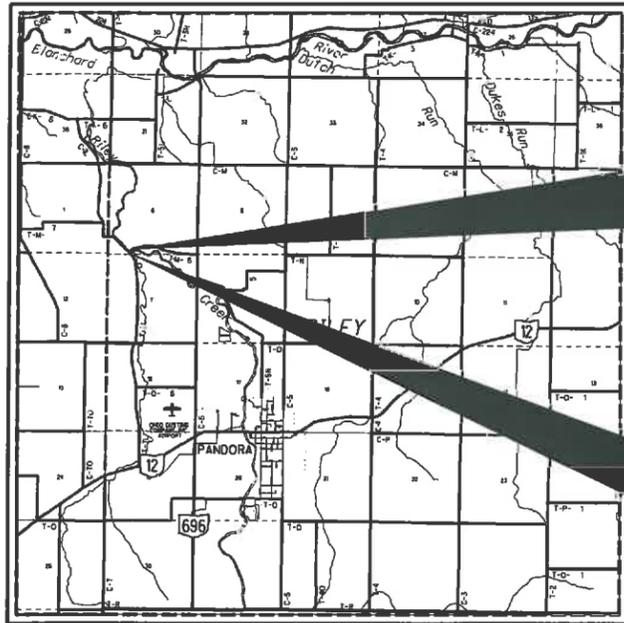


PUTNAM COUNTY, OHIO
OFFICE OF THE COUNTY ENGINEER

PUT-TR M-6-5.75

BRIDGE REHABILITATION OVER RILEY CREEK RILEY TOWNSHIP



LOCATION MAP

LATITUDE: 40°58'42" N LONGITUDE: 83°59'27" W

SCALE IN MILES



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	—————
FEDERAL ROUTES	—————
STATE ROUTES	—————
COUNTY & TOWNSHIP ROADS	—————
OTHER ROADS	—————

DESIGN DESIGNATION

CURRENT ADT (2016)	90
DESIGN YEAR ADT (2036)	100
DESIGN SPEED	55
LEGAL SPEED	55
DESIGN FUNCTIONAL CLASSIFICATION:	
RURAL LOCAL	
NHS PROJECT	NO

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NO
BRIDGE WIDTH	9-06-16	22/34
STRUCTURE CAPACITY	9-06-16	13/34

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig
1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

KOHLI & KALHER ASSOCIATES, INC.
ENGINEERS AND SURVEYORS
2244 Balon Rouge Ave., Lima, Ohio 45805 419-227-1135

ENGINEERS SEAL:

SIGNED: *Daniel G. Bucher*
DATE: 9-28-2016

INDEX OF SHEETS:

TITLE SHEET	1
HORIZONTAL & VERTICAL CONTROL	2
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GENERAL NOTES	4
GENERAL SUMMARY	5
SUBSUMMARIES	6
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TRAFFIC CONTROL	11
STRUCTURE OVER 20' (PUT-M6-0575)	12-34, 34A

PROJECT DESCRIPTION

REHABILITATION OF A BOW STRING TRUSS BRIDGE OVER RILEY CREEK INCLUDING DISASSEMBLY, GALVANIZING, AND REERECTION OF THE TRUSS, ABUTMENT REPAIRS, AND RECONSTRUCTION OF THE APPROACH ROADWAY.

TOTAL PROJECT LENGTH = 195.22 FT
TOTAL WORK LENGTH = 310 FT

PROJECT EARTH DISTURBED AREA: 0.31 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.13 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

2016 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.

APPROVED: *Michael L. Linhart*
DATE 10-27-16 PUTNAM COUNTY ENGINEER

APPROVED: *Monica T. Schroeder*
DATE 10-27-16 PUTNAM COUNTY COMMISSIONER

APPROVED: *John E. Linn*
DATE 10-27-16 PUTNAM COUNTY COMMISSIONER

APPROVED: _____
DATE _____ PUTNAM COUNTY COMMISSIONER

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	7/18/14	TC-41.20	10/18/13		
DM-1.1	1/15/16	DS-1-92	7/18/03	800-10-21-16	
MGS-1.1	7/19/13	TC-41.30	10/18/13	832	1/17/14
DM-4.3	1/15/16	TST-1-99	7/15/16		
MGS-2.1	7/19/13	TC-42.20	10/18/13		
DM-4.4	1/15/16				
MGS-3.1	7/18/14	TC-52.10	10/18/13		
MGS-4.2	7/19/13	TC-52.20	7/15/16		
		MT-101.60	7/19/13		
		MT-105.10	7/19/13		

FEDERAL PROJECT NO.
E150-(039)

PID NO.
98795

CONSTRUCTION PROJECT NO.
1

RAILROAD INVOLVEMENT
NONE

PUT-TR M-6-5.75

1
34

SITE BENCH MARK DESCRIPTION
 ELEVATION = 736.97 (NAVD 88)
 CHISELED CROSS IN NORTHEAST CORNER OF
 CATCH BASIN LOCATED ABOUT 85 FEET
 NORTHWEST OF THE INTERSECTION OF THE
 CENTERLINES OF TOWNSHIP ROAD M-6 AND
 TOWNSHIP ROAD 7-L ON THE SOUTHWEST
 SIDE OF TOWNSHIP ROAD 7-L.

CURVE DATA
CURVE #1

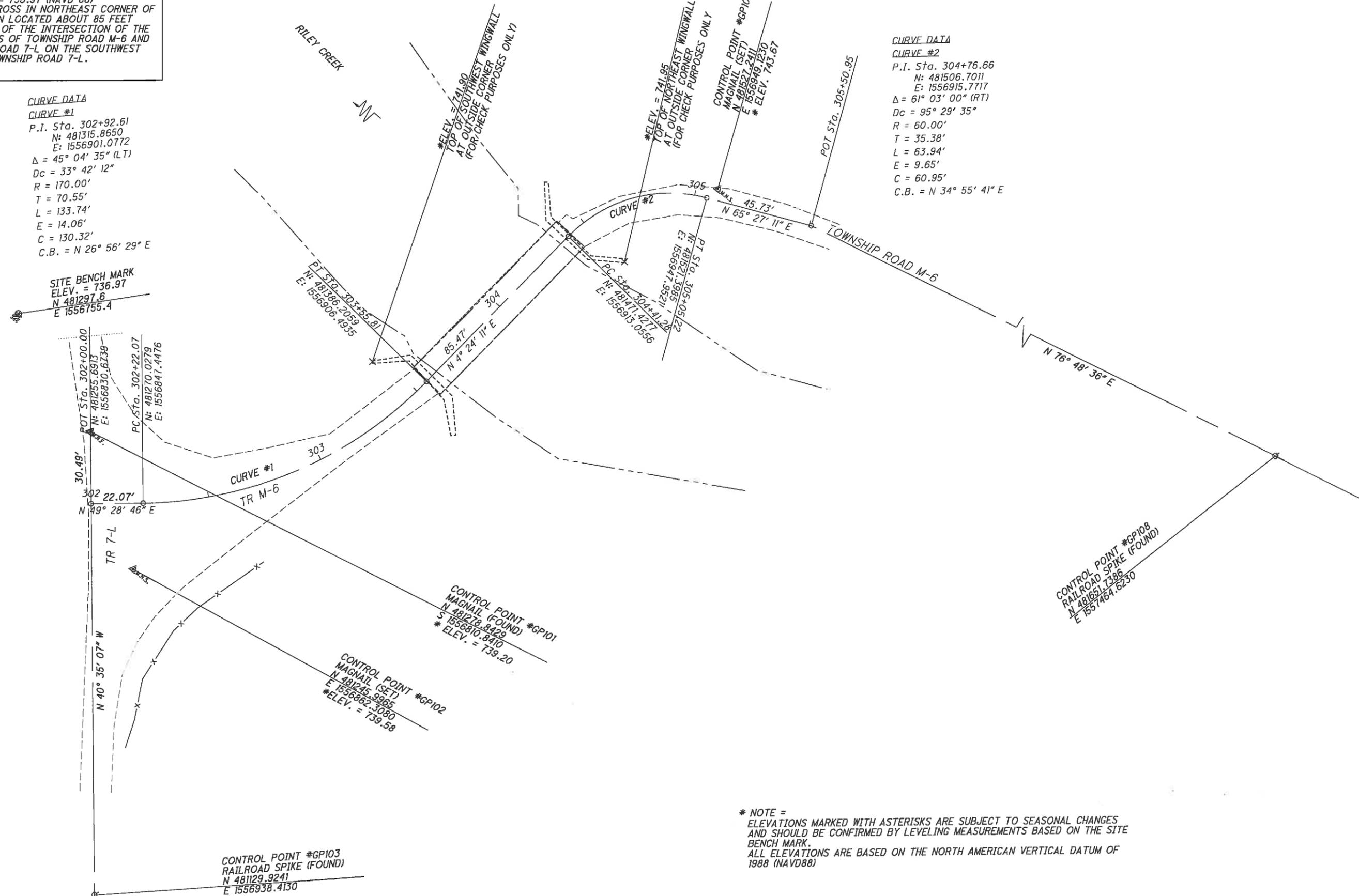
P.I. Sta. 302+92.61
 N: 481315.8650
 E: 1556901.0772
 $\Delta = 45^\circ 04' 35''$ (LT)
 $D_c = 33^\circ 42' 12''$
 $R = 170.00'$
 $T = 70.55'$
 $L = 133.74'$
 $E = 14.06'$
 $C = 130.32'$
 C.B. = $N 26^\circ 56' 29'' E$

SITE BENCH MARK
 ELEV. = 736.97
 N 481297.6
 E 1556755.4

CURVE DATA
CURVE #2

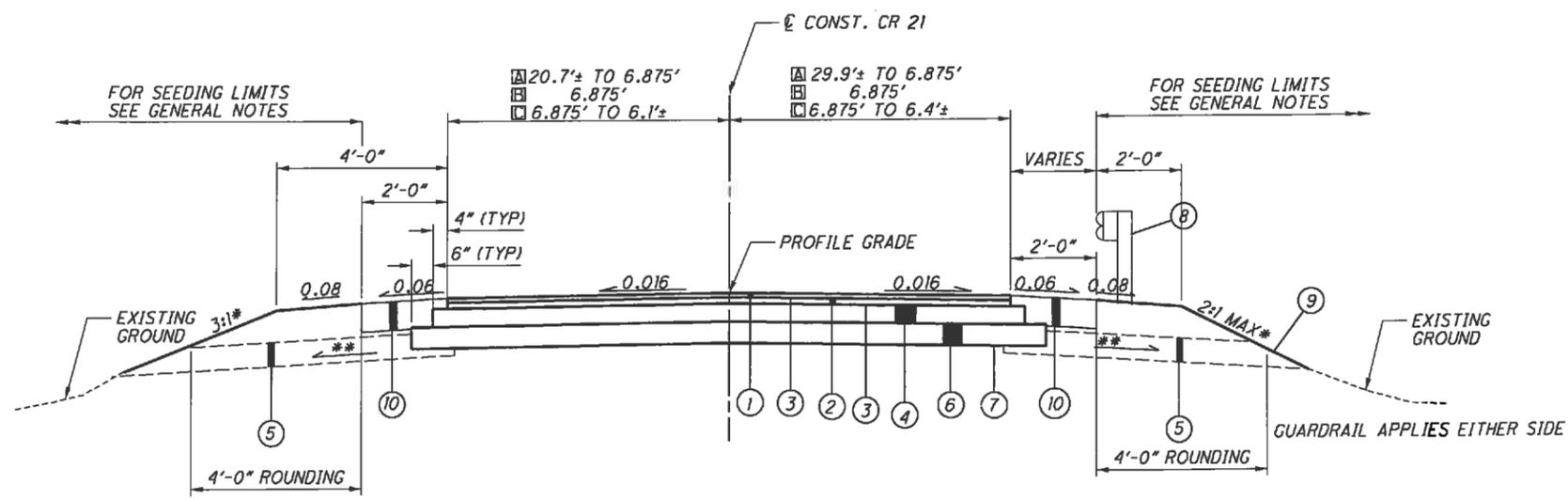
P.I. Sta. 304+76.66
 N: 481506.7011
 E: 1556915.7717
 $\Delta = 61^\circ 03' 00''$ (RT)
 $D_c = 95^\circ 29' 35''$
 $R = 60.00'$
 $T = 35.38'$
 $L = 63.94'$
 $E = 9.65'$
 $C = 60.95'$
 C.B. = $N 34^\circ 55' 41'' E$

