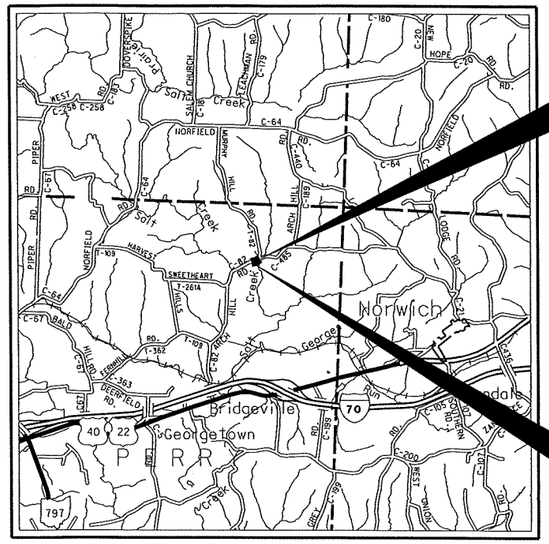


LOCATION MAP

LATITUDE: N39°59'55" LONGITUDE: W81°50'25"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED _____

INTERSTATE & DIVIDED HIGHWAY _____

UNDIVIDED STATE & FEDERAL ROUTES _____

OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (2007)	260
DESIGN YEAR ADT (2027)	387
DESIGN HOURLY VOLUME (2027)	30
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	3%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
RURAL LOCAL

NHS PROJECT _____ NO

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-929-0988

PLAN PREPARED BY:

wd partners
7007 Discovery Blvd. • Dublin, Ohio 43017
T: 614.634.7000 • F: 614.634.7777
E: inbox@wdpartners.com • wdpartners.com

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MUS-C.R. 82-2.14

PERRY TOWNSHIP
MUSKINGUM COUNTY

INDEX OF SHEETS:

STAGE 3 PLAN SUBMISSION

ENGINEERS SEAL:

SIGNED: _____

DATE: _____

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/16/04	DS-1-92	7/18/03			
BP-4.1	7/16/04	PSBD-1-93	7/21/06			
		TST-1-99	10/17/03			
DM-1.4	4/21/06					
DM-4.2	1/21/05	MT-97.11	9/05/06			
DM-4.3	7/19/02	MT-105.10	10/18/02			
DM-4.4	7/19/02	MT-105.11	10/18/02			
GR-1.1	7/16/04	TC-73.10	1/19/01			
GR-2.1	1/16/04					
GR-3.6	1/16/04					
GR-4.1	4/18/03					

SUPPLEMENTAL SPECIFICATIONS

800
832 4/25/06

SPECIAL PROVISIONS

NWP #3

PROJECT DESCRIPTION

IMPROVEMENT OF 0.08 MILES OF C.R. 82 (ARCH HILL ROAD) BY REPLACING A SINGLE SPAN TRUSS BRIDGE OVER SALT CREEK WITH A BOX-BEAM BRIDGE AND APPROACH ROADWAY CONSTRUCTION INCLUDING GRADING, DRAINAGE AND ASPHALT CONCRETE PAVING.

PROJECT EARTH DISTURBED AREA: 0.44 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.17 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 4.90 ACRES

2005 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 6.

WE THE COMMISSIONERS OF MUSKINGUM COUNTY, IN FORMAL SESSION, HEREBY APPROVE THESE PLANS.

_____ _____
MUSKINGUM COUNTY COMMISSIONER DATE

_____ _____
MUSKINGUM COUNTY COMMISSIONER DATE

_____ _____
MUSKINGUM COUNTY COMMISSIONER DATE

APPROVED _____
DATE _____ MUSKINGUM COUNTY ENGINEER

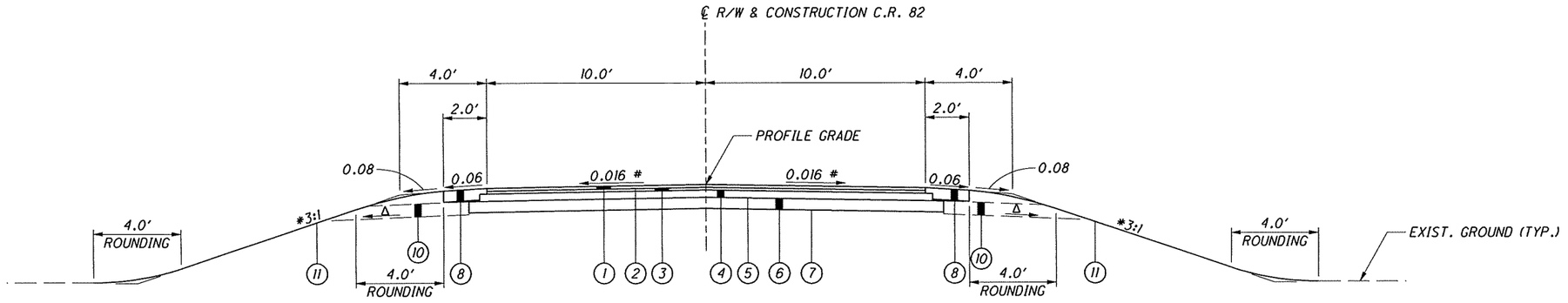
FEDERAL PROJECT NO. E033(596)

PID NO. 24278

CONSTRUCTION PROJECT NO.

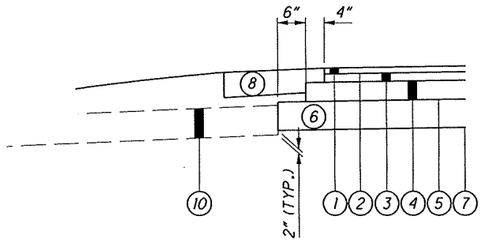
RAILROAD INVOLVEMENT NONE

MUS-C.R.82-2.14

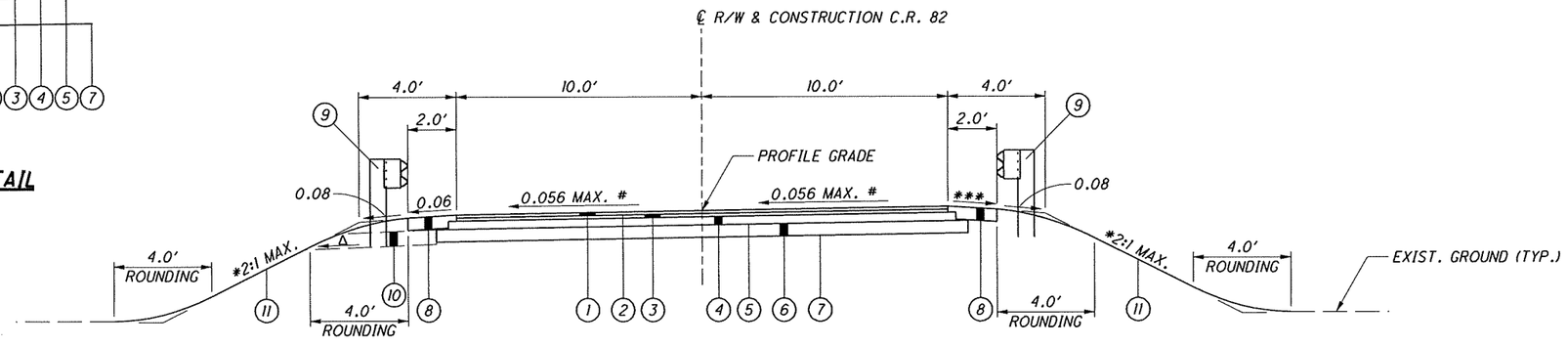


NORMAL SECTION

SECTION APPLIES:
STA. 6+50.00 TO STA. 7+50.00 = 100.00 FT.
TOTAL = 100.00 FT.



BASE AND SUBBASE STEP DETAIL



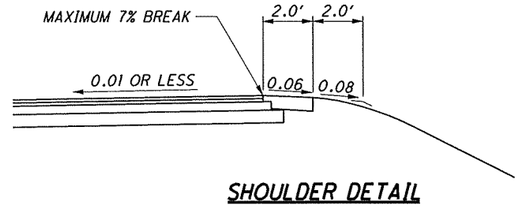
LEGEND

(1)	ITEM 448	1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
(2)	ITEM 407	TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ.YD.)
(3)	ITEM 448	1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
(4)	ITEM 301	4" ASPHALT CONCRETE BASE, PG64-22
(5)	ITEM 408	PRIME COAT (0.4 GAL./SQ.YD.)
(6)	ITEM 304	6" AGGREGATE BASE
(7)	ITEM 204	SUBGRADE COMPACTION
(8)	ITEM 411	8" STABILIZED CRUSHED AGGREGATE
(9)	ITEM 606	GUARDRAIL, TYPE 5
(10)	ITEM 605	AGGREGATE DRAINS
(11)	ITEM 659	SEEDING AND MULCHING
(A)	EXISTING 6"± ASPHALT PAVEMENT	
(B)	EXISTING 4"± AGGREGATE BASE	

SUPERELEVATED SECTION

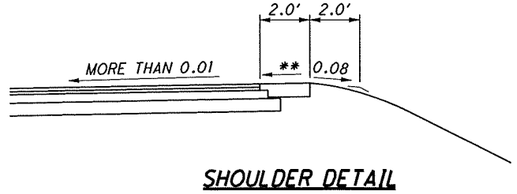
SECTION APPLIES:
STA. 3+50.00 TO STA. 5+23.48 = 173.48 FT.
STA. 5+96.52 TO STA. 6+50.00 = 53.48 FT.
TOTAL = 226.96 FT.

- Δ 0.08 FT./FT. DESIRABLE
  0.04 FT./FT. MINIMUM
- # SEE SUPERELEVATION TABLE, SHEET 17
- * UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS
- ** SAME SLOPE AS PAVEMENT
- *** FOR HIGH SIDE SHOULDER SLOPES ON SUPERELEVATED SECTIONS SEE SHOULDER DETAILS, THIS SHEET



SHOULDER DETAIL

FOR PAVEMENT SLOPES OF 0.01 OR LESS

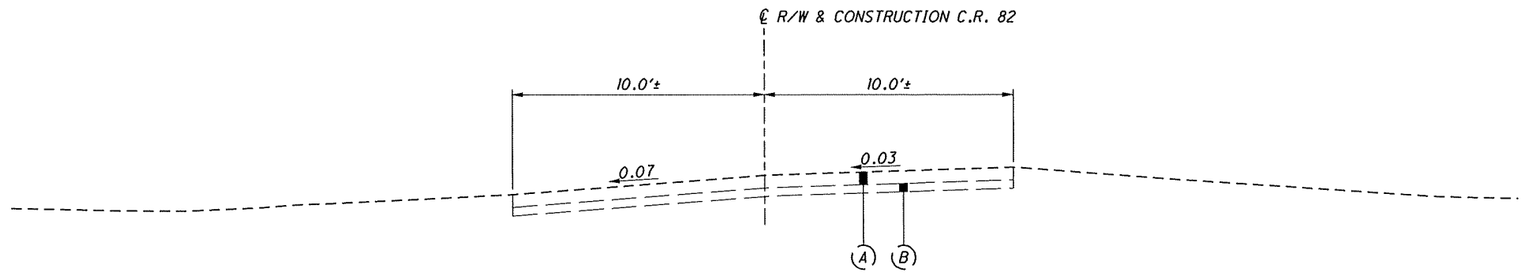


SHOULDER DETAIL

FOR PAVEMENT SLOPES MORE THAN 0.01

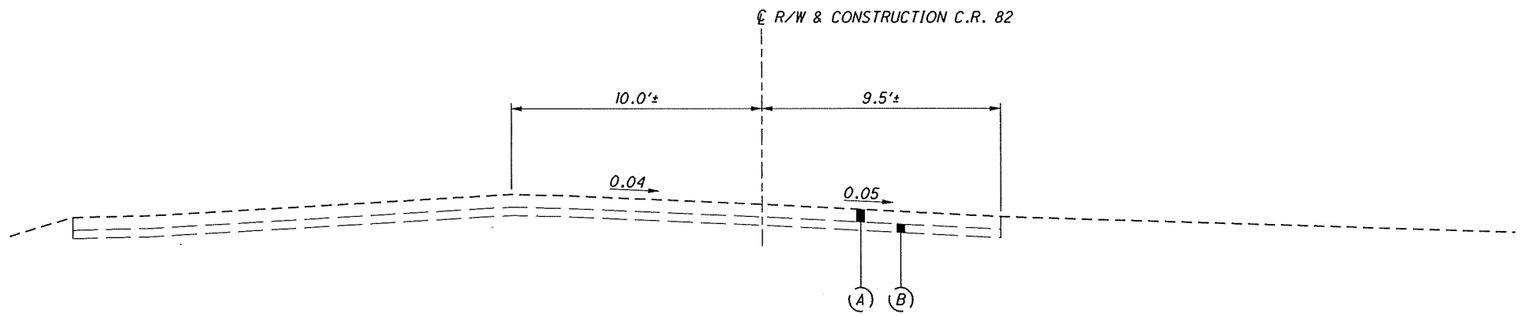
TYPICAL SECTIONS

MUS-C.R.82-2.14



SECTION OF EXISTING ADJOINING PAVEMENT

SECTION APPLIES:
STA. 3+50.00



SECTION OF EXISTING ADJOINING PAVEMENT

SECTION APPLIES:
STA. 7+50.00

NOTE
FOR PAVEMENT LEGEND, SEE SHEET 2

TYPICAL SECTIONS

MUS-C.R.82-2.14

CALCULATED TWG | CHECKED FJR

GENERAL NOTES

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

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

TELEPHONE: AT&T
150 EAST GAY STREET, ROOM 11
COLUMBUS, OH 43215
PHONE: (800) 362-2764

ELECTRIC: GUERNSEY MUSKINGUM ELECTRIC
17 SOUTH LIBERTY STREET
NEW CONCORD, OH 43762
PHONE: (800) 521-9879

AEP OHIO
1 RIVERSIDE PLAZA
COLUMBUS, OH 43215-2373
PHONE: (800) 277-2177

GAS: ARTEX OIL COMPANY
231 3RD STREET
MARIETTA, OH 45750
PHONE: (740) 373-3313

CAMERON DRILLING COMPANY
3636 ADAMSVILLE ROAD
ZANESVILLE, OH 43701
PHONE: (740) 453-3300

OXFORD OIL COMPANY
4900 BOGGS ROAD
ZANESVILLE, OH 43701
PHONE: (740) 452-4503

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.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

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.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	1	0	1

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUARE OR 4 1/2" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D. O.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE.

STREAM CHANNEL EXCAVATION

STREAM CHANNEL EXCAVATION WITHIN "WATERS OF THE US" IS SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION AND WILL REQUIRE AUTHORIZATION BY THE USACE VIA THE WATERWAY PERMITTING PROCESS (404/401). IN ACCORDANCE WITH THE APPLICABLE WATERWAY PERMITS (404/401) STREAM CHANNEL EXCAVATION CAN NOT EXCEED THE QUANTITIES AND/OR SURFACE AREA THAT HAS BEEN PERMITTED. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND WILL BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM THE STREAM CHANNEL. THIS PERTAINS TO ANY EXCAVATION OPERATIONS SUCH AS, FOUNDATION PIER OR ABUTMENT EXCAVATION, CHANNEL CLEANOUT, EXCAVATION FOR ROCK CHANNEL PROTECTION AND REMOVAL OF ANY TEMPORARY FILL ASSOCIATED WITH CONSTRUCTION OPERATIONS.

IN-STREAM WORK

IN-STREAM WORK WILL BE LIMITED WHERE PRACTICABLE AND ONLY CLEAN NON-ERODIBLE MATERIAL WILL BE USED FOR TEMPORARY CONSTRUCTION ACCESS FILLS. TEMPORARY FILLS WILL BE CONSTRUCTED SO AS TO ALLOW FISH PASSAGE AND TO NOT BACK UP WATER. TEMPORARILY PLACED MATERIAL WILL BE REMOVED AND THE STREAM BOTTOM RESTORED TO NEAR PRE-CONSTRUCTION CONDITIONS WHEN THE WORK IS COMPLETED.

TEMPORARY CONSTRUCTION FILL

ANY TEMPORARY CONSTRUCTION ACCESS FILL WITHIN "WATERS OF THE US" (EG., STREAMS, WETLANDS) SUBJECT TO US ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION WILL REQUIRE AUTHORIZATION BY THE USACE PRIOR TO THE PLACEMENT OF TEMPORARY FILL VIA THE WATERWAY PERMITTING PROCESS (404/401). ALL TEMPORARY CONSTRUCTION ACCESS FILLS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WATERWAY PERMITS (404/401) AND SHOULD NOT EXCEED THE QUANTITIES AND/OR SURFACE AREA OF TEMPORARY FILL THAT HAS BEEN PERMITTED. ADDITIONALLY, SOME TEMPORARY CONSTRUCTION ACCESS FILLS MAY ONLY BE ALLOWED IN SPECIFIC LOCATIONS, PER THE WATERWAY PERMITS (404/401) AND/OR OTHER ENVIRONMENTAL COMMITMENTS, AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH ANY SUCH LOCATIONAL RESTRICTIONS TO AVOID ENVIRONMENTALLY SENSITIVE AREAS. THE WATERWAY PERMITS ARE ATTACHED TO THE CONSTRUCTION PLANS AS SPECIAL PROVISIONS AND ARE BE AVAILABLE IN THE PROJECT CONSTRUCTION OFFICE.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES FALL INTO THE STREAM SHALL BE REMOVED AS SOON AS POSSIBLE.

BANK STABILIZATION

BANK STABILIZATION WILL BE LIMITED TO WITHIN 50 FEET UPSTREAM AND DOWNSTREAM OF THE EXISTING STRUCTURE. BANK STABILIZATION WILL BE LIMITED TO REGRADING OF THE BANKS FROM TOE-OF-SLOPE (INSTREAM) TO THE TOP OF BANK AND WILL INCLUDE PLACEMENT OF ROCK CHANNEL PROTECTION WHERE REQUIRED. THIS EXCLUDES WORK SUCH AS WIDENING, DEEPENING OR RELOCATION. THE EXTENT OF SUCH STABILIZATION WILL BE KEPT TO A MINIMUM.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 603 OR 522.

MUS-C.R.82-2.14

ITEM 605 - AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT FOLLOWING LOCATIONS AND THE TOTAL QUANTITY CARRIED TO THE GENERAL SUMMARY.

STA. 4+00 LT.	8 FT.
STA. 4+25 LT.	6 FT.
STA. 4+50 LT.	5 FT.
STA. 4+75 LT.	5 FT.
STA. 5+00 LT.	5 FT.
STA. 5+18 LT.	5 FT.
STA. 6+05 RT.	6 FT.
STA. 6+25 RT.	5 FT.
STA. 6+50 RT.	6 FT.
STA. 6+75 LT.	5 FT.
STA. 7+00 LT.	5 FT.
STA. 7+25 RT.	16 FT.
TOTAL	77 FT.

ITEM 605 - AGGREGATE DRAINS 77 FT.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	131 CU. YD.
659, REPAIR SEEDING AND MULCHING	59 SQ. YD
659, INTER-SEEDING	59 SQ. YD.
659, COMMERCIAL FERTILIZER	0.16 TON
659, LIME	0.24 ACRES
659, WATER	7 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 1 HOUR

CONTRACTOR'S USE OF RIGHT-OF-WAY

THE CONTRACTOR SHALL NOT USE OR ENTER ANY AREA AROUND THE EXISTING COVERED BRIDGE.

