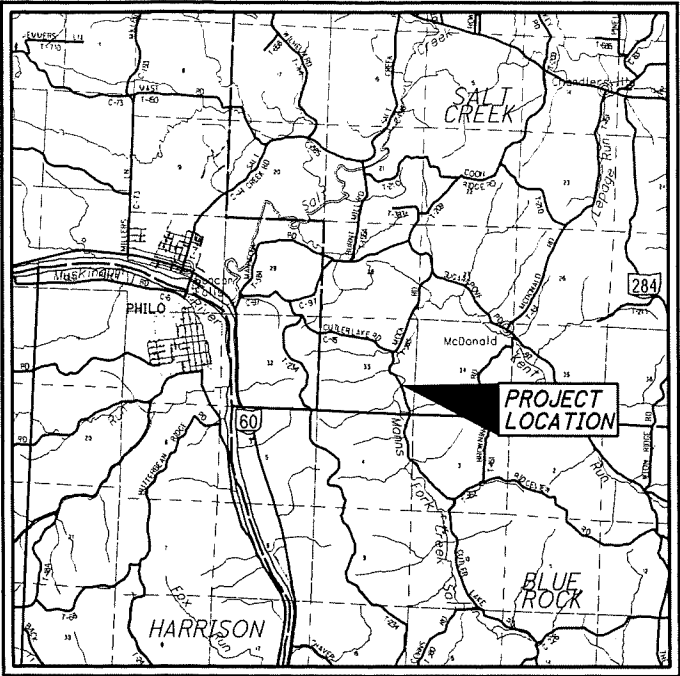
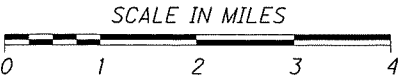




LOCATION MAP

LATITUDE: N 39°31'14" LONGITUDE: W 81°52'04"



PORTION TO BE IMPROVED _____
INTERSTATE & DIVIDED HIGHWAY _____
UNDIVIDED STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN DESIGNATION

CURRENT ADT (2014) _____ 240
DESIGN YEAR ADT (2034) _____ 300
DESIGN HOURLY VOLUME (2034) _____ 25
DIRECTIONAL DISTRIBUTION _____ 50%
TRUCKS (24 HOUR B&C) _____ 2%
DESIGN SPEED _____ 35 MPH
LEGAL SPEED _____ 35 MPH
DESIGN FUNCTIONAL CLASSIFICATION: RURAL MINOR COLLECTOR

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:

MUSKINGUM COUNTY
MCEO
ENGINEER'S OFFICE

DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
ZANESVILLE, OHIO 43701

ENGINEERS SEAL:	STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		
 SIGNED: DATE: 1/9/2015	BP-3.1	7/18/14	AS-1-81	1/18/13				800	1/16/15
			DS-1-92	7/18/03				832	1/17/14
	DM-4.3	7/19/13	GSD-1-96	7/19/02					
	DM-4.4	7/20/12	SICD-1-96	7/18/14					
			TST-1-99	1/17/14					
	MGS-1.1	7/19/13							
	MGS-2.1	7/19/13							
	MGS-3.1	7/18/14							
	MGS-4.1	7/19/13							
	MT-101.60	7/19/13							

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
MUS-C.R.45-1.71
SALT CREEK TOWNSHIP
MUSKINGUM COUNTY

INDEX OF SHEETS:

TITLE SHEET	1
TYPICAL SECTIONS	2
GENERAL NOTES	3
MAINTENANCE OF TRAFFIC	4
GENERAL SUMMARY	5
PLAN AND PROFILE	6
ESTIMATED QUANTITIES	7
CROSS SECTIONS	8-12
STRUCTURES OVER 20' SPAN	13-22
RIGHT OF WAY	23-27

PROJECT DESCRIPTION
IMPROVEMENT OF 0.05 MILE OF C.R.45 IN SALT CREEK TOWNSHIP, BY REPLACING A SINGLE SPAN STEEL BEAM BRIDGE OVER THE MANN'S FORK SALT CREEK WITH A STEEL BEAM BRIDGE INCLUDING APPROACH SLABS, GUARDRAIL, AND MINIMAL APPROACH WORK.

PROJECT EARTH DISTURBED AREA: 0.50 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.10 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

2013 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 APPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

APPROVED _____
DATE 1/9/2015 MUSKINGUM COUNTY ENGINEER

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO.

PID NO.

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

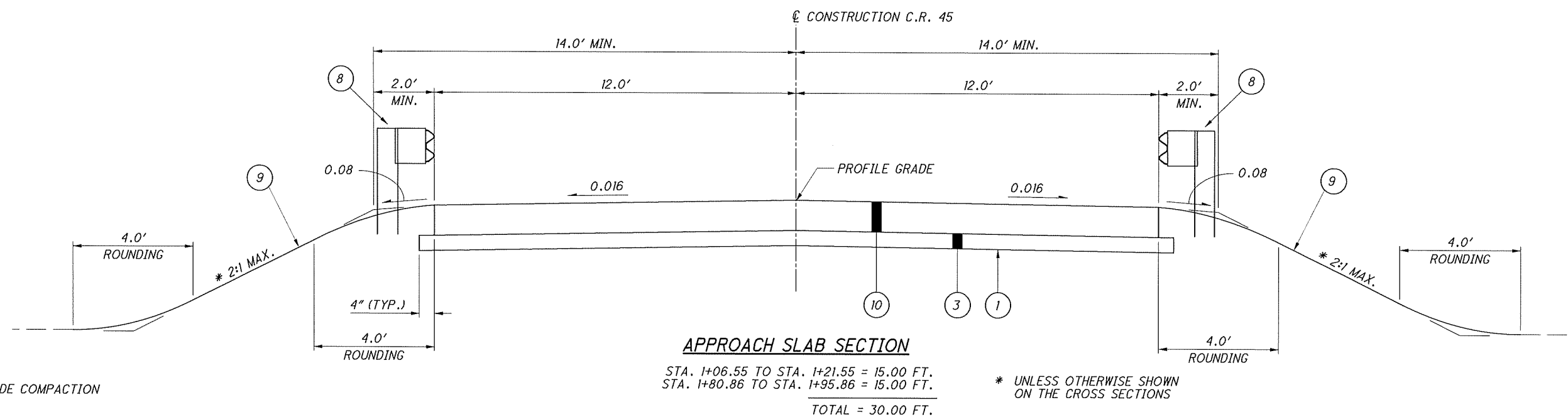
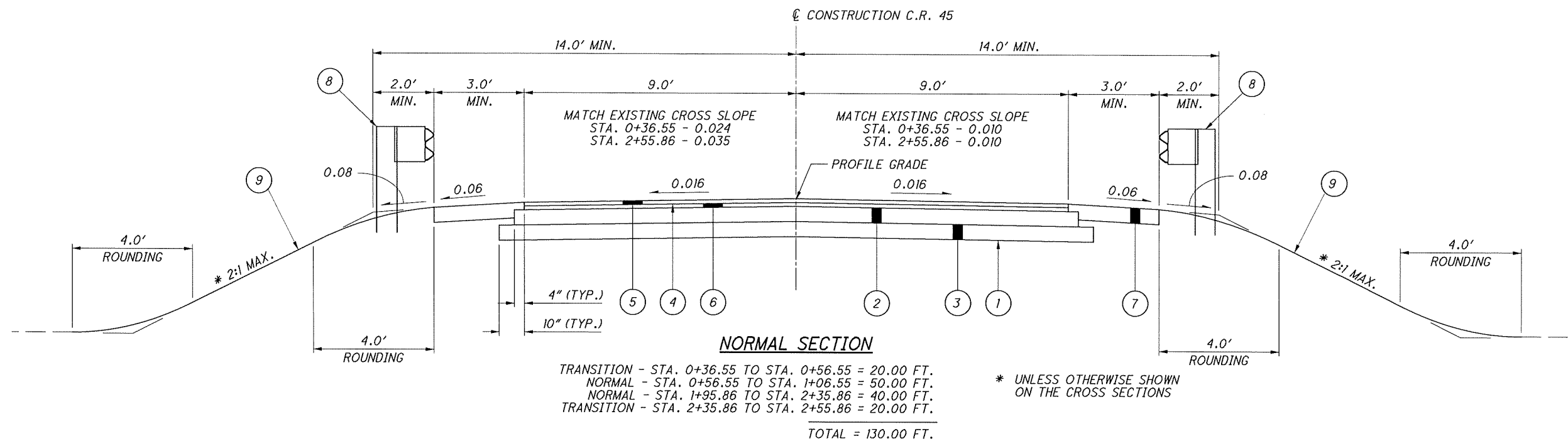
FAN E091 (142)

87216

NONE

MUS-C.R.45-1.71

1/27

**LEGEND**

- ① ITEM 204 - SUBGRADE COMPACTION
- ② ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
- ③ ITEM 304 - 6" AGGREGATE BASE
- ④ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (@ 0.05 GAL./SQ.YD.)
- ⑤ ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ⑥ ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- ⑦ ITEM 411 - 8" STABILIZED CRUSHED AGGREGATE
- ⑧ ITEM 606 - GUARDRAIL, TYPE MGS
- ⑨ ITEM 659 - SEEDING AND MULCHING
- ⑩ ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T-12")

ROUNDING

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

UTILITIES

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

PHONE:
AT&T (SBC)
160 N 6TH STREET
ZANESVILLE, OH 43701
PHONE: (740) 454-0748
ATTN: JEANINE YOUNG

ELECTRIC:
AMERICAN ELECTRIC POWER CO.
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
PHONE: (614) 883-6831
ATTN: PAUL PAXTON

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 NAVD 88 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

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ENDANGERED SPECIES HABITAT - INDIANA BAT AND NORTHERN LONG-EARED BAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND THE NORTHERN LONG-EARED BAT (MYOTIS SEPTENTRIONALIS). THE ROOSTING HABITAT FOR THESE SPECIES CONSISTS OF LIVING OR DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF SUCH TREES OR SNAGS WILL BE PERFORMED ONLY AFTER SEPTEMBER 30 AND BEFORE APRIL 1. PRIOR TO ANY REHABILITATION/REMOVAL, THE UNDERSIDE OF THE EXISTING BRIDGES SHALL BE CAREFULLY EXAMINED FOR THE PRESENCE OF BATS, ESPECIALLY FROM APRIL 1 TO SEPTEMBER 30. IF ANY BATS ARE FOUND ROOSTING ON THE UNDERSIDE OF A BRIDGE, THE UNITED STATES FISH AND WILDLIFE SERVICE, ECOLOGICAL SERVICES DIVISION, THE ODOT OFFICE OF ENVIRONMENTAL SERVICES AND ODOT DISTRICT 5 ENVIRONMENTAL SECTION SHALL BE CONTACTED OR PROVIDED WITH INFORMATION.

SEEDING AND MULCHING

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

659, SEEDING AND MULCHING 414 SY

659, REPAIR SEEDING AND MULCHING 21 SY
(414) X (0.05) = 20.7 SY

659, COMMERCIAL FERTILIZER 0.06 TON
[(414) X (1 TON/7410 SY)] +
[(21) X (1 TON/11115 SY)] = 0.05 TON

659, LIME 0.1 ACRE
(410) X (1 ACRE/4840 SY) = 0.09 ACRE

659, WATER 3 M GAL
[(414) X (0.0054 M GAL/SY)] +
[(21) X (0.0027 M GAL/SY)] = 2.3 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.

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 WITHIN 72 HOURS.

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.

CONTRACTOR'S USE OF RIGHT-OF-WAY

THE CONTRACTOR SHALL NOT USE OR ENTER ANY AREA OUTSIDE OF THE RIGHT-OF-WAY LIMITS THAT ARE SHOWN ON THE PLANS.

TRAFFIC CONTROL

ITEM 626 - BARRIER REFLECTOR, TYPE A IS INCLUDED IN THE PLANS FOR TRAFFIC CONTROL AND SAFETY MEASURES. BARRIER REFLECTORS SHALL BE PLACED ON ALL GUARDRAIL RUNS INCLUDING ANCHOR ASSEMBLIES AND BRIDGE TERMINAL ASSEMBLIES. AN ESTIMATED QUANTITY OF ITEM 626 - BARRIER REFLECTOR - 8 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

CENTERLINE REFERENCES C.R. 45						
STATION	OFFSET (FT.)	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
0+00.0000			676011.4190	2145904.6315		P.I.
0+81.4074	0.5071	LT.	675937.5286	2145938.8021	737.56	P.K. SET IN ROAD
0+96.4900			675923.5872	2145944.5870		P.I.
2+05.7600			675822.3876	2145985.7935		P.I.
2+16.1007	0.0174	RT.	675812.6287	2145989.2128	736.66	P.K. SET IN ROAD
3+00.00			675733.5012	2146017.1044		P.I.

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 SCD MT-101.60 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 3 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 NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE DEPARTMENT EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR 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, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

DETOUR SIGNAGE

THE CONTRACTOR SHALL ERECT AND MAINTAIN DETOUR SIGNAGE AND ADVANCED NOTICE SIGNS.

THIS WORK SHALL BE PAID UNDER THE LUMP SUM PAY ITEM 614 - DETOUR SIGNING, AS PER PLAN

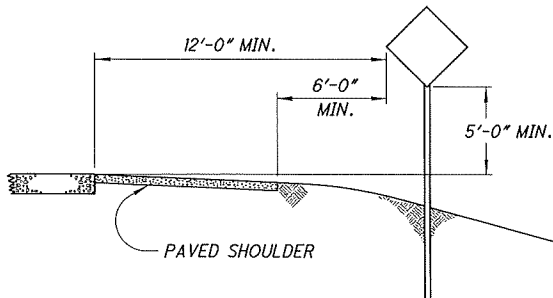
DETOUR LIMITATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL SIXTY (60) 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.