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* NOTE =
 ELEVATIONS MARKED WITH ASTERISKS ARE SUBJECT TO SEASONAL CHANGES
 AND SHOULD BE CONFIRMED BY LEVELING MEASUREMENTS BASED ON THE SITE
 BENCH MARK.
 ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF
 1988 (NAVD88)

HORIZONTAL SCALE IN FEET	
CALCULATED	BLS
CHECKED	MGB
HORIZONTAL & VERTICAL CONTROL	
PUT - TR M-6-5.75	
2 34	



NORMAL SECTION "A"

APPLIES FROM:
 [A] STA. 302+45.00 TO STA. 303+10.00 = 65.00 FT
 [B] STA. 303+10.00 TO STA. 305+05.22 = 195.22 FT
 [C] STA. 305+05.22 TO STA. 305+25.00 = 19.78 FT

DEDUCT FOR STRUCTURE PUT-M6-0575
 STA. 303+55.93 TO STA. 304+42.23 = -86.30 FT
 193.70 FT

LEGEND

- ① ITEM 441 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ② ITEM 441 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ③ ITEM 407 TACK COAT, APPLIED AT 0.055 GAL. PER S.Y.
- ④ ITEM 301 5" ASPHALT CONCRETE BASE, PG64-22
- ⑤ ITEM 605 AGGREGATE DRAINS
- ⑥ ITEM 304 6" AGGREGATE BASE
- ⑦ ITEM 204 SUBGRADE COMPACTION
- ⑧ ITEM 606 GUARDRAIL, TYPE MGS WITH LONG POSTS
- ⑨ ITEM 659 SEEDING AND MULCHING (SEE GENERAL NOTES)
- ⑩ ITEM 304 8" AGGREGATE BASE

* UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

** 0.08 DESIRABLE, 0.04 MINIMUM.

ITEM 605 - AGGREGATE DRAINS		
C.L. STATION	SIDE	LENGTH (FT)
302+60	RT	16
302+85	LT	13
303+10	RT	11
303+35	LT	10
304+60	LT	13
304+85	RT	11
305+10	LT	11
TOTAL:		85

ROUNDING: THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES 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:

ELECTRIC:

AEP
538 S. POPLAR ST.
FOSTORIA, OH 44830-3048

TELEPHONE:

FAIRPOINT COMMUNICATION
22 CHERRY ST
LEIPSI, OHIO 45856
(419)437-6111

THE LOCATIONS 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: NAVD 88

CONSTRUCTION LIMITS: THE CONSTRUCTION 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. TREES ARE TO BE REMOVED TO THE TOP OF THE GROUND ELEVATION AND THE STUMPS ARE TO BE REMOVED TO 6" BELOW GROUND. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"		4	4
30"		3	3

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.

CONTINGENCY QUANTITIES: THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 605 - AGGREGATE DRAINS: FOR LOCATIONS OF AGGREGATE DRAINS, SEE SHEET NO. 3/34.

ITEM 204 - PROOF ROLLING: THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING AS DIRECTED BY THE ENGINEER.

ITEM 204 - PROOF ROLLING 2 HOUR

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

ITEM 659 - TOPSOIL	59 CU YD
ITEM 659 - SEEDING AND MULCHING	529 SQ YD
ITEM 659 - REPAIR SEEDING AND MULCHING	26 SQ YD
ITEM 659 - COMMERCIAL FERTILIZER	0.07 TON
ITEM 659 - LIME	0.11 ACRE
ITEM 659 - WATER	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.

ENVIRONMENTAL COMMITMENTS: THE CONTRACTOR AND ENGINEER ARE TO ENSURE THAT THE FOLLOWING CONSTRUCTION-RELATED ITEMS ARE CARRIED OUT:

- NO WORK WILL BE PERFORMED BELOW THE ORDINARY HIGH WATER MARK OF RILEY CREEK.
- ASPHALT DECK MATERIAL SHALL BE REMOVED BEFORE ANY PORTION OF THE BRIDGE IS REMOVED. EVERY EFFORT SHALL BE MADE TO KEEP DECK MATERIAL AND OTHER DEBRIS OUT OF THE RIVER DURING REMOVAL. APPROPRIATE FALSEWORK OR APRONS SHOULD BE EMPLOYED DURING DECK REMOVAL TO PREVENT DEBRIS FROM ENTERING THE WATER. IF ANY MATERIAL FALLS INTO THE WATER, IT SHALL BE REMOVED IMMEDIATELY. ALL DEBRIS, EXCESS FILL MATERIAL AND MATERIAL USED IN WORK PLATFORMS SHALL BE DISPOSED OF AT AN APPROVED UPLAND SITE (ABOVE 100 YEAR FLOOD ELEVATIONS). DISPOSAL IN WETLANDS OR FLOODPLAINS IS PROHIBITED.
- THE BRIDGE REHABILITATION WORK WILL FOLLOW THE SECRETARY OF INTERIOR'S STANDARDS FOR REHABILITATION OF HISTORIC PROPERTIES; ODOT'S HISTORIC BRIDGE MAINTENANCE AND PRESERVATION GUIDEBOOK; AND WILL PRESERVE THE CHARACTER DEFINING, ORIGINAL DESIGN ELEMENTS, AND MATERIALS OF THE HISTORIC MALLAHAM BRIDGE (SFN: 6932509).
- NO WORK OR STAGING OF EQUIPMENT OR MATERIALS WILL OCCUR WITHIN A STREAM, DITCH OR WETLAND.
- THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. PRIOR TO ANY BRIDGE REHABILITATION/REMOVAL, THE UNDERSIDE OF THE BRIDGE SHOULD 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 THE BRIDGE STRUCTURE, DO NOT REMOVE THE BATS AND DO NOT CONTINUE CONSTRUCTION ACTIVITIES THAT WOULD DISTURB THE BATS. CONTACT THE ODOT DISTRICT I ENVIRONMENTAL COORDINATOR (419-999-6888 OR BRITTANY.BIANCO@DOT.OHIO.GOV) IMMEDIATELY FOR FURTHER INSTRUCTION.
- TO PREVENT ANY KIND OF CONTAMINATION TO RILEY CREEK, PLEASE KEEP AN OIL SPILL KIT WITHIN 150 FEET OF ANY EQUIPMENT WORKING NEAR CREEK. CONTENTS OF THE OIL SPILL KIT ARE DETAILED BELOW:
-6- 3IN. X 8 FT. OIL ONLY SOCKS
-4- 18IN. X 18 IN. OIL ONLY PILLOWS
-2- 5 IN. X 10 FT. BOOMS
-50- 16 IN. X 20 IN. OIL ONLY PADS
-10- DISPOSABLE BAGS
-1- 65 GALLON DRUM WITH LID
-25 LBS OF GRANULAR OIL ABSORBENT
- THIS PROJECT IS WITHIN THE OTTAWA CORRIDOR MANAGEMENT ZONE WHICH IS A DRINKING WATER SUPPLY AND SOURCE WATER PROTECTION AREA. IN ORDER TO MINIMIZE THE POTENTIAL FOR A SPILL IN THIS SENSITIVE AREA, PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL BE CONDUCTED IN AN ENVIRONMENTALLY RESPONSIBLE MANNER. THE CONTRACTOR SHALL UTILIZE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS SHALL NOT BE STORED NEAR ANY DRAINAGE WAYS, DITCHES, OR STREAMS. A SPILL KIT IS TO BE MAINTAINED ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO THE PUTNAM COUNTY EMERGENCY MANAGEMENT AGENCY AT (419)227-3535.

8. AN ASBESTOS SURVEY OF THE PUT-M6-5.75, SCHEDULED FOR REHABILITATION, WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED ASBESTOS IS NOT PRESENT ON THE STRUCTURE. A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL COMPLETE SECTION V AND VII-XVIII OF THE FORMS AND SUBMIT THEM TO:

OHIO EPA, NWDO
347 N. DUNBRIDGE ROAD
BOWLING GREEN, OH 43402
MARK BUDGE, APC MANAGER
(419) 352-8461
FAX: (419) 352-8468
AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORMS TO THE ENGINEER. THE COST OF ANY FEES, LABOR, AND MATERIALS NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION OF DEMOLITION AND RENOVATION FORMS SHALL BE INCLUSIVE TO THE ASSOCIATED DEMOLITION AND REMOVAL BID ITEM.

SPECIAL REQUIREMENTS FOR PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS: THE CONTRACTOR SHALL AVOID DISTURBANCE OF ANY ENVIRONMENTALLY SENSITIVE AREAS IDENTIFIED BY ODOT DURING THE DEVELOPMENT OF THIS PROJECT. IN ACCORDANCE WITH SECTION 102.05 OF THE CONSTRUCTION MATERIALS & SPECIFICATIONS, DOCUMENTS IDENTIFYING THE LOCATIONS OF THESE AREAS ARE AVAILABLE FOR VIEWING AT THE ODOT DISTRICT ONE OFFICE. FAILURE TO REVIEW THESE DOCUMENTS WILL BE A BAR TO ANY ADDITIONALLY SOUGHT COMPENSATION OR DAMAGES FOR WORK PERFORMED OR DAMAGES INCURRED BY THE CONTRACTOR RELATED TO THESE ENVIRONMENTALLY SENSITIVE AREAS. ENVIRONMENTALLY SENSITIVE AREAS WITHIN THE RIGHT OF WAY AS WELL AS THOSE IN CLOSE PROXIMITY OF THE RIGHT OF WAY ARE SHOWN ON THE PLAN AND PROFILE (SHEET 7) AND THE SITE PLAN (SHEET 12). THE AREAS SHOWN ON THESE SHEETS DO NOT REPRESENT ALL OF THE ENVIRONMENTALLY SENSITIVE AREAS IDENTIFIED DURING PROJECT DEVELOPMENT.

OHIO EPA, NWDO
347 N. DUNBRIDGE ROAD
BOWLING GREEN, OH 43402
MARK BUDGE, APC MANAGER
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PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THE AWARDED CONTRACTOR SHALL PLACE TEMPORARY PROTECTIVE FENCING ALONG THE PERIMETER OF ALL ENVIRONMENTALLY SENSITIVE AREAS LOCATED WITHIN THE RIGHT OF WAY AND ALONG THE RIGHT OF WAY OF AREAS LOCATED DIRECTLY OUTSIDE OF THE RIGHT OF WAY. SEE SHEET 7 FOR LOCATIONS.