CENTERLINE REFERENCES C.R. 82

STATION	OFFSET (FT.)	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
2+45.16	0.00	℄	728724.90	2153113.69		P.C.
3+76.27		RT.	728720.43	2153244.73		P.I.
3+91.32	15.59	RT.	728728.86	2153262.49	764.89	MONUMENT FOUND
5+00.17	0.00	℄	728787.72	2153357.26		P.T.
7+70.56	15.76	RT.	728912.96	2153597.41	767.18	MONUMENT FOUND
8+50.00	0.00	℄	728967.26	2153657.50		P.O.T.

CALCULATED TWG CHECKED FJR

GENERAL NOTES

MUS-C.R.82-2.14

ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48"x30" ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS AS SHOWN ON SHEET 7 AT THE LOCATIONS SHOWN DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN ON THE PLANS.

ALL WORK AND TRAFFIC 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.

DETOUR SIGNAGE

THE COUNTY SHALL ERECT AND MAINTAIN DETOUR SIGNAGE AS SHOWN ON THE PLANS.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE COUNTY EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE COUNTY SHALL THEN PROVIDE AND INSTALL ALL DEVICES NECESSARY TO DEFINE THE ROUTE OF THE DETOUR AND SHALL MAINTAIN THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, OTHER THAN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

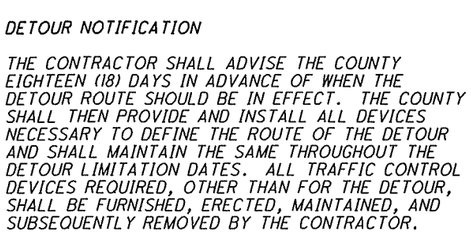
DETOUR LIMITATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE NINETY (90) CONSECUTIVE DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 TO BE ASSESSED. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

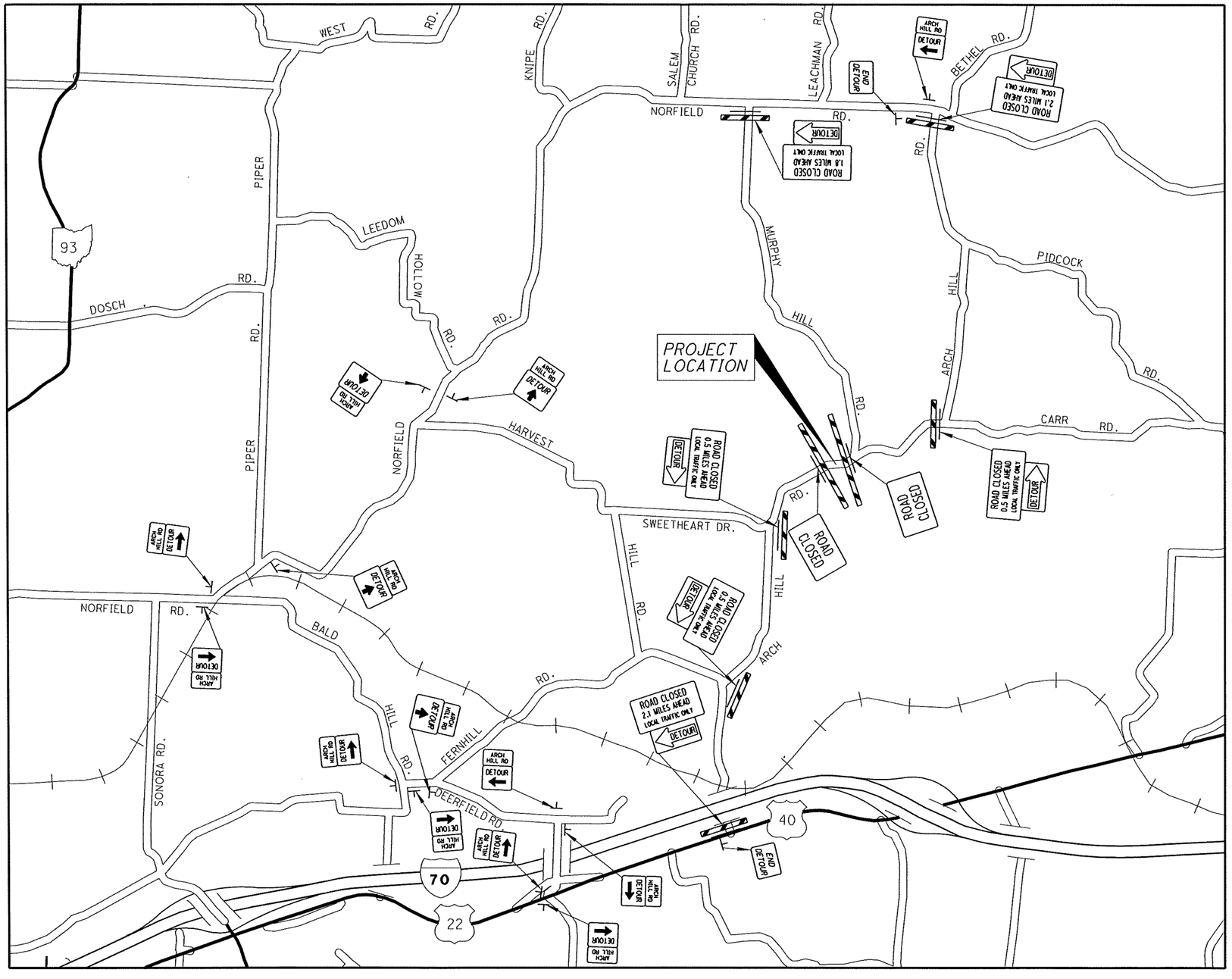
DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 2 M. GAL.



RURAL SIGN DETAIL



SIGN KEY

END DETOUR
M4-8A (30"x24")

ARCH HILL RD DETOUR
SPECIAL (30"x12")
M4-9C (30"x24")

ARCH HILL RD DETOUR
SPECIAL (30"x12")
M4-9L (30"x24")

ARCH HILL RD DETOUR
SPECIAL (30"x12")
M4-9R (30"x24")

ROAD CLOSED X.X MILES AHEAD LOCAL TRAFFIC ONLY DETOUR
R11-3a (60"x30")
M4-10L (48"x18")

ROAD CLOSED X.X MILES AHEAD LOCAL TRAFFIC ONLY DETOUR
R11-3a (60"x30")
M4-10R (48"x18")

ROAD CLOSED
R11-2 (48"x30")

LEGEND

GATES AND BARRICADES AS SHOWN ON SHEET 7

TYPE III BARRICADE

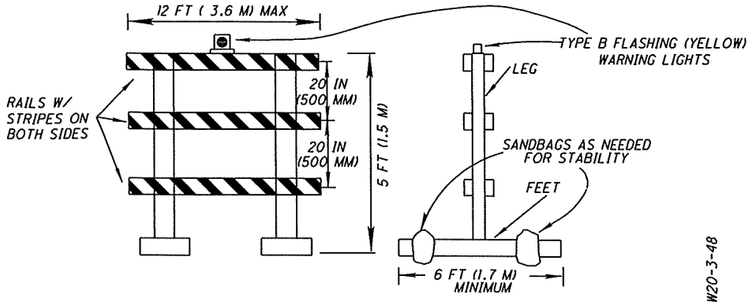
TYPICAL POST MOUNTED SIGN (SEE RURAL SIGN DETAIL)

HORIZONTAL SCALE IN FEET
0 750 1500 3000

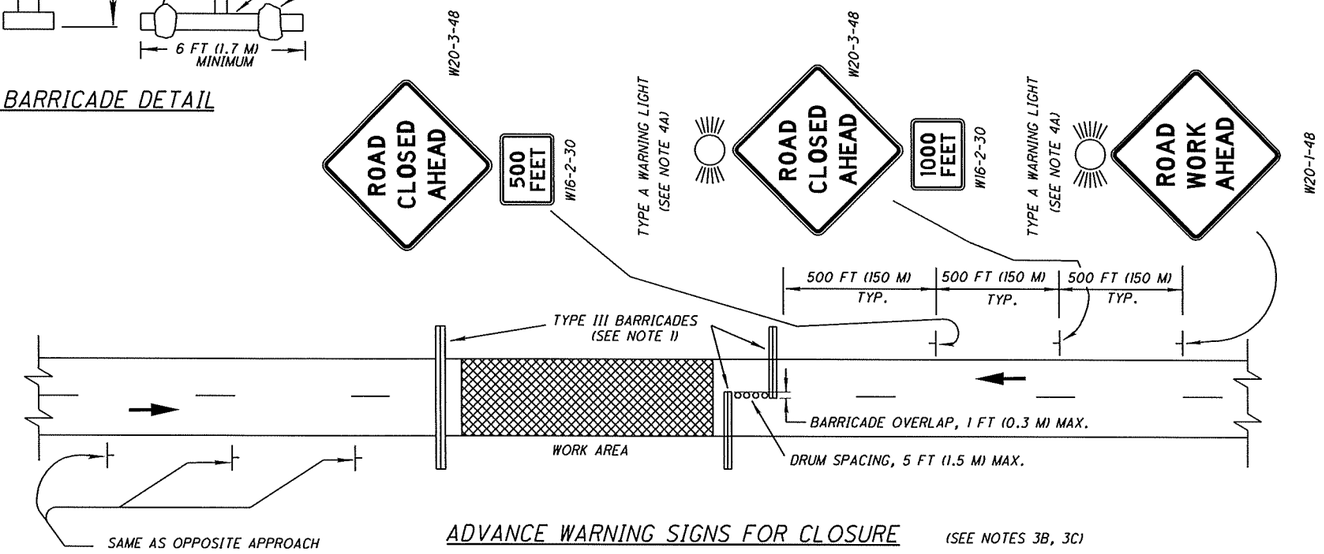
CALCULATED TWG
CHECKED PRF

MAINTENANCE OF TRAFFIC
DETOUR PLAN AND GENERAL NOTES

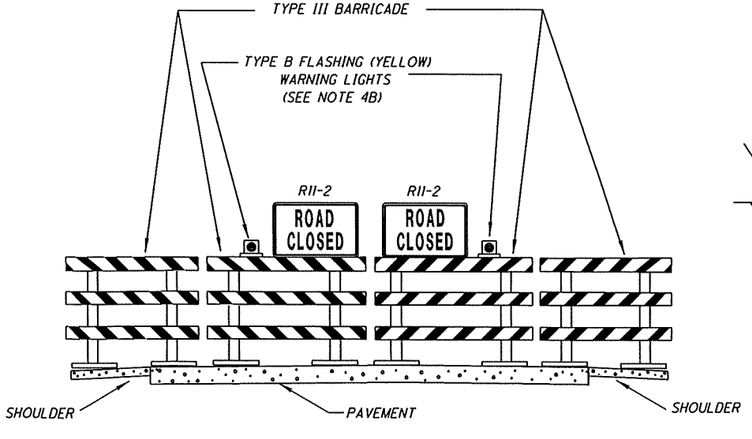
MUS-C.R.82-2.14



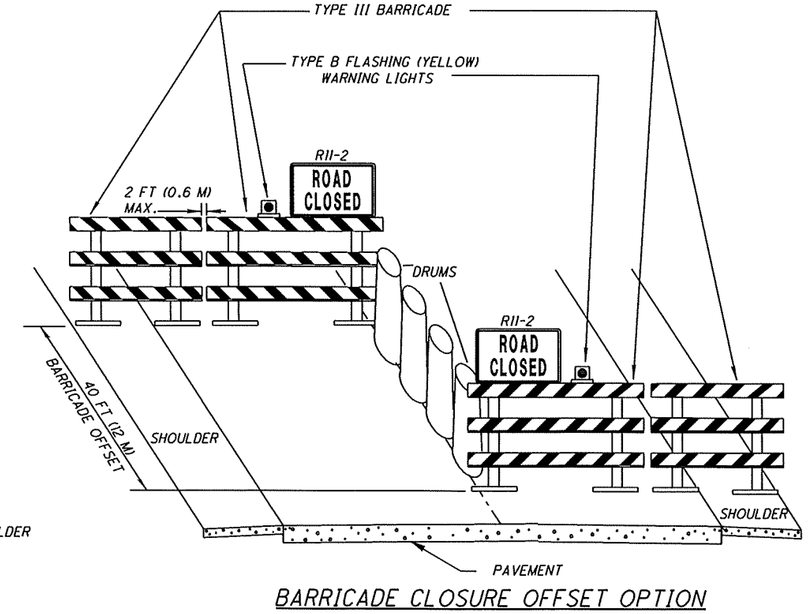
TYPE III BARRICADE DETAIL



ADVANCE WARNING SIGNS FOR CLOSURE (SEE NOTES 3B, 3C)



BARRICADE CLOSURE PROFILE



BARRICADE CLOSURE OFFSET OPTION

NOTES

1. BARRICADE USE

A. BARRICADES SHALL BE NCHRP 350 COMPLIANT AND SHALL BE ERECTED ACCORDING TO DETAILS SHOWN. WHEN THE ROAD IS CLOSED TO TRAFFIC, BARRICADES SHALL BE USED TO EFFECTIVELY CLOSE THE ENTIRE ROADWAY, INCLUDING THE PAVED OR AGGREGATE SHOULDER.

B. BARRICADES ALONG ADJACENT LANES MAY BE OFFSET FROM EACH OTHER AS SHOWN, WITH DRUMS USED TO CLOSE THE RESULTING GAP. MAXIMUM DRUM SPACING SHALL BE 5 FEET (1.5 M).

2. BARRICADE REFLECTORIZATION AND COLOR

A. IN CONSTRUCTION OR MAINTENANCE AREAS, ALL RAILS OF THE BARRICADES SHALL BE REFLECTORIZED WITH ORANGE AND WHITE REFLECTORIZED TYPE G SHEETING IN 6 INCHES (150 MM) WIDE ALTERNATE STRIPES WHICH SLOPE DOWNWARD TOWARD THE CENTER LINE OF THE ROAD AT AN ANGLE OF 45 DEGREES. ALL THREE RAILS OF THE BARRICADE SHALL BE STRIPED ON BOTH SIDES. LEGS AND FEET SHALL BE EITHER ALL-WHITE OR MAY DISPLAY THE NATURAL COLOR OF THE MATERIAL USED.

B. BARRICADES USED IN PERMANENT OR SEMI-PERMANENT APPLICATIONS SHALL DIFFER ONLY IN THAT THEY SHALL USE RED AND WHITE STRIPES.

3. SIGNS

A. WHERE THE ROAD IS CLOSED TO TRAFFIC BY THE ERECTION OF BARRICADES, ROAD CLOSED (R11-2) SIGNS SHALL BE MOUNTED AS SHOWN.

B. THE ADVANCE WARNING SIGNS SHOWN ON THIS DRAWING ARE INTENDED FOR USE WHEN THE TRAVELLED WAY IS BROUGHT TO AN END WITH NO DIRECTION GIVEN TO TRAFFIC. WHERE TRAFFIC HAS BEEN DIRECTED FROM THE PERMANENT ROADWAY AT OR JUST IN ADVANCE OF THE BARRICADES, ADVANCE SIGNING SHOULD BE PROVIDED AS SHOWN IN SCD MT-95.70 OR OMUTCD FIGURE 6H-7 AS APPROPRIATE.

C. THE ADVANCE WARNING SIGNS SHALL BE PLACED ON BOTH SIDES OF THE ROADWAY FOR 4-LANE DIVIDED HIGHWAYS OR WHEN REQUIRED BY THE PLANS.

4. FLASHING WARNING LIGHTS

A. TYPE A FLASHING WARNING LIGHTS ARE REQUIRED ON THE ROAD WORK AHEAD (W20-1) SIGN AND ON THE FIRST ROAD CLOSED AHEAD (W20-3) SIGN.

B. TYPE B FLASHING WARNING LIGHTS SHALL BE PROVIDED ON TYPE III BARRICADES, ONE LIGHT PER EACH CLOSED LANE. EACH LIGHT SHALL BE CONSPICUOUSLY VISIBLE AT ALL DISTANCES UP TO 1000 FEET (300 M) UNDER NORMAL ATMOSPHERIC CONDITIONS. THE LIGHT SHALL BE IN OPERATION AT ALL TIMES DURING THE PERIOD THE HIGHWAY IS CLOSED.

5. OPERATION ON 2-LANE 2-WAY ROADWAYS

A. WHERE THE BARRICADE RUNS ACROSS THE ENTIRE ROADWAY WITHOUT LONGITUDINALLY OFFSETTING SECTIONS, THE CONTRACTOR WILL NORMALLY OPEN ONLY THE LEFT SIDE OF THE BARRICADE AS NECESSARY TO ALLOW THE CONSTRUCTION VEHICLE TO ENTER, AND THEN SHALL IMMEDIATELY CLOSE IT. THE ENTIRE BARRICADE WILL NOT NORMALLY BE OPENED AT THE SAME TIME. THE CONTRACTOR SHALL ASSIGN AN EMPLOYEE TO ASSURE THAT THE BARRICADE IS CLOSED AT THE END OF EACH WORKDAY.