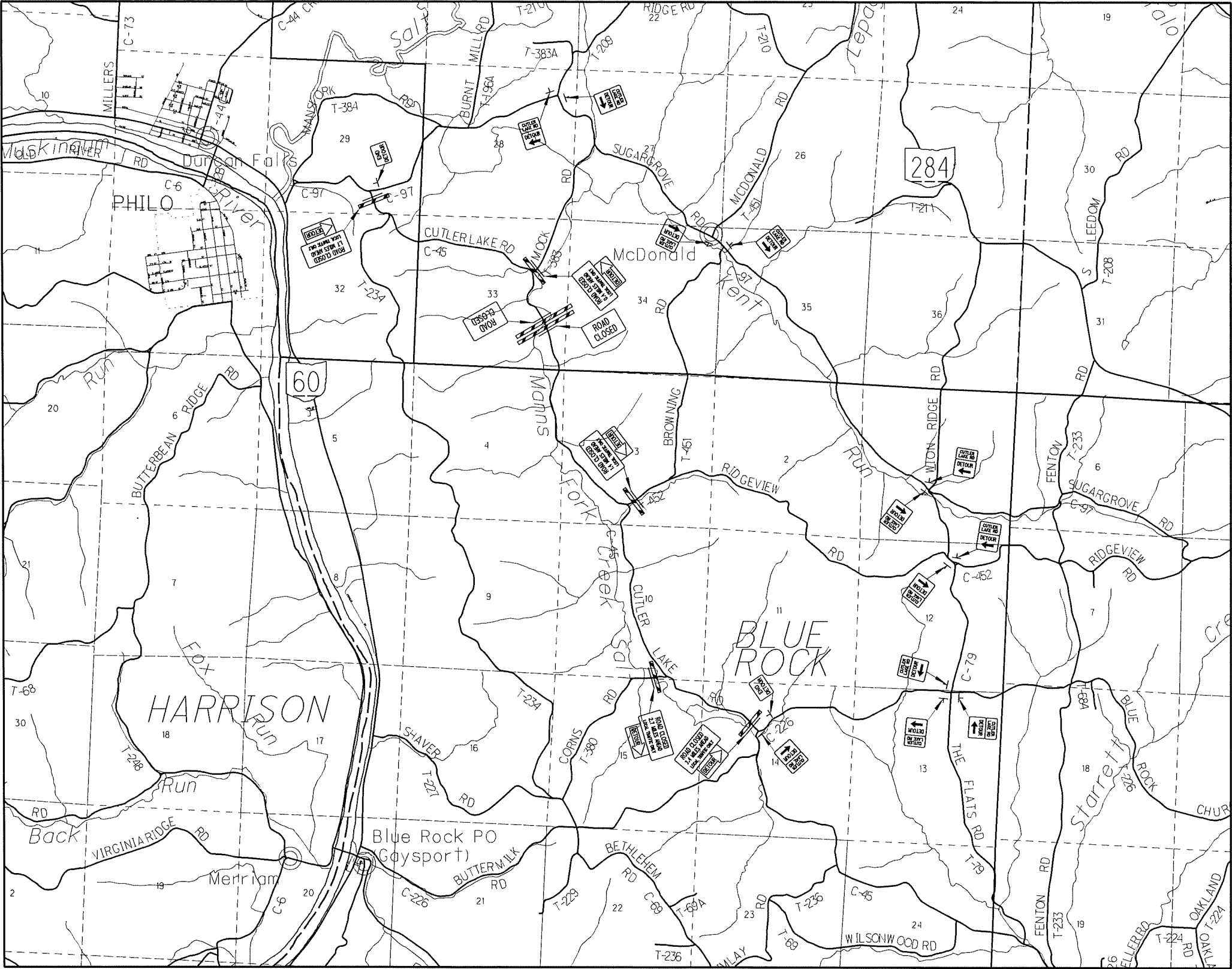
DUST CONTROL

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

ITEM 616 - WATER 2 M GAL



RURAL SIGN DETAIL



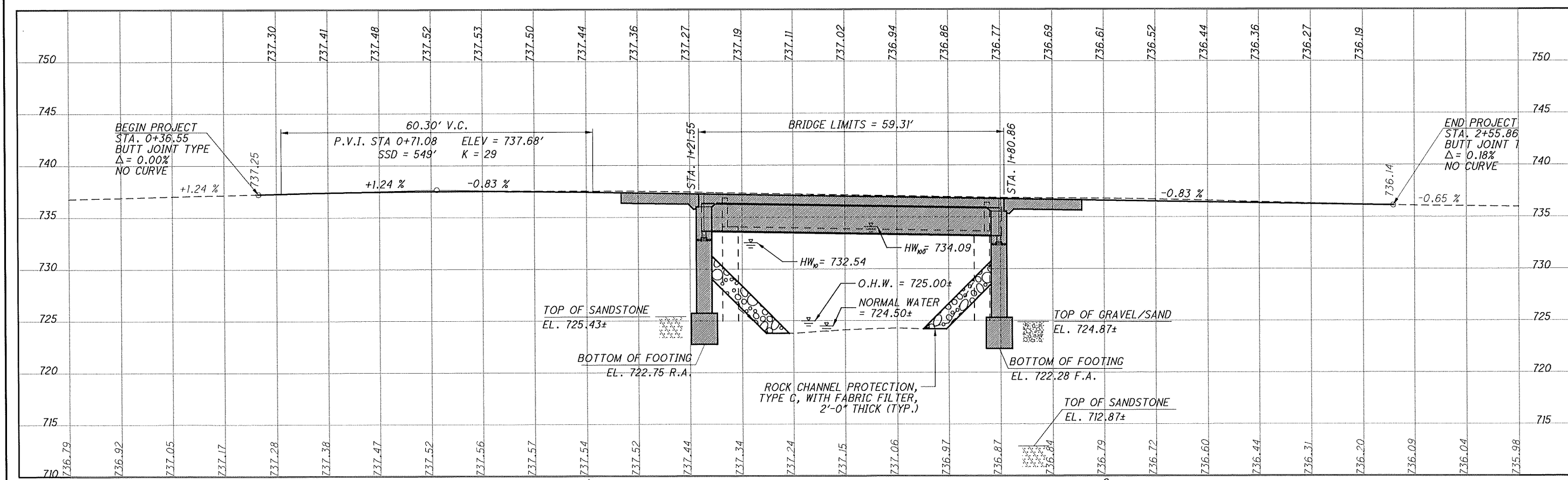
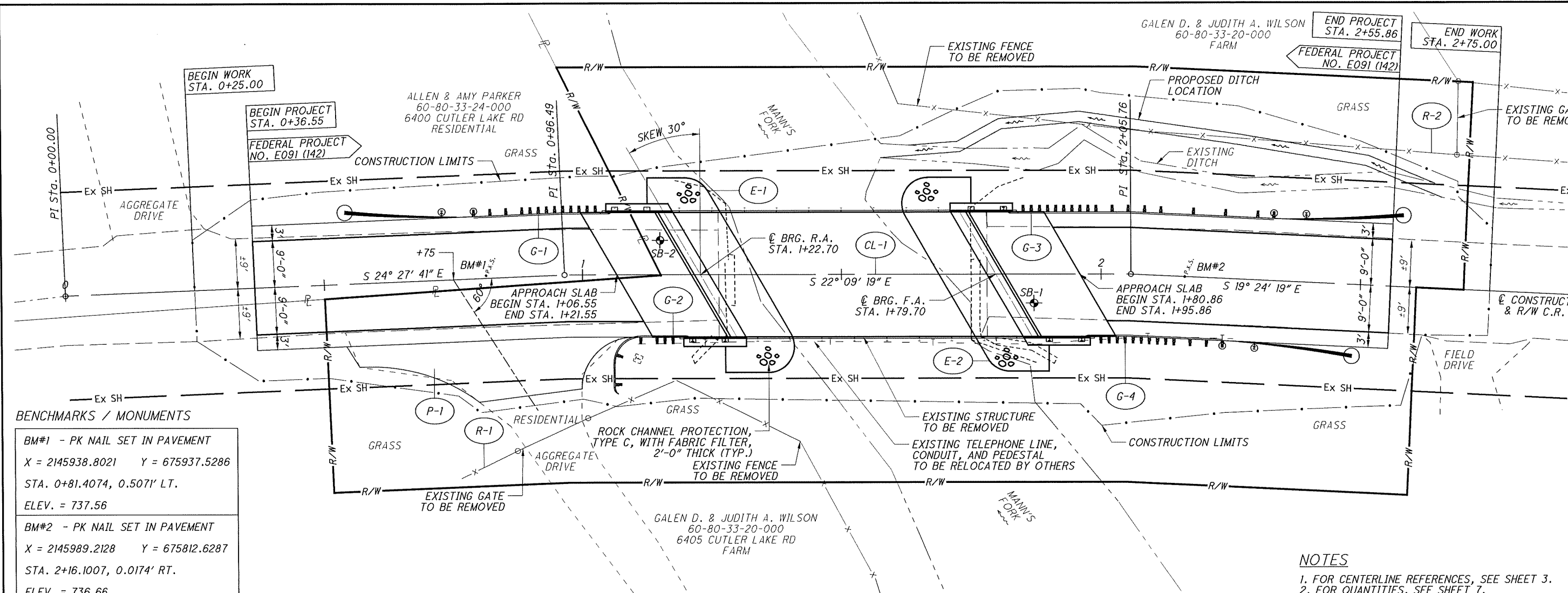
SIGN KEY

 M4-8A (24"x18")	 SPECIAL (30"x12") M4-8 (30"x15")	 SPECIAL (30"x12") M4-9L (30"x24")	 SPECIAL (30"x12") M4-9R (30"x24")	 R11-3a (60"x30") M4-10L (48"x18")	 R11-3a (60"x30") M4-10R (48"x18")	 R11-2 (48"x30")
---------------------	---	--	--	--	--	---------------------

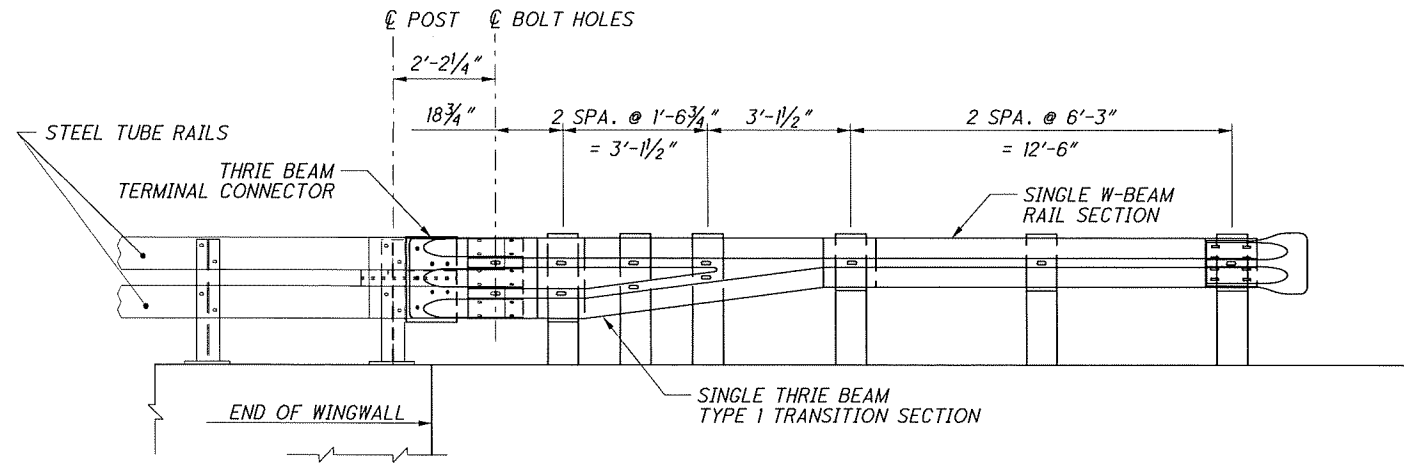
LEGEND

	GATES AND BARRICADES AS SHOWN ON SCD MT-101.60
	TYPE 3 BARRICADE
	TYPICAL POST MOUNTED SIGN (SEE RURAL SIGN DETAIL)

[illegible]



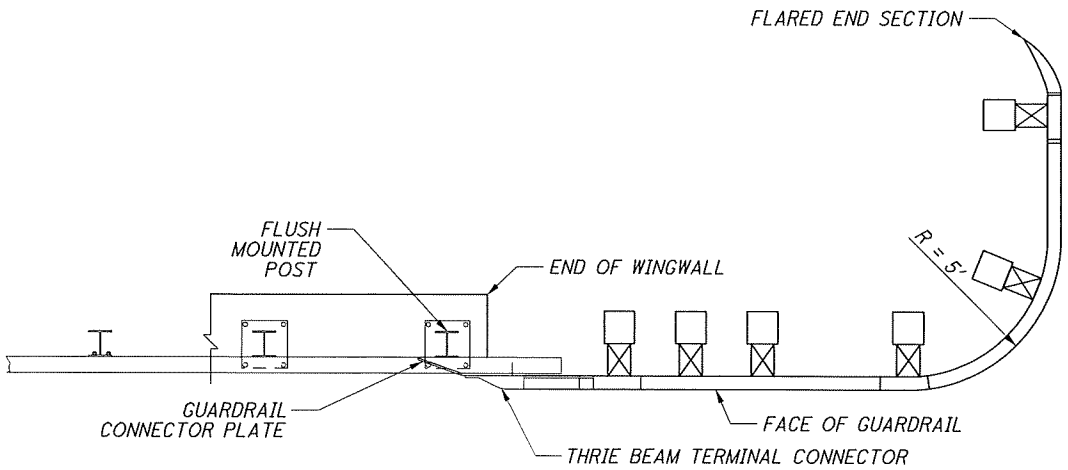
REF NO.	SHEET NO.	STATION		SIDE	202	202	411	601	606	606	606	606	642								
					FENCE REMOVED	GATE REMOVED	STABILIZED CRUSHED AGGRGATE	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	GUARDRAIL, TYPE MGS	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	ANCHOR ASSEMBLY, MGS TYPE A	CENTER LINE DOUBLE SOLID								
		FROM	TO		LF	EACH	CY	CY	FT	EACH	EACH	EACH	MILE								
R-1	6	0+75.00	1+46.00	RT	70	1															
R-2	6	1+58.00	2+70.00	LT	120	1															
E-1	6	1+12.55	1+40.80	LT&RT				28													
E-2	6	1+61.62	1+89.86	LT&RT				28													
G-1	6	0+52.17	1+04.06	LT					26.89	1		1									
G-2	6	1+06.16	1+18.98	RT					20.65		1										
G-3	6	1+83.44	2+60.34	LT					51.90	1		1									
G-4	6	1+98.35	2+50.24	RT					26.89	1		1									
CL-1	6	0+36.55	2+55.86	℄									0.05								
P-1	6	0+75.00		RT			8														
TOTALS CARRIED TO GENERAL SUMMARY					190	2	8	56	126.33	3	1	3	0.05								



ELEVATION

MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1,
AS PER PLAN DETAILS

NOT TO SCALE



PLAN

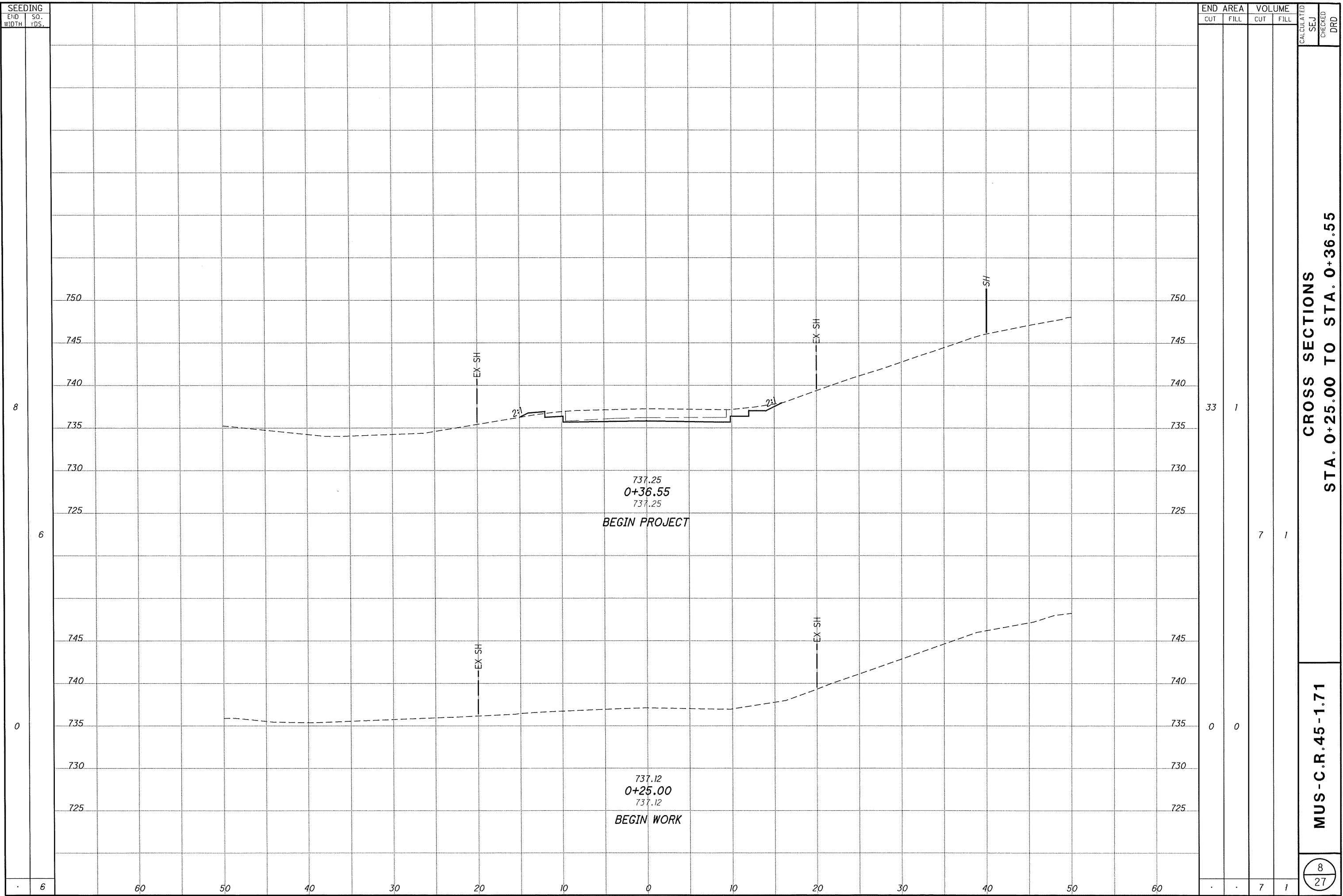
NOTES
FOR ADDITIONAL DETAILS, SEE SCD MGS-3.1

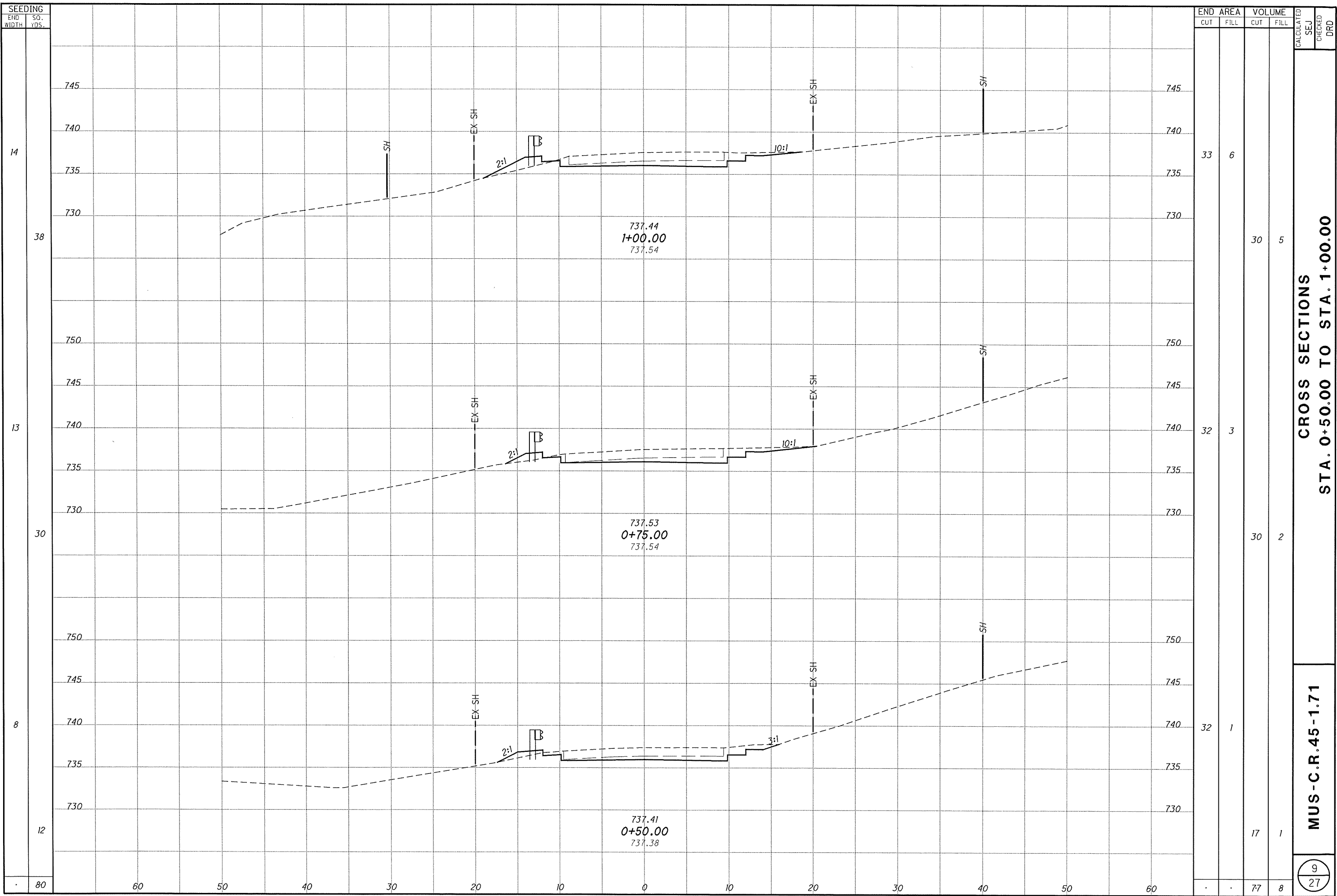
ESTIMATED QUANTITIES / GUARDRAIL DETAILS