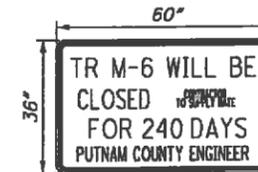
INCLUDED IN THE GENERAL SUMMARY IS A QUANTITY FOR ITEM 607, FENCE, MISC.: CONSTRUCTION PROTECTIVE FENCING WHICH SHALL INCLUDE ALL COSTS ASSOCIATED WITH IDENTIFYING THE ENVIRONMENTALLY SENSITIVE AREAS IN THE FIELD AND PROVIDING, ERECTING AND SUBSEQUENTLY REMOVING THE FENCING AS REQUIRED IN THE PLANS AND PER STANDARD CONSTRUCTION DRAWING DM-4.3.

ITEM 607, FENCE, MISC.: CONSTRUCTION PROTECTIVE FENCING 325 FEET

ITEM 614 - MAINTAINING TRAFFIC:

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST 7 DAYS IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINTS OF CLOSURE.

NOTICE OF CLOSURE SIGN:



W20-H14-60

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" "ROAD CLOSED" SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN STANDARD CONSTRUCTION DRAWING MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

- NEAR "BEGIN WORK" AND "END WORK" STATIONS OF PROJECT

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 FOLLOWS:

- MOVABLE TYPE JUST WEST OF TR M-6 AND RD 8 INTERSECTION

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

DUST CONTROL:

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR MAINTENANCE OF TRAFFIC AND DUST CONTROL:

ITEM 616 1 M GAL WATER

FARM DRAINS: ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM 611 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 611, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 611	6" CONDUIT, TYPE E	25 FT
ITEM 611	6" CONDUIT, TYPE F	25 FT
ITEM 611	8" CONDUIT, TYPE F	25 FT
ITEM 611	12" CONDUIT, TYPE B	25 FT

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ROADWAY SUBSUMMARY

REF NO.	SHEET NO.	STATION TO STATION		606		
				GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1
G1	7	303+12.71, 8.87' LT	303+52.15, 7.40' LT		1	1
G2	7	304+45.82, 7.07' LT	304+76.38, 15.67' LT		1	1
G3	7	303+04.87, 8.95' RT	303+52.69, 6.90' RT	12.5	1	1
G4	7	304+46.90, 8.37' RT	304+91.08, 8.90' RT		1	1
TOTALS CARRIED TO GENERAL SUMMARY				12.5	4	4

TRAFFIC CONTROL SUBSUMMARY

REF NO.	SHEET NO.	STATION TO STATION		SIDE	DESCRIPTION	SIZE	630					642
							GROUND MOUNTED SUPPORT, NO. 3 SUPPORT	SIGN, FLAT SHEET	SIGN POST REFLECTOR	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	EDGE LINE, 4"
S1	11	302+57		RT	PROPOSED ONE LANE BRIDGE SIGN	36"x36"	13	9.00	1			
S2	11	303+00		RT	PROPOSED RIGHT TURN SIGN	30"x30"	14	6.25	1			
					PROPOSED ADVISORY SPEED PLAQUE	18"x18"		2.25				
S3	11	303+46		RT	PROPOSED WEIGHT LIMIT SIGN	24"x30"	13	5.00	1			
					PROPOSED NO COMMERCIAL VEHICLES SIGN	24"x30"		5.00				
S4	11	304+51		LT	PROPOSED WEIGHT LIMIT SIGN	24"x30"	13	5.00	1			
					PROPOSED NO COMMERCIAL VEHICLES SIGN	24"x30"		5.00				
S5	11	304+89		LT	PROPOSED CHEVRON ALIGNMENT, LEFT SIGN	18"x24"	12	3.00	1			
S6	11	305+01		LT	PROPOSED CHEVRON ALIGNMENT, LEFT SIGN	18"x24"	12	3.00	1			
S7	11	305+51		LT	PROPOSED LEFT TURN SIGN	30"x30"	13	6.25	1			
					PROPOSED ADVISORY SPEED PLAQUE	18"x18"		2.25				
S8	11	308+25		LT	PROPOSED LEFT TURN SIDE	30"x30"	13	6.25	1			
					PROPOSED ADVISORY SPEED PLAQUE	18"x18"		2.25				
S9	11	309+74		LT	PROPOSED ONE LANE BRIDGE SIGN	36"x36"	13	9.00	1			
R1	11	303+46		RT	EXISTING BRIDGE WEIGHT LIMIT SIGN					1	1	
					EXISTING NO TRUCKS NO BUSES SIGN					1		
R2	11	304+51		LT	EXISTING BRIDGE WEIGHT LIMIT SIGN					1	1	
					EXISTING NO TRUCKS NO BUSES SIGN					1		
R3	11	305+01		LT	EXISTING CHEVRON ALGINMENT, LEFT SIGN					1	1	
R4	11	309+74		LT	EXISTING ONE LANE BRIDGE SIGN					1	1	
EL-1	11	302+45	305+25	LT	WHITE							0.054
EL-2	11	302+45	305+25	RT	WHITE							0.054
TOTALS CARRIED TO GENERAL SUMMARY							116	69.50	9	6	4	0.11

EROSION CONTROL

ITEM 659 - TOPSOIL

$(529 \text{ SQ YD}) \times (4 \text{ IN}) / (12 \text{ IN/FT}) / (3 \text{ FT/YD}) = 59 \text{ CY}^\Delta$

ITEM 659 - REPAIR SEEDING AND MULCHING

$(529 \text{ SQ YD}) \times (0.05) = 26 \text{ SY}^\Delta$

ITEM 659 - COMMERCIAL FERTILIZER

$(529 \text{ SQ YD}) \times (9 \text{ SQ FT / SQ YD}) \times (30 \text{ POUND / 1000 SQ FT}) \times (1 \text{ TON / 2000 POUND}) = 0.07 \text{ TON}^\Delta$

ITEM 659 - LIME

$(529 \text{ SQ YD}) \times (9 \text{ SQ FT / SQ YD}) \times (1 \text{ ACRE / 43,560 SQ FT}) = 0.11 \text{ ACRE}^\Delta$

ITEM 659 - WATER

$(529 \text{ SQ YD}) \times (9 \text{ SQ FT / SQ YD}) \times (300 \text{ GALLON / 1000 SQ FT}) \times (2 \text{ APPLICATIONS}) * (1 \text{ M GAL / 1000 GALLON}) = 3 \text{ M GAL}^\Delta$

Δ QUANTITIES CARRIED TO SEEDING AND MULCHING NOTE ON SHEET 4/34

CALCULATED
DUK
CHECKED
DGB

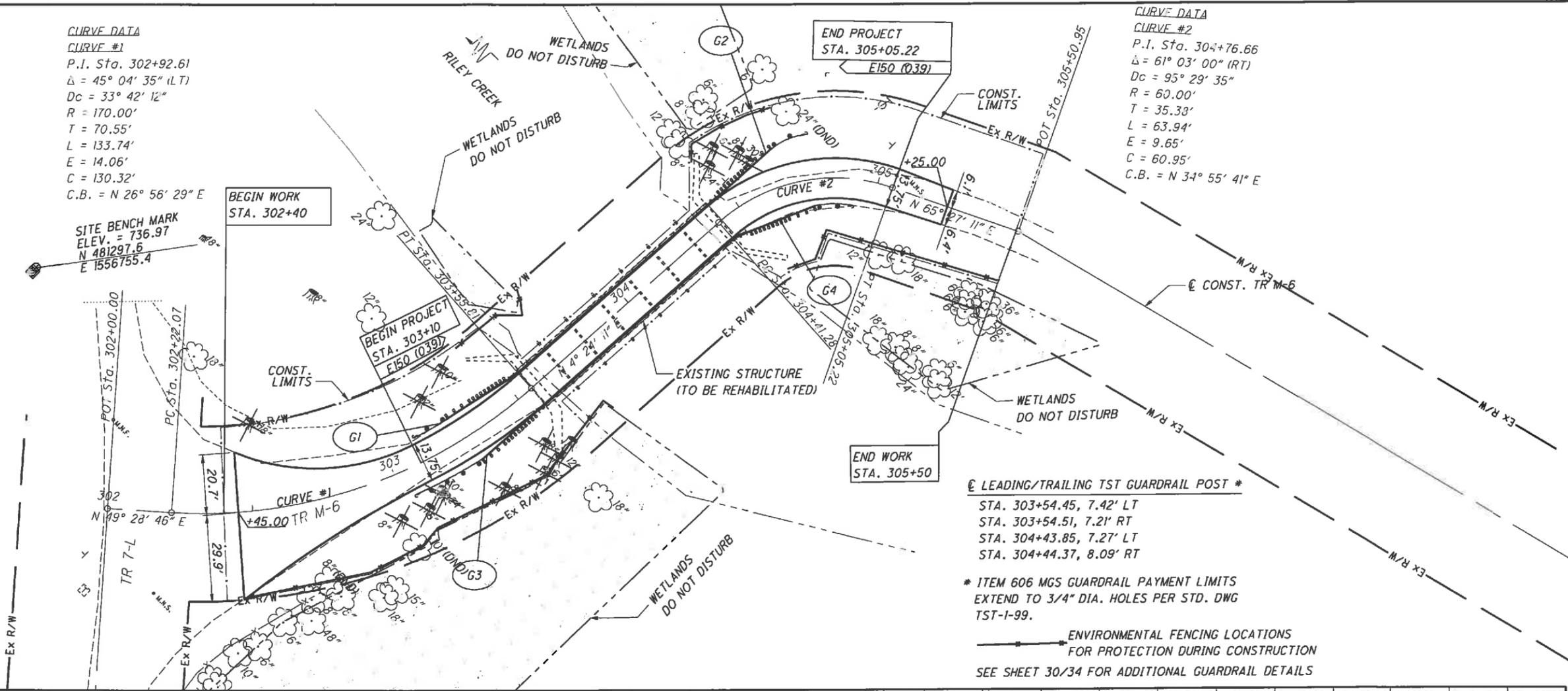
SUBSUMMARIES
ROADWAY, EROSION CONTROL & TRAFFIC CONTROL

PUT-TR M-6-5.75

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CURVE DATA
CURVE #1
 P.I. Sta. 302+92.61
 $\Delta = 45^\circ 04' 35''$ (LT)
 $Dc = 33^\circ 42' 12''$
 $R = 170.00'$
 $T = 70.55'$
 $L = 133.74'$
 $E = 14.06'$
 $C = 130.32'$
 $C.B. = N 26^\circ 56' 29'' E$