B. WHERE THE SECTIONS OF THE BARRICADE ARE OFFSET FROM EACH OTHER WITH DRUMS PROVIDED TO CLOSE THE GAP (SEE NOTE 1B), THE CONTRACTOR MAY MOVE THE DRUMS AS NECESSARY TO ALLOW THE CONSTRUCTION VEHICLE TO ENTER, AND THEN SHALL IMMEDIATELY REPLACE THE DRUMS. THE CONTRACTOR SHALL ASSIGN AN EMPLOYEE TO ASSURE THAT THE DRUMS ARE IN PLACE AT THE END OF EACH WORKDAY.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 4-21-06 | CHECKED

PIS NUMBER 2010160

PLAN INSERT SHEET

ROAD CLOSURE USING TYPE III BARRICADES

MUS-C.R.82-2.14

1 / 1

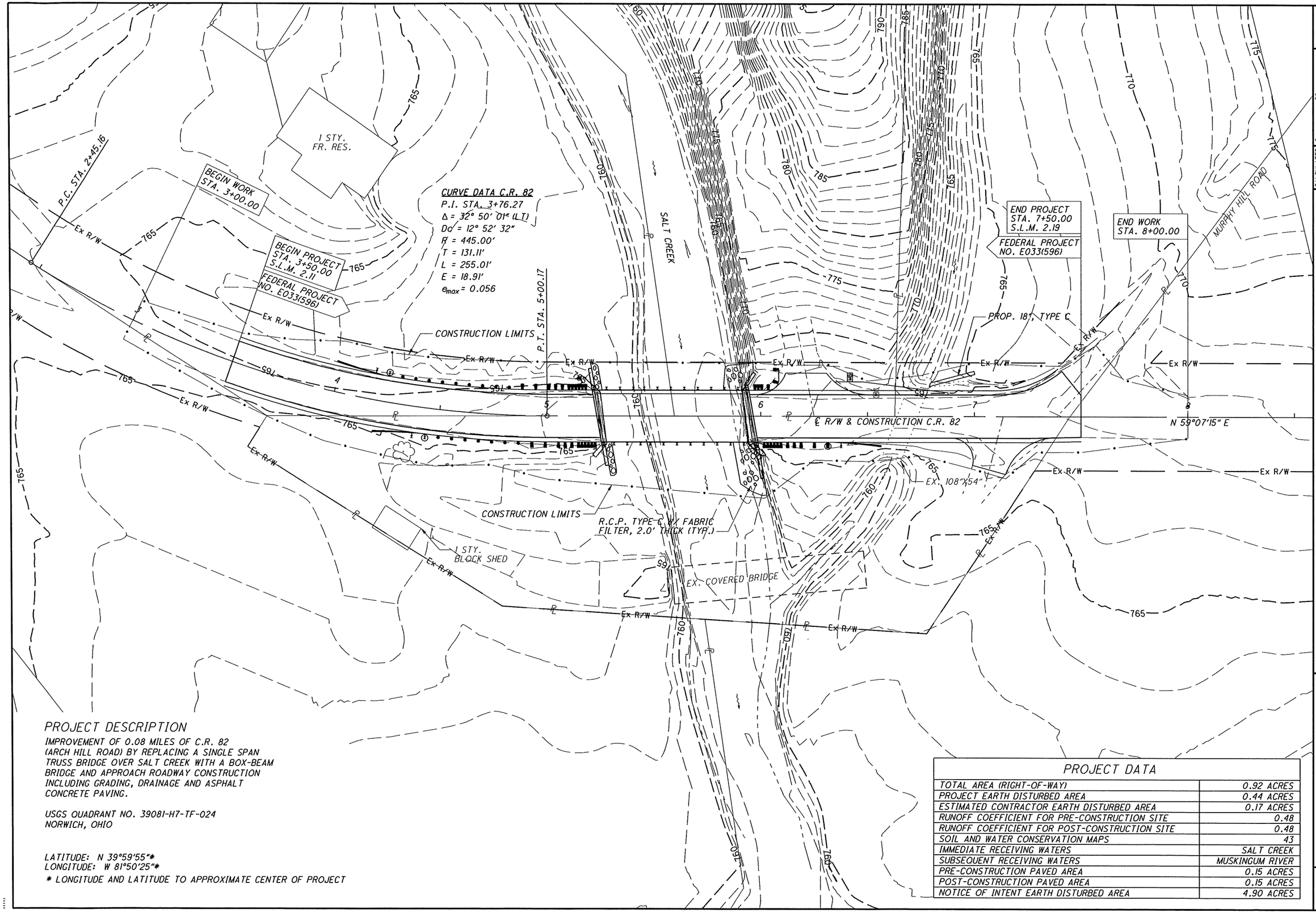
7 / 29

SHEET NUMBER														ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								OFFICE CALCS	4	5	6	11	16						
																		ROADWAY	
									LUMP					201	11000	LUMP		CLEARING AND GRUBBING	
												78		202	35100	78	FT	PIPE REMOVED, 24" AND UNDER	
												1		202	53100	1	EACH	MAILBOX REMOVED	
													251	203	10000	251	CU YD	EXCAVATION	
													400	203	20000	400	CU YD	EMBANKMENT	
								435						203	20001	435	CU YD	EMBANKMENT, AS PER PLAN	20
								846						204	10000	846	SQ YD	SUBGRADE COMPACTION	
										1				204	45000	1	HOUR	PROOF ROLLING	
								98						254	01000	98	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
												231.25		606	13000	231.25	FT	GUARDRAIL, TYPE 5	
												3		606	25000	3	EACH	ANCHOR ASSEMBLY, TYPE A	
												3		606	32160	3	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST	
												1		606	32161	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST, AS PER PLAN	18
												1		SPECIAL	69050100	1	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	4
																		EROSION CONTROL	
												58		601	32204	58	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
										2				659	00100	2	EACH	SOIL ANALYSIS TEST	
										131				659	00300	131	CU YD	TOPSOIL	
													1181	659	10000	1181	SQ YD	SEEDING AND MULCHING	
										59				659	14000	59	SQ YD	REPAIR SEEDING AND MULCHING	
										59				659	15000	59	SQ YD	INTER-SEEDING	
										0.16				659	20000	0.16	TON	COMMERCIAL FERTILIZER	
										0.24				659	31000	0.24	ACRE	LIME	
										7				659	35000	7	M GAL	WATER	
														832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
														832	30000	1500	EACH	EROSION CONTROL	
																		DRAINAGE	
												22		603	07600	22	FT	18" CONDUIT, TYPE C	
										77				605	31100	77	FT	AGGREGATE DRAINS	
																		PAVEMENT	
								85						301	46000	85	CU YD	ASPHALT CONCRETE BASE, PG64-22	
								133				15		304	20000	148	CU YD	AGGREGATE BASE	
								10						407	10000	10	GALLON	TACK COAT	
								30						407	14000	30	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
								297						408	10000	297	GALLON	PRIME COAT	
								32						411	10000	32	CU YD	STABILIZED CRUSHED AGGREGATE	
								36						448	46050	36	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
								28						448	47020	28	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
																		TRAFFIC CONTROL	
												10		626	00100	10	EACH	BARRIER REFLECTOR, TYPE A	
												0.08		642	00290	0.08	MILE	CENTER LINE	
																		MAINTENANCE OF TRAFFIC	
											2			616	10000	2	M GAL	WATER	
																		STRUCTURES (OVER 20')	
																		FOR BRIDGE NO. MUS-CR82-0124	20
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16000	3	MONTH	FIELD OFFICE, TYPE A	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED TWG
CHECKED FJR

GENERAL SUMMARY

MUS-C.R.82-2.14



PROJECT DESCRIPTION

IMPROVEMENT OF 0.08 MILES OF C.R. 82 (ARCH HILL ROAD) BY REPLACING A SINGLE SPAN TRUSS BRIDGE OVER SALT CREEK WITH A BOX-BEAM BRIDGE AND APPROACH ROADWAY CONSTRUCTION INCLUDING GRADING, DRAINAGE AND ASPHALT CONCRETE PAVING.

USGS QUADRANT NO. 39081-H7-TF-024
NORWICH, OHIO

LATITUDE: N 39°59'55"*
LONGITUDE: W 81°50'25"*
* LONGITUDE AND LATITUDE TO APPROXIMATE CENTER OF PROJECT

PROJECT DATA

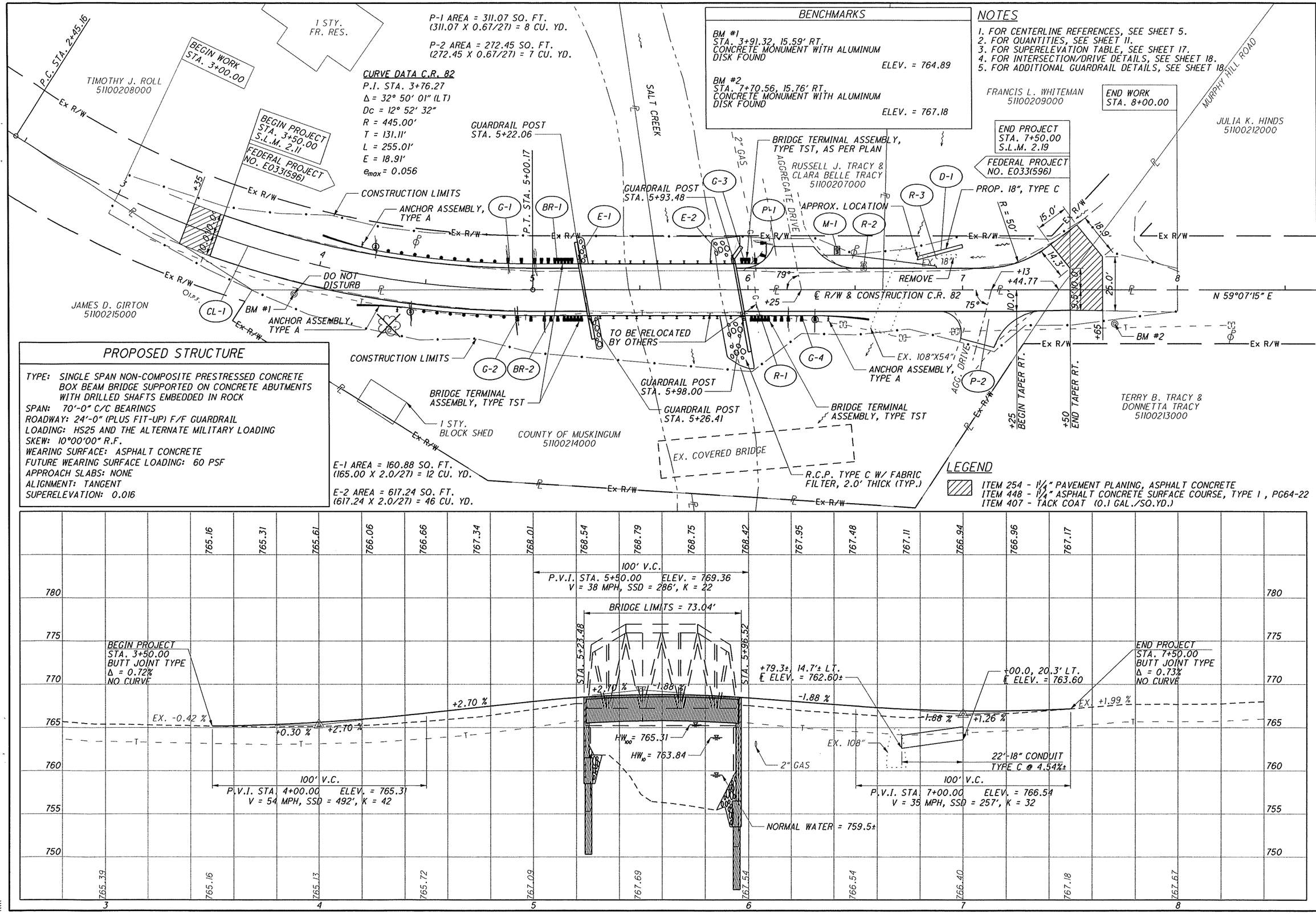
TOTAL AREA (RIGHT-OF-WAY)	0.92 ACRES
PROJECT EARTH DISTURBED AREA	0.44 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.17 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.48
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.48
SOIL AND WATER CONSERVATION MAPS	43
IMMEDIATE RECEIVING WATERS	SALT CREEK
SUBSEQUENT RECEIVING WATERS	MUSKINGUM RIVER
PRE-CONSTRUCTION PAVED AREA	0.15 ACRES
POST-CONSTRUCTION PAVED AREA	0.15 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA	4.90 ACRES

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED TWG
CHECKED FJR

PROJECT SITE PLAN

MUS-C.R.82-2.14

9
29



BENCHMARKS

BM #1
STA. 3+91.32, 15.59' RT.
CONCRETE MONUMENT WITH ALUMINUM DISK FOUND
ELEV. = 764.89

BM #2
STA. 7+70.56, 15.76' RT.
CONCRETE MONUMENT WITH ALUMINUM DISK FOUND
ELEV. = 767.18

NOTES

1. FOR CENTERLINE REFERENCES, SEE SHEET 5.
2. FOR QUANTITIES, SEE SHEET 11.
3. FOR SUPERELEVATION TABLE, SEE SHEET 17.
4. FOR INTERSECTION/DRIVE DETAILS, SEE SHEET 18.
5. FOR ADDITIONAL GUARDRAIL DETAILS, SEE SHEET 18.

P-1 AREA = 311.07 SQ. FT.
(311.07 X 0.67/27) = 8 CU. YD.

P-2 AREA = 272.45 SQ. FT.
(272.45 X 0.67/27) = 7 CU. YD.

CURVE DATA C.R. 82

P.I. STA. 3+76.27
Δ = 32° 50' 01" (LT)
Dc = 12° 52' 32"
R = 445.00'
T = 131.11'
L = 255.01'
E = 18.91'
e_{max} = 0.056

PROPOSED STRUCTURE

TYPE: SINGLE SPAN NON-COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE SUPPORTED ON CONCRETE ABUTMENTS WITH DRILLED SHAFTS EMBEDDED IN ROCK
SPAN: 70'-0" C/C BEARINGS
ROADWAY: 24'-0" (PLUS FIT-UP) F/F GUARDRAIL
LOADING: HS25 AND THE ALTERNATE MILITARY LOADING
SKEW: 10°00'00" R.F.
WEARING SURFACE: ASPHALT CONCRETE
FUTURE WEARING SURFACE LOADING: 60 PSF
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
SUPERELEVATION: 0.016

E-1 AREA = 160.88 SQ. FT.
(165.00 X 2.0/27) = 12 CU. YD.

E-2 AREA = 617.24 SQ. FT.
(617.24 X 2.0/27) = 46 CU. YD.

LEGEND

ITEM 254 - 1¼" PAVEMENT PLANING, ASPHALT CONCRETE
ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I , PG64-22
ITEM 407 - TACK COAT (0.1 GAL./SQ.YD.)

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED TWG
CHECKED WHM

PLAN AND PROFILE
STA. 3+00 TO STA. 8+00

MUS-C.R.82-2.14

10
29

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER	202 MAILBOX REMOVED	304 AGGREGATE BASE	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	603 18" CONDUIT, TYPE C	606 GUARDRAIL, TYPE 5	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST, AS PER PLAN	606 ANCHOR ASSEMBLY, TYPE A	626 BARRIER REFLECTOR, TYPE A	642 CENTER LINE DOUBLE SOLID	SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE
					FT	EACH	CU YD	CU YD	FT	FT	EACH	EACH	EACH	EACH	MILE	EACH
R-1		6+01.5	6+06.8	LT/RT	60											
R-2		6+54.0		LT		1										
R-3		6+79.0	6+97.2	LT	18											
G-1		3+99.07	5+19.87	LT						93.75	1		1			
G-2		4+19.47	5+24.22	RT						81.25	1		1			
G-3		5+95.67	6+08.59	LT						25.00		1				
G-4		6+00.19	6+56.44	RT						31.25	1		1			
D-1		6+79.3	7+00.0	LT					22							
E-1		5+20.7	5+32.6	LT/RT				12								
E-2		5+82.6	6+02.7	LT/RT				46								
M-1		6+41.8		LT												1
P-1		6+25		LT			8									
P-2		7+13		RT			7									
BR-1		3+99.07	6+08.59	LT										5		
BR-2		4+19.47	6+56.44	RT										5		
CL-1		3+35.0	7+65.0	℄											0.08	
TOTALS CARRIED TO GENERAL SUMMARY					78	1	15	58	22	231.25	3	1	3	10	0.08	1

CALCULATED TWG
CHECKED FJR

ESTIMATED QUANTITIES

MUS-C.R.82-2.14

SEEDING	
END WIDTH	SQ. YDS.
28	
	75
26	
0	
	75

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

EX R/W

EX R/W

EX R/W

EX R/W

EX R/W

770

765

760

4:1

4:1

℄TELE.

765.31
3+75.00
765.03

AHEAD
BACK

℄TELE.

765.16
3+50.00
765.16

BEGIN PROJECT

℄TELE.