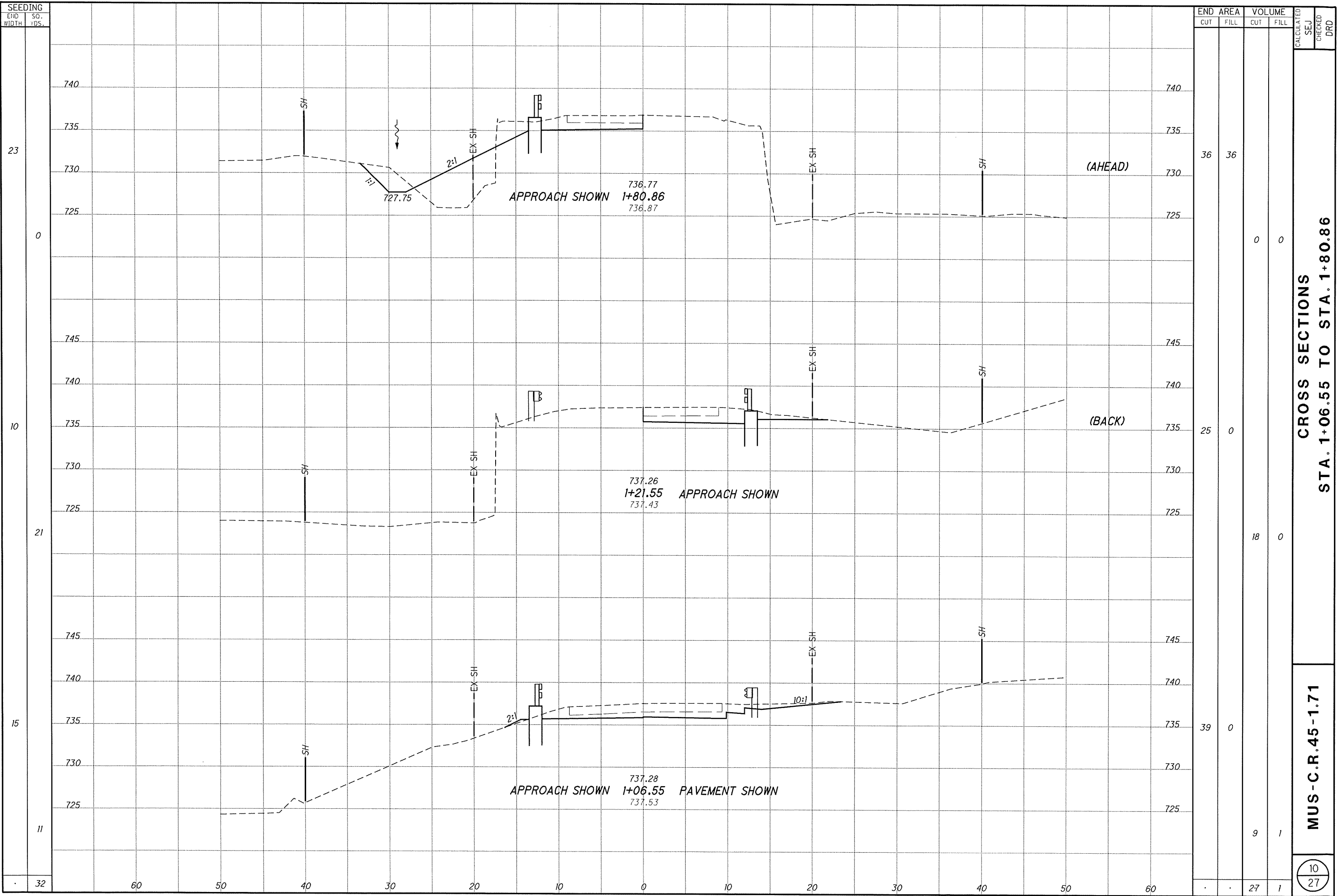
MUS-C.R.45-1.71

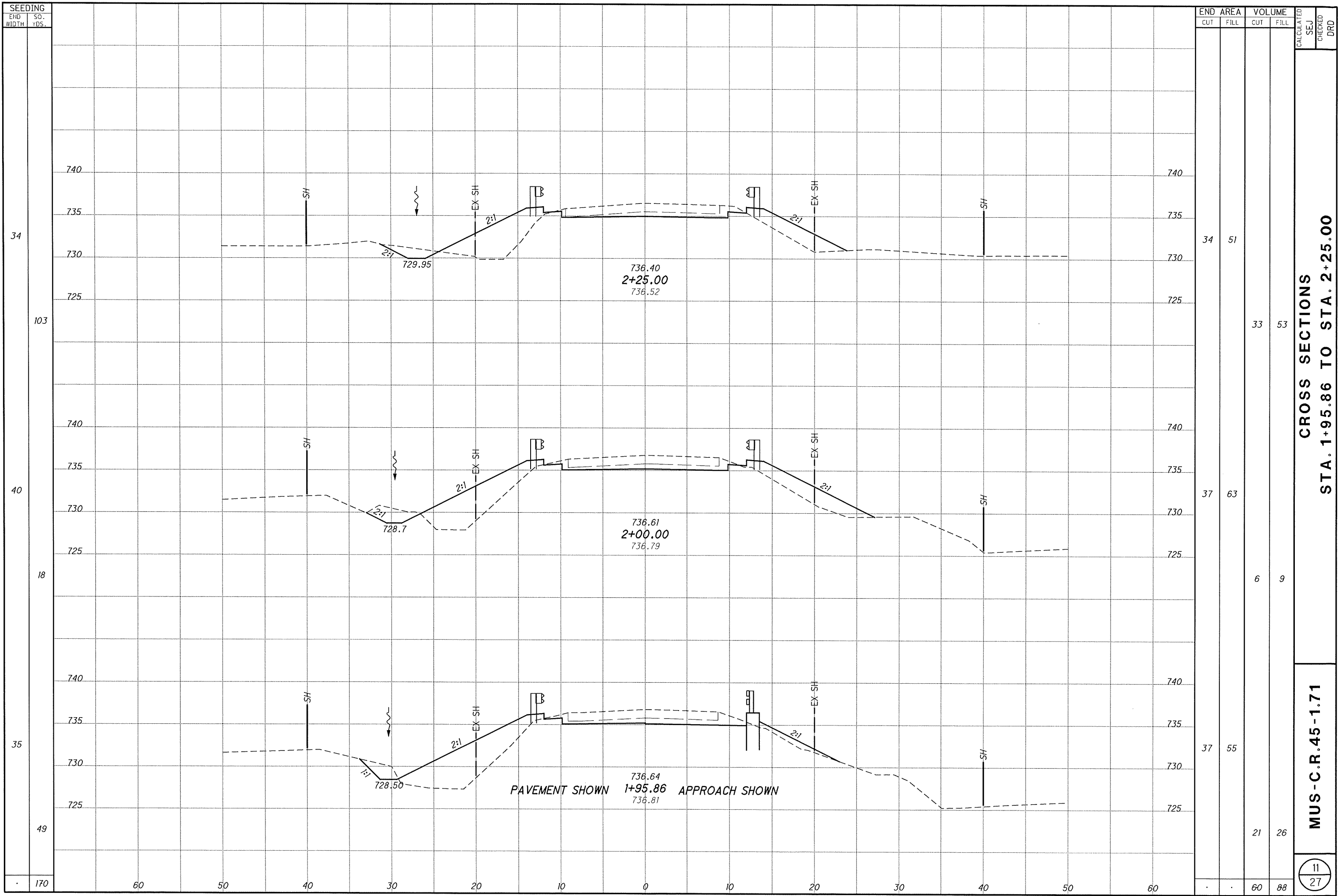
7
27

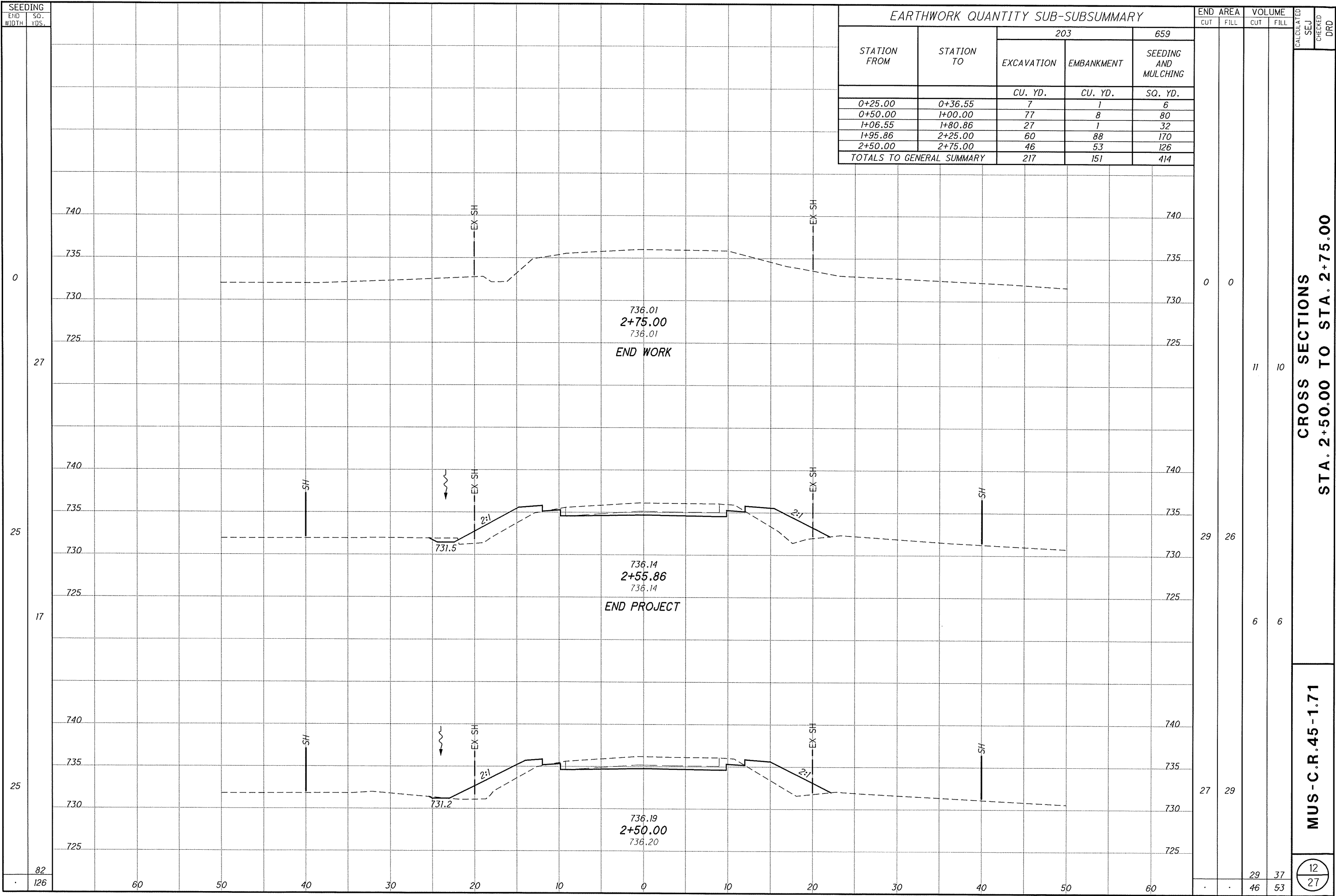
CALCULATED
SEJ
CHECKED
DRD

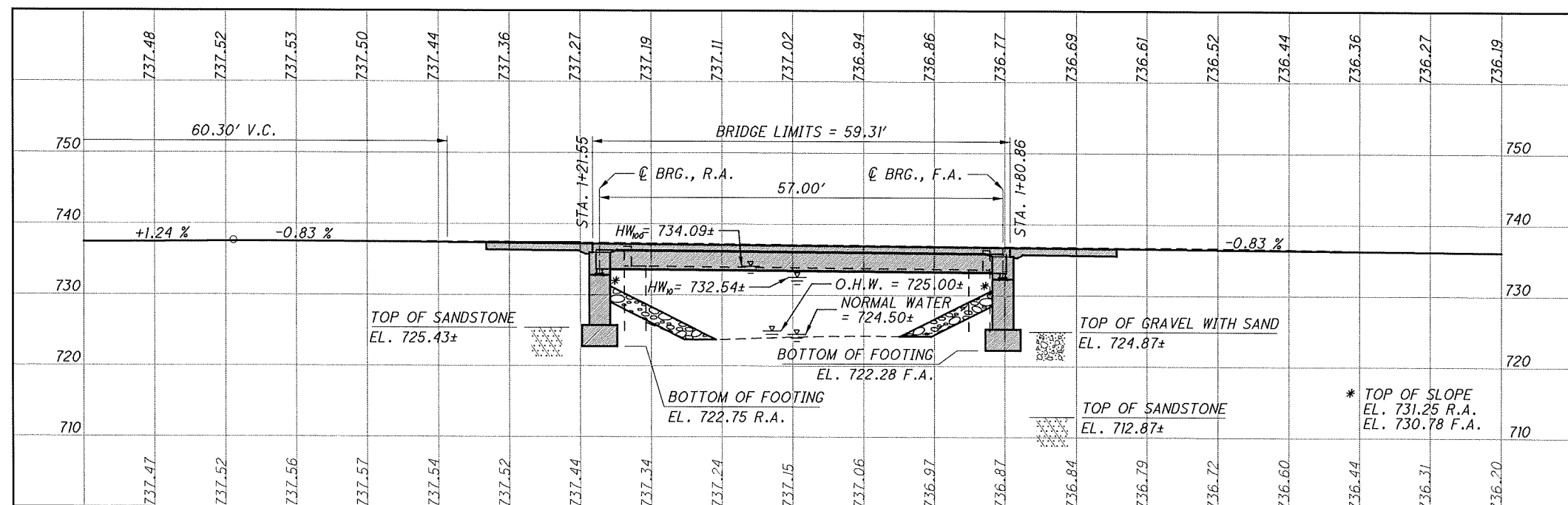
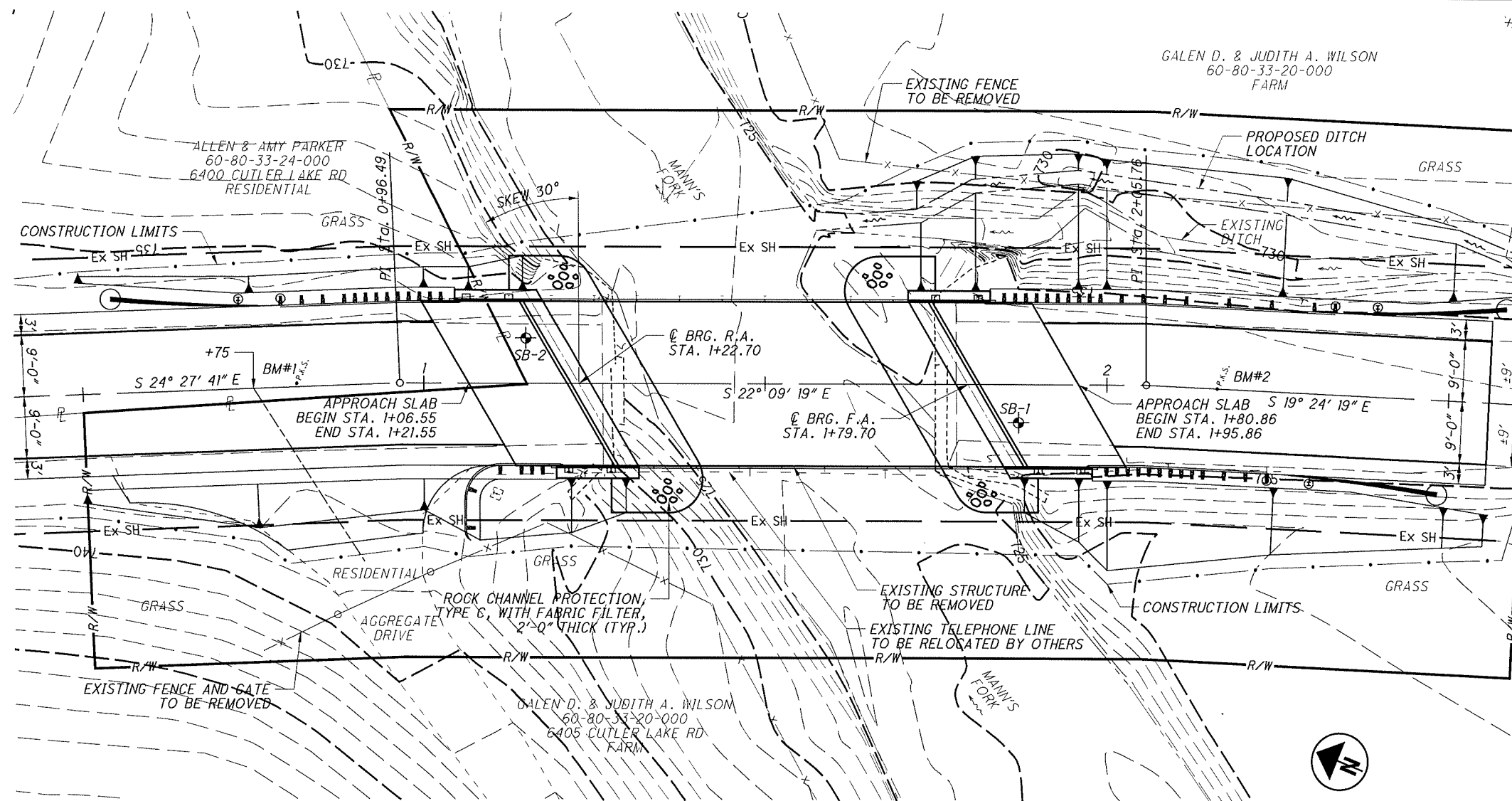












NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS AND MATCH EXISTING SLOPES.