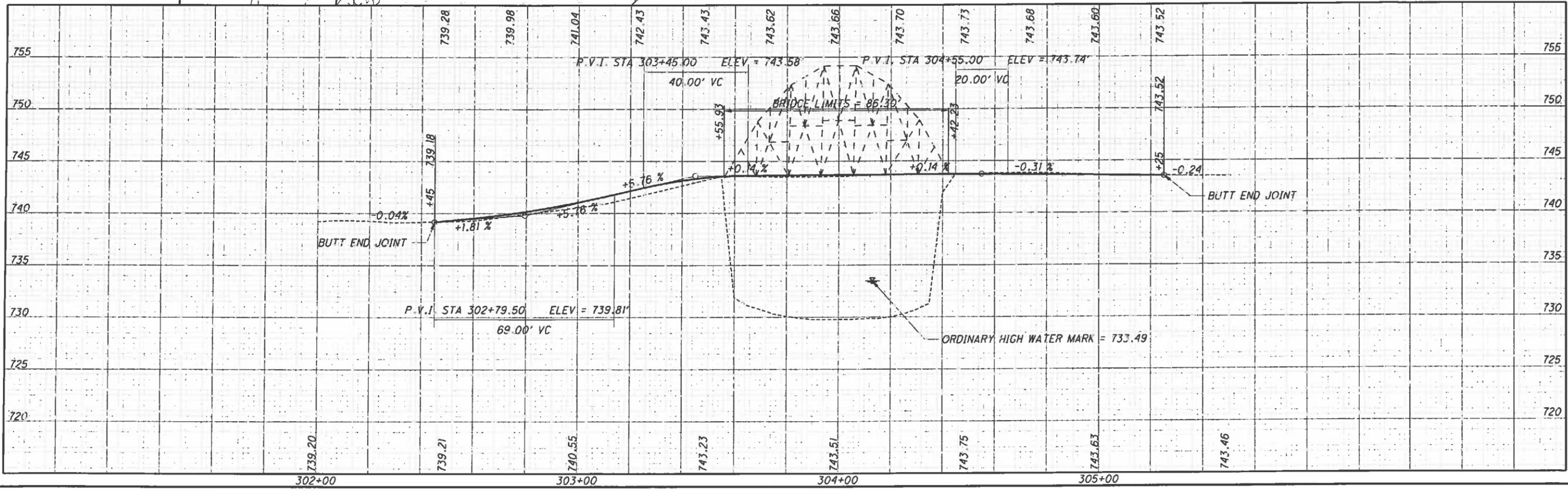
CURVE DATA
CURVE #2
 P.I. Sta. 304+76.66
 $\Delta = 61^\circ 03' 00''$ (RT)
 $Dc = 95^\circ 29' 35''$
 $R = 60.00'$
 $T = 35.39'$
 $L = 63.94'$
 $E = 9.65'$
 $C = 60.95'$
 $C.B. = N 34^\circ 55' 41'' E$



LEADING/TRAILING TST GUARDRAIL POST *
 STA. 303+54.45, 7.42' LT
 STA. 303+54.51, 7.21' RT
 STA. 304+43.85, 7.27' LT
 STA. 304+44.37, 8.09' RT

* ITEM 606 MGS GUARDRAIL PAYMENT LIMITS
 EXTEND TO 3/4" DIA. HOLES PER STD. DWG
 TST-1-99.

ENVIRONMENTAL FENCING LOCATIONS
 FOR PROTECTION DURING CONSTRUCTION
 SEE SHEET 30/34 FOR ADDITIONAL GUARDRAIL DETAILS



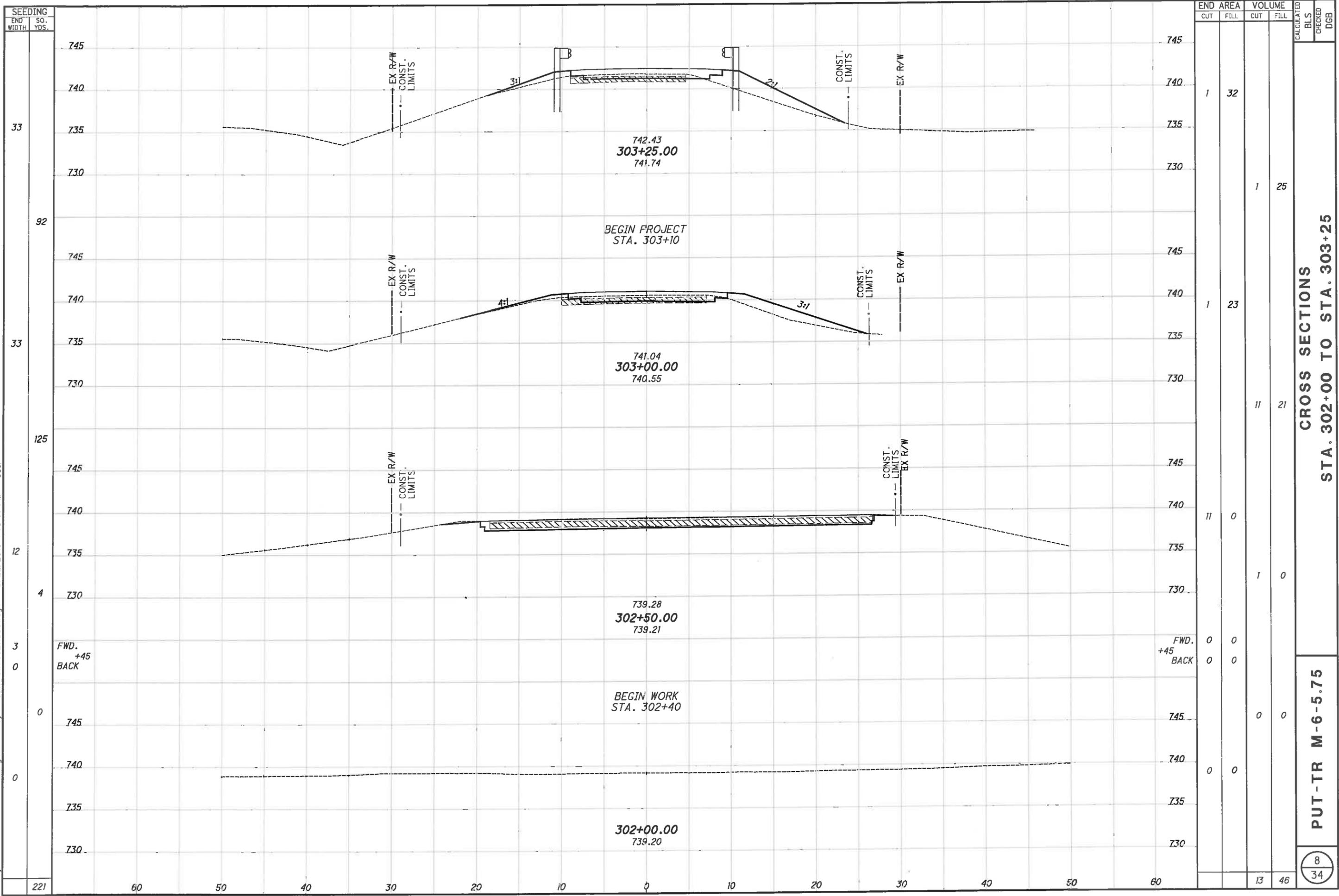
PLAN AND PROFILE
STA. 302+00 TO STA. 305+50

PUT-TR M-6-5.75

7
34

CALCULATED
 BLS
 CHECKED
 DGB

0 20 40
 HORIZONTAL
 SCALE IN FEET

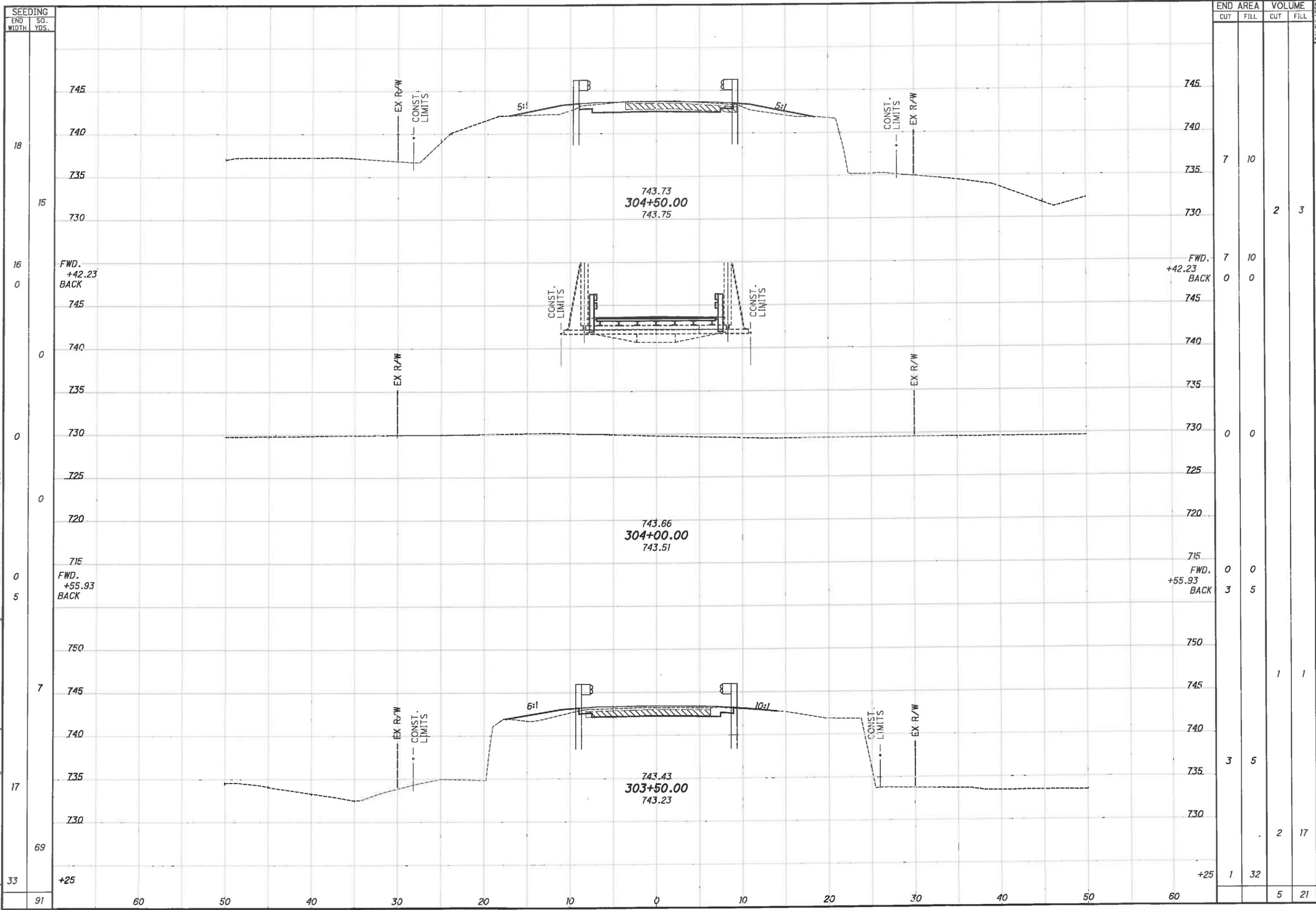


SEEDING		END AREA		VOLUME		CALCULATED	BLS	CHECKED	DGB
END WIDTH	SO. YDS.	CUT	FILL	CUT	FILL				
33	745	1	32						
	740			1	25				
92	745	1	23						
	740			11	21				
33	745			11	0				
	740								
125	745								
	740								
12	745								
	740								
4	745								
	740								
3	745								
0	745								
	740								
0	745								
	740								
	735								
	730								
221	745								
	740								
	735								
	730								
				13	46				