3+00.00
765.39
BEGIN WORK

END AREA		VOLUME	
CUT	FILL	CUT	FILL
21	10		
		21	5
25	0		
0	0		
		21	5

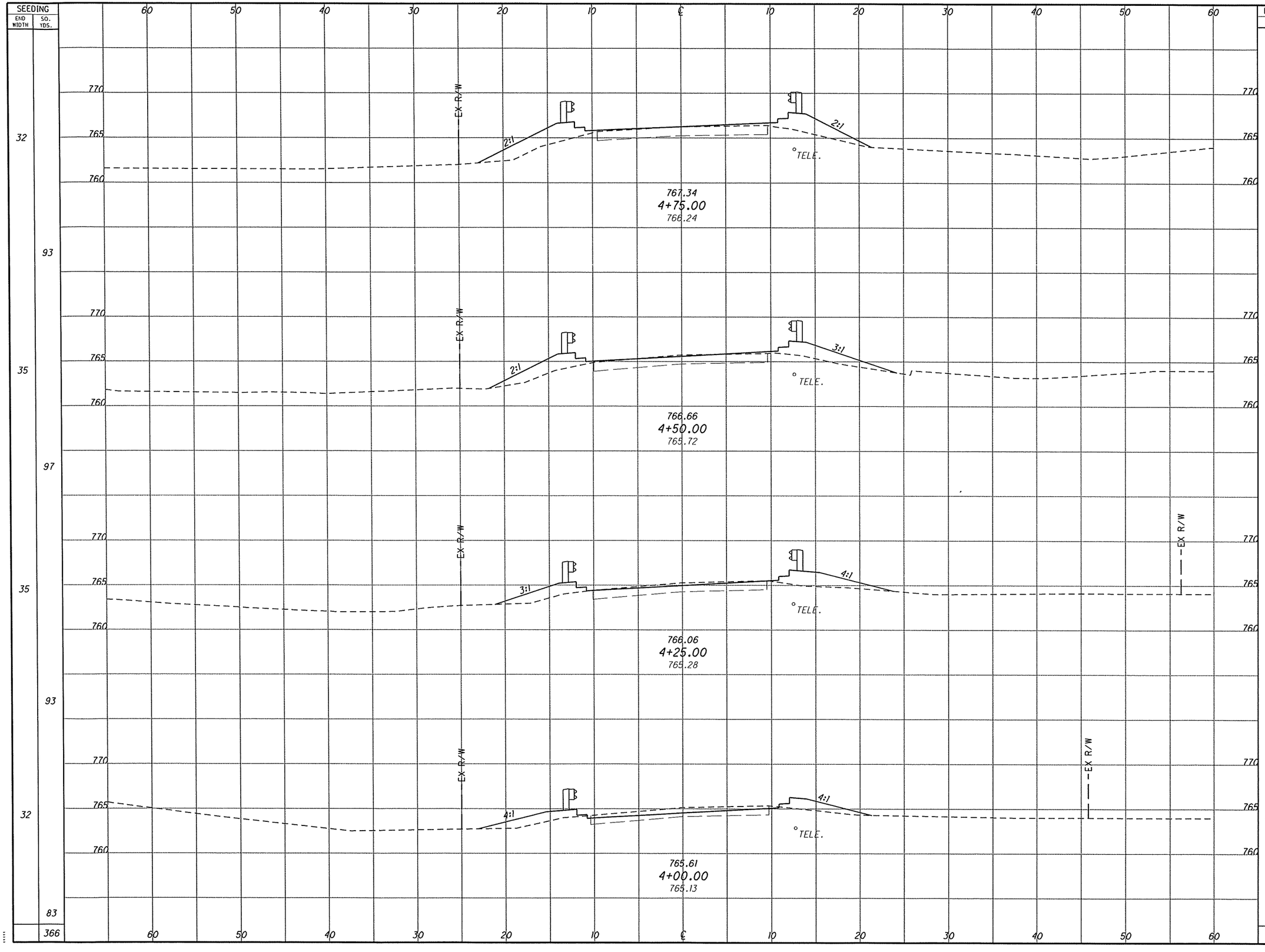
CALCULATED TWG
CHECKED WHM

CROSS SECTIONS
STA. 3+00 TO STA. 3+75

MUS-C.R.82-2.14

12
29

SEEDING	
END WIDTH	SQ. YDS.
32	
	93
35	
	97
35	
	93
32	
	83
	366



END AREA		VOLUME	
CUT	FILL	CUT	FILL
19	52		
		18	45
20	46		
		18	39
19	39		
		18	31
20	28		
		19	18
		73	133

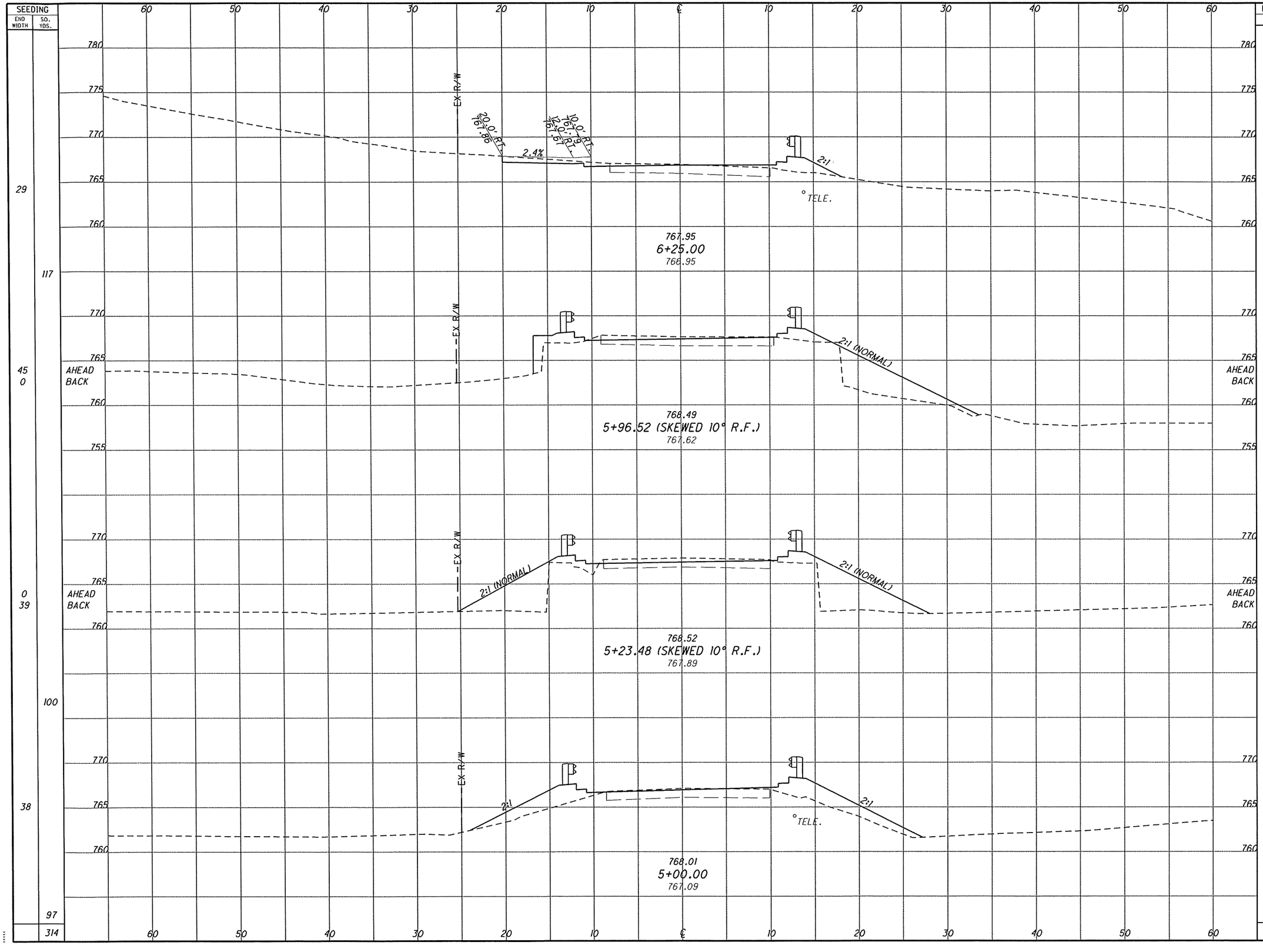
CALCULATED TWC
CHECKED WHM

CROSS SECTIONS
STA. 4+00 TO STA. 4+75

MUS-C.R.82-2.14

13
29

SEEDING	
END WIDTH	SQ. YDS.
29	
	117
45	
0	
	100
0	
39	
38	
	97
	314



END AREA		VOLUME	
CUT	FILL	CUT	FILL
20	22		
		21	44
AHEAD 20	62		
BACK 0	0		
AHEAD 0	0		
BACK 19	85		
		16	63
18	59		
		17	51
		54	158

CALCULATED TWG
CHECKED WHM

CROSS SECTIONS
STA. 5+00 TO STA. 6+25

MUS-C.R.82-2.14

SEEDING	
END WIDTH	SQ. YDS.
34	94
34	92
32	85
	271

END AREA	
CUT	FILL
30	20
18	41
18	28

VOLUME	
CUT	FILL
22	28
17	32
18	23
57	83

CALCULATED TWG
CHECKED WHM

CROSS SECTIONS
STA. 6+50 TO STA. 7+13

MUS-C.R.82-2.14

DRIVE 7+13 RT.

10.0' LT.
766.76

-4.8%

35.5' LT.
766.01

TELE.

EX R/W

18" TYPE C

2:1

2:1

763.6

TELE.

766.94
7+00.00
766.40

EX R/W

2:1

4:1

108"X54" METAL ARCH PIPE

TELE

767.11
6+75.00
766.13

EX R/W

2:1

2:1

TELE.

767.48
6+50.00
766.54

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

770 765 760 775 780 755

EARTHWORK QUANTITY SUB-SUBSUMMARY

STATION FROM	STATION TO	203 EXCAVATION	203 EMBANKMENT	659 SEEDING AND MULCHING
		CU. YD.	CU. YD.	SQ. YD.
3+00	3+75	21	5	75
4+00	4+75	73	133	366
5+00	6+25	54	158	314
6+50	7+13	57	83	271
7+25	8+00	46	21	155
TOTALS TO GENERAL SUMMARY		251	400	1181

SEEDING END WIDTH	SEEDING SQ. YDS.
0	67
19	
29	
	88
	155

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
21	1		
25	12		
		21	6
		25	15
		46	21

CALCULATED TWG
CHECKED WHM

CROSS SECTIONS
STA. 7+25 TO STA. 8+00

MUS-C.R.82-2.14

16
29

SUPERELEVATION TABLE

P.I. STA. 3+76.27 | Dc = 12° 52' 32"

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
764.41		-0.75	-0.0750	10.00	3+50.00	765.16	10.00	0.0330	0.33		765.49	MATCH EX.
764.75		-0.56	-0.0560	10.00	3+75.00	765.31	10.00	0.0560	0.56		765.87	
765.05		-0.56	-0.0560	10.00	4+00.00	765.61	10.00	0.0560	0.56		766.17	
765.50		-0.56	-0.0560	10.00	4+25.00	766.06	10.00	0.0560	0.56		766.62	
766.10		-0.56	-0.0560	10.00	4+50.00	766.66	10.00	0.0560	0.56		767.22	
766.24	↑	-0.56	-0.0560	10.00	4+55.09	766.80	10.00	0.0560	0.56	↑	767.36	F.S.
766.90		-0.44	-0.0436	10.00	4+75.00	767.34	10.00	0.0436	0.44		767.77	
767.73	16:1	-0.28	-0.0281	10.00	5+00.00	768.01	10.00	0.0281	0.28	16:1	768.29	
767.74		-0.28	-0.0280	10.00	5+00.17	768.02	10.00	0.0280	0.28		768.30	P.T.
768.29	↓	-0.16	-0.0160	10.00	5+19.49	768.45	10.00	0.0160	0.16	↓	768.61	R.C.
768.38		-0.16	-0.0160	10.00	5+25.00	768.54	10.00	0.0160	0.16		768.70	
768.63		-0.16	-0.0160	10.00	5+50.00	768.79	10.00	0.0160	0.16		768.95	
768.59		-0.16	-0.0160	10.00	5+75.00	768.75	10.00	0.0160	0.16		768.91	
768.29		-0.16	-0.0160	10.00	5+98.48	768.45	10.00	0.0160	0.16	↑	768.61	R.C.
768.26		-0.16	-0.0160	10.00	6+00.00	768.42	10.00	0.0151	0.15		768.57	
767.81		-0.16	-0.0160	10.00	6+24.24	767.97	10.00	0.0000	0.00	16:1	767.97	½ LEVEL
767.79		-0.16	-0.0160	10.00	6+25.00	767.95	10.00	-0.0005	-0.00		767.95	
767.32		-0.16	-0.0160	10.00	6+50.00	767.48	10.00	-0.0160	-0.16	↓	767.32	N.C.
767.15	↑	-0.16	-0.0160	10.00	6+59.84	767.31	10.00	-0.0160	-0.16		767.15	
767.04		-0.07	-0.0066	10.00	6+75.00	767.11	10.00	-0.0160	-0.16		766.95	
767.01	16:1	0.05	0.0050	10.00	6+93.65	766.96	10.00	-0.0160	-0.16	↑	766.80	
767.03		0.09	0.0089	10.00	7+00.00	766.94	10.00	-0.0179	-0.18	16:1	766.76	
767.26		0.30	0.0295	10.00	7+25.00	766.96	10.00	-0.0355	-0.36		766.60	
767.57	↓	0.40	0.0400	10.00	7+50.00	767.17	9.50	-0.0510	-0.49	↓	766.68	MATCH EX.

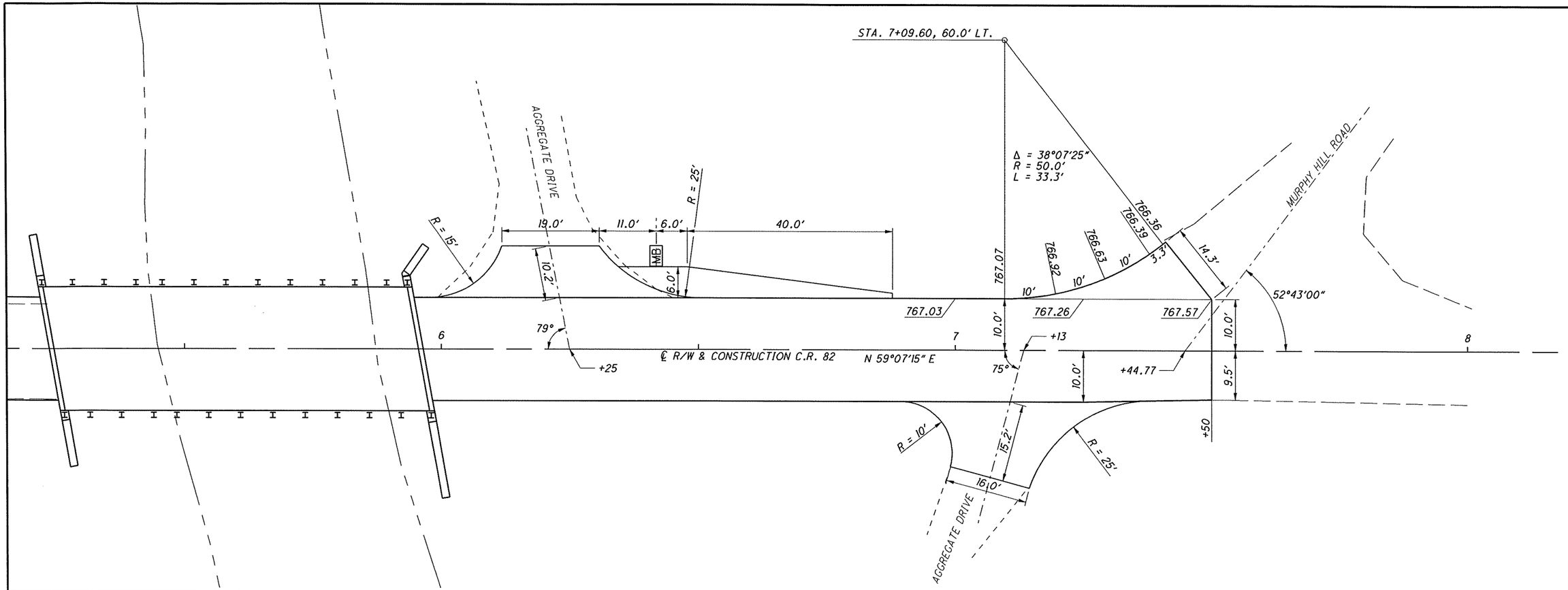
SUPERELEVATION TABLE

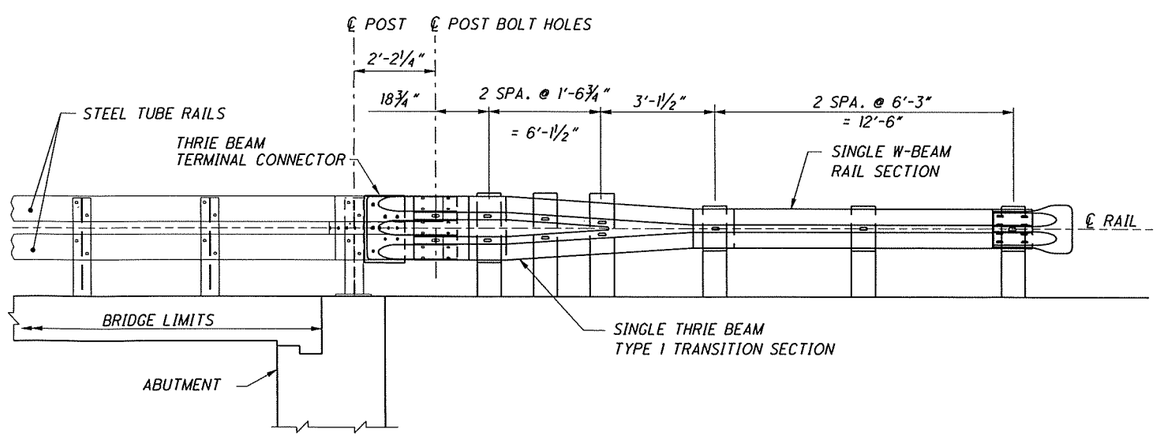
LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	

CALCULATED TWG
CHECKED FJR

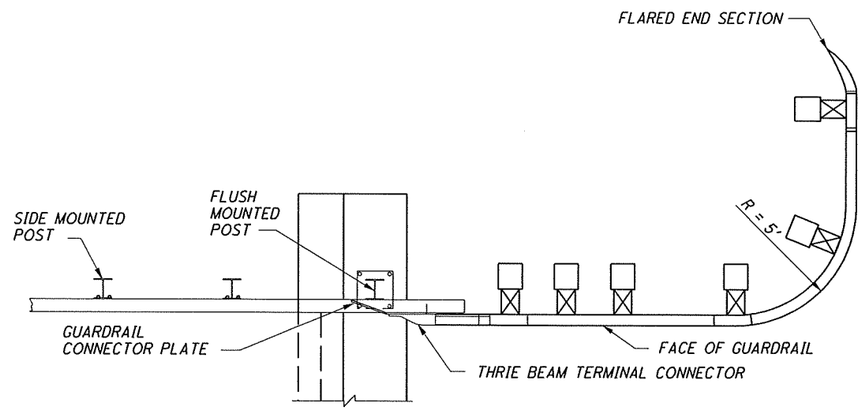
SUPERELEVATION TABLE

MUS-C.R.82-2.14





ELEVATION



PLAN

NOTES

FOR ADDITIONAL DETAILS, SEE SCD GR-3.6

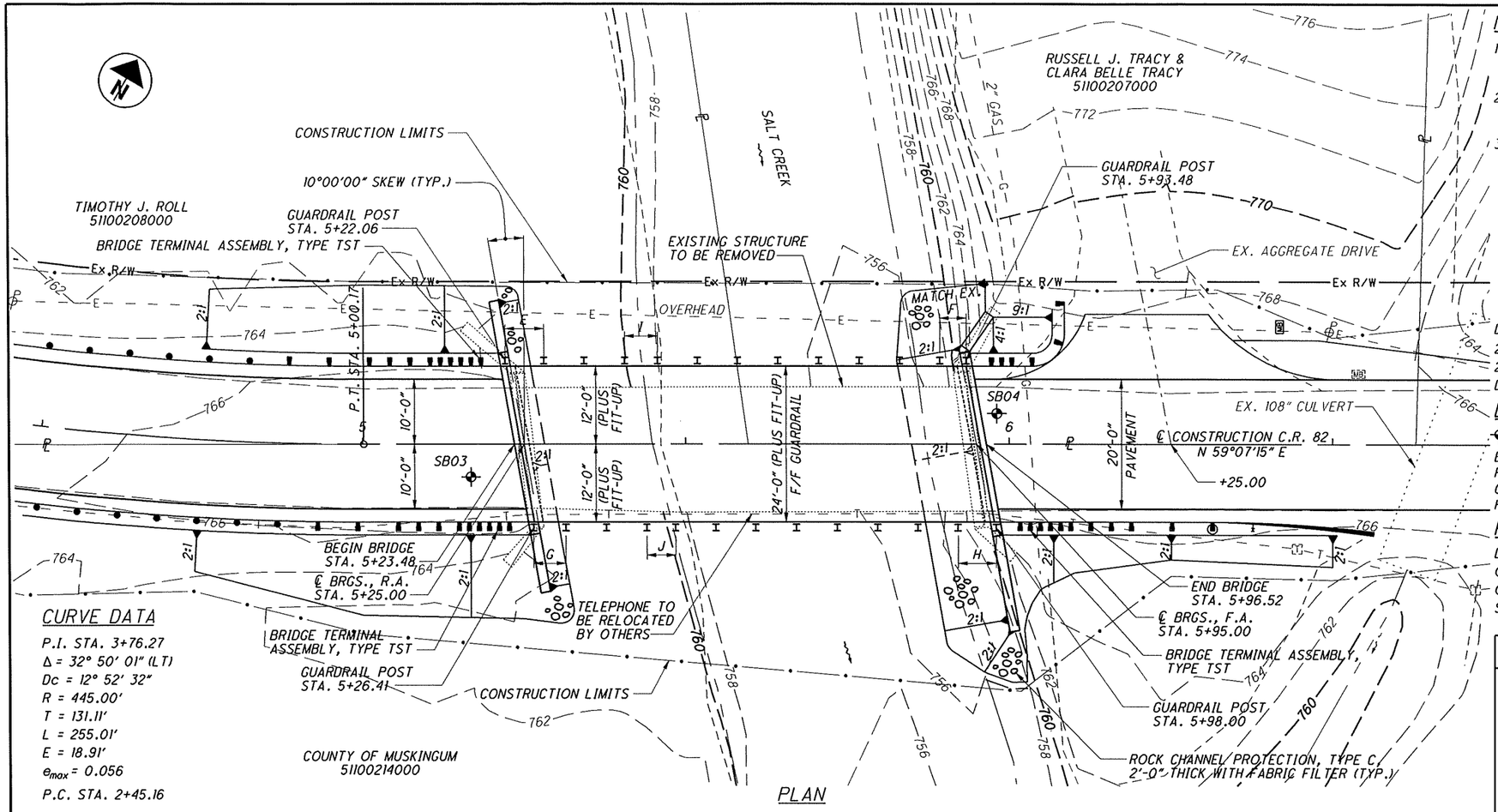
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED TWG
CHECKED FJR