2. FLUSH MOUNT GUARDRAIL POST STATIONING AS FOLLOWS:

STA. 1+06.25 & STA. 1+12.50 - LEFT REAR
STA. 1+21.16 & STA. 1+27.41 - RIGHT REAR
STA. 1+75.00 & STA. 1+81.25 - LEFT FORWARD
STA. 1+89.91 & STA. 1+96.16 - RIGHT FORWARD

MEASURED ALONG WINGWALL AT FACE OF GUARDRAIL POST.

LEGEND

◆ ORIGINAL SOIL BORING LOCATION

TRAFFIC DATA

DESIGN TRAFFIC:

2014 ADT = 240 2014 ADTT = 5

2034 ADT = 300 2034 ADTT = 6

DIRECTIONAL DISTRIBUTION = 50%

HYDRAULIC DATA

DRAINAGE AREA = 7.61 SQ. MILES

Q (10) = 1120 V (10) = 2.80 FT/S

Q (100) = 1980 V (100) = 4.21 FT/S

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL BEAM BRIDGE WITH ASPHALT DECK, ON STONE WALL ABUTMENTS

SPANS: 48'-0" ± C/C BEARINGS

ROADWAY: 23'-0" ± F/F GUARDRAIL

LOADING: HS20

SKREW: NONE

WEARING SURFACE: ASPHALT CONCRETE

APPROACH SLABS: NONE

ALIGNMENT: TANGENT

STRUCTURAL FILE NUMBER: 6032184

DATE BUILT: 1930

DISPOSITION: STRUCTURE TO BE REPLACED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN A709 GALV. ROLLED STEEL BEAM COMPOSITE WITH REINFORCED CONCRETE DECK ON SEMI-INTEGRAL WALL TYPE ABUTMENTS

SPANS: 57'-0" C/C BEARINGS

ROADWAY: 24'-0" F/F GUARDRAIL

LOADING: HL93

SKREW: 30°00'00" ± RIGHT FORWARD

WEARING SURFACE: 1" MONOLITHIC CONCRETE

FUTURE WEARING SURFACE: 60 PSF

APPROACH SLABS: 15'-0" LONG (AS-I-81)

ALIGNMENT: TANGENT

STRUCTURAL FILE NUMBER: 6032192

COORDINATES: LATITUDE N 39°31'14"
LONGITUDE W 81°52'04"

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81 REVISED 1-18-13
DS-1-92 REVISED 7-18-03
GSD-1-96 REVISED 7-19-02
SIDC-1-96 REVISED 7-18-14
TST-1-99 REVISED 1-17-14

AND TO THE FOLLOWING STANDARD SUPPLEMENTAL SPECIFICATIONS:

800 REVISED 1/16/15
832 REVISED 1/17/14

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 6TH EDITION 2013, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE: 0.060 KSF

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 - MIN. YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 GALVANIZED PER CMS 711.02, YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
STEEL DRIP STRIP
SEALING OF CONCRETE SURFACES
CONCRETE WATERPROOFING ADMIXTURE

MONOLITHIC WEARING SURFACE

ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK

UTILITY LINES

THE UTILITY COMPANIES 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.

ITEM 503 - UNCLASSIFIED EXCAVATION, INCLUDING ROCK, AS PER PLAN

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS/WINGWALLS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STA. 1+06.55 TO 1+21.55 AND 1+80.86 TO 1+95.86 SHALL BE:

BELOW THE DRAIN PIPE - SHALL CONFORM TO 203.02.R
ABOVE THE DRAIN PIPE - SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C,
PLACED AND COMPACTED IN 6" LIFTS AS PER 503.08

ITEM 511 - CLASS QC1 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 AS DIRECTED, BY THE ENGINEER. 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 THIS PAY ITEM. 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 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN

THE CONTRACTOR SHALL ENSURE THAT IPANEX WATERPROOFING, OR APPROVED EQUAL, IS ADDED TO THE CONCRETE MIXTURE AS REQUIRED BY THE ENGINEER. STANDARD CLASS QC2 CONCRETE SHALL BE USED WITH THE ADDITION OF IPANEX WATERPROOFING AT A RATE OF 13.8 OZ PER 100 LB OF CEMENT OR CEMENTATIOUS MATERIAL. THIS COST SHALL BE INCLUDED IN THIS PAY ITEM.

ESTIMATED QUANTITIES							CALCULATED: SEJ DATE: 11/25/14		CHECKED: RCH DATE: 11/26/14		SPEC & AS PER PLAN BRIDGE SHEET NO.
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION				ABUTS.	SUPER	GEN'L	
202	11002	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN						LS	
202	23500	156	SY	WEARING COURSE REMOVED					156		
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING						LS	
503	21321	LS		UNCLASSIFIED EXCAVATION, INCLUDING ROCK, AS PER PLAN						LS	2 / 10
509	10000	21789	LB	EPOXY COATED REINFORCING STEEL				8883	12906		
511	21533	68	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN					68		2 / 10
511	43511	144	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN					144		2 / 10
512	10100	112	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				60	52		
513	10021	LS		STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN					LS		2 / 10
513	20000	696	EACH	WELDED STUD SHEAR CONNECTORS					696		
516	13900	50	SF	2" PREFORMED EXPANSION JOINT FILLER					50		
516	14020	60	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL					60		
516	44101	8	EACH	3"x11"x18" ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE 1 1/2"x12"x19", (NEOPRENE), AS PER PLAN					8		6 / 10
517	70000	159.83	FT	RAILING (TWIN STEEL TUBE)					159.83		
518	21200	32	CY	POROUS BACKFILL WITH FILTER FABRIC				32			
SPECIAL	51822300	134	FT	STEEL DRIP STRIP					134		
518	40000	60	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				60			
518	40010	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				20			
526	10000	80	SY	REINFORCED CONCRETE APPROACH SLAB (T=12")						80	

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 513 & 711.02, GALVANIZED COATING SYSTEM SHALL CONFORM TO SPECIAL PROVISION INCLUDED IN THE BID DOCUMENTS, AND PAID FOR UNDER THIS BID ITEM.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1 KIPS FOR A TOTAL MACHINE LOAD OF 8 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

FOUNDATION BEARING RESISTANCE

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAX. SERVICE LOAD PRESSURE OF 5.34 KIPS PER SQUARE FOOT AND A MAX. STRENGTH LOAD PRESSURE OF 7.68 KIPS PER SQUARE FOOT. THE MIN. FACTORED BEARING RESISTANCE IS 10.00 KIPS PER SQUARE FOOT.

FOOTINGS

REAR ABUTMENT:
PLACE FOOTING IN BEDROCK AT THE ELEVATION SHOWN

FORWARD ABUTMENT:
PLACE FOOTING IN GRAVEL/SAND AT THE ELEVATION SHOWN

PLAN ABBREVIATIONS

ABUT.	ABUTMENT
BRG.	BEARING
CL	CENTERLINE
c/c	CENTER TO CENTER
C.J.	CONSTRUCTION JOINT
DIA.	DIAMETER
EL.	ELEVATION
E.F.	EACH FACE
F.A.	FOREWARD ABUTMENT
F.F.	FAR FACE
FWD.	FORWARD
MAX.	MAXIMUM
MIN.	MINIMUM
N.F.	NEAR FACE
PL	PLATE
PEJF	PREFORMED EXPANSION JOINT FILLER
R.A.	REAR ABUTMENT
SPA.	SPACE, SPACES, SPACED
STA.	STATION
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE

MUSKINGUM COUNTY
DOUG DAVIS
COUNTY ENGINEER
155 REHL ROAD
JANESVILLE, OHIO 43081

MCEO
ENGINEER'S OFFICE

DESIGNED
DRD

CHECKED
RCH

DRAWN
SEJ

REVIEWED

DATE

6032192

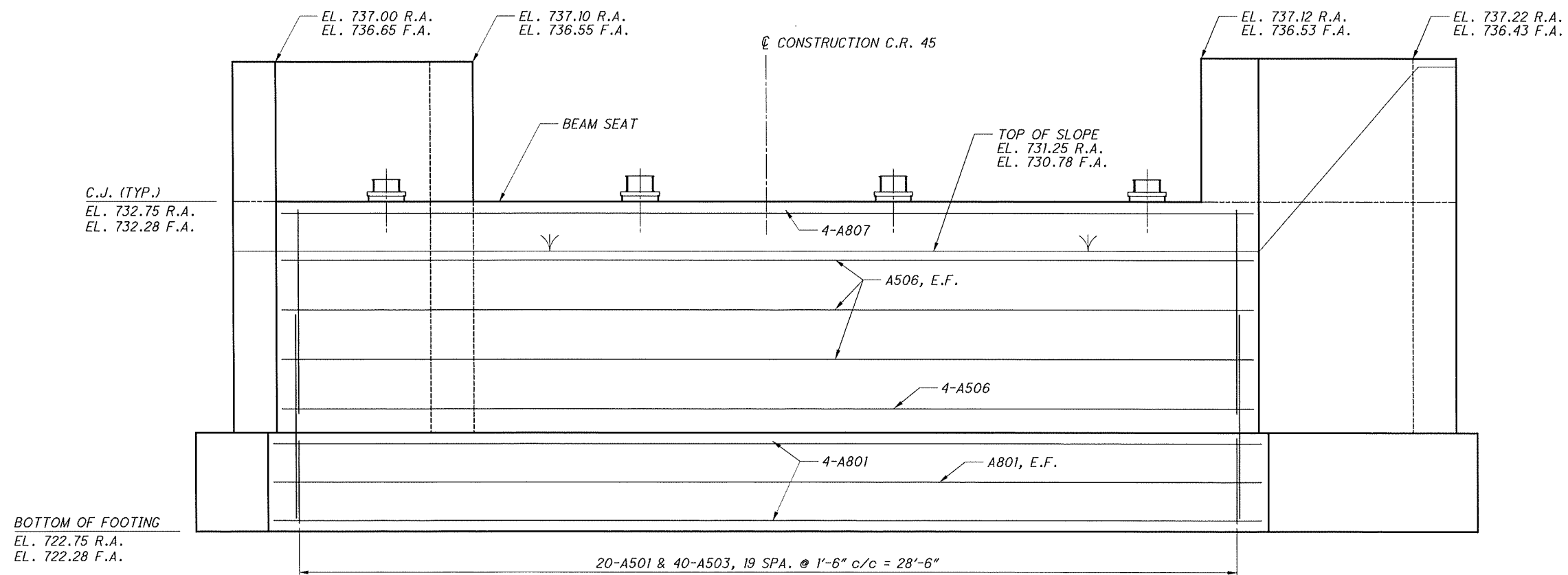
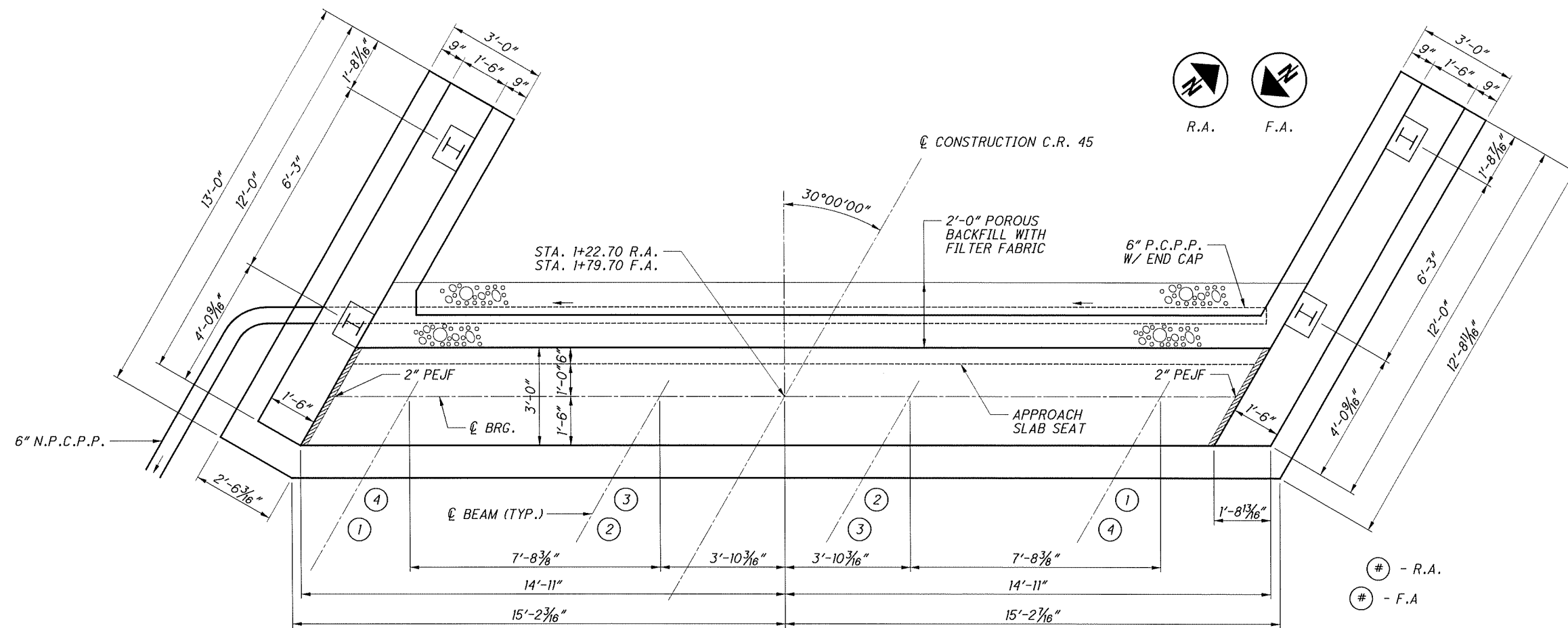
GENERAL NOTES AND ESTIMATED QUANTITIES