CROSS SECTIONS
STA. 302+00 TO STA. 303+25

PUT-TR M-6-5.75

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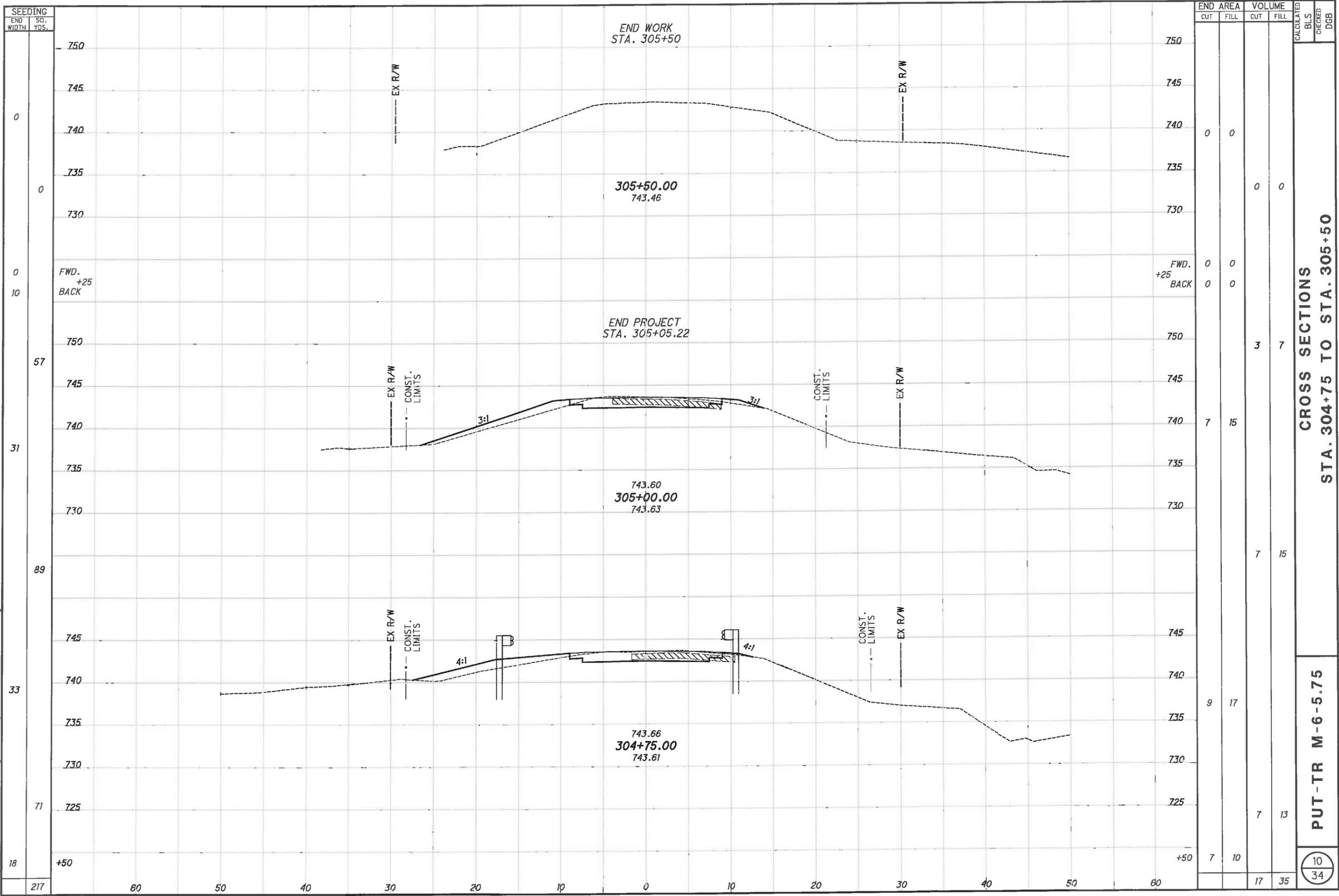
SEEDING END WIDTH SQ. YDS.	END AREA		VOLUME		CALCULATED BLS	CHECKED DOB
	CUT	FILL	CUT	FILL		
18	7	10				
15			2	3		
16	7	10				
0	0	0				
0	0	0				
0						
5	0	0	3	5		
7			1	1		
17	3	5				
69			2	17		
33	1	32				
91			5	21		

CROSS SECTIONS
STA. 303+50 TO STA. 304+50

PUT-TR M-6-5.75

9
34

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CROSS SECTIONS
 STA. 304+75 TO STA. 305+50

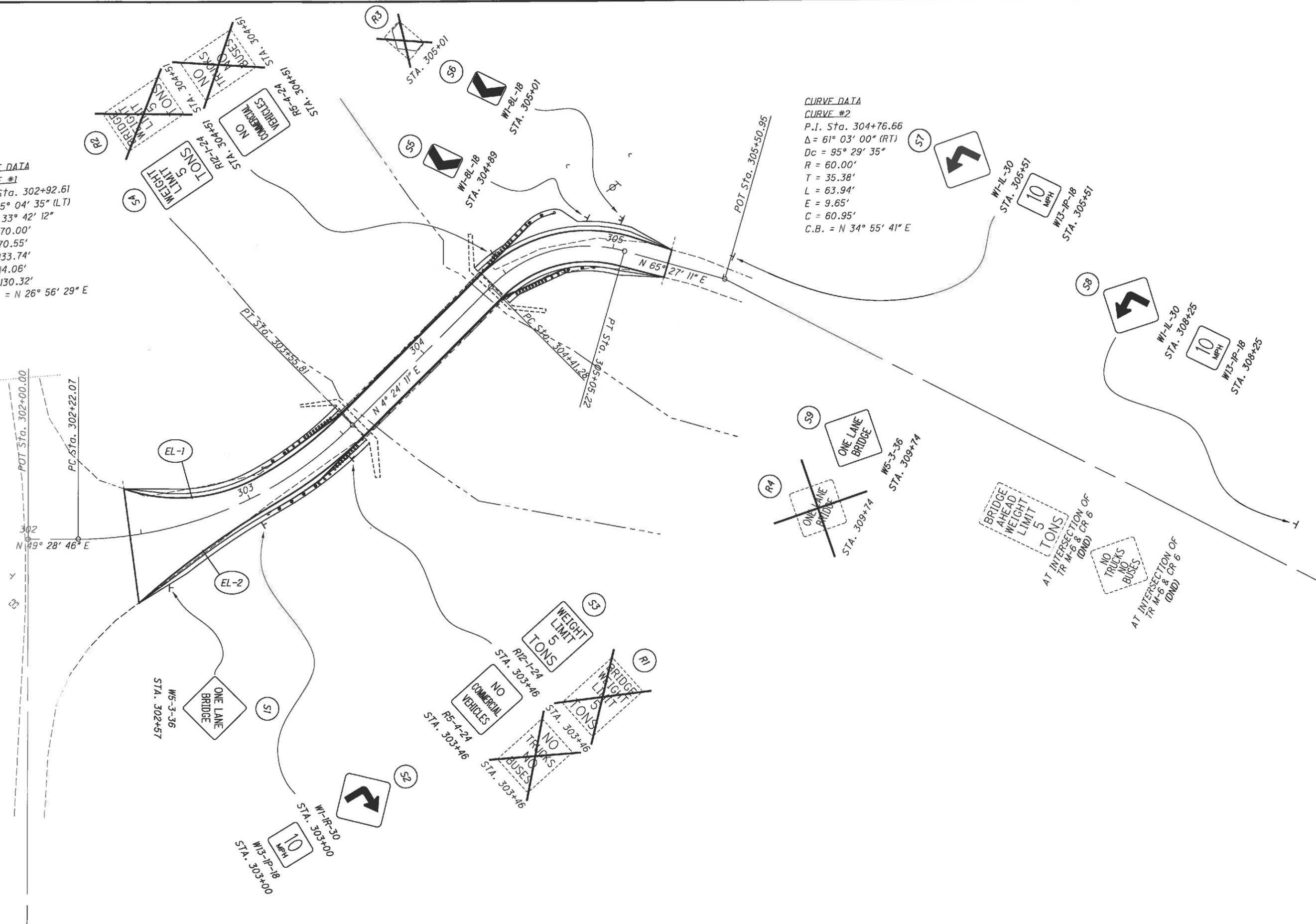
PUT-TR M-6-5.75

10
34

CURVE DATA
CURVE #1
 P.I. Sta. 302+92.61
 $\Delta = 45^\circ 04' 35''$ (LT)
 $Dc = 33^\circ 42' 12''$
 $R = 170.00'$
 $T = 70.55'$
 $L = 133.74'$
 $E = 14.06'$
 $C = 130.32'$
 $C.B. = N 26^\circ 56' 29'' E$

CURVE DATA
CURVE #2
 P.I. Sta. 304+76.66
 $\Delta = 61^\circ 03' 00''$ (RT)
 $Dc = 95^\circ 29' 35''$
 $R = 60.00'$
 $T = 35.38'$
 $L = 63.94'$
 $E = 9.65'$
 $C = 60.95'$
 $C.B. = N 34^\circ 55' 41'' E$

POT Sta. 302+00.00
 PC Sta. 302+22.07
 $N 49^\circ 28' 46'' E$



CALCULATED
 DJK
 CHECKED
 DGB

0 20 40
 HORIZONTAL
 SCALE IN FEET

TRAFFIC CONTROL

PUT-TR M-6-5.75

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CURVE DATA
 CURVE #1
 P.I. Sta. 302+32.61
 Δ = 45° 04' 35" (L)
 Dc = 35° 42' 12"
 R = 150.00
 T = 70.55
 L = 133.74
 E = 14.06
 C = 130.32
 C.B. = N 26° 58' 29" E

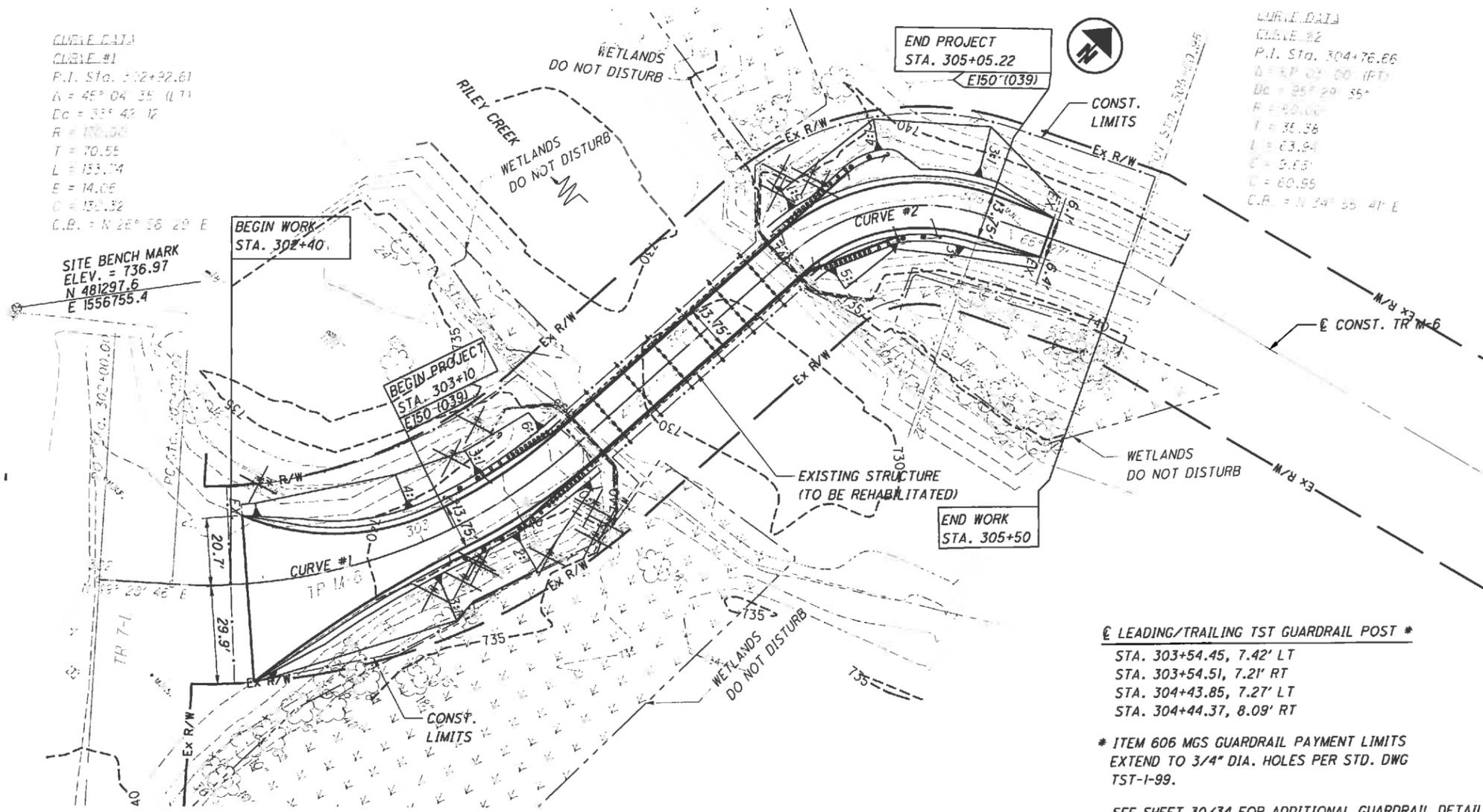
CURVE DATA
 CURVE #2
 P.I. Sta. 304+76.66
 Δ = 35° 29' 55"
 R = 150.00
 T = 35.38
 L = 63.84
 E = 3.65
 C = 60.95
 C.B. = N 24° 35' 41" E