INTERSECTION/DRIVE DETAILS
GUARDRAIL DETAILS

MUS-C.R.82-2.14

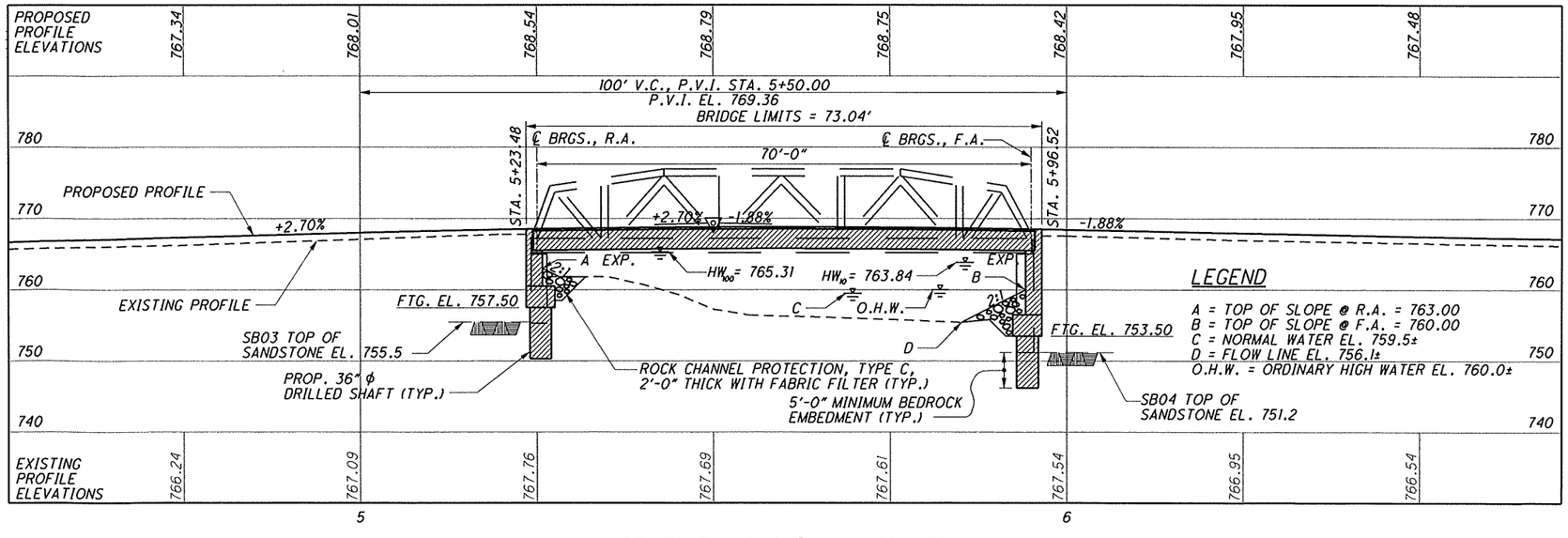
18
29



PLAN

CURVE DATA

P.I. STA. 3+76.27
Δ = 32° 50' 01" (LT)
Dc = 12° 52' 32"
R = 445.00'
T = 131.11'
L = 255.01'
E = 18.91'
e_{max} = 0.056
P.C. STA. 2+45.16



PROFILE ALONG ℄ CONSTRUCTION C.R. 82

NOTES

1. FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLAN SHEET 5/29.
2. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
3. FOR THIS PROJECT, PERMITS FOR SECTIONS 401 AND 404 OF THE CLEAN WATER ACT, ARE BASED ON THE LIMITS OF TEMPORARY CONSTRUCTION FILL PLACED IN "WATERS OF THE UNITED STATES" AS SHOWN BELOW. IF EITHER OF THE LIMITS PROVIDED ARE EXCEEDED, THEN A 404/401 PERMIT MODIFICATION WILL BE REQUIRED. IF A PERMIT MODIFICATION IS REQUIRED, REFER TO SUPPLEMENTAL SPECIFICATION 832.09 FOR THE APPLICATION REQUIREMENTS.

PLAN AREA OF TEMPORARY FILL = 0.14 ACRES
TOTAL VOLUME OF TEMPORARY FILL = 885 CU. YD.

DESIGN TRAFFIC:
2007 ADT = 260 2007 ADTT = 8
2027 ADT = 387 2027 ADTT = 12
DIRECTIONAL DISTRIBUTION = 55%

LEGEND

SOIL BORING LOCATION
E = 6'-0" I = 5'-1"
F = 4'-1" J = 4'-6"
G = 5'-0"
H = 5'-10"

HYDRAULIC DATA

DRAINAGE AREA = 21.06 SQ. MILES
Q (10) = 1937 CFS V (10) = 4.89 FT/S
Q (100) = 3354 CFS V (100) = 6.77 FT/S
STRUCTURE CLEARS THE 10 YEAR DESIGN HW BY 1.49 FEET.

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL TRUSS BRIDGE SUPPORTED ON CONCRETE WALL ABUTMENTS
SPAN: 67'-0"± C/C BEARINGS
ROADWAY: 20'-0"± F/F GUARDRAIL
LOADING: H10
SKEW: 6°00'00" R.F.
WEARING SURFACE: ASPHALT
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
STRUCTURAL FILE NUMBER: 6048285
DATE BUILT: 1952
DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN NON-COMPOSITE PRESTRESSED CONCRETE BOX BEAM BRIDGE SUPPORTED ON CONCRETE ABUTMENTS WITH DRILLED SHAFTS EMBEDDED IN ROCK
SPAN: 70'-0" C/C BEARINGS
ROADWAY: 24'-0" (PLUS FIT-UP) F/F GUARDRAIL
LOADING: HS25 AND THE ALTERNATE MILITARY LOADING
SKEW: 10°00'00" R.F.
WEARING SURFACE: ASPHALT CONCRETE
FUTURE WEARING SURFACE LOADING: 60 PSF
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
SUPERELEVATION: 0.016
COORDINATES: LATITUDE 39°59'55" N
LONGITUDE 81°50'25" W

DESIGN AGENCY
TWd partners
7007 Discovery Blvd.
Dublin, Ohio 43017

REVIEWED	DATE	STRUCTURE FILE NUMBER
WHM	09-20-06	6048293

DRAWN	REVISED
STK	

DESIGNED	CHECKED
STK	GDJ

MUSKINGUM COUNTY
STA. 5+23.48
STA. 5+96.52

SITE PLAN
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

MUS-C.R. 82-2.14
PID No. 24278

1/11

19/29

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

DS-1-92 REVISED 07-18-03
PSBD-1-93 REVISED 07-21-06
TST-1-99 REVISED 10-17-03

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 INCLUDING THE 2003 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE: 60 PSF.

DESIGN DATA:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

CONCRETE S MODIFIED - COMPRESSIVE STRENGTH 4000 PSI (DRILLED SHAFT)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 5500 PSI
COMPRESSIVE STRENGTH (RELEASE) - 4000 PSI

PRESTRESSING STRAND:
AREA = 0.167 IN²
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

TYPE 3 WATERPROOFING AND ASPHALT CONCRETE OVERLAY
STEEL DRIP STRIP
SEALING OF CONCRETE SURFACES

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

EXISTING STEEL TRUSS SHALL BE REMOVED FOR STORAGE AND SHALL BECOME A PROPERTY OF MUSKINGUM COUNTY. THE EXISTING TRUSS SHALL BE CAREFULLY CUT INTO MANAGEABLE PIECES AND SHALL BE DELIVERED TO THE MUSKINGUM COUNTY ENGINEER'S OFFICE AT:

155 REHL RD
ZANESVILLE, OH 43701

AS DIRECTED BY COUNTY ENGINEER

CONTACT DOUG DAVIS AT THE MUSKINGUM COUNTY ENGINEER'S OFFICE AT (740) 454-0155 TO ARRANGE FOR MATERIALS TO BE RECEIVED BY THE COUNTY.

ITEM 203 - EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 5+00.00 TO 5+23.48, REAR ABUTMENT, AND STATIONS 5+96.52 TO 6+20.00, FORWARD ABUTMENT.

DRILLED SHAFTS

THE DESIGN LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 68.8 TONS AT THE ABUTMENTS. THIS LOAD IS RESISTED BY SHAFT END BEARING. THE ALLOWABLE END BEARING PRESSURE IS 10 TONS PER SQUARE FOOT. THE REINFORCING STEEL SHALL BE EPOXY COATED ACCORDING TO 709.00.

IF THE SOIL CONDITION ENCOUNTERED IN THE FIELD DEVIATES FROM THE INFORMATION PROVIDED IN THE FOUNDATION INVESTIGATION REPORT, THE FOLLOWING GEOTECHNICAL CONSULTANT SHALL BE CONTACTED FOR ADVICE:

BBC&M ENGINEERING
6190 ENTERPRISE COURT
DUBLIN, OH 43016
(614) 793-2226

UTILITY LINES

THE UTILITY SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

BEARING PAD SHIMS

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 12 INCHES BY 7 INCHES, UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH TWO SHIMS PER BEAM. THE COUNTY WILL MEASURE THIS ITEM BY THE TOTAL NUMBER SUPPLIED. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - 1/8" PREFORMED BEARING PADS. ANY UNUSED SHIMS WILL BECOME THE PROPERTY OF MUSKINGUM COUNTY.

ESTIMATED QUANTITIES

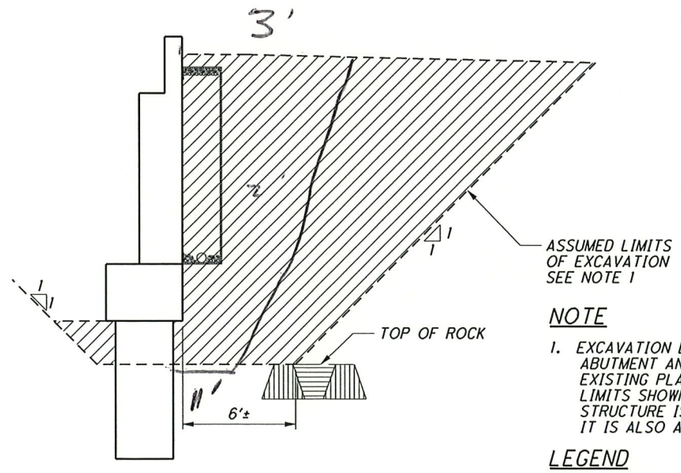
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	SUPER	GEN'L	SPEC & AS PER PLAN SHEET NO.
202	11003	LUMP	-	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	2
407	10000	15	GAL	TACK COAT		15		
407	14000	8	GAL	TACK COAT FOR INTERMEDIATE COURSE		8		
448	46050	14	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22		14		
448	47020	9	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22		9		
503	11100	LUMP	-	COFFERDAMS, CRIBS AND SHEETING			LUMP	
503	21100	90	CU YD	UNCLASSIFIED EXCAVATION	90			
509	10000	9804	POUND	EPOXY COATED REINFORCING STEEL	9804			
511	43501	98	CU YD	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN	98			2
512	10100	118	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	65	53		
512	33011	213	SQ YD	TYPE 3 WATERPROOFING, AS PER PLAN		213		2
512	44400	15	SQ YD	TYPE B WATERPROOFING		15		
515	10090	6	EACH	PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, B33-48		6		
516	13600	144	SQ FT	1" PREFORMED EXPANSION JOINT FILLER			144	
SPECIAL	51631300	50	FT	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM			50	
516	41100	12	EACH	1/8" PREFORMED BEARING PAD			12	
516	43100	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), 12"x7"x1"			24	
517	70000	153	FT	RAILING (TWIN STEEL TUBE)		153		
518	21200	45	CU YD	POROUS BACKFILL WITH FILTER FABRIC	45			
SPECIAL	51822300	175	FT	STEEL DRIP STRIP		175		
518	40000	95	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	95			
518	40010	64	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	64			
524	94702	22	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK	22			
524	94704	50	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	50			

DESIGN: TV DATE: 09/18/06
CHECKED: GDJ DATE: 09/19/06

ITEM 407 - TACK COAT AND ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

ITEM 407 - TACK COAT	0.075 GAL./ SQ. YD.
ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE	0.04 GAL./ SQ. YD.



TYPICAL EXCAVATION AND EMBANKMENT DIAGRAM

ITEM 511 - CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN

THE CONTRACTOR SHALL INSTALL A METAL BENCHMARK DISK ON TOP OF NORTHEAST WINGWALL. THE DISK SHALL BE PLACED CAREFULLY ON A LEVELED SECTION AT A TURNED BACK PORTION THE WINGWALL. THE CONTRACTOR SHALL PROVIDE AN ELEVATION OF THE BENCHMARK, WHICH SHALL BE VERIFIED BY A PROFESSIONAL SURVEYOR. THE ELEVATION MEASURED SHALL USE NAVD 88 DATUM. THE DISK SHALL BE PROVIDED BY THE MUSKINGUM COUNTY ENGINEER. PAYMENT FOR ALL OTHER MATERIALS, LABOR AND INCIDENTALS NECESSARY TO INSTALL THE BENCHMARK DISK SHALL BE INCLUDED IN ITEM 511 - CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN. IF THE METAL BENCHMARK IS DISTURBED PRIOR TO THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUPPLY A NEW DISK, RESET AND VERIFY ITS ELEVATION AT NO ADDITIONAL COST TO THE COUNTY.

ITEM 512 - TYPE 3 WATERPROOFING, AS PER PLAN

FOLLOW ALL PROVISIONS OF ITEM 512 EXCEPT THAT ALL JOINTS IN THE MEMBRANES SHALL BE LAPPED 8 INCHES.

FOUNDATION INFORMATION

FOUNDATION INFORMATION CAN BE VIEWED AT MUSKINGUM COUNTY ENGINEER'S OFFICE AT:

155 REHL RD
ZANESVILLE, OH 43701

NOTE

1. EXCAVATION LIMITS SHOWN ARE REQUIRED FOR THE REMOVAL OF THE EXISTING ABUTMENT AND PAYMENT IS LUMPED UNDER ITEM 202, ACCORDING TO CMS 503.01. EXISTING PLANS ARE NOT AVAILABLE TO VERIFY THE FOOTING SIZE, THEREFORE, LIMITS SHOWN ARE APPROXIMATE. IN ADDITION, IT IS ASSUMED THE EXISTING STRUCTURE IS SUPPORTED BY SPREAD FOOTINGS DUE TO THE LOCATION OF ROCK. IT IS ALSO ASSUMED THAT THE FOOTINGS BEAR DIRECTLY ON ROCK.

LEGEND

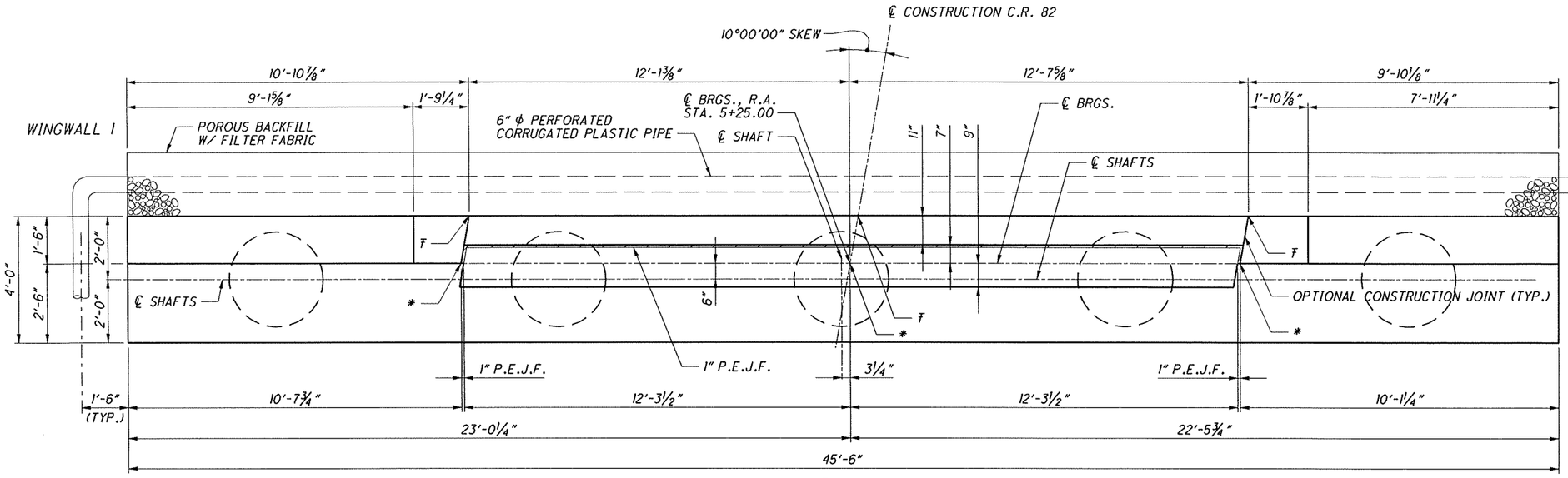
ITEM 203 - EMBANKMENT, AS PER PLAN
SEE ROADWAY GENERAL SUMMARY, SHEET 8/29 FOR QUANTITY.

DESIGN AGENCY
wd partners
7007 Discovery Blvd.
Dublin, Ohio 43017

DESIGNED TV | DRAWN TV | REVIEWED WHM | DATE 09-20-06
CHECKED BPC | REVISED | STRUCTURE FILE NUMBER 6048293

GENERAL NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

MUS-C.R. 82-2.14
PID No. 24278



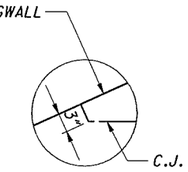
PLAN

LEGEND

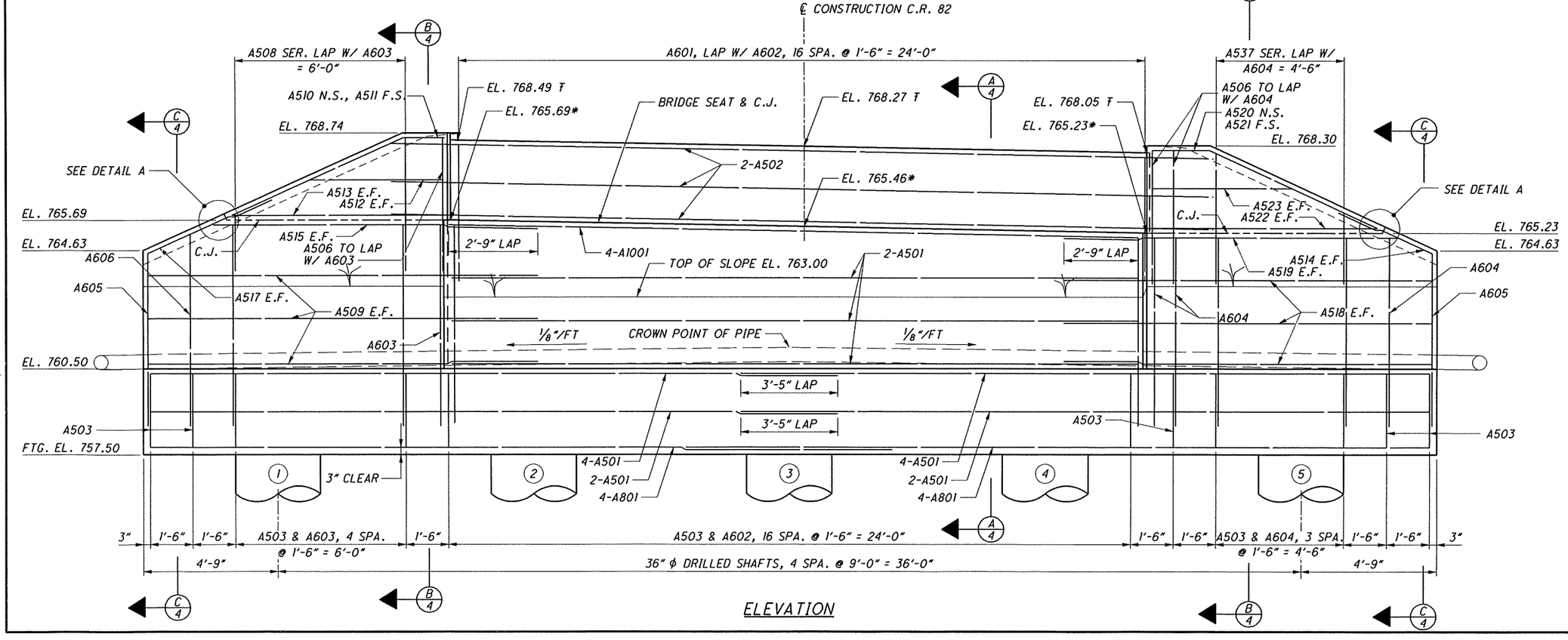
Ŧ = ELEVATIONS TAKEN AT THE BACK FACE OF BACKWALL
* = ELEVATIONS TAKEN AT THE CENTERLINE OF BEARING