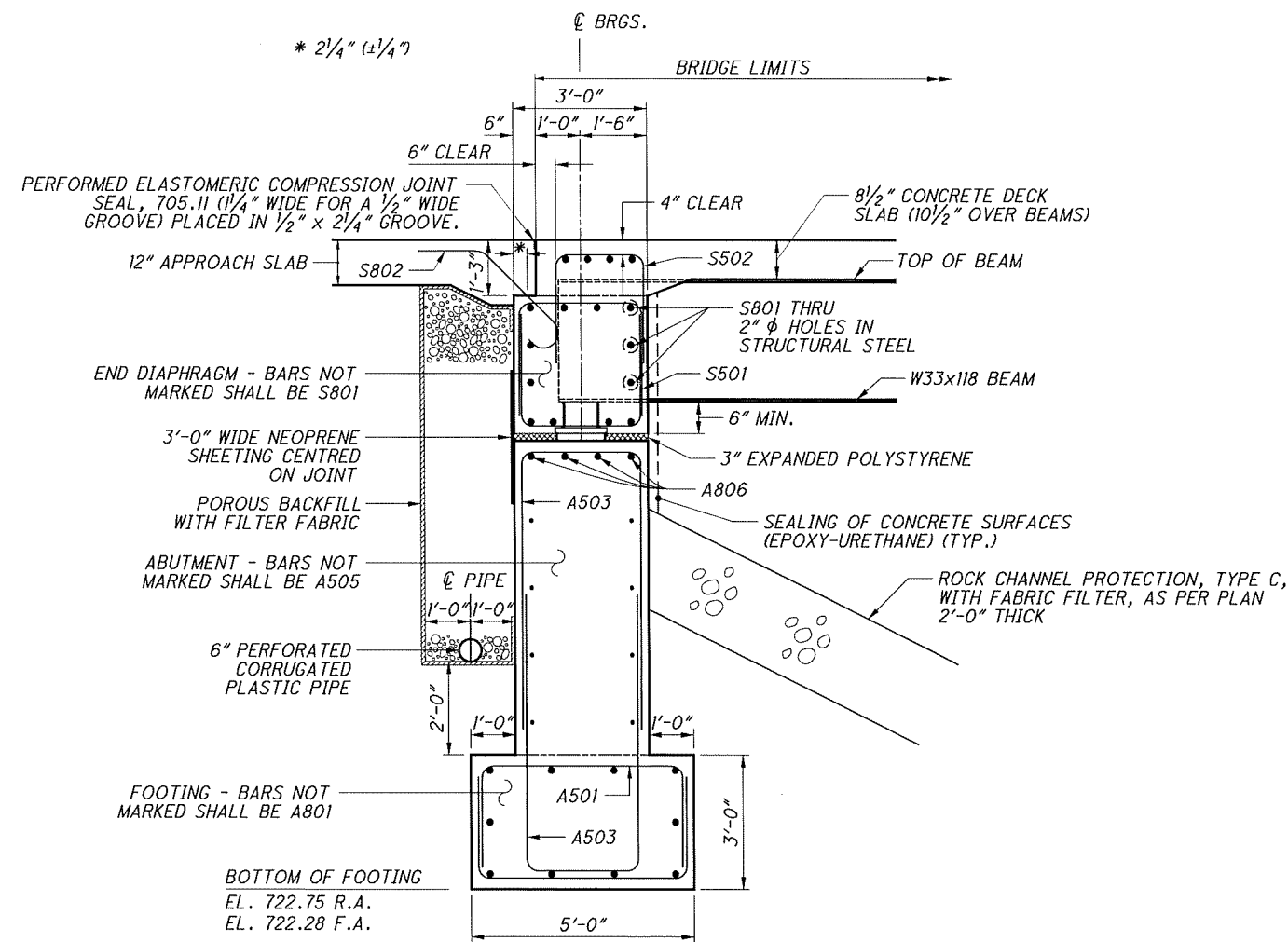
MUS-C.R.45-1.71
BRIDGE NO. MUS-045-0171
OVER MANN'S FORK SALT CREEK

PID No. 87216

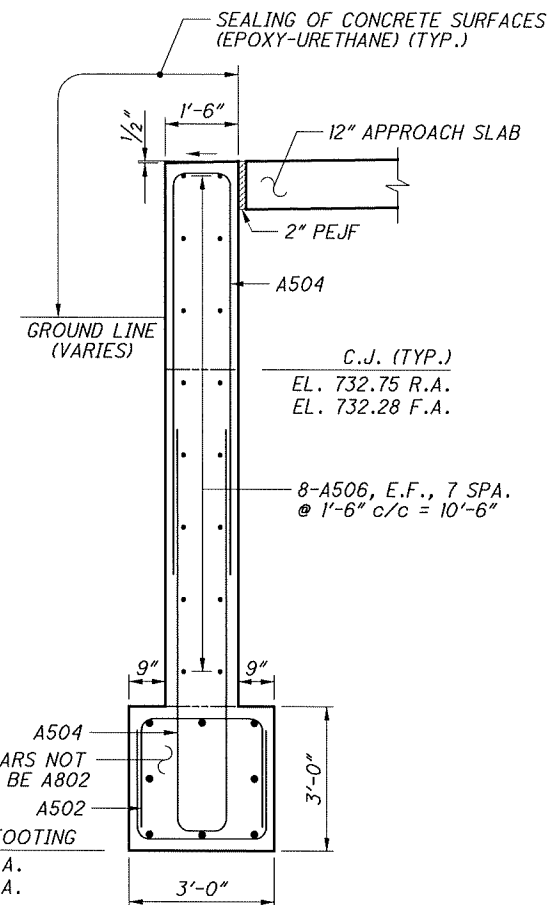
2 / 10

14
27

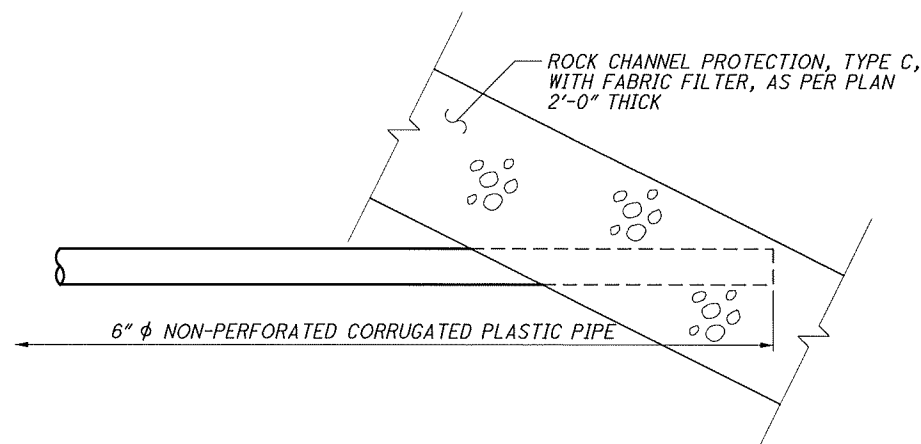




TYPICAL ABUTMENT SECTION



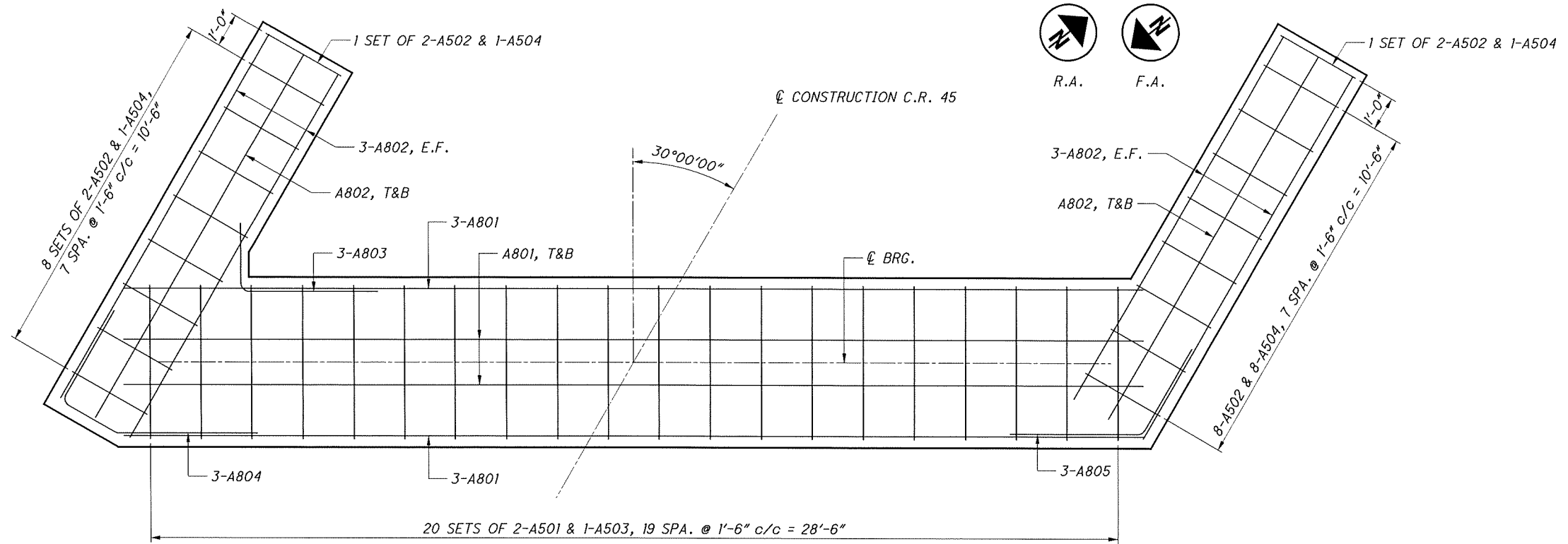
TYPICAL WINGWALL SECTION



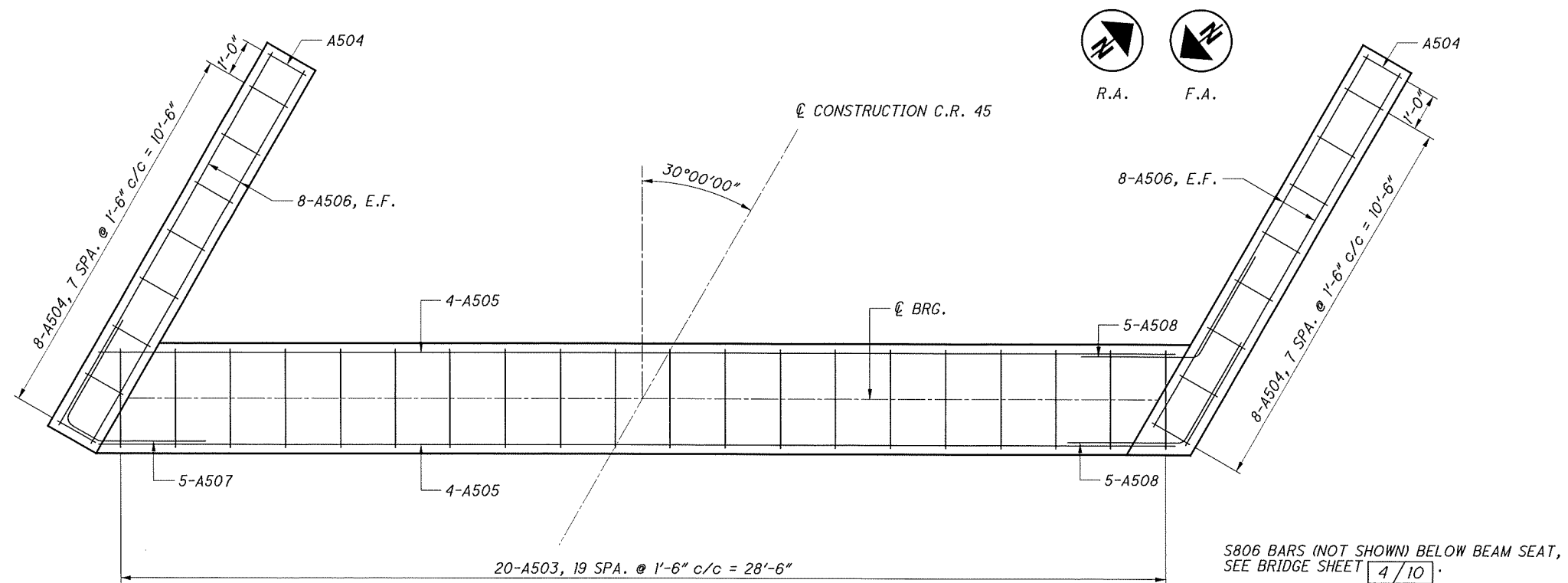
END TREATMENT OF 6" Ø NON-PERFORATED CORRUGATED PLASTIC PIPE

NOTE:

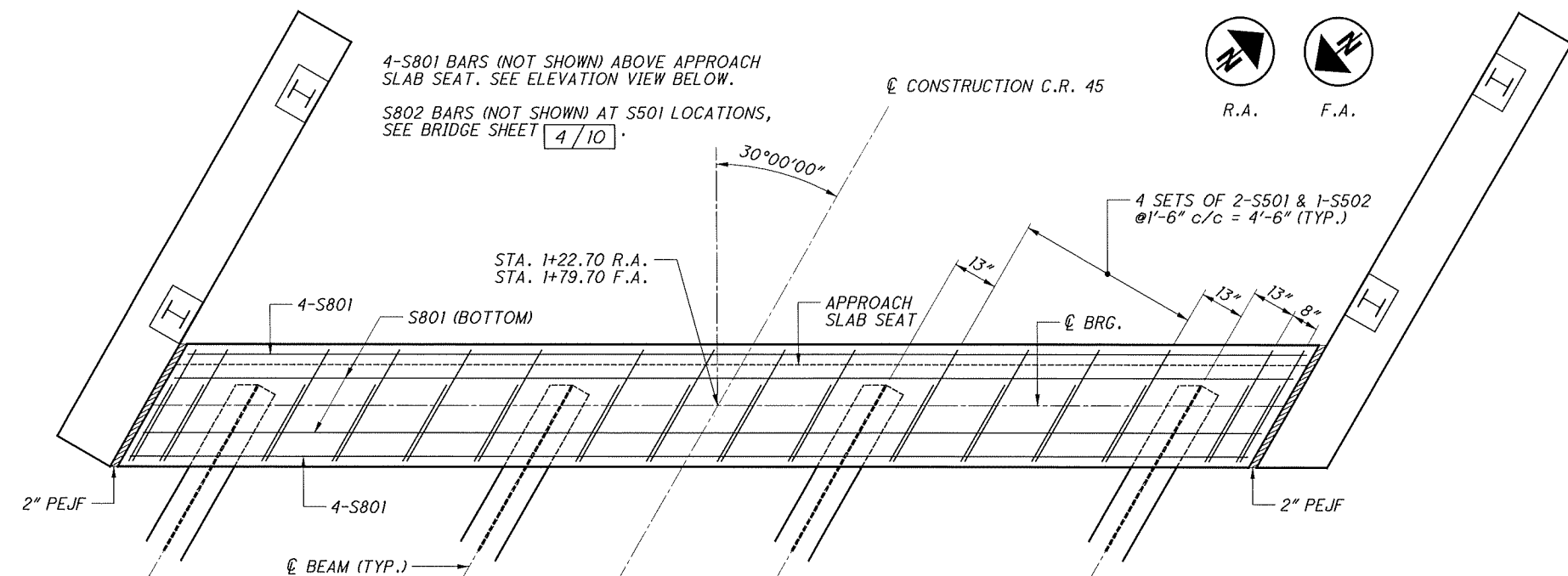
POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE WINGWALLS.



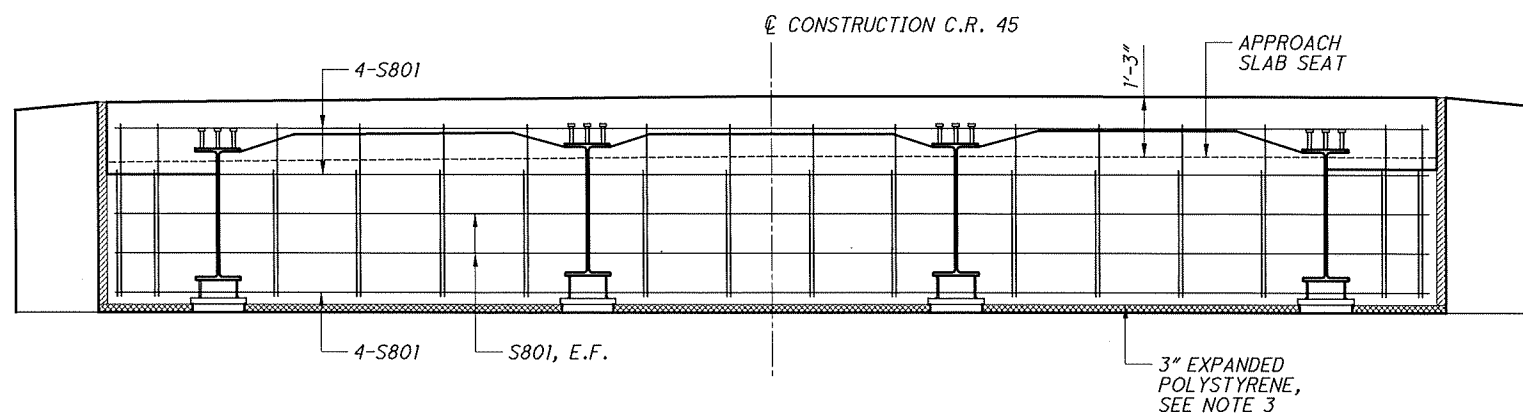
FOOTING REINFORCING PLAN



ABUTMENT REINFORCING PLAN

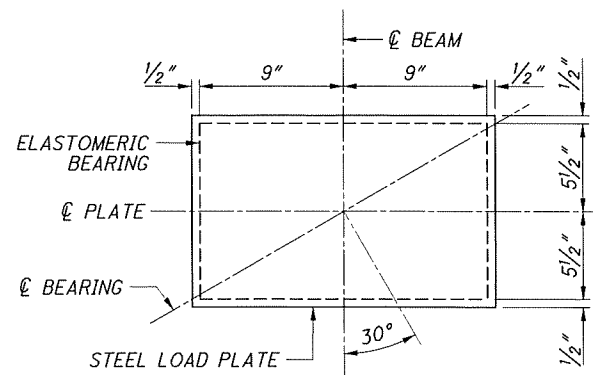


END DIAPHRAGM (PLAN VIEW)



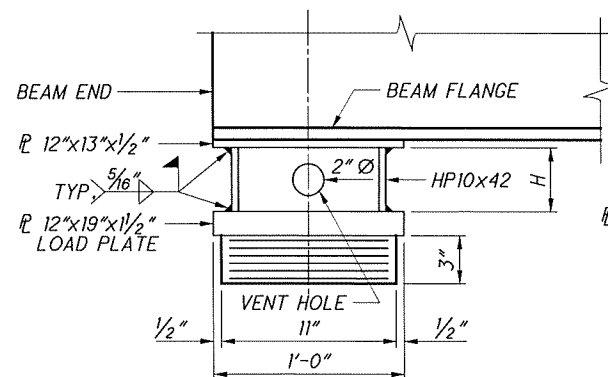
END DIAPHRAGM (ELEVATION VIEW)

2 EXTERIOR LAYERS, $t_e @ 0.275" = 0.550"$
 5 INTERIOR LAYERS, $t_i @ 0.400" = 2.000"$
 6 STEEL LAMINATES, $t_s @ 0.075" = 0.450"$
 $T = 3.000"$

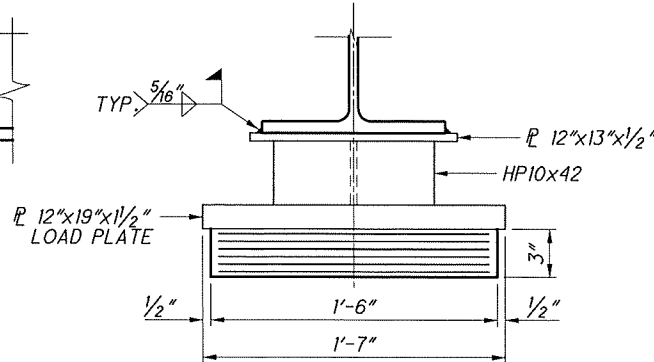


PLAN (TYP.)