BENCHMARK DATA
 ELEVATION = 736.97 (NAVD 88)
 CHISELED CROSS IN NORTHEAST CORNER OF CATCH BASIN LOCATED ABOUT 85 FEET NORTHWEST OF THE INTERSECTION OF THE CENTERLINES OF TOWNSHIP ROAD M-6 AND TOWNSHIP ROAD 7-L ON THE SOUTHWEST SIDE OF TOWNSHIP ROAD 7-L.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET 2/34

NOTES
 EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
 2016 ADT = 90
 2036 ADT = 100



LEADING/TRAILING TST GUARDRAIL POST *
 STA. 303+54.45, 7.42' LT
 STA. 303+54.51, 7.21' RT
 STA. 304+43.85, 7.27' LT
 STA. 304+44.37, 8.09' RT

* ITEM 606 MGS GUARDRAIL PAYMENT LIMITS EXTEND TO 3/4" DIA. HOLES PER STD. DWG TST-1-99.

SEE SHEET 30/34 FOR ADDITIONAL GUARDRAIL DETAILS

EXISTING STRUCTURE

TYPE: WROUGHT IRON BOWSTRING PONY TRUSS WITH A TIMBER DECK ON CONCRETE ABUTMENTS

WEARING SURFACE: ASPHALT CONCRETE
 SPANS: 86 FT
 ROADWAY: 16 FT F/F GUARDRAIL
 LOADING: 45% LEGAL
 SKEW: NONE
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 STRUCTURAL FILE NUMBER: 6932509
 DATE BUILT: 1876
 DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: EXISTING WROUGHT IRON BOWSTRING PONY TRUSS WITH TIMBER DECK ON CONCRETE ABUTMENTS - REHABILITATED

SPANS: 86 FT
 ROADWAY: 13'-9" F/F GUARDRAIL
 WEARING SURFACE: ASPHALT CONCRETE
 LOADING: 45% OHIO LEGAL
 SKEW: NONE
 APPROACH SLABS: NONE
 ALIGNMENT: TANGENT
 COORDINATES: LATITUDE 40°58'42" N
 LONGITUDE 83°59'27" W

780		739.28	739.98	741.04	742.43	743.43	743.62	743.66	743.70	743.73	743.68	743.60	743.52		780
760															760
740															740
720															720
700															700
680															680
	739.20	739.21	740.55	743.23	743.51	743.75	743.63	743.46							
	302+00		303+00		304+00		305+00								

DESIGN AGENCY: KOMLA & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2444 Brian Ridge Ave., Lima, Ohio 46805 419-297-1185

DATE: 3/21/2016

REVIEWED: DJK

DRAWN: DJK

DESIGNED: DJK

COUNTY: PUT-TR M-6-5.75

BRIDGE NO.: PUT-M6-0575

OVER RILEY CREEK

STRUCTURE FILE NUMBER: 6932509

STA. 303+55.93

STA. 304+42.23

SITE PLAN

PUT-TR M-6-5.75

PID No. 98795

1/23

12/34

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:
 TST-1-99 REVISED 1-17-14
 DS-1-92 REVISED 7-18-03

DESIGN SPECIFICATIONS:

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

DESIGN DATA:

NEW MATERIALS INCORPORATED IN THE STRUCTURE CONFORM TO THE FOLLOWING.

DESIGN LOADING: 45% OHIO LEGAL LOAD (OPERATING)
 CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)
 REINFORCING STEEL - ASTM A615 OR A996 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
 EPOXY COAT ALL REINFORCING BARS, EXCEPT AS NOTED OTHERWISE.

STRUCTURAL STEEL - ASTM A709 - GRADE 50, ALLOWABLE STRENGTH 27,000 PSI
 YIELD STRENGTH 50,000 PSI

EXISTING STRUCTURAL STEEL - WROUGHT IRON UNKNOWN - F_u 48 KSI
 F_y 26 KSI

DECK - TREATED SOUTHERN YELLOW PINE, STRESS GRADES FOR STRUCTURAL PURPOSES.
 THE TIMBER DECK ELEMENTS ARE 3"x4" NOMINAL DIMENSIONS
 COMPONENT ALLOWABLE STRESS/PROPERTIES, NAIL LAMINATED DECK:
 F_b 1600 PSI - BENDING UNDER WET USE
 F_v 100 PSI - HORIZONTAL SHEAR
 F_c 440 PSI - COMPRESSION PERPENDICULAR TO GRAINS (UNDER WET USE)
 E 1,600,000 PSI - MODULUS OF ELASTICITY (UNDER WET USE)

FCM

FRACTURE CRITICAL NON-REDUNDANT BRIDGE MEMBERS (FCM) SHALL MEET THE PROVISIONS OF SECTION 12, AWS D1.5. BASE METAL CHARPY V-NOTCH (CVN) IMPACT REQUIREMENTS SHALL SATISFY ZONE 2 TEMPERATURES.

CVN

WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.

DECK PROTECTION METHOD

TYPE 2 WATERPROOFING WITH ASPHALT CONCRETE OVERLAY

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

CONTRACT BID PRICES SHALL BE BASED UPON THE RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

SPECIAL NOTES

DIMENSIONS OF THE EXISTING STRUCTURES SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM THE FIELD NOTES TAKEN FOR BRIDGE INSPECTION AND ARE NOT GUARANTEED TO BE ACCURATE. ALL DIMENSIONS AFFECTED BY THE GEOMETRY, AND/OR LOCATIONS OF THE EXISTING STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE ANY CONSTRUCTION IS PERFORMED, AND BEFORE ANY MATERIALS ARE ORDERED OR FABRICATED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY THE COUNTY ENGINEER WITH ALL FIELD DIMENSIONS REQUIRED TO CHECK SHOP DRAWINGS. THERE IS NO SEPARATE BID ITEM FOR VERIFICATION OF EXISTING TRUSS GEOMETRY, MEMBER COMPONENTS AND DIMENSIONS. CONTRACTOR IS TO INCLUDE ANY WORK REQUIRED FOR FIELD VERIFICATION IN THE TOTAL FINAL BID PRICE. ANY EXPENSES INCURRED AS A RESULT OF IMPROPER FIT OF NEW MATERIALS WILL BE AT THE EXPENSE OF THE CONTRACTOR.

THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING TO BECOME FAMILIAR WITH THE PRESENT CONDITIONS, AND TO JUDGE THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT.

THE EXISTING BRIDGE REQUIRES LOAD LIMIT POSTINGS. DO NOT OPERATE OVER OR OCCUPY BRIDGE WITH CONSTRUCTION VEHICLES OR EQUIPMENT EXCEEDING POSTED LIMITS AT ANY TIME.

RECONSTRUCTION NOTES

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS.

MORE SPECIFICALLY, SOME MEMBER SIZES SUCH AS PIN SIZES AND DIAMETERS, DIAGONAL AND LOWER CHORD LENGTH, ϕ PIN HOLE TO ϕ PIN HOLE, AND MEMBER CONDITION CANNOT BE ACCURATELY DETERMINED UNTIL THE TRUSS HAS BEEN DISASSEMBLED AND INDIVIDUAL MEMBERS HAVE BEEN CLEANED AND INSPECTED. ALSO INDIVIDUAL MEMBERS, OUT OF A GROUP, MAY HAVE BEEN DESIGNATED TO BE THE PROTOTYPE FOR FABRICATION OF NEW MEMBERS BASED UPON THEIR FIT AND TENSION AT THE BRIDGE CONSTRUCTION INSPECTION.

THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS THAT ARE TO REMAIN WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS THAT ARE TO REMAIN OR THAT ARE TO REMAIN THE PROPERTY OF THE COUNTY, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.

DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS, OR ANY OTHER MATERIALS TO THE AREA BELOW OR ADJACENT TO THE BRIDGE. PLATFORMS, NETS, SCREENS, OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL PROTECTION IS PROVIDED. THE COST OF FURNISHING, INSTALLING, MAINTAINING, AND DISPOSING OF ALL PLATFORMS, NETS, SCREENS, OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT. ALL MATERIAL FALLING ON THE AREA ADJACENT OR BELOW THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR ON A REGULAR RECURRING BASIS.

RIVER/WATERWAY PROTECTION NOTES

DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER AS TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO ANY STREAM FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR SUCH A STREAM. THE CONTRACTOR SHALL NOT RETURN DIRECTLY TO A STREAM ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL, OR OTHER IMPURITIES.

TRAFFIC CONTROL

BRIDGE TO REMAIN CLOSED TO TRAFFIC DURING CONSTRUCTION. DETOURS REMAIN IN PLACE UNTIL BRIDGE REPLACEMENT WORK IS COMPLETE. FOR ADDITIONAL NOTES, SEE SHEET 4 OF 34.

PROPOSED STRUCTURE WORK:

1. REMOVE TREES/STUMPS INDICATED ON THE PLANS AND PLACE TIMBER BENTS TO SUPPORT REMOVED TRUSS. (NOTE WORK IS ABOVE ORDINARY HIGH WATER).
2. NO WORK SHALL BE PERFORMED IN THE RIVER. NO SUPPORTS WILL BE PLACED IN THE RIVER AND THE STRUCTURE WILL BE PLACED ON WOODEN BENTS IN THE SOUTH EAST ROAD RIGHT-OF-WAY .
3. REMOVE ASPHALT, TIMBER DECK, AND GUARDRAILS.
4. BRACE AND REMOVE TRUSS TO TIMBER BENTS.
5. DISASSEMBLE TRUSS AND MOVE TO FABRICATION SHOP FOR CLEANING AND INSPECTION OF INDIVIDUAL MEMBERS.
6. AFTER THE TRUSS HAS BEEN REMOVED, PATCH THE ABUTMENTS ABOVE ORDINARY HIGH WATER ACCORDING TO CMS ITEM 519.
7. REFURBISH THE ABUTMENT BEARING AREAS FOR TRUSS AND STRINGER BEARINGS.
8. SEAL THE ABUTMENT FACE WITH EPOXY URETHANE SEALER FOR CONCRETE, CMS ITEM 512. SEALER SHALL BE FEDERAL COLOR STANDRAD NO. 17778 LIGHT NEUTRAL.
9. FLOOR TRUSS BEAMS AT L4, L5, AND L6 SHALL BE REPLACED WITH NEW TRUSS FLOOR BEAMS FABRICATED USING THE TRUSS FLOOR BEAM AT L3, L2, AND L1 RESPECTIVELY, AS A PROTOTYPE.
10. RE-ERECT THE CLEANED AND GALVANIZED BRIDGE TRUSS.
11. INSTALL NEW STRINGERS AND TIMBER DECK.
12. REBUILD THE APPROACH ROADWAY AND GUARDRAIL.
13. REPLACE ROADWAY TRAFFIC CONTROL SIGNS AND OPEN STRUCTURE TO TRAFFIC.

