retained. The channel bottom substrate shall be similar to and contiguous with the immediate upstream and downstream reaches of the stream. The culvert shall be designed and sized to accommodate bankfull discharge and match the existing depth of flow to facilitate the passage of aquatic organisms.

iii. *For* perennial *and* intermittent *streams,* culverts with *less than* three percent grade or not installed on bedrock shall have the lower 10 percent of all culvert bottoms buried below the existing stream grade. Hydraulic design shall be based upon the remaining open portion of the culvert.

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

a. Stream impacts associated with a linear project may be mitigated on-site, defined as within one mile of the linear project, and within the samel4-digit watershed as shown in OAC 3745-1-54(F)(2); or,

b. Stream impacts associated with a linear project may be mitigated at a single stream mitigation location or stream mitigation bank acceptable to the director, within each Ohio EPA 8-digit watershed in which such impacts occur; or,

c. If no stream mitigation bank, acccptable to the director, is located within one or more of the Ohio EPA 8-digit watersheds 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,

d. If 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.

B. WETLANDS

1) Temporary or permanent impacts to Category 3 wetlands are prohibited [except for NWP 27].

2) Temporary or permanent impacts to Category 1 and 2 wetlands are limited to a maximum total of one-half acre [except for NWP 20, 21, 27, 32, 37, 38, 45, and 47].

3) Wetland Mitigation

a. Ohio state certification for the use of any NWP to authorize the activities associated with the construction and or development of new mitigation banks is denied. Banks that have been approved for operation by the director of Ohio EPA may utilize NWPs for approved activities.

b. Wetland mitigation shall adhere to the requirements set forth in Ohio EPA's Wetland Water Quality Standards [OAC Chapter 3745-1].

c. When it is determined that use of a mitigation bank is the best option, mitigation shall only be authorized at those mitigation banks having an active instrument signed by the director of Ohio EPA.

4) Discharges or diversions of storm water into wetlands shall not negatively alter the wetland's natural hydrologic regime as required by OAC Rule 3745-1-51 (Wetland Narrative Criteria) and shall meet warmwater habitat chemical criteria as required by OAC Rule 3745-1-52 (Numeric Chemical Criteria for Waste Water Discharges to Wetlands) unless the applicant has obtained alternate criteria from the director.

C. LAKE ERIE

1) No nationwide permit may be used to divert water from outside of the Lake Erie drainage basin.

2) Temporary or permanent impacts to Lake Erie coastal wetlands, including coastal wetlands located on Lake Erie Islands and Sandusky Bay are prohibited [except for NWP 3 and 27].

3) Disposal of Dredge Material from Lake Erie, Lake Erie Islands, and Sandusky Bay.

a. Dredged material that is greater than 60 percent sand (0.063 mm grain size), as determined by grain size analysis, shall be disposed of in the littoral drift, downdrift of the project site.

b. Dredged material that is less than 60 percent sand and is below the *75th percentile of the surficial* background *sediment contamination* concentrations of the basin proposed for disposal (as identified in "Surficial Sediment Contamination in Lakes Erie and Ontario, (Table 1) 2002, Journal of Great Lakes Research Volume 28(3) pages 437-450 by Christopher H. Marvin et al) may be disposed of in the open lake.

c. Sand and gravel suitable for nearshore disposal shall not be entombed by any structure, but should be removed prior to construction, and placed in the littoral system, downdrift of the project site.

D. GENERAL

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

2) Ohio state certification for the use of any NWP to authorize the activities associated with the construction and or development of new mitigation banks that do not possess a mitigation banking agreement signed by the director of Ohio EPA is denied. Banks that have been approved for operation by the director of Ohio EPA may utilize NWPs for approved activities.

3) 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 including general or individual stormwater permits, or Permits to Install (PTIs).

4) In nationwide permits where the district engineer has been granted authority to waive certain requirements, the corresponding limitations and conditions of this certification shall apply unless written authorization from the director of Ohio EPA is obtained to authorize additional impacts.

5) To the extent that this condition does not conflict with the Construction General Storm Water Permit in effect at the time of application, 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.

6) To the extent that this condition does not conflict with the Construction General Storm Water Permit in effect at the time of application, locally required post development stormwater ponds shall incorporate specific design features for water quality such as those listed in Ohio's Rainwater and Land Development, Ohio's Standards for Storm Water Management, Land Development *and Urban Stream Protection, 3"d Edition (2006), available at* http://www.dnr.state.oh.us/soilandwater/Rainwater.htm, to the extent allowed by local stormwater requirements. These features include, but are not limited to, infiltration trenches, extended detention, wet pools, forebays, aquatic benches and vegetated shallows, optimum flow length, reverse flow pipe, optimum pool depth, shading and buffer plants, and runoff reuse.

7) To the extent that this condition does not conflict with the Construction General Storm Water Permit in effect at the time of application, the Best Management Practices (BMPs) listed below shall be utilized with all NWPs when applicable.

a. Only suitable material, free of toxic contaminants in other than trace quantities, shall be used as fill material;

b. The use of asphalt and rubber tires as fill is prohibited under this permit;

c. Upon the cessation of temporary impacts authorized under a NWP, any hydric topsoil removed from a trench shall be separated and saved for later placement as the topmost back fill layer when the trench is refilled;

d. The stockpiling of side-cast dredged material in wetlands in excess of three months is not authorized;

e. The applicant shall comply with all final stabilization requirements contained in applicable NPDES construction stormwater permits for the site;

f. Construction equipment shall not be placed below the Ordinary High Water Mark (OHWM) of any surface water, except when no other alternative is practicable;

g. All dredged material placed at an upland site shall be controlled so *that sediment runoff to* adjacent *surface waters is* minimized to *the* maximum extent practicable; and,

h. BMPs shall be installed and maintained to minimize sediment runoff to adjacent surface waters.

8) Representatives from Ohio EPA, Division of Surface Water will be allowed to inspect the authorized activity at any time deemed necessary to insure that it is being or has been accomplished in accordance with the terms and conditions of this water quality certification. This includes, but is not limited to, access to and copies of any records any records that must be kept under the conditions of this certification; and, authorization to sample and/or monitor any discharge activity or mitigation site. Ohio EPA will make a reasonable attempt to notify the applicant of its intention to inspect the site in advance of that inspection.