11" x 18" x 3" BRG. PAD WITH
 12" x 19" x 1 1/2" STEEL LOAD PLATE



SIDE ELEVATION (TYP.)



END ELEVATION (TYP.)

NOTES

1. ABUTMENT DIAPHRAGM CONCRETE:
PLACE THE CONCRETE ENCASE THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
2. REINFORCING STEEL:
ALL S501, S502, AND S802 REINFORCING BARS IN THE END DIAPHRAGM SHALL BE PLACED PARALLEL TO THE BEAMS.

S801 BARS MAY BE SPLICED TO FACILITATE BAR PLACEMENT AT NO ADDITIONAL COST.
MIN. LAP = 4'-6"
3. POLYSTYRENE:
ALL POLYSTYRENE SHALL BE INCLUDED WITH ITEM 511, CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN FOR PAYMENT.

BEARING PAD NOTES

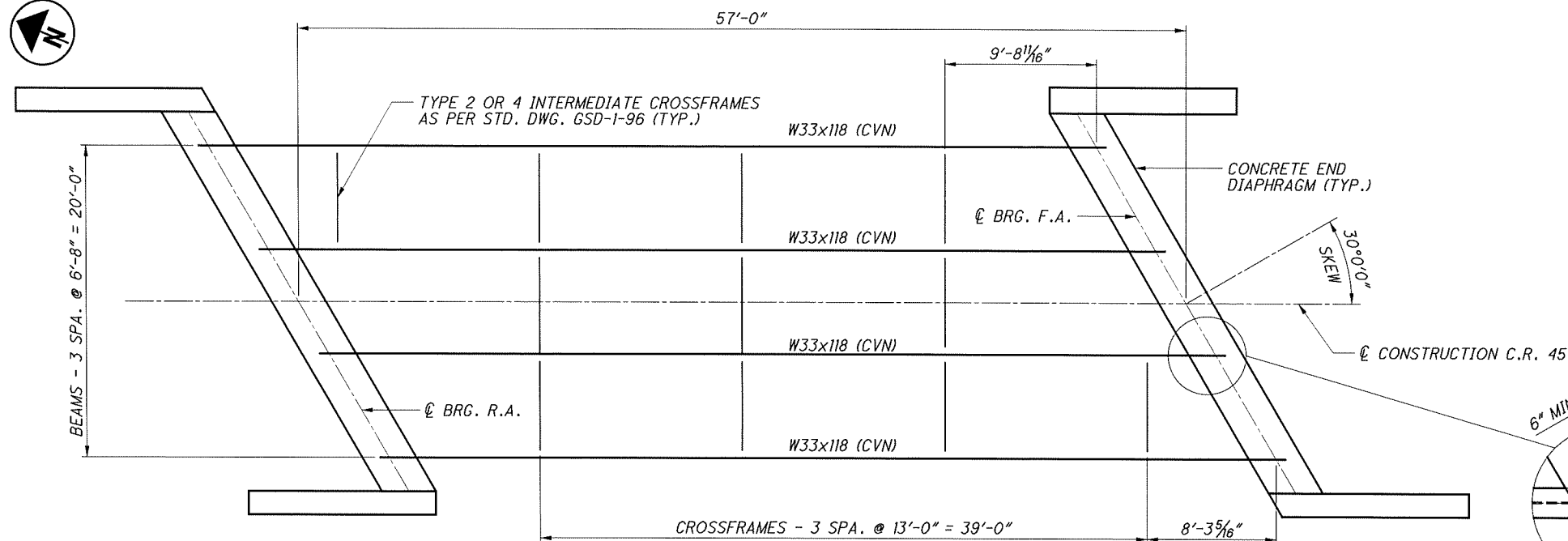
1. MATERIALS:
ALL ELASTOMER FOR BEARINGS SHALL BE 50 DUROMETER. THE STEEL LOAD PLATE SHALL ASTM A572, GRADE 50 GALV. THE HP SHAPE (SUPPORT MEMBER) AND 1/2" PLATE MAY BE ASTM A709, GRADE 36. FIELD WELD TO BE REPAIRED PER 711.02.
2. WELDING:
CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMERIC DURING THE MOLDING PROCESS.
3. BEARING REPOSITIONING:
IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F ± 10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.
4. ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.7.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES.
5. BASIS OF PAYMENT:
THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, HP10x42, STEEL PLATES, AND INSTALLATION AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 516, ELASTOMERIC BEARING, AS PER PLAN.

BEARINGS HAVE BEEN DESIGNED FOR THE FOLLOWING REACTIONS:

	MAX. DEAD LOAD	LIVE LOAD	TOTAL
ABUTMENTS	33 KIPS	48.5 KIPS	81.5 KIPS

LOADS ARE UNFACTORED, LIVE LOAD DOES NOT INCLUDE IMPACT.

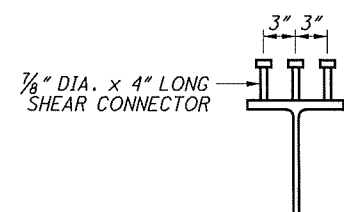
HP10x42 HEIGHTS, "H"		
BEAM #	R.A.	F.A.
1	3 1/2"	3 1/2"
2	4 5/8"	4 5/8"
3	4 7/16"	4 7/16"
4	3"	3"



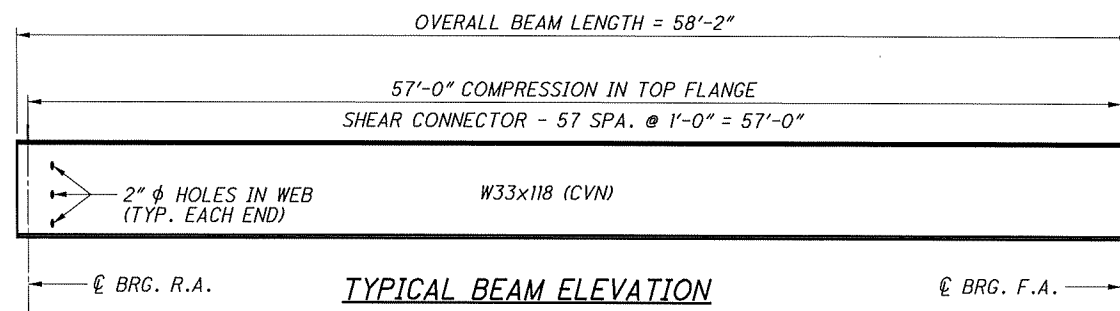
FRAMING PLAN

NOTES

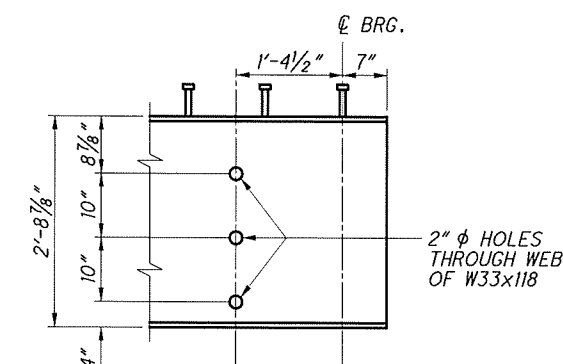
1. STRUCTURAL STEEL: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN) THE MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. WELDED STUD SHEAR CONNECTORS SHALL CONFORM TO AASHTO M-169 AND ITEM 513.
3. STUD SHEAR CONNECTORS SHALL BE WELDED PER CMS 513.22 PRIOR TO GALVANIZING STRINGERS.
4. ALL STRUCTURAL STEEL, BOLTS, FASTENERS, PLATES, AND STUD SHEAR CONNECTORS SHALL BE HOT DIPPED GALVANIZED.



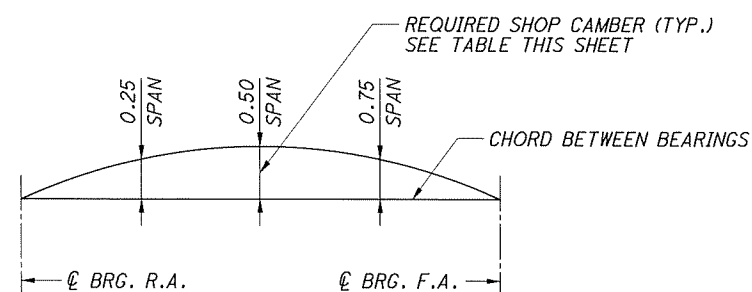
SHEAR CONNECTOR DETAIL



TYPICAL BEAM ELEVATION
(VERTICAL SCALE EXAGGERATED)



BEAM END DETAIL



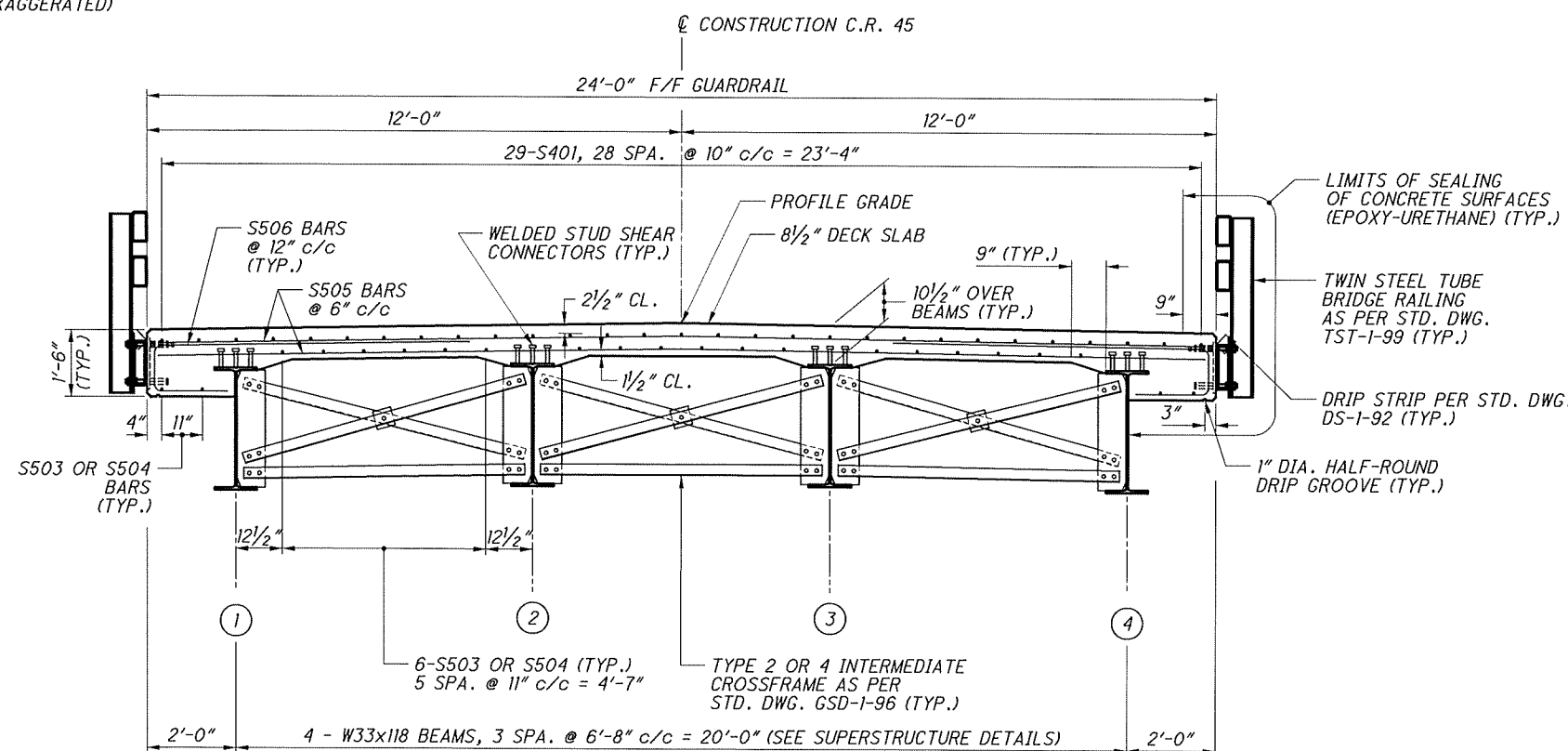
CAMBER DIAGRAM

DEFLECTION AND CAMBER TABLE - BEAMS 1 AND 4

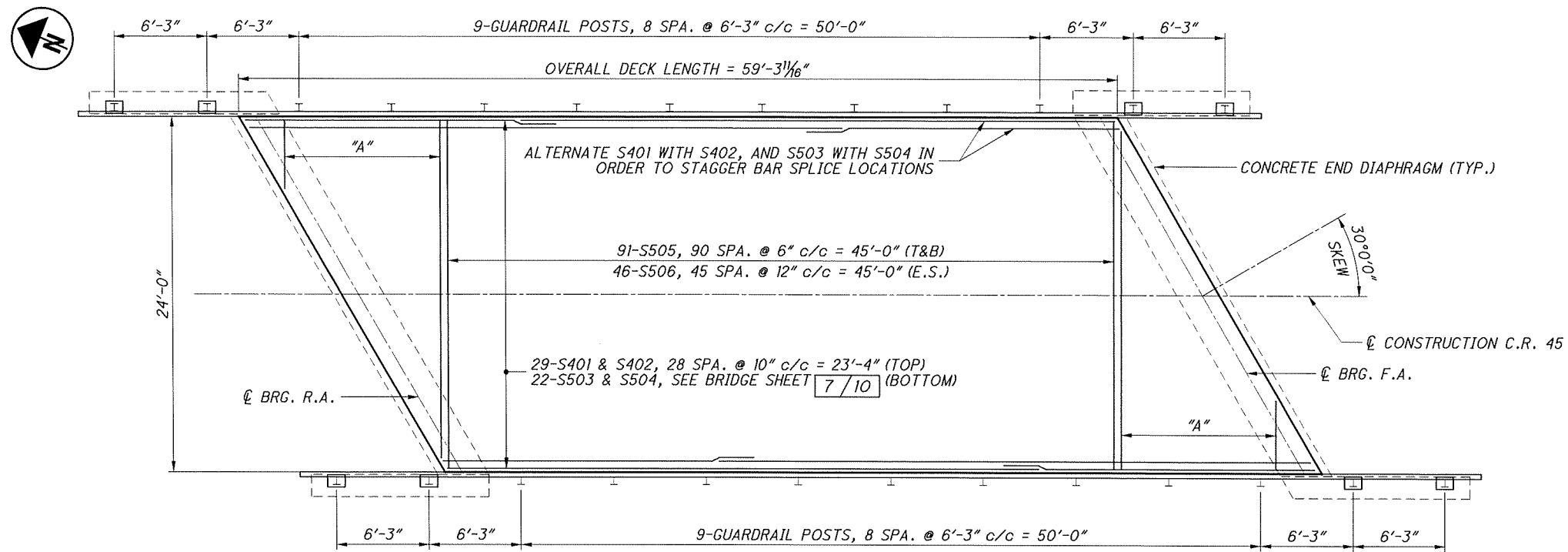
	1/4 SPAN	1/2 SPAN	3/4 SPAN
DEFLECTION DUE TO WEIGHT OF STEEL	1/8"	3/16"	1/8"
DEFLECTION DUE TO REMAINING DEAD LOAD	1 1/16"	1 3/16"	1 1/16"
REQUIRED SHOP CAMBER	1 3/16"	1 5/8"	1 3/16"

DEFLECTION AND CAMBER TABLE - BEAMS 2 AND 3

	1/4 SPAN	1/2 SPAN	3/4 SPAN
DEFLECTION DUE TO WEIGHT OF STEEL	1/8"	3/16"	1/8"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/8"	1 3/16"	1/8"
REQUIRED SHOP CAMBER	1"	1 3/8"	1"

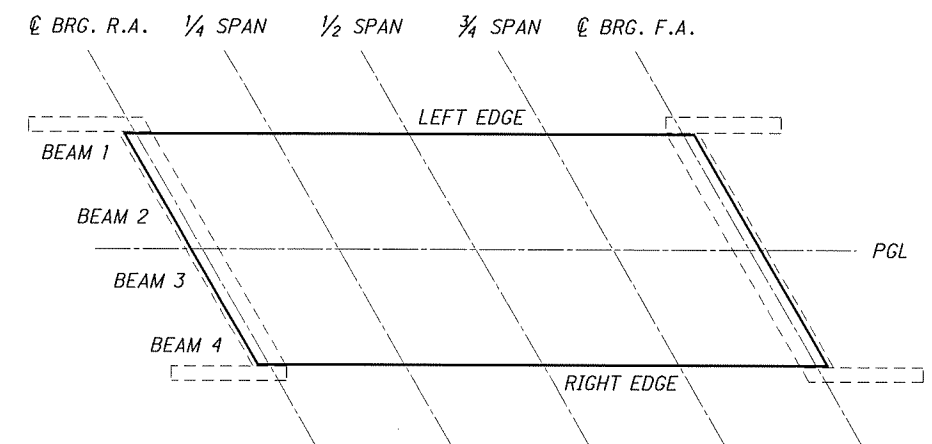


TRANSVERSE SECTION



"A" = 22-S507 SERIES, 21 SPA. @ 6" c/c = 10'-6" (T&B)
11-S506, 10 SPA. @ 12" c/c = 10'-0" (E.S.)