ITEM 519 - PATCHING CONCRETE STRUCTURE. AS PER PLAN

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

THE MINIMUM AREAS TO BE PATCHED ON THE EXISTING ABUTMENTS HAVE BEEN SHOWN IN THE PLANS. CONTINGENCY QUANTITIES HAVE BEEN INCLUDED TO ACCOUNT FOR AREAS NOT DELINEATED IN THE PLANS. THE FOLLOWING TABLE SUMMARIZES THE PATCHING AREAS:

LOCATION	QUANTITY IN PLANS	CONTINGENCY	TOTAL
REAR ABUT.	305 SF	150 SF	455 SF
FWD. ABUT.	200 SF	100 SF	300 SF
			755 SF

ALL AREAS TO BE PATCHED SHALL BE DETERMINED AND MARKED BY THE ENGINEER PRIOR TO INITIATING THE WORK. CONCRETE PATCHING SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER. THE DEPARTMENT WILL MEASURE CONCRETE PATCHING BY THE ACTUAL NUMBER OF SQUARE FEET ACCEPTED IN PLACE.

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DESIGN AGENCY: KOHL & KALMER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Balton Ridge Ave., Lima, Ohio 43005 419-227-1135
 DATE: 3/21/2016
 REVIEWED: DJK
 DRAWN: DJK
 CHECKED: BLS
 DESIGNED: DJK
 STRUCTURE FILE NUMBER: 6932509
 REVISED: XXX
 GENERAL NOTES: BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK
 PUT-TR M-6-5.75
 PID No. 98795
 2 / 23
 13
 34

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CONNECTION BOLTS

5/8 INCH DIAMETER AND LARGER SHALL BE HEX HEAD, GALVANIZED ASTM A325 HIGH STRENGTH STEEL BOLTS, UNLESS OTHERWISE NOTED. BOLTS 1/2 INCH DIAMETER AND SMALLER SHALL BE GALVANIZED ASTM A449. STAINLESS STEEL BOLTS SHALL BE TYPE 304. COUNTERSUNK BOLTS SHALL BE GALVANIZED SAE J429 GRADE 5. NEW CONNECTION BOLTS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL, MISC: REASSEMBLE TRUSS.

THREADED BOLT ENDS AND NUTS SHALL BE LOCATED TO THE INSIDE OF BOX TYPE TRUSS MEMBERS SUCH AS END POSTS, UPPER CHORDS, LOWER CHORDS, VERTICALS, AND DIAGONALS. NUTS SHALL BE LOCATED IN LESS VISIBLE LOCATIONS AS DIRECTED BY THE ENGINEER.

NO INFORMATION, INCLUDING RIVET SIZES, REMAINS FOR THE EXISTING BRIDGE. NEW BOLT SIZES ARE DERIVED FROM FIELD MEASUREMENTS OF THE EXISTING RIVET HEADS. GIVEN THE SMALL SIZE OF MANY RE-USED EXISTING MEMBERS, THE SIZE OF THE NEW BOLTS IN THESE PLANS GENERALLY MATCHES THE EXISTING RIVET SIZE. THE FABRICATOR SHALL VERIFY THE EXISTING RIVET HOLES AND USE NEW BOLTS CORRESPONDING TO THE ACTUAL HOLE SIZE, UNLESS A SPECIFIED SIZE IS NOTED IN THE PLANS. IF A SPECIFIC BOLT SIZE IS SPECIFIED TO CONNECT EXISTING MATERIAL, THE HOLES MAY NEED TO BE ENLARGED TO ACCOMMODATE A LARGER BOLT.

HOLES FOR CONNECTION BOLTS, CONNECTING NEW MATERIAL TO NEW MATERIAL MAY BE OVERSIZED 1/16 INCH LARGER THAN STANDARD HOLES. HOLES IN EXISTING MATERIAL AND NEW MATERIAL CONNECTING TO EXISTING MATERIAL SHALL BE OVERSIZED 1/8 INCH LARGER THAN THE BOLT DIAMETER.

WELDING TO EXISTING STEEL

WELDING TO THE EXISTING STRUCTURAL STEEL SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE COUNTY ENGINEER.

REMOVAL - MISC: EXISTING RIVET OR BOLT

EXISTING RIVETS OR BOLTS THAT ARE IN HOLES USED TO CONNECT NEW TO EXISTING MATERIAL; EXISTING RIVETS OR BOLTS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL; RIVETS OR BOLTS NECESSARY FOR TRUSS DISASSEMBLY, AND RIVETS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH CMS SECTION 202.03.

ALL EXISTING RIVETS TO BE REMOVED SHALL FIRST HAVE THE HEADS CUT OFF AND THEN THE REMAINDER OF THE RIVET SHALL BE REMOVED BY DRILLING OR BURNING. SOME RIVETS TO BE REMOVED MAY HAVE COUNTERSUNK HEADS ON ONE OR BOTH ENDS. RIVETS THAT ARE COUNTERSUNK BOTH ENDS SHALL BE REMOVED BY DRILLING OR BURNING. PUNCHING MAY BE USED TO REMOVE LOOSE FITTING SHANKS. RIVET REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED RIVET AND BOLT REMOVAL METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

PAYMENT FOR RIVET AND BOLT REMOVAL PROCEDURES SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 513 - STRUCTURAL STEEL, MISC: DISASSEMBLE EXISTING TRUSS.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN (ON TIMBER DECK)

EXCESS WOOD PRESERVATIVE SHALL BE REMOVED BY SCRAPING AND CLEANING WITH SOLVENT TO THE SATISFACTION OF THE ENGINEER PRIOR TO APPLYING THE TYPE 2 WATERPROOFING TO THE NEW TIMBER STRIP DECK.

IN ADDITION TO THE ITEMS ON THE ODOT QUALIFIED PRODUCT LIST, PAVEPREP SA BY CRAFTCO INC. MAY BE USED FOR ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN (ON STRINGER)

PLACE TYPE 2 WATERPROOFING ON THE TOP FLANGE OF THE STRINGERS - OVERHANG FLANGE 1/4" ON EACH SIDE PRIOR TO PLACING TIMBER DECKING.

IN ADDITION TO THE ITEMS ON THE ODOT QUALIFIED PRODUCT LIST, PAVEPREP SA BY CRAFTCO INC. MAY BE USED FOR ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN.

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

WORK UNDER THIS ITEM INCLUDES FABRICATION OF LOWER LATERAL BRACES AND THE REPAIR, STRAIGHTENING, AND FABRICATION OF PIECES TO COMPLETE THE REFURBISHING OF THE LATTICE RAILING AND THE DECORATIVE END OF BRIDGE RAILING. USE THE EXISTING LATERAL BRACE OR THE TWIN BRACE IN SPAN L3-L4 AS A PROTOTYPE FOR FABRICATING THE NEW LATERAL BRACE INDICATED ON SHEET 20/23.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE MADE PER LUMP SUM UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN

WORK UNDER THIS ITEM INCLUDES FABRICATION OF NEW STRINGERS, DIAPHRAGMS, AND BEARING BEAMS ON THE ABUTMENTS. PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE MADE PER POUND UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL MEMBER LEVEL 6, AS PER PLAN FLOOR BEAM FABRICATION

WORK UNDER THIS ITEM INCLUDES FABRICATION OF NEW TRUSS FLOOR BEAMS. NEW MEMBERS SHOULD BE SHOP-FIT TO EXISTING MEMBERS TO VERIFY CONNECTIONS. THIS DOES NOT REQUIRE FULL SHOP FIT-UP. THE TRUSS FLOOR BEAMS AT L3, L2, AND L1 SHOULD BE USED AS A PROTOTYPE FOR FABRICATING TRUSS FLOOR BEAMS AT L4, L5, AND L6, RESPECTIVELY.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE MADE PER LUMP SUM UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL, MISC: DISASSEMBLE EXISTING TRUSS

WORK UNDER THIS ITEM SHALL INCLUDE THE DISMANTLING OF THE EXISTING TRUSS BRIDGE. THIS ITEM SHALL INCLUDE ALL RIVET & BOLT REMOVALS, TEMPORARY SUPPORTS AND BRACES NEEDED TO KEEP THE BRIDGE STABLE DURING DISASSEMBLY AND TRANSPORT TO THE SHOP FOR CLEANING & INSPECTION, CLEANING FOR INSPECTION, AND INSPECTING TO ASCERTAIN THE ACCEPTABILITY OF UTILIZING EXISTING MEMBERS. CARE SHALL BE TAKEN TO REMOVE THE CONNECTING ROD NUTS UTILIZING PENETRATING OIL AND HEAT IN A MANNER SO AS TO NOT DAMAGE THE NUTS OR CONNECTING RODS.

THIS WORK SHALL ALSO INCLUDE THE REMOVAL OF THE CONNECTION BETWEEN THE FIXED TRUSS BEARINGS AND THE ABUTMENTS. EXISTING ANCHOR BOLTS SHALL BE CUT TO FREE THE TRUSS AND THEN CUT FLUSH WITH THE TOP SURFACE OF THE ABUTMENT SEAT AFTER THE BEARINGS HAVE BEEN REMOVED.

NO PART OF THE STRUCTURE SHALL BE SUBJECT TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES OR MANUAL FOR CONDITION EVALUATION OF BRIDGES, DUE TO DISMANTLING THE BRIDGE. STRUCTURAL ANALYSIS COMPUTATIONS, BY PROFESSIONAL ENGINEER, REGISTERED IN OHIO, SHOWING THAT THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

THE CONTRACTOR SHALL NOT DAMAGE, MAR OR ADD ADDITIONAL HOLES TO EXISTING STEEL AND IRON DESIGNATED FOR RE-USE TO FACILITATE THE REMOVAL OR TEMPORARY SUPPORT OF THE STRUCTURE.

PAYMENT FOR ALL TOOLS, LABOR, MATERIALS, AND INCIDENTALS FOR THE ABOVE DESCRIBED WORK SHALL BE PAID PER LUMP SUM UNDER ITEM 513 - STRUCTURAL STEEL, MISC: DISASSEMBLE EXISTING TRUSS.