NOTE

1. SEE SHEET 6/11 FOR NOTES AND ABBREVIATIONS LEGEND.



DETAIL A



ELEVATION

DESIGN AGENCY
TWd partners
7007 Discovery Blvd.
Dublin, Ohio 43017

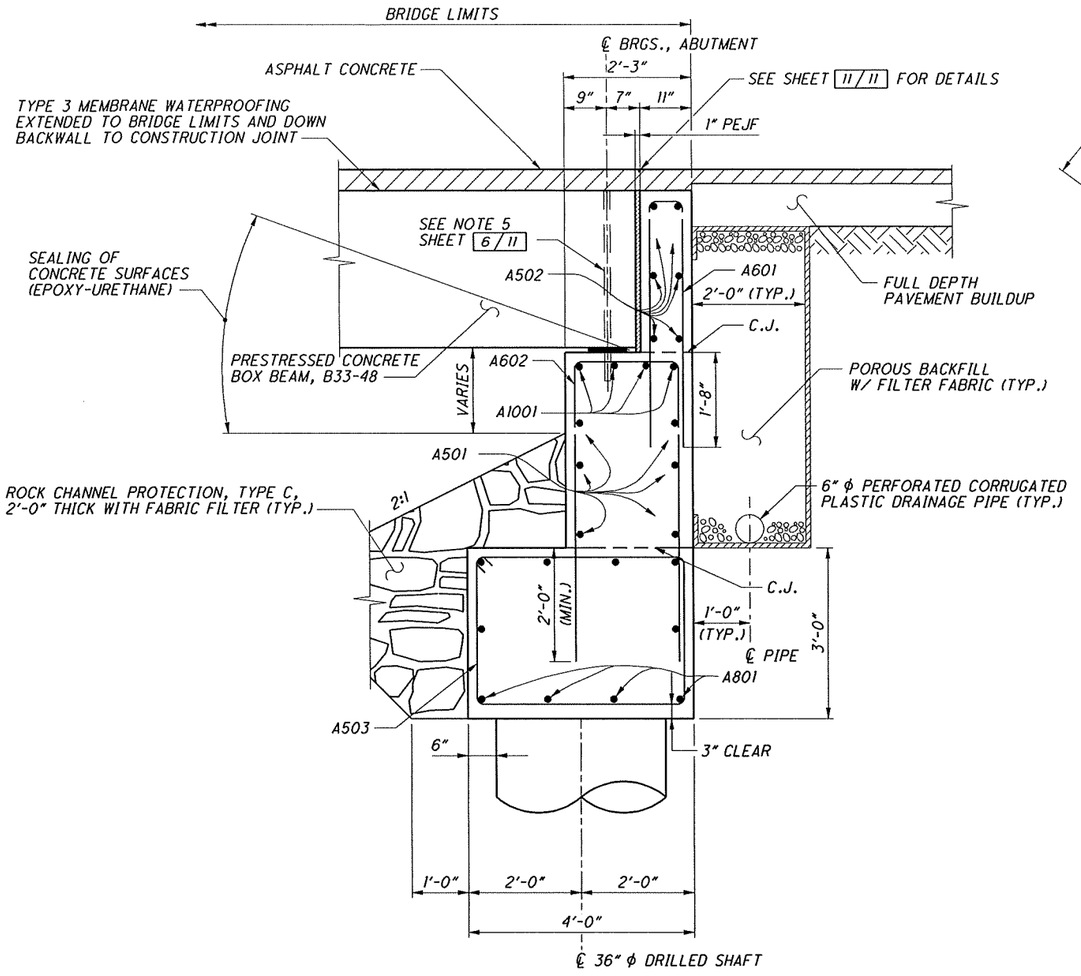
REVIEWED	DATE
WHM	09-20-06
STRUCTURE FILE NUMBER	
6048293	
DRAWN	REVISED
TV	
DESIGNED	CHECKED
TV	BPC

REAR ABUTMENT DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

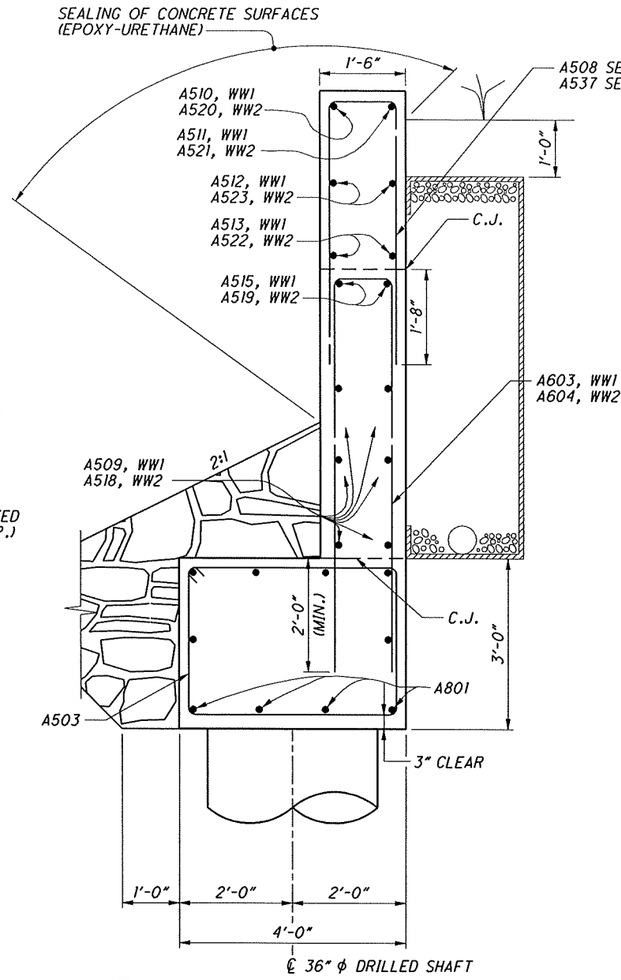
MUS-C.R. 82-2.14
PID No. 24278

3 / 11

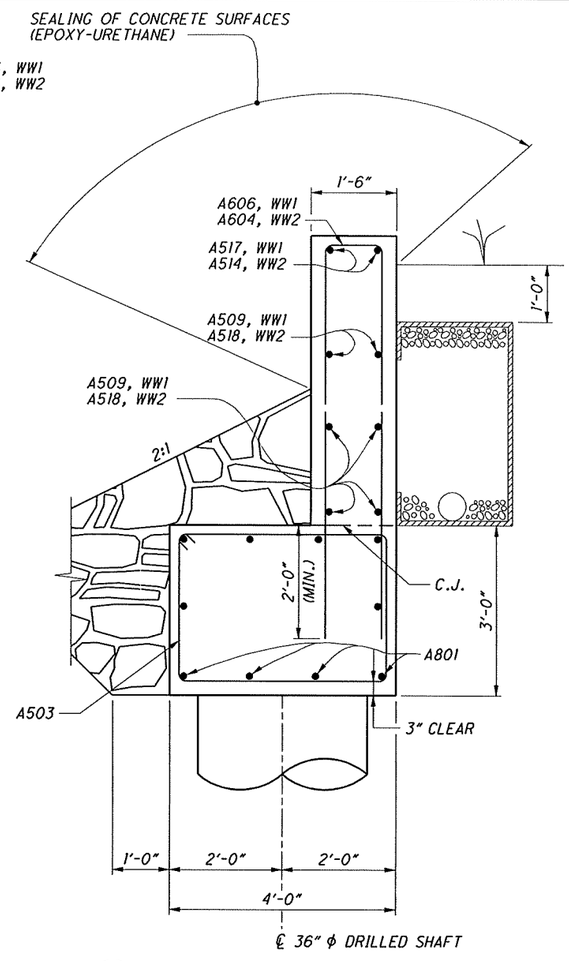
21
29



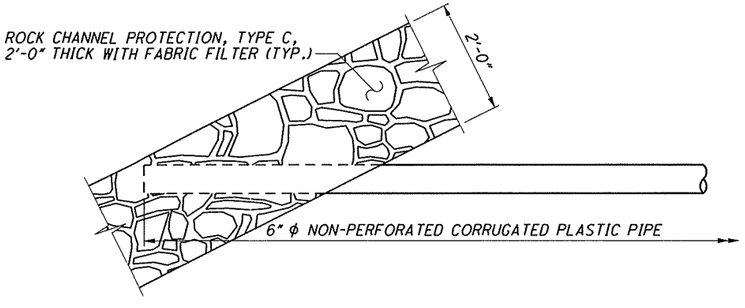
A/3 REAR ABUTMENT SECTION
ALL BARS NOT LABELED ARE A501



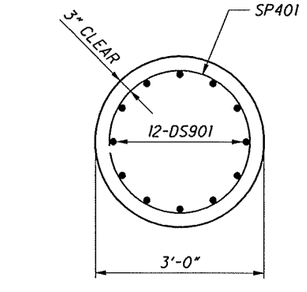
B/3 SECTION AT WINGWALLS 1 & 2
ALL BARS NOT LABELED ARE A501



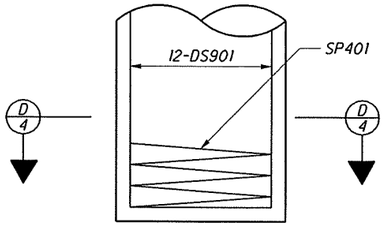
C/3 SECTION AT WINGWALLS 1 & 2
ALL BARS NOT LABELED ARE A501



DETAIL B
END TREATMENT OF 6" ϕ NON-PERFORATED CORRUGATED PLASTIC PIPE



D/4 DRILLED SHAFT SECTION



DRILLED SHAFT DETAIL

NOTE

1. SEE SHEET 6/11 FOR NOTES AND ABBREVIATIONS LEGEND.

DESIGN AGENCY
TWd partners
7007 Discovery Blvd.
Dublin, Ohio 43017

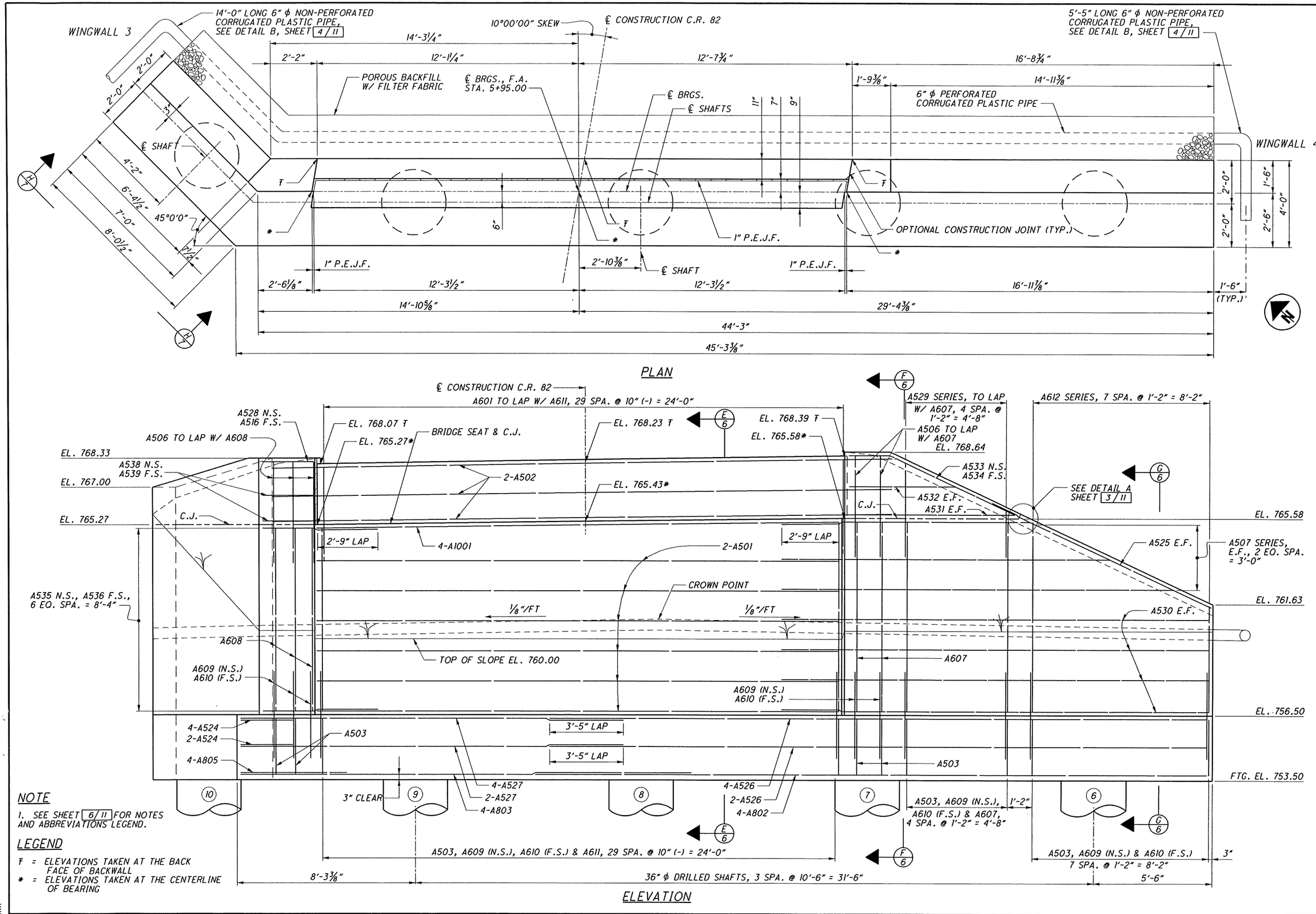
DESIGNED	DRAWN	REVIEWED	DATE
TV	TV	WHM	09-20-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPC		6048293	

REAR ABUTMENT DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

MUS-C.R. 82-2.14
PID No. 24278

4 / 11

22
29



NOTE

1. SEE SHEET 6/11 FOR NOTES AND ABBREVIATIONS LEGEND.

LEGEND

T = ELEVATIONS TAKEN AT THE BACK FACE OF BACKWALL
* = ELEVATIONS TAKEN AT THE CENTERLINE OF BEARING

DESIGN AGENCY
wd partners
7007 Discovery Blvd.
Dublin, Ohio 43017

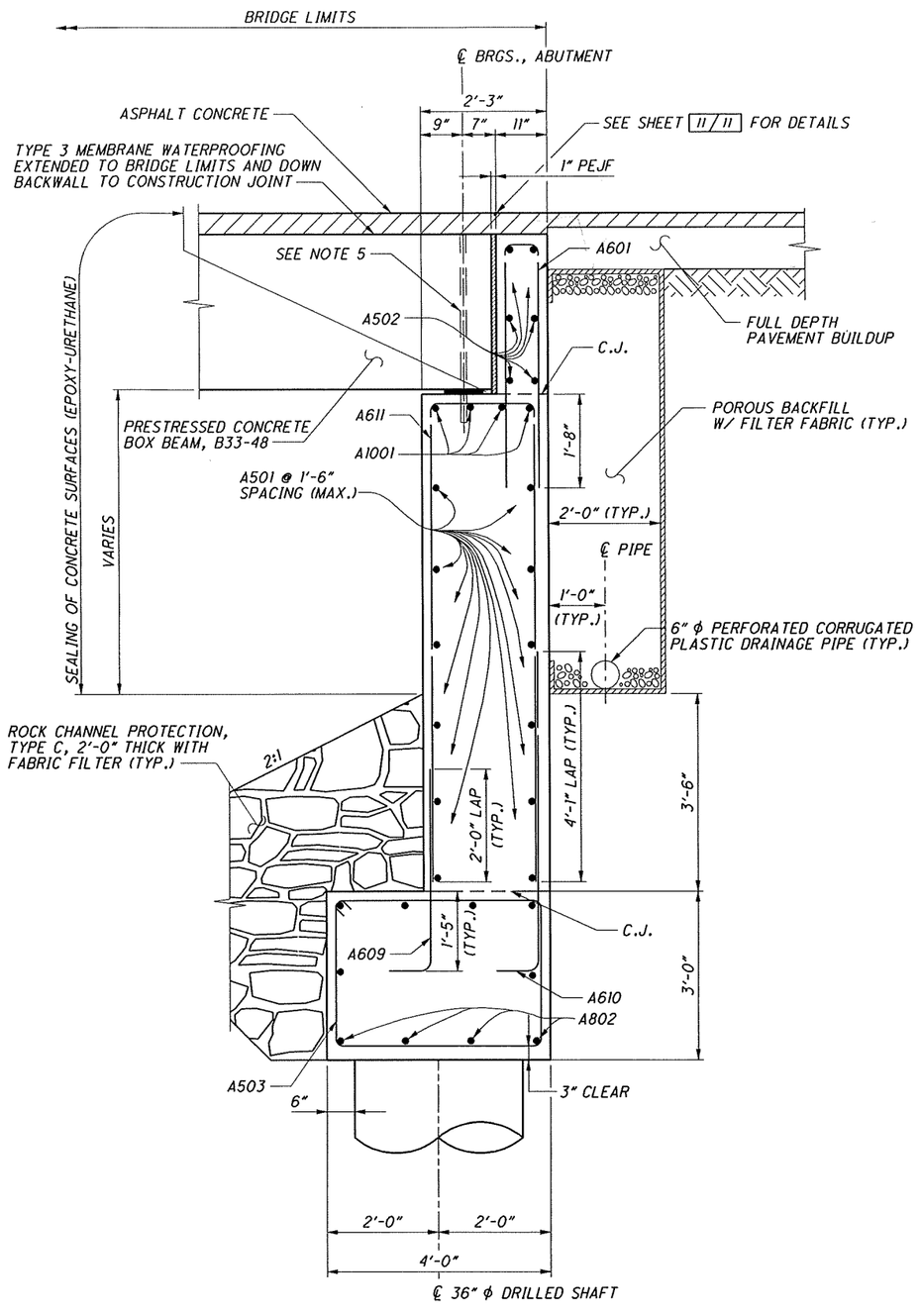
DESIGNED	DRAWN	REVIEWED	DATE
TV	TV	WHM	09-20-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPC		6048293	