DECK PLAN



DECK DIAGRAM

SCREED ELEVATIONS						
		℄ BRG. R.A.	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	℄ BRG. F.A.
LEFT EDGE	STATION	I+15.77	I+30.02	I+44.27	I+58.52	I+72.77
	ELEVATION	737.12	737.09	737.00	736.85	736.65
PGL	STATION	I+22.70	I+36.95	I+51.20	I+65.45	I+79.70
	ELEVATION	737.25	737.20	737.11	736.97	736.78
RIGHT EDGE	STATION	I+29.63	I+43.88	I+58.13	I+72.38	I+86.63
	ELEVATION	737.01	736.98	736.89	736.74	736.53

TOP OF HAUNCH ELEVATIONS						
		℄ BRG. R.A.	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	℄ BRG. F.A.
BEAM 1	STATION	I+16.93	I+31.18	I+45.43	I+59.68	I+73.93
	ELEVATION	736.43	736.40	736.32	736.17	735.96
BEAM 2	STATION	I+20.78	I+35.03	I+49.28	I+63.53	I+77.78
	ELEVATION	736.51	736.46	736.37	736.22	736.03
BEAM 3	STATION	I+24.62	I+38.87	I+53.12	I+67.37	I+81.62
	ELEVATION	736.47	736.43	736.34	736.19	736.00
BEAM 4	STATION	I+28.47	I+42.72	I+56.97	I+71.22	I+85.47
	ELEVATION	736.34	736.31	736.22	736.07	735.86

FINAL DECK SURFACE ELEVATIONS						
		℄ BRG. R.A.	1/4 SPAN 1	1/2 SPAN 1	3/4 SPAN 1	℄ BRG. F.A.
LEFT EDGE	STATION	I+15.77	I+30.02	I+44.27	I+58.52	I+72.77
	ELEVATION	737.12	737.00	736.88	736.77	736.65
BEAM 1	STATION	I+16.93	I+31.18	I+45.43	I+59.68	I+73.93
	ELEVATION	737.14	737.02	736.91	736.79	736.67
BEAM 2	STATION	I+20.78	I+35.03	I+49.28	I+63.53	I+77.78
	ELEVATION	737.21	737.10	736.98	736.86	736.74
PGL	STATION	I+22.70	I+36.95	I+51.20	I+65.45	I+79.70
	ELEVATION	737.25	737.13	737.01	736.90	736.78
BEAM 3	STATION	I+24.62	I+38.87	I+53.12	I+67.37	I+81.62
	ELEVATION	737.18	737.06	736.95	736.83	736.71
BEAM 4	STATION	I+28.47	I+42.72	I+56.97	I+71.22	I+85.47
	ELEVATION	737.05	736.93	736.81	736.69	736.57
RIGHT EDGE	STATION	I+29.63	I+43.88	I+58.13	I+72.38	I+86.63
	ELEVATION	737.01	736.89	736.77	736.65	736.53

PROJECT: CUTLER LAKE RD	DRILLING FIRM / OPERATOR: DLZ / K. CONRAD	DRILL RIG: CME 75 TRUCK	STATION / OFFSET: _____	EXPLORATION ID B-1															
TYPE: BRIDGE REPLACEMENT	SAMPLING FIRM / LOGGER: DLZ / S. LARIMER	HAMMER: CME AUTOMATIC	ALIGNMENT: _____																
PID: BR ID: SFN 6032148	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 1/7/10	ELEVATION: 736.8 (MSL) EOB: 35.0 ft.	PAGE 1 OF 2															
START: 3/5/12 END: 3/5/12	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 79	LAT / LONG: Not Recorded																
MATERIAL DESCRIPTION AND NOTES	ELEV. 736.8	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)	ATTERBERG	ODOT CLASS (GI)	INST.								
Asphalt Concrete Pavement - 7", Cinders, slag, and gravel -9"	735.5	1																	
FILL: Stiff grayish brown SILT AND CLAY (A-6a), some fine to coarse sand, little gravel; contains asphalt fragments and cinders; damp.	732.1	2	7	8	21	89	SS-1	1.75	-	-	-	A-6a (V)							
		3	7	8	28	89	SS-2	2.00	-	-	-	A-6a (V)							
Very stiff brown SANDY SILT (A-4a), little clay; damp.	729.3	4	10	11															
		5	4	5	12	83	SS-3	2.50	-	-	-	A-4a (V)							
		6	6	4															
Loose brown COARSE AND FINE SAND (A-3a), some silt, trace clay; damp.	727.8	7	3	4	9	78	SS-4	2.50	-	-	-	A-4a (V)							
		8	3	4	9	67	SS-5	-	-	-	-	A-3a (V)							
Hard brown SANDY SILT (A-4a), some fine to coarse sand, trace gravel; contains sandstone fragments; damp.	724.8	9	3	7	20	100	SS-6	4.50	2	5	26	48	19	25	19	6	15	A-4a (6)	
@ 10.5', contains wood.		10	6	4	9	50	SS-7	1.00	-	-	-	-	-	-	-	-	-	A-4a (V)	
Medium dense brown GRAVEL WITH SAND (A-1-b), some to "and" fine to coarse sand, little silty clay; moist.		11	4	3															
		12	4	11	25	89	SS-8	-	48	12	19	-	21	-	NP	NP	NP	17	A-1-b (0)
		13	6	7	25	100	SS-9	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
		14	6	12															
@ 19.5', wet.		15	6	3	24	89	SS-10	-	46	20	15	-	19	-	NP	NP	NP	13	A-1-b (0)
		16	10	12	33	89	SS-11	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
		17	9	13	32	67	SS-12	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
		18	5	9	22	78	SS-13	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
		19	13	11															
		20	9	8															
		21	13	13	34	67	SS-14	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
		22	9	9	26	83	SS-15	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
SANDSTONE, bluish gray, severely weathered, very weak, friable, micaceous.	712.8	23	10	13	41	67	SS-16	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		24	13	18															
		25	23	31	87	89	SS-17	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		26	31	35															
SHALE, gray, severely to highly weathered, very weak to weak.	708.3	27																	
	706.8	28	23	31	88	SS-18	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	
		29	23	31	50.4'														

PID:	BR ID: SFN 6032148	PROJECT: CUTLER LAKE RD	STATION / OFFSET:					START: 3/5/12	END: 3/5/12	PG 2 OF 2		B-1								
MATERIAL DESCRIPTION AND NOTES			ELEV.	DEPTHS		SPT RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				ODOT CLASS (GI)	INST.
CLAYSTONE, pinkish gray, severely weathered to highly weathered weak @ 32.5'-33.0', qu=462psi.			706.8																	

NOTES: SEEPAGE AT 13.5 FEET TO 25.5 FEET; WATER LEVEL PRIOR TO ADDING WATER = 17.3 FEET; FINAL WATER LEVEL = 11.8 FEET												
ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH BENTONITE CHIPS												

PROJECT: CUTLER LAKE RD		DRILLING FIRM / OPERATOR: DLZ / K. CONRAD		DRILL RIG: CME 75 TRUCK		STATION / OFFSET:		EXPLORATION ID B-2												
TYPE: BRIDGE REPLACEMENT		SAMPLING FIRM / LOGGER: DLZ / S. LARIMER		HAMMER: CME AUTOMATIC		ALIGNMENT:														
PID: BR ID: SFN 6032148		DRILLING METHOD: 3.25" HSA / NQ2		CALIBRATION DATE: 1/7/10		ELEVATION: 734.6 (MSL) EOB: 25.9 ft.		PAGE 1 OF 1												
START: 3/5/12 END: 3/5/12		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 79		LAT / LONG: Not Recorded														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)	ATTERBERG	ODOT CLASS (SH)	INST.								
Asphalt Concrete Pavement - 11", Cinders, slag, and gravel - 7"		734.6																		
FILL: Stiff brown SILT AND CLAY (A-6a), some gravel, some fine to coarse sand; contains cinders, slag, and shale fragments; damp.		733.1	1																	
FILL: Loose brown GRAVEL WITH SAND (A-1-b), some fine to coarse sand, little silty clay; moist.		731.6	2	9	3	7	67	SS-1	1.25	-	-	-	A-6a (V)							
POSSIBLE FILL: Soft brown SANDY SILT (A-4a), little gravel, trace clay; moist.		730.1	3	2	2	4	28	SS-2	-	-	-	-	A-1-b (V)							
Soft brown SANDY SILT (A-4a), trace to little clay; moist.		728.6	4	2	1															
		727.1	5	WOH	3	28	SS-3	0.25	-	-	-	-	A-4a (V)							
			6	WOH	0	100	SS-4	0.25	-	-	-	-	A-4a (V)							
Soft brown SILT (A-4b), little fine to coarse sand, some clay; moist.			7	WOH	2	7	100	SS-5	0.25	-	-	-	A-4b (V)							
@ 9.0'-10.5', Very Stiff.			8	WOH	3	9	100	SS-6	1.75	0	2	13	59	26	28	19	9	-	A-4b (8)	
Medium dense brown SANDY SILT (A-4a), "and" fine to coarse sand, trace gravel; moist.		724.1	9	3	4														A-4b (2)	
SANDSTONE, bluish gray, severely weathered, very weak, friable, micaceous.		722.6	10	12	17	38	89	SS-7	-	10	13	33	-	44	-	NP	NP	NP	-	A-4a (2)
			11	9	4	17	100	SS-8	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			12	5	9	30	89	SS-9	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			13	6	14														Rock (V)	
			14	6	14														Rock (V)	
			15	50.4'		80	SS-10	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	
			16																	
			17																	
			18																	
SANDSTONE, bluish gray, moderately weathered, moderately strong, very thick bedded, micaceous, unfractured.		715.6	19																	
@ 21.0'-21.4', qu=4839psi.			20																	
			21																	
			22																	
			23	100		100	NQ-R-1												CORE	
			24																	
		708.7	25																	
			EOB																	

STANDARD ODOT SOIL BORING LOG (B.S. X 11): Cutler Lake Rd - 4101214-38

NOTES: SEE PAGE AT 12.7 FEET: WATER LEVEL PRIOR TO ADDING WATER = N/A; FINAL WATER LEVEL = 3.3 FEET

ABANDONMENT METHODS, MATERIALS, QUANTITIES: MIXED WITH BENTONITE CHIPS

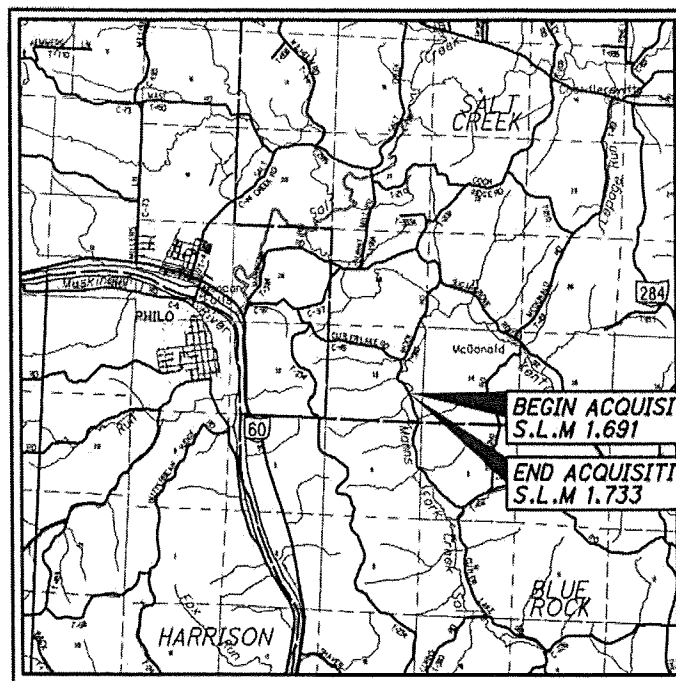
NOTES: SEEPAGE AT 12.7 FEET; WATER LEVEL PRIOR TO ADDING WATER = N/A; FINAL WATER LEVEL = 3.3 FEET
ABANDONMENT METHODS, MATERIALS, QUANTITIES: MIXED WITH BENTONITE CHIPS

NOTE

ELEVATIONS IN BORING LOGS ARE FOR REFERENCE ONLY
AND DO NOT MATCH VERTICAL DATUM USED FOR THIS PROJECT.

STANDARD ODOT SOIL BORING LOG (R.5 X 11) - Cutler Lake Rd - 4/10/12 14:38

STANDARD ODOT SOIL BORING LOG (R.5 X 11) - Cutler Lake Rd - 4/10/12 14:38



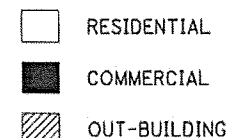
LOCATION MAP

LATITUDE: N 39°31'14" LONGITUDE: W 81°52'04"

UTILITY OWNERS	
TYPE	NAME & ADDRESS
PHONE	AT&T (SBC) 160 N 6TH STREET ZANESVILLE, OH 43701 (740) 454-0748 ATTN: JEANINE YOUNG
ELECTRIC	AMERICAN ELECTRIC POWER CO. 850 TECH CENTER DRIVE GAHANNA, OHIO 43230 (614) 883-6831 ATTN: PAUL PAXTON

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

STRUCTURE KEY



LEGEND

SH = STANDARD HIGHWAY EASEMENT

CONVENTIONAL SYMBOLS

County Line	Ditch / Creek (Ex)
Township Line	Ditch / Creek (Pr)
Section Line	Tree Line (Ex)
Corporation Line	Ownership Hook Symbol Z, Example
Fence Line (Ex)	Property Line Symbol P, Example
Center Line	Break Line Symbol V, Example
Right of Way (Ex)	Tree (Pr) , Tree (Ex) , Shrub (Ex)
Right of Way (Pr)	Tree (Remove) X, Shrub (Remove) X
Standard Highway Ease.(Ex)	Evergreen (Ex) , Stump
Temporary Right of Way	Evergreen (Remove) X, Stump (Remove) X
Channel Ease. (Pr)	Wetland (Pr) , Grass (Pr) , Aerial Target
Utility Ease. (Ex)	Post (Ex) O, Mailbox (Ex) M, Mailbox (Pr)
Railroad	Light (Ex) , Telephone Marker (Ex) TEL
Guardrail (Ex)	Fire Hydrant (Ex) , Water Meter (Ex)
Construction Limits	Water Valve (Ex) , Utility Valve Unknown (Ex.)
Edge of Pavement (Ex)	Telephone Pole (Ex) , Power Pole (Ex)
Edge of Pavement (Pr)	Light Pole (Ex)
Edge of Shoulder (Ex)	
Edge of Shoulder (Pr)	

RIGHT OF WAY LEGEND SHEET MUS-C.R.45-1.71

MUSKINGUM COUNTY SALT CREEK TOWNSHIP SECTION 33 TOWNSHIP 13N RANGE 12W

INDEX OF SHEETS:

LEGEND SHEET	1
PROPERTY MAP	2
SUMMARY OF ADDITION R/W	3
R/W TOPOGRAPHIC SHEET	4
R/W BOUNDARY SHEET	5

PROJECT DESCRIPTION

IMPROVEMENT OF 0.05 MILE OF C.R.45 IN SALT CREEK TOWNSHIP, BY REPLACING A SINGLE SPAN STEEL BEAM BRIDGE OVER THE MANN'S FORK SALT CREEK WITH A STEEL BEAM BRIDGE INCLUDING APPROACH SLABS, GUARDRAIL, AND MINIMAL APPROACH WORK.

PROJECT CONTROL

NORTH AMERICAN VERTICAL DATUM (NAVD 88) AND NAD 83 (2007) STATE PLANE GRID COORDINATES, OHIO SOUTH ZONE.

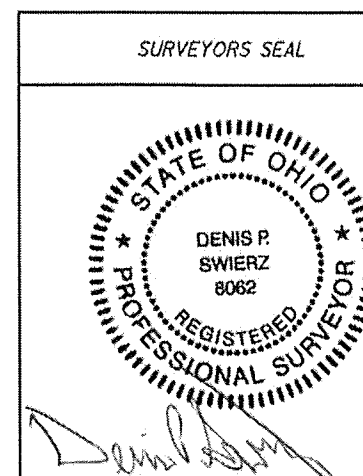
PLANS PREPARED BY:

FIRM NAME : MUSKINGUM COUNTY ENGINEER'S OFFICE
R/W DESIGNER: SHAWN E. JOHNSON
R/W REVIEWER: DENIS P. SWIERZ
FIELD REVIEWER: DENIS P. SWIERZ
OWNERSHIP VERIFIED BY: DENIS P. SWIERZ
PLAN COMPLETION DATE: 8/13/14

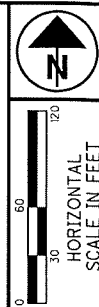
I, Denis P. Swierz, P. S. have conducted a survey of the existing conditions for the Muskingum County Engineer's Office on January 30, 2012. The results of that survey are contained herein. Underground utility locations are shown for informational purposes only. Though they are believed to be accurate, their location is as marked on the ground by the utility company per OUPS and OGPUPS Confirmation Number A134000620 and those markings subsequently being surveyed as a part of this project. As a part of this project I have reestablished the locations of the existing property lines and the centerline of existing right of way for property takes contained herein. As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work, I have set, or will set, right of way monuments at property corners, property line intersections, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with the Ohio Administrative Code Chapter 4733-37 Standards for Boundary Surveys unless so noted. The words "I" and "my" as used herein are to mean that myself or someone working under my direct supervision.