ITEM 513 - STRUCTURAL STEEL, MISC: REASSEMBLE TRUSS

WORK UNDER THIS ITEM SHALL INCLUDE THE TRANSPORT TO THE SITE, ERECTION AND ASSEMBLY OF THE SUPERSTRUCTURE STEEL AND IRON INCLUDING NEW MATERIAL AND RE-USED EXISTING MATERIAL. NEW HIGH STRENGTH BOLTS, NUTS & WASHERS USED FOR CONNECTING STRUCTURAL STEEL MEMBERS SHALL BE INCLUDED IN AND CONSIDERED INCIDENTAL TO THIS ITEM. ALSO INCLUDE ALL TEMPORARY SUPPORTS AND BRACES NEEDED TO KEEP THE BRIDGE STABLE DURING ASSEMBLY.

THE HOLES FOR THE PIN CONNECTIONS SHALL BE BORED TO 1/32" LARGER THAN THE PIN DIAMETER AFTER GALVANIZING THE EXISTING AND NEW MEMBERS. THE PIN SHALL BE SHOP INSERTED THROUGH ALL MEMBERS IN THE FABRICATION SHOP PRIOR TO FIELD ASSEMBLY, AT THE PROJECT SITE.

THE CONDITIONS OF THE WORK DESCRIBED IN THE "DISASSEMBLE EXISTING TRUSS" NOTE PERTAINING TO TEMPORARY SUPPORT, CONSTRUCTION STRESSES, AND DAMAGE TO STEEL SHALL APPLY.

PAYMENT FOR ALL TOOLS, LABOR, MATERIALS, AND INCIDENTALS FOR THE ABOVE DESCRIBED WORK SHALL BE PAID PER LUMP SUM UNDER ITEM 513 - STRUCTURAL STEEL, MISC: REASSEMBLE TRUSS.

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

SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN INCORPORATED IN THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THIS WORK SHALL INCLUDE THE REMOVAL OF THE ABUTMENT CONCRETE BACKWALL, THE TIMBER DECK, AND RAILING. CARE SHALL BE TAKEN DURING DECK REMOVAL TO PROTECT PORTIONS OF THE STRUCTURE THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES OR MANUAL FOR CONDITION EVALUATION OF BRIDGES, DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN OHIO, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THE CONTRACTOR SHALL EXERCISE CARE IN THE REMOVAL OF THE ASPHALT CONCRETE WEARING SURFACE FROM THE BRIDGE. NO ASPHALT CONCRETE SHALL BE PERMITTED TO ENTER THE RIVER.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" OR REFERRED TO AS "CONTINGENCY QUANTITIES" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED FOR PAYMENT.

ITEM 513 - STRUCTURAL STEEL MISC: LEVEL 6 CONTINGENCY QUANTITIES, LOWER CHORD MEMBER FABRICATION

WORK UNDER THIS ITEM SHALL INCLUDE FABRICATION OF LOWER CHORD MEMBERS AS DETERMINED NECESSARY TO REPLACE AFTER DISASSEMBLY, CLEANING AND INSPECTION. THE EXISTING MEMBER SHALL SERVE AS THE PROTOTYPE FOR FABRICATION OF THE NEW MEMBER.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE PER POUND UNITS.

ITEM 513 - STRUCTURAL STEEL, MISC: LEVEL 6 CONTINGENCY QUANTITIES, HANGER BOLT FABRICATION

WORK UNDER THIS ITEM INCLUDES FABRICATION OF THE HANGER BOLT, NUTS, PLATES AND OTHER HARDWARE AS DEEMED NECESSARY AFTER TRUSS DISASSEMBLY, CLEANING AND INSPECTION. UTILIZE THE EXISTING BOLTS AND HARDWARE AS PROTOTYPES FOR NEW FABRICATION.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE MADE PER EACH UNDER THIS ITEM. ITEM INCLUDES BOLT, NUTS, PLATES AND OTHER HARDWARE AS IS NECESSARY.

DESIGN AGENCY	 KOHLI & KALINER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 244 Baton Rouge Ave., Baton Rouge, LA 70801-4908	DATE	3/21/2016
		REVIEWED	DGB
DRAWN	DJK	REVISION	XXX
DESIGNED	DJK	CHECKED	BLS
GENERAL NOTES		BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK	
PUT - TR	M-6-5.75	PID No.	98795
3 / 23		<div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px; display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; border-radius: 50%; width: 10px; height: 10px; display: flex; align-items: center; justify-content: center;">14</div> </div>	

GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL BRIDGES:

1.0 DESCRIPTION

IN ADDITION TO THE REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) SECTION 513, THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO CLEAN AND GALVANIZE ALL STRUCTURAL STEEL SURFACES, AS SPECIFIED HEREIN. THE GALVANIZED COATING SYSTEM MAY BE APPLIED BY A GALVANIZER NOT QUALIFIED AS A FABRICATION SHOP UNDER CMS 513, BUT THE APPROVED FABRICATOR OF THE STRUCTURAL STEEL SHALL BE RESPONSIBLE FOR THE QUALITY OF THE APPLIED GALVANIZED COATING SYSTEM AND ANY REPAIRS, RE-FABRICATING, ADDITIONAL LAYDOWNS REQUIRED TO ASSURE THE FABRICATED STEEL MEETS ALL REQUIREMENTS OF THIS SPECIFICATION. SECTIONS 513.27 AND 513.28 SHALL NOT APPLY. THIS ITEM SHALL ALSO INCLUDE GALVANIZING, PER 711.02, OF ALL NUTS, WASHERS, BOLTS, AND ANCHOR BOLTS. SEE GALVANIZED NUTS AND BOLTS COMPATIBILITY NOTE ON THIS SHEET FOR ADDITIONAL HARDWARE REQUIREMENTS.

2.0 PRE-FABRICATION MEETING

IN ADDITION TO THE PRE-FABRICATION MEETING REQUIREMENTS UNDER CMS 513.07, BOTH THE FABRICATOR'S QUALITY CONTROL SPECIALIST, (QCPS) AND GALVANIZED COATING APPLICATOR SHALL BE PRESENT AND DISCUSS METHODS OF OPERATION, QUALITY CONTROL, INCLUDING REPAIRS, TRANSPORTATION, ERECTION METHODS TO ACCOMPLISH ALL PHASES OF THE PREPARATION AND COATING WORK REQUIRED BY THIS SPECIFICATION.

3.0 QUALITY CONTROL

3.1 QUALITY CONTROL SPECIALIST

THE QCPS (QUALITY CONTROL PAINT SPECIALIST) REQUIRED UNDER CMS 513, IS RESPONSIBLE FOR ALL QUALITY CONTROL REQUIREMENTS OF THIS SPECIFICATION. THE QCPS SHALL HAVE THE TESTING EQUIPMENT SPECIFIED IN CMS 514.05.

3.2 QUALITY CONTROL POINTS (QCP)

QUALITY CONTROL POINTS (QCP) ARE POINTS IN TIME WHEN ONE PHASE OF THE WORK IS COMPLETE AND READY FOR INSPECTION BY THE FABRICATOR'S QCPS AND THE COUNTY'S QA REPRESENTATIVE. THE NEXT OPERATIONAL STEP MUST NOT PROCEED UNLESS THE QCP HAS BEEN ACCEPTED OR QA INSPECTION WAIVED BY THE COUNTY'S QA REPRESENTATIVE. AT THESE POINTS THE FABRICATOR MUST AFFORD ACCESS TO INSPECT ALL AFFECTED SURFACES. IF INSPECTION INDICATES A DEFICIENCY, THAT PHASE OF THE WORK MUST BE CORRECTED IN ACCORDANCE WITH THESE SPECIFICATIONS PRIOR TO BEGINNING THE NEXT PHASE OF WORK. DISCOVERY OF DEFECTIVE WORK OR MATERIAL AFTER A QUALITY CONTROL POINT IS PAST OR FAILURE OF THE FINAL PRODUCT BEFORE FINAL ACCEPTANCE, MUST NOT IN ANY WAY PREVENT REJECTION OR OBLIGATE THE COUNTY TO FINAL ACCEPTANCE.

QUALITY CONTROL POINTS	
QUALITY CONTROL POINTS (QCP)	PURPOSE
A. SOLVENT CLEANING	REMOVE ASPHALTIC CEMENT, OIL, GREASE, SALT, DIRT, ETC.
B. GRINDING EDGES	REMOVE SHARP CORNERS PER AWS.
C. ABRASIVE BLASTING	BLAST SURFACES, INCLUDING REPAIR FINS, TEARS, SLIVERS OR SHARP EDGES.
D. GALVANIZING	CHECK COATING THICKNESS
E. FAYING SURFACE CLEANING	CHECK FAYING SURFACE ROUGHNESS. CHECK BOLT HOLE CLEARANCE. CHECK FOR OTHER FIELD CONNECTIONS UNIFORM COATING THICKNESS.
F. SECOND LAY DOWN	CHECK SWEEP AND CAMBER TOLERANCES OF EACH STRUCTURAL MEMBER.
G. FIELD REPAIR OF DAMAGE AREAS	CHECK FOR DAMAGE AREAS AFTER ERECTION OF STRUCTURE. PERFORM DAMAGE REPAIRS.
H. FINAL REVIEW	CLEAN STRUCTURE AS PER QCP#1. VISUALLY INSPECT SYSTEM FOR ACCEPTANCE.

A. SOLVENT CLEANING (QCP #1)

THE STEEL MUST BE SOLVENT CLEANED WHERE NECESSARY TO REMOVE ALL TRACES OF ASPHALTIC CEMENT, OIL, GREASE, DIESEL FUEL DEPOSITS, AND OTHER SOLUBLE CONTAMINANTS PER SSPC-SP1 SOLVENT CLEANING. UNDER NO CIRCUMSTANCES MUST ANY ABRASIVE BLASTING BE DONE TO AREAS WITH ASPHALTIC CEMENT, OIL, GREASE, OR DIESEL FUEL DEPOSITS. STEEL MUST BE ALLOWED TO DRY BEFORE BLAST CLEANING BEGINS. THE QCPS SHALL INSPECT AND DOCUMENT THAT THE CLEANING CONFORMS TO SSPC-SP1 AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

B. GRINDING EDGES (QCP #2)

ALL CORNERS OF THERMALLY CUT OR SHEARED EDGES MUST HAVE A 1/16 INCH RADIUS OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE. THERMALLY CUT MATERIAL THICKER THAN 1 1/2 INCH MUST HAVE THE SIDES GROUND TO REMOVE THE HEAT EFFECTED ZONE, AS NECESSARY TO ACHIEVE THE SPECIFIED SURFACE CLEANING. THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE GRINDING CONFORMS TO THIS SPECIFICATION AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

C. ABRASIVE BLASTING (QCP #3)

BEAMS AND GIRDERS MUST BE PREPARED BY THE FABRICATOR TO STEEL STRUCTURES PAINTING COUNCIL (SSPC) GRADE SIX (6) COMMERCIAL BLAST CLEANING PRIOR TO GALVANIZING. ALL MATERIAL MUST BE FREE OF PAINT MARKS. SECONDARY ANGLE, PLATES, BARS AND SHAPES NEED NOT BE BLAST CLEANED. ABRASIVES MUST ALSO BE CHECKED FOR OIL CONTAMINATION BEFORE USE. A SMALL SAMPLE OF ABRASIVES MUST BE ADDED TO ORDINARY TAP WATER. ANY DETECTION OF AN OIL FILM ON THE SURFACE OF THE WATER MUST BE CAUSE FOR REJECTION. THE QCPS MUST PERFORM AND RECORD THIS TEST AT THE START OF EACH SHIFT. ALL FINS, TEARS, SLIVERS AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER OR THAT APPEAR AFTER THE BLASTING OPERATION MUST BE CONDITIONED PER ASTM A6