FORWARD ABUTMENT DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

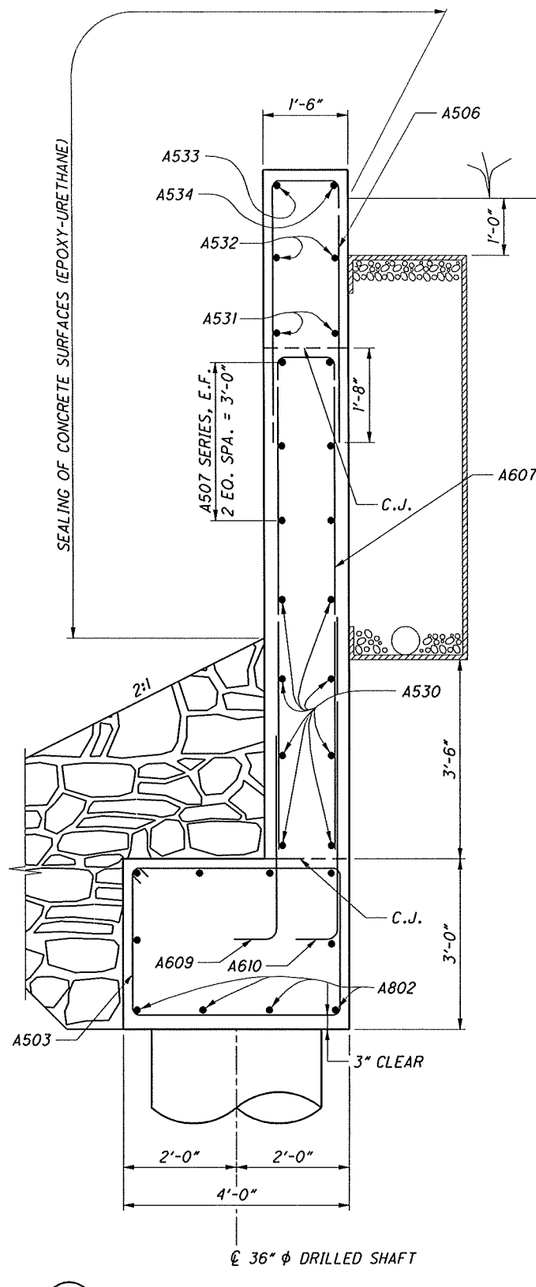
MUS-C.R. 82-2.14
PID No. 24278

5 / 11

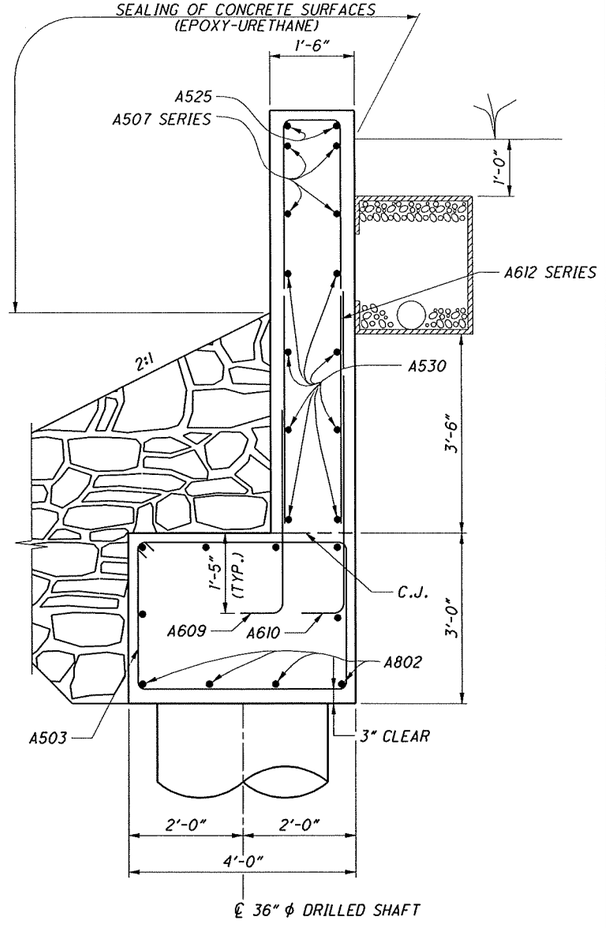
23
29



E 5 FORWARD ABUTMENT SECTION
ALL BARS NOT LABELED ARE A526



F 5 SECTION AT WINGWALL 4
ALL BARS NOT LABELED ARE A526



G 5 SECTION AT WINGWALL 4
ALL BARS NOT LABELED ARE A526

LEGEND

C.J. = CONSTRUCTION JOINT
E.F. = EACH FACE
EQ. = EQUAL
F.S. = FAR SIDE
N.S. = NEAR SIDE
SPA. = SPACING
U.N.O. = UNLESS NOTED OTHERWISE

NOTES

1. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES.
2. ABUTMENT CONCRETE: DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.
3. SEALING OF BEAM SEATS: IF THE BEAM SEATS ARE SEALED WITH AN EPOXY SEALER PRIOR TO SETTING BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE COUNTY WILL NOT PAY FOR THIS REMOVAL.
4. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
5. SEE STD. DWG. PSBD-1-93 FOR ANCHOR DOWEL DETAILS (EXPANSION FOR BOTH THE REAR AND FORWARD ABUTMENTS).
6. TYPE B WATERPROOFING SHALL BE APPLIED TO ALL BEAM ENDS PER STD. DWG. PSBD-1-93.
7. SEE SHEET 11/11 FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM DETAILS AND NOTES.
8. SEE SHEET 10/11 FOR DRILLED SHAFT REINFORCEMENT DETAILS.
9. FLUSH MOUNTER POST LOCATIONS SHALL BE LOCATED BY THE ENGINEER AFTER FIT-UP DIMENSIONS HAVE BEEN VERIFIED.
10. LAP SPLICE LENGTHS:
    #5 BAR = 33 INCHES, U.N.O.
    #8 BAR = 87 INCHES, U.N.O.

DESIGN AGENCY
wd partners
7007 Discovery Blvd.
Dublin, Ohio 43017

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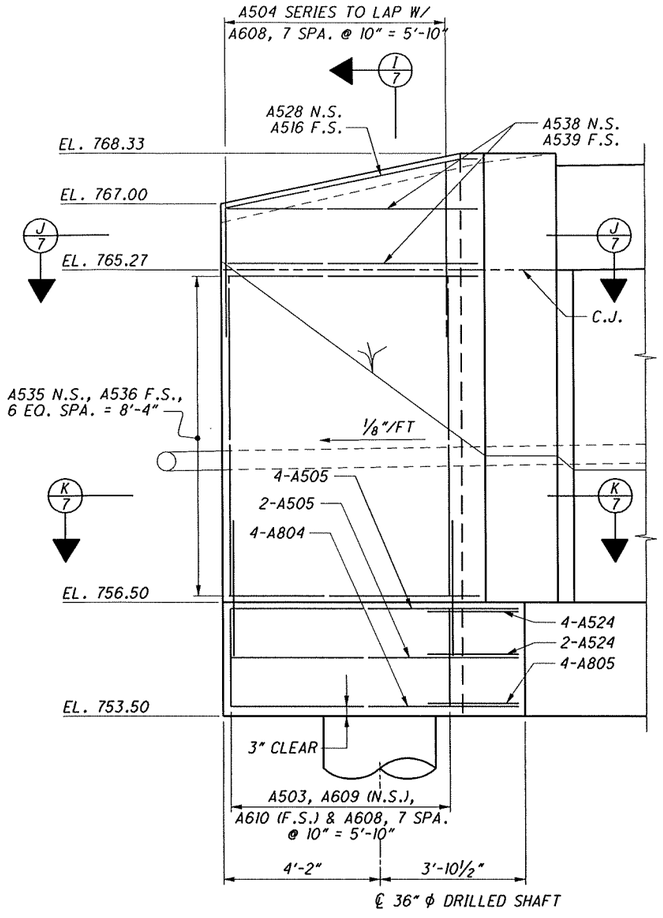
BPC		6048293	

FORWARD ABUTMENT DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

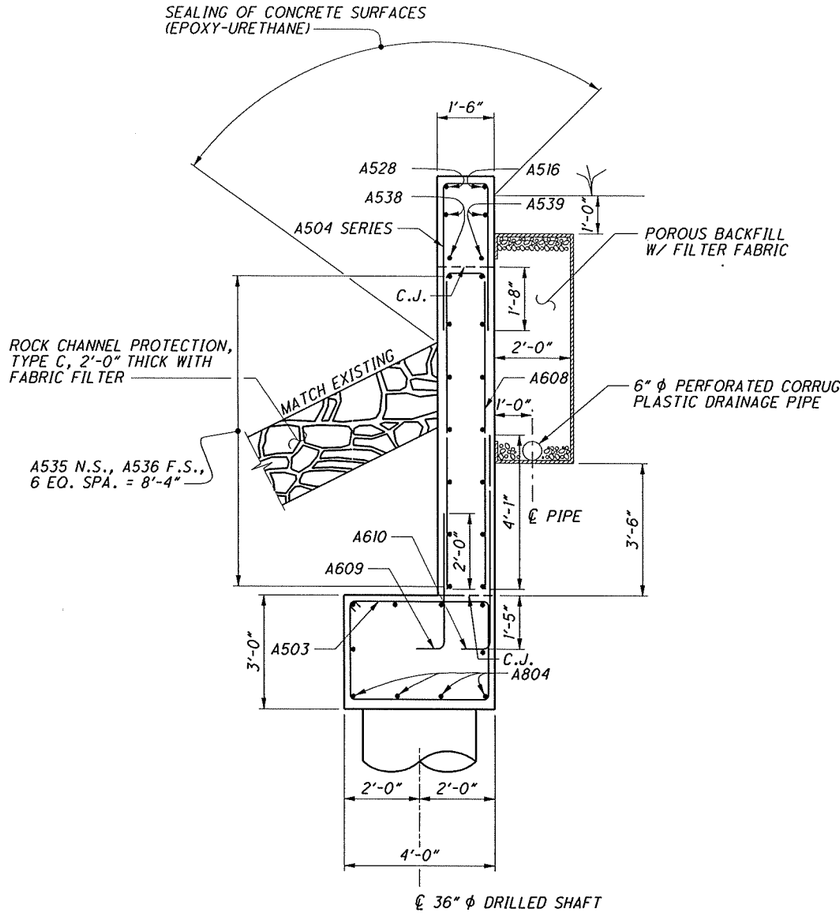
MUS-C.R. 82-2.14
PID No. 24278

6 / 11

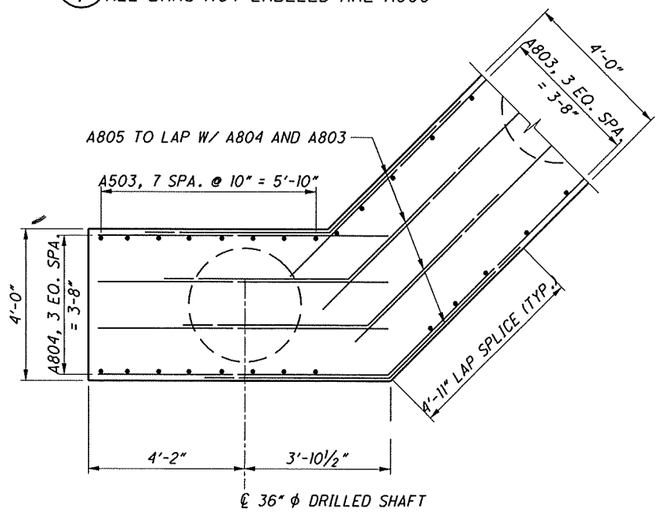
24
29



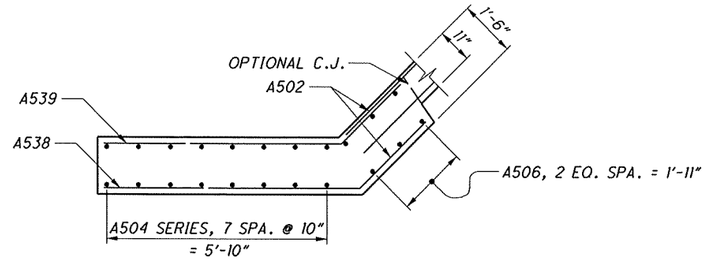
H/5 WINGWALL 3 ELEVATION



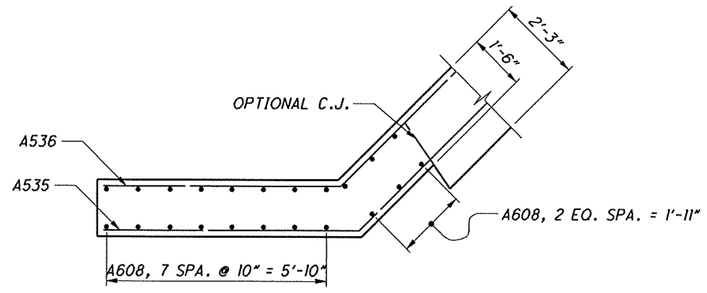
I/7 SECTION AT WINGWALL 3
ALL BARS NOT LABELED ARE A505



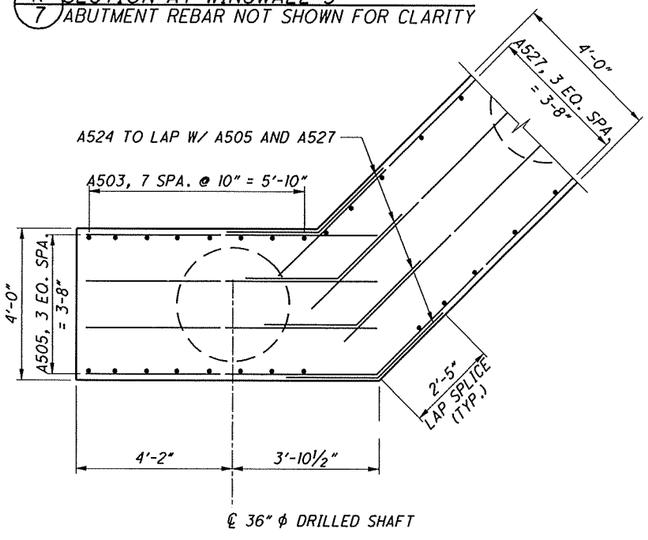
PARTIAL FOOTING PLAN AT WINGWALL 3 (BOTTOM BARS)



J/7 SECTION AT WINGWALL 3



K/7 SECTION AT WINGWALL 3
ABUTMENT REBAR NOT SHOWN FOR CLARITY



PARTIAL FOOTING PLAN AT WINGWALL 3 (TOP BARS)

NOTE

1. SEE SHEET 6/11 FOR NOTES AND ABBREVIATIONS LEGEND.

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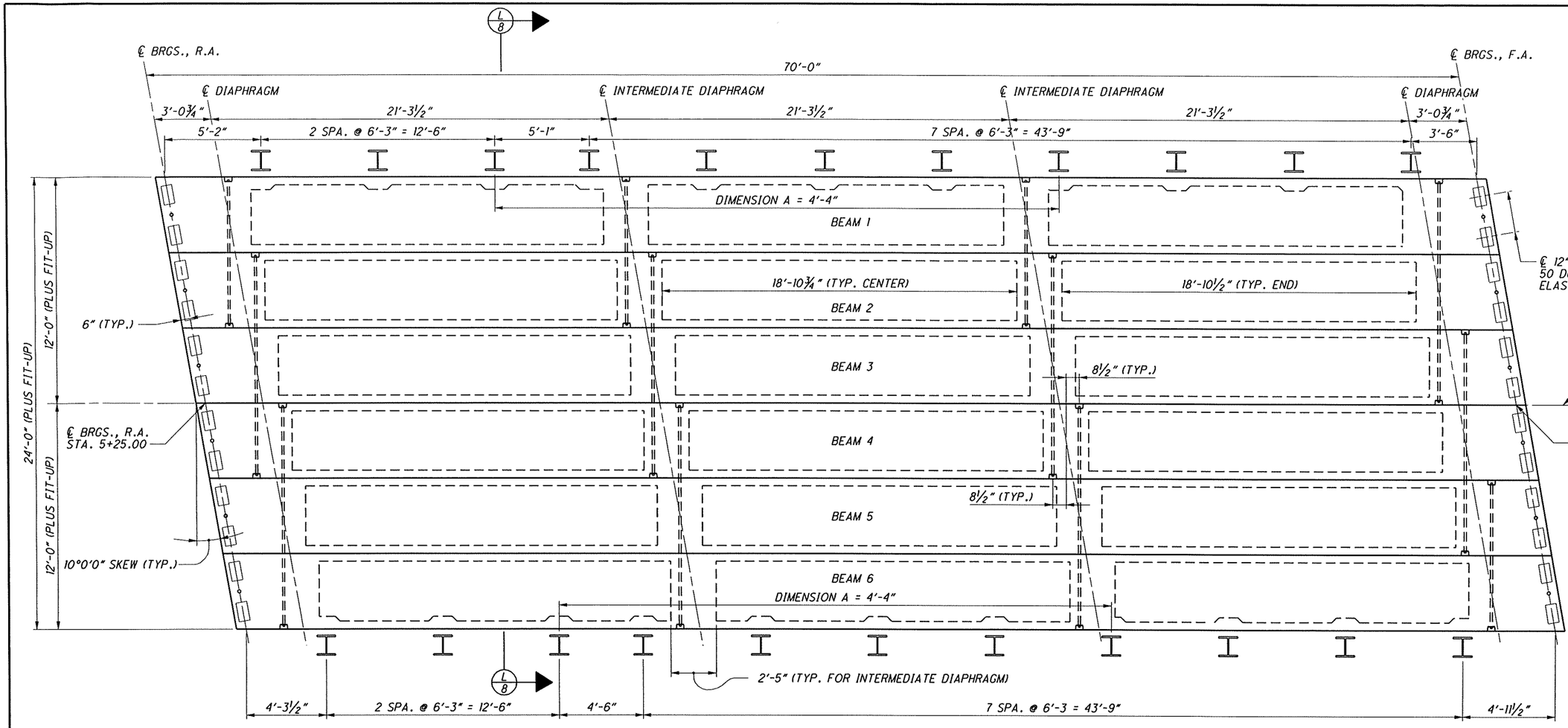
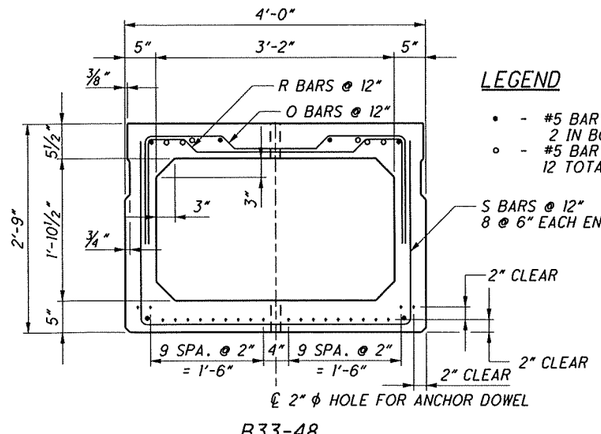
FORWARD ABUTMENT DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

MUS-C.R. 82-2.14
PID No. 24278

7 / 11

25
29





B33-48

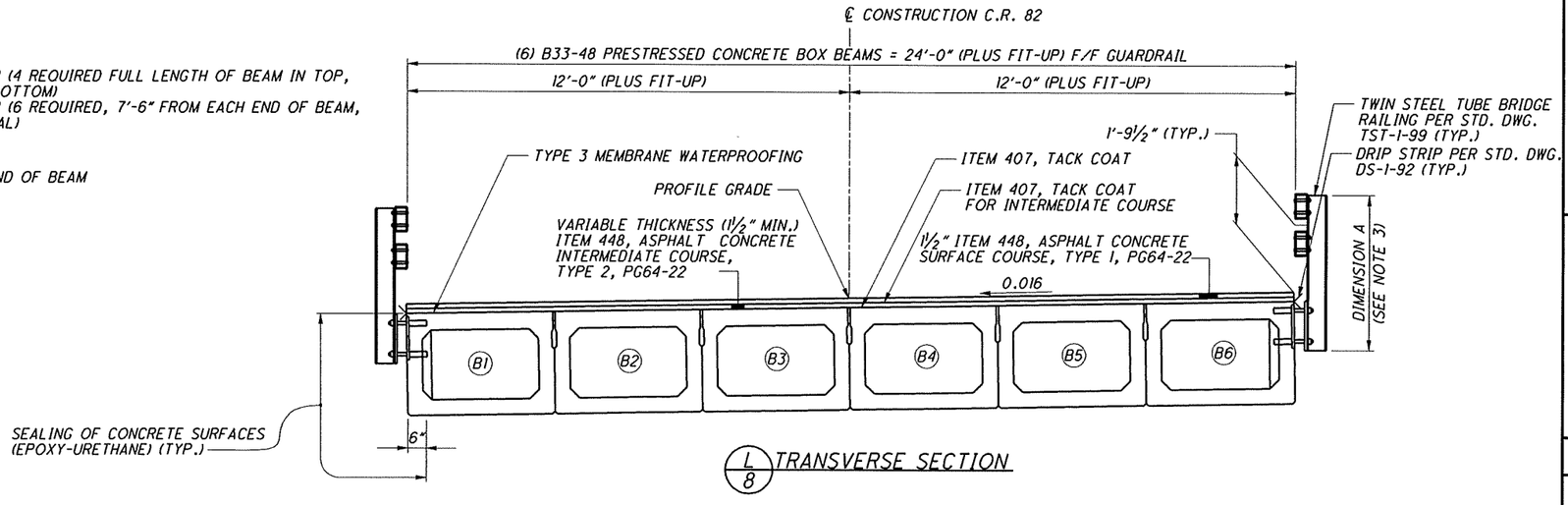
LEGEND

- • - #5 BAR (4 REQUIRED FULL LENGTH OF BEAM IN TOP, 2 IN BOTTOM)
- ○ - #5 BAR (6 REQUIRED, 7'-6" FROM EACH END OF BEAM, 12 TOTAL)

NOTES

1. FOR ADDITIONAL DETAILS SEE STD. DWG. PSBD-1-93.
2. REFER TO SHEET 9/11 FOR BEARING PAD DETAILS.
3. DIMENSION "A" SHALL BE EQUAL TO 4'-2", UNLESS SHOWN OTHERWISE IN THE PLANS. REFER TO STD. DWG. TST-1-99 FOR LOCATION OF ANCHOR BOLTS AND TUBING.