Denis P. Swierz, P.S. 8062

8/14/14
Date



MUSKINGUM COUNTY
SALT CREEK TOWNSHIP
SECTION 33 TOWNSHIP 13N RANGE 12W



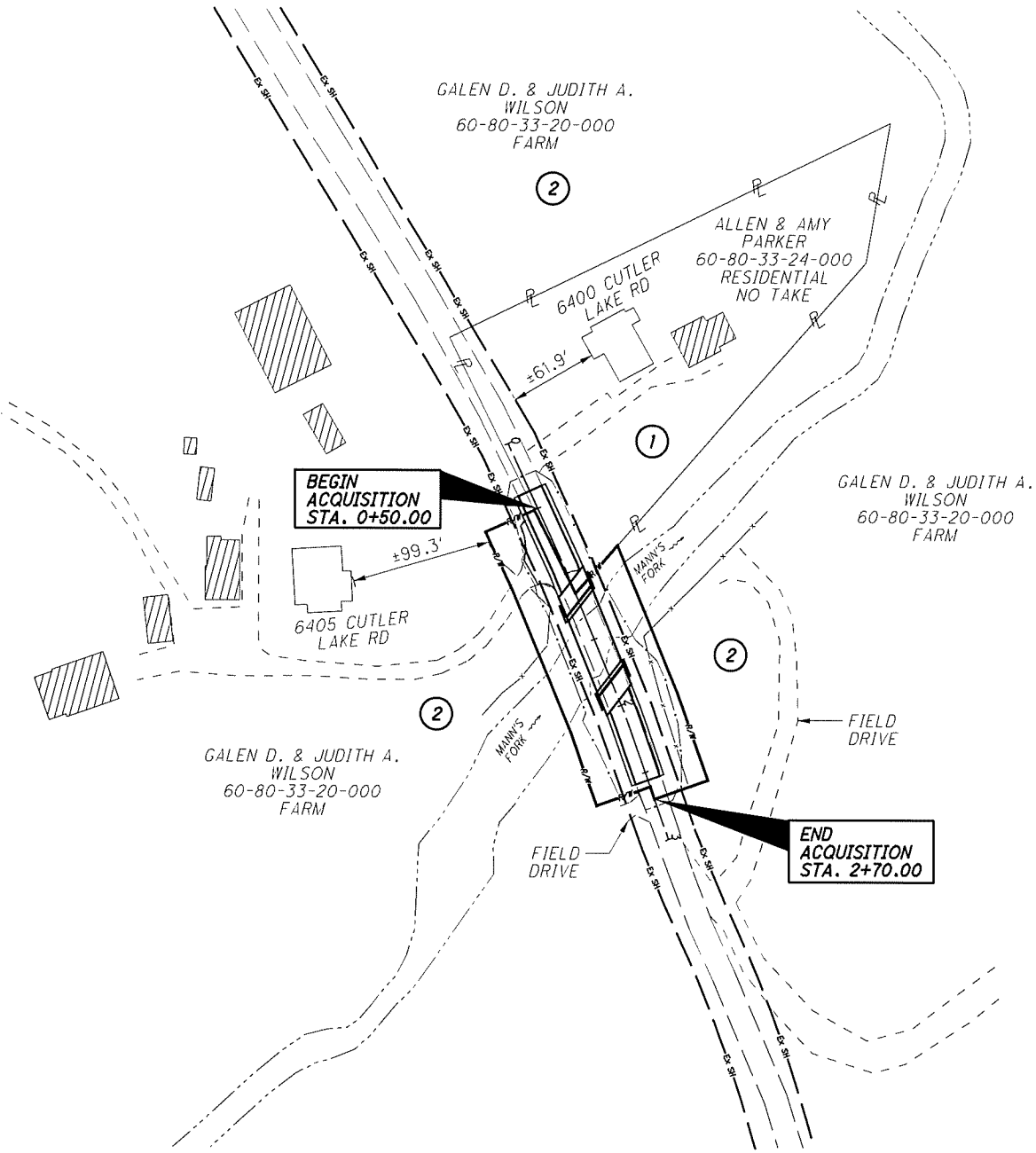
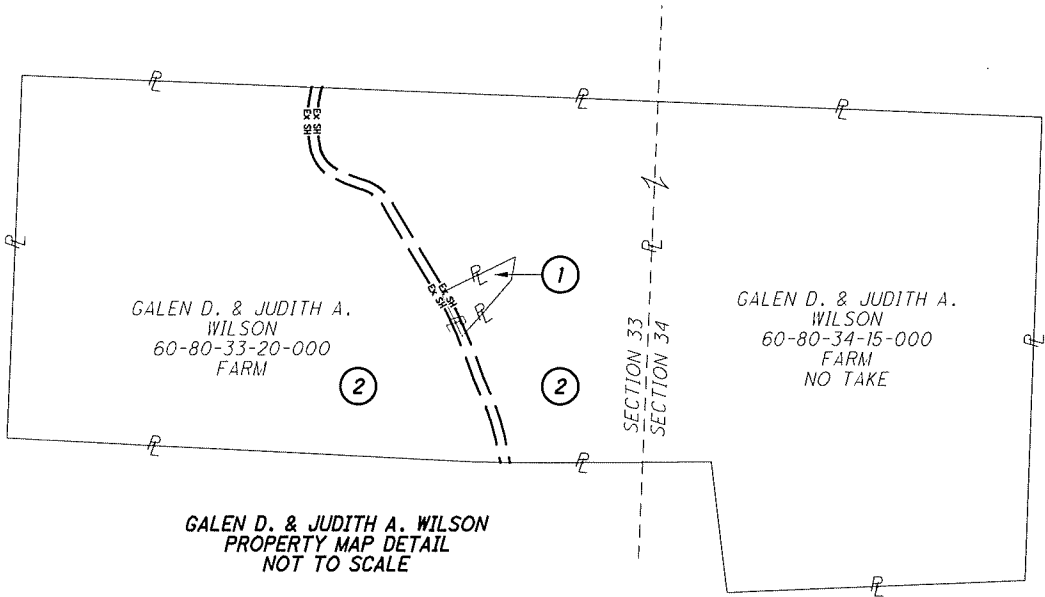
PTD NO. 87216
R/W DESIGNER SEJ
R/W REVIEWER DPS

PROPERTY MAP

MUS-C.R.45-1.71
2 / 5
24
27

OWNERSHIP NAME AND NUMBER

- 1 ALLEN & AMY PARKER
DR 1565/995
- 2 GALEN D. & JUDITH A. WILSON
DR 593/299



REV. BY	DATE	DESCRIPTION
	8/13/14	

1 OWNERSHIPS 0 TOTAL TAKES
2 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

ALL AREAS IN ACRES

R/W DESIGNER	STATE JOB NO.	PID NO.	FEDERAL PROJECT NO.
SEJ	457426	87216	E091 (142)
R/W REVIEWER			
DPS			

**SUMMARY OF ADDITIONAL
RIGHT OF WAY (PARCELS 1-2)**

MUS-C.R.45-1.71

3/5

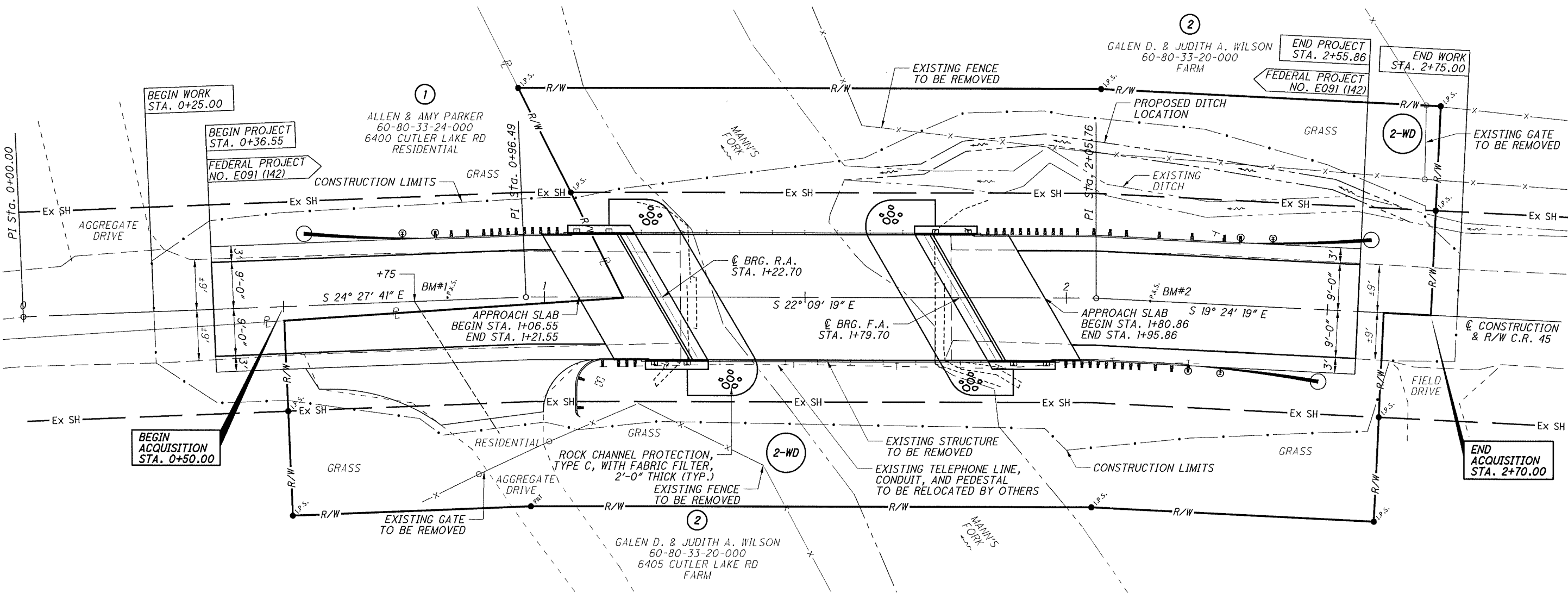
$$\frac{25}{27}$$

REV. BY	DATE	DESCRIPTION
DATE COMPLETED 8/13/14		

MUSKINGUM COUNTY
SALT CREEK TOWNSHIP
SECTION 33 TOWNSHIP 13N RANGE 12W

OWNERSHIP NAME AND NUMBER

- ① ALLEN & AMY PARKER
DR 1565/995
- ② GALEN D. & JUDITH A. WILSON
DR 593/299



MONUMENT LEGEND

□	EXISTING R/W MONUMENT BOX
■	PROPOSED R/W MONUMENT BOX
⊙	EXISTING CONCRETE MONUMENT
●	PROPOSED CONCRETE MONUMENT
✕	RAILROAD SPIKE FOUND
✕	RAILROAD SPIKE SET
○ I.P.F.	IRON PIN FOUND
⊙ I.P.F.	IRON PIN FOUND W/ ID CAP
● I.P.S.	IRON PIN SET W/ ID CAP
⊙ R.F.	IRON PIPE FOUND
⊙ R.S.	IRON PIPE SET
○ R.V.F.	P.K. NAIL FOUND
● R.V.S.	P.K. NAIL SET
● PNT	POINT

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN ARE BASED ON NAD 83,
OHIO SOUTH ZONE, STATE PLANE COORDINATES
AS PER GPS OBSERVATIONS FROM MUSKINGUM
COUNTY ENGINEER GPS MONUMENT - GPS 19

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED
FROM INFORMATION FROM THE MUSKINGUM COUNTY ENGINEER'S
OFFICE.

SEJ	12/16/14	MODIFIED FENCE & GATE NEAR STA. 2+67 LT
REV. BY	DATE	DESCRIPTION
DATE COMPLETED	8/13/14	

PID NO. 87216

R/W DESIGNER SEJ

R/W REVIEWER DPS

RIGHT OF WAY TOPO SHEET

MUS-C.R.45-1.71

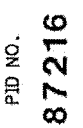
4 / 5

26
27

MUSKINGUM COUNTY
SALT CREEK TOWNSHIP

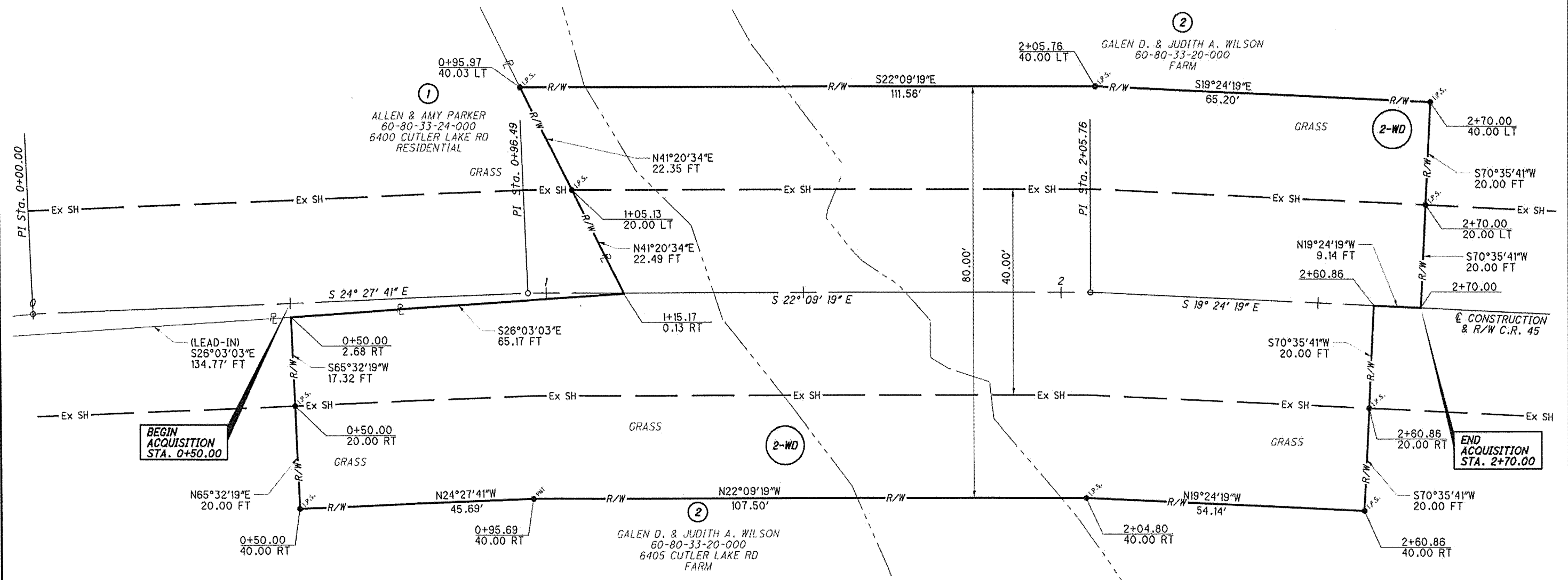
① ALLEN & AMY PARKER
DR 1565/995

② GALEN D. & JUDITH A. WILSON
DR 593/299



RIGHT OF WAY BOUNDARY SHEET

Б	Б
---	---

$$\frac{27}{27}$$


**BEGIN
ACQUISITION
STA. 0+50.00**

END
ACQUISITION
STA. 2+70.00

DESCRIPTION
APPROVED
By: [Signature] 3/5/2014

ALL BEARINGS SHOWN ARE BASED ON NAD 83,
OHIO SOUTH ZONE, STATE PLANE COORDINATES
AS PER GPS OBSERVATIONS FROM MUSKINGUM
COUNTY ENGINEER GPS MONUMENT - GPS 19

REV. BY	DATE	DESCRIPTION
DATE COMPLETED	8/13/14	

- ### MONUMENT LEGEND
- | | |
|----------|----------------------------|
| ☐ | EXISTING R/W MONUMENT BOX |
| ▣ | PROPOSED R/W MONUMENT BOX |
| ⊙ | EXISTING CONCRETE MONUMENT |
| ● | PROPOSED CONCRETE MONUMENT |
| ✕ | RAILROAD SPIKE FOUND |
| ✕ | RAILROAD SPIKE SET |
| ○ P.K.F. | IRON PIN FOUND |
| ⊙ I.P.F. | IRON PIN FOUND W/ ID CAP |
| ● I.P.S. | IRON PIN SET W/ ID CAP |
| ⊙ P.F. | IRON PIPE FOUND |
| ⊙ P.S. | IRON PIPE SET |
| ✕ P.K.F. | P.K. NAIL FOUND |
| ✕ P.S. | P.K. NAIL SET |
| ● P.N. | POINT |

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED FROM INFORMATION FROM THE MUSKINGUM COUNTY ENGINEER'S OFFICE.

LEAD-IN COURSES
NOT TO SCALE