FRAMING PLAN



L/8 TRANSVERSE SECTION

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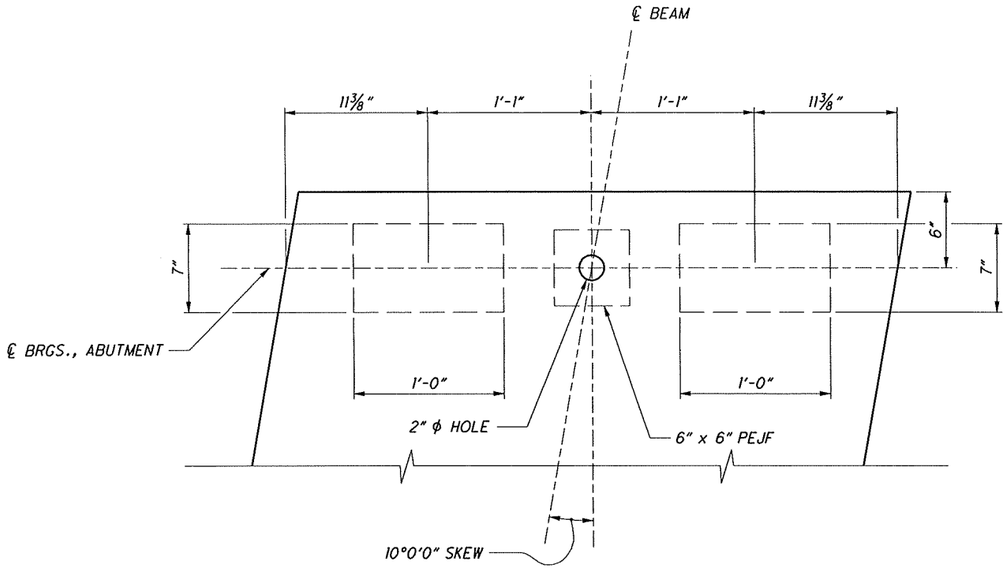
SUPERSTRUCTURE DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

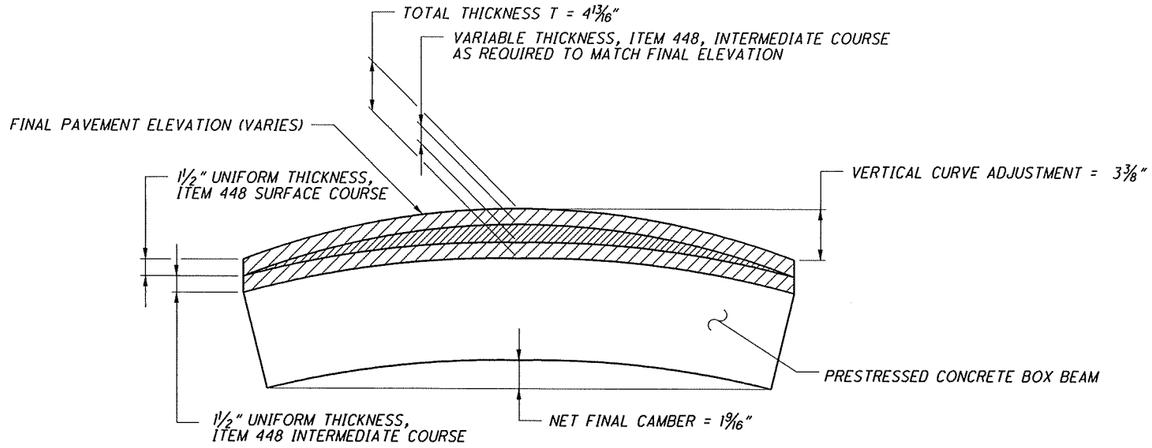
MUS-C.R. 82-2.14
PID No. 24278

8 / 11

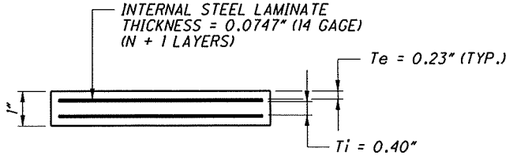
26
29



BEARING PAD LAYOUT (B33-48)

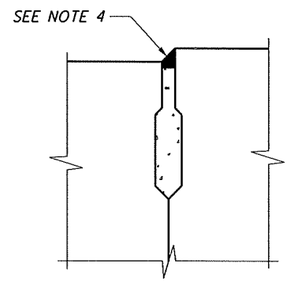


ASPHALT THICKNESS DIAGRAM



LAMINATED ELASTOMERIC BEARING PAD (B33-48)
12" x 7" x 1"

DEAD LOAD = 26.96 KIPS
LIVE LOAD = 13.00 KIPS
TOTAL LOAD = 39.96 KIPS
N = 1



SHEAR KEY DETAIL

NOTES

1. CALCULATED CAMBER AT THE TIME OF RELEASE IS 1 INCH.

   CALCULATED CAMBER AT THE TIME OF PAVING IS 1¾ INCHES.

   LONG TERM CAMBER IS 2½ INCHES.

   CALCULATED DEFLECTION DUE TO DEAD LOAD APPLIED AFTER THE BEAMS ARE SET (WEIGHT OF SURFACE COURSE, RAILINGS, SIDEWALKS, ETC.) IS 3/16 INCHES.

   THE VERTICAL CURVE ADJUSTMENT TO THE TOPPING THICKNESS AT MIDSPAN IS 3⅜ INCHES UPWARD.

   THE THICKNESS OF THE INTERMEDIATE ASPHALT COURSE SHALL VARY FROM 1½ INCHES AT EACH CENTERLINE OF BEAM BEARING TO 3 5/16 INCHES AT MIDSPAN.

2. ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 AND A 1½" THICKNESS OF 448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22. PLACE THE 448 INTERMEDIATE COURSE IN TWO OPERATIONS. THE FIRST PORTION OF THE COURSE SHALL BE OF 1 ½" UNIFORM THICKNESS. FEATHER THE SECOND PORTION OF THE COURSE TO PLACE THE SURFACE PARALLEL TO AND 1 ½" BELOW FINAL PAVEMENT SURFACE ELEVATION.

3. THE ELASTOMERIC BEARINGS SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

4. SHEAR KEYS SHALL BE MORTARED TO 1 INCH BELOW A FINISHED PLANE BETWEEN THE TOP EDGE OF THE ADJACENT BEAMS WHERE VERTICAL OFFSET WITHIN TOLERANCE OCCURS. THE FINAL 1 INCH SHALL BE FILLED WITH JOINT SEALER PER CMS 705.04. PAYMENT FOR ALL LABOR AND MATERIALS NECESSARY TO PERFORM THE ABOVE REQUIRED WORK SHALL BE INCLUDED WITH ITEM 515, PRESTRESSED CONCRETE NON-COMPOSITE BOX BEAM BRIDGE MEMBERS.

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BPC		6048293	

SUPERSTRUCTURE DETAILS
BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

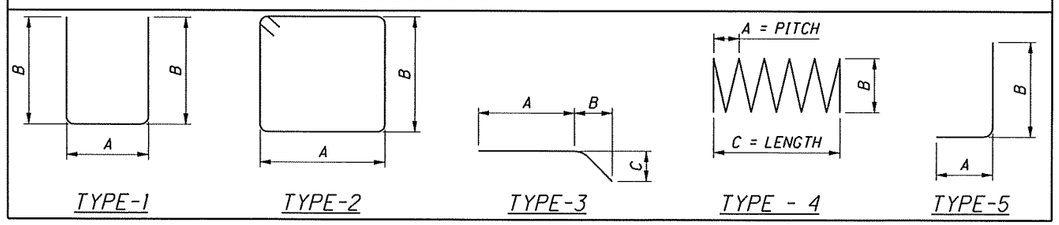
MUS-C.R. 82-2.14
PID No. 24278

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS			
	REAR	FWD	TOTAL				A	B	C	INC
ABUTMENTS										
A501	18	12	30	24'-3"	759	STR				
A502	6	6	12	28'-9"	360	STR				
A503	31	55	86	13'-1"	1174	2	3'-8"	2'-7"		
A504		1 SERIES OF 8	1 SERIES OF 8	7'-11" TO 10'-3"	76	1	1'-2"	3'-6" TO 4'-8"		4"
A505		6	6	7'-9"	49	STR				
A506	3	5	8	10'-1"	85	1	1'-2"	4'-7"		
A507		2 SERIES OF 3	2 SERIES OF 3	11'-7" TO 18'-2"	94	STR				3'-3½"
A508	1 SERIES OF 5		1 SERIES OF 5	4'-11" TO 10'-3"	40	1	1'-2"	2'-0" TO 4'-8"		1'-4"
A509	6		6	13'-8"	86	STR				
A510	1		1	7'-11"	9	3	1'-4"	6'-0"	2'-9"	
A511	1		1	8'-1"	9	3	1'-6"	6'-0"	2'-9"	
A512	2		2	4'-8"	10	STR				
A513	2		2	7'-5"	16	STR				
A514	2		2	3'-7"	8	STR				
A515	2		2	11'-6"	24	STR				
*A516		1	1	8'-3"	9	3	2'-0"	6'-3"	1'-4"	
A517	2		2	4'-8"	10	STR				
A518	6		6	13'-0"	82	STR				
A519	2		2	11'-11"	25	STR				
A520	1		1	8'-5"	9	3	1'-11"	5'-11"	2'-9"	
A521	1		1	8'-2"	9	3	1'-8"	5'-11"	2'-9"	
A522	2		2	7'-9"	17	STR				
A523	2		2	4'-9"	10	STR				
A524		6	6	4'-10"	31	3	2'-5"	1'-8½"	1'-8½"	
A525		2	2	11'-6"	24	STR				
A526		6	6	30'-0"	188	STR				
A527		6	6	18'-6"	116	STR				
*A528		1	1	8'-5"	9	3	2'-2"	6'-3"	1'-4"	
A529		1 SERIES OF 5	1 SERIES OF 5	5'-3" TO 9'-7"	39	1	1'-2"	2'-2" TO 4'-4"		1'-1"
A530		8	8	19'-10"	166	STR				
A531		2	2	7'-6"	16	STR				
A532		2	2	4'-9"	10	STR				
A533		1	1	8'-3"	9	3	1'-9"	5'-10"	2'-9"	
A534		1	1	8'-1"	9	3	1'-7"	5'-10"	2'-9"	
A535		7	7	12'-3"	90	3	5'-7"	4'-9"	4'-9"	
A536		7	7	11'-6"	84	3	5'-4"	4'-5"	4'-5"	
A537	1 SERIES OF 4		1 SERIES OF 4	5'-11" TO 10'-1"	34	1	1'-2"	2'-6" TO 4'-7"		1'-4½"
A538		2	2	8'-11"	19	3	6'-9"	1'-7"	1'-7"	
A539		2	2	8'-3"	18	3	6'-3"	1'-5"	1'-5"	
A601	17	30	47	8'-11"	630	1	7"	4'-4"		
A602	17		17	15'-9"	403	1	1'-11"	7'-1"		
A603	6		6	15'-0"	136	1	1'-2"	7'-1"		
A604	7		7	14'-0"	148	1	1'-2"	6'-7"		
A605	2		2	12'-10"	39	1	1'-2"	6'-0"		
A606	1		1	14'-4"	22	1	1'-2"	6'-9"		
A607		7	7	18'-4"	193	1	1'-2"	8'-9"		
			SUB-TOTAL		5403					

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS			
	REAR	FWD	TOTAL				A	B	C	INC
ABUTMENTS (CONTINUED)										
A608		11	11	17'-8"	292	1	1'-2"	8'-5"		
A609		56	56	4'-8"	393	5	12"	3'-10"		
A610		56	56	6'-9"	568	5	12"	5'-11"		
A611		30	30	18'-5"	830	1	1'-11"	8'-5"		
A612		1 SERIES OF 8	1 SERIES OF 8	10'-8" TO 18'-4"	175	1	1'-2"	4'-11" TO 8'-9"		1'-1"
A801	8		8	26'-2"	560	STR				
A802		4	4	30'-0"	321	STR				
A803		4	4	22'-4"	239	STR				
A804		4	4	7'-9"	83	STR				
A805		4	4	9'-10"	105	3	4'-11"	3'-6"	3'-6"	
A1001	4	4	8	24'-3"	835	STR				
			SUB-TOTAL		4401					
			ABUTMENT TOTAL		9804					

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS			
	REAR	FWD	TOTAL				A	B	C	INC
DRILLED SHAFTS (SEE NOTE 3)										
SP401	5	5	10	7'-8"	1210	4	4½"	2'-6"	7'-8"	
DS901	60	60	120	6'-10"	7788	STR				
		DRILLED SHAFTS TOTAL			8998					

BENDING DIAGRAMS



NOTES

1. ALL REINFORCING STEEL IS TO BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.
3. PAYMENT FOR DRILLED SHAFT REINFORCING STEEL SHALL BE INCLUDED IN CORRESPONDING ITEMS 524.

LEGEND

* - FIELD BEND BARS AS NECESSARY

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REINFORCING STEEL LIST

BRIDGE NO. MUS-CR82-0214
OVER SALT CREEK

MUS-C.R. 82-2.14

PID No. 24278

ITEM SPECIAL - POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

PRODUCT NAME	SUPPLIER	ADDRESS	PHONE NO.
THORMA-JOINT	DYNAMIC SURFACE APPLICATIONS, LTD	373 VILLAGE RD. PENNSDALE, PA 17756	(570) 546-6041
MATRIX 502	CRAFCO INC.	420 N. ROOSEVELT AVE. CHANDLER, AZ 85226	(800) 528-8242
EXPANDEX JOINT SYSTEM	WATSON-BOWMAN ACME	95 PINEVIEW DR. AMHERST, NY 14228	(716) 691-7566
APJ ASPHALTIC PLUG EXPANSION JOINT	WYOMING EQUIPMENT SALES	281 SIXTH STREET P.O. BOX 287 WEST WYOMING, PA 18644	(570) 693-2810

MATERIALS:

BRIDGING PLATE:

MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

BINDER:

TYPE:	POLYMER MODIFIED ASPHALT
SOFTENING POINT:	180 DEGREES F. MIN.
FLOW:	3 mm. MAX. AT 140 DEGREES F.
PENETRATION:	9 mm. MAX. AT 77 DEGREES F. 1 mm. MIN. AT 0 DEGREES F. ASTM D 3407
DUCTILITY:	40 cm. MIN. ASTM D 113
RESILIENCE:	60% MIN. AT 77 DEGREES F.
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1.10 * 0.05
POURING TEMP:	350 - 390 DEGREES F.

AGGREGATE:

TYPE:	CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT
GRADATION:	THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

BACKER ROD:

THE BACKER SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN TWO INCHES DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED).
REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT VELOCITY OF 3,000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

SEALING OF EXPANSION JOINT:

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF 1/32" THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F. NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL METER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES F., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS, UNLESS PATENTED INSTALLATION REQUIRES DIFFERENTLY, NOT LESS THAN 3/4 OF AN INCH NOR EXCEEDING 2 1/2" INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MIN. 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXITURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN 1/2 INCH AND ONE (1) INCH. IN PREPARING THE TOP LAYER, THE RATION OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

MAINTENANCE OF TRAFFIC:

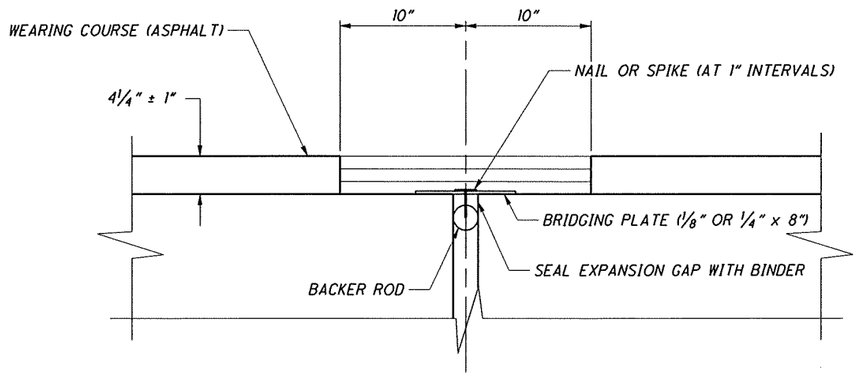
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF TWO (2) INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

TESTING:

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE QUART SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T. OFFICE OF MATERIALS MANAGEMENT.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT:

THE DEPARTMENT WILL MEASURE THE JOINT BY THE NUMBER OF FEET AND WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS: ITEM SPECIAL, FEET, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM.



TYPICAL PRESTRESSED BOX BEAM JOINT

DESIGN AGENCY: 7007 Discovery Blvd. Dublin, Ohio 43017

DESIGNED	DRAWN	REVIEWED	DATE
TV	TV	WHM	05-25-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BPC		6048293	

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

BRIDGE NO. MUS-CR82-0214 OVER SALT CREEK

MUS-C.R. 82-2.14

PID No. 24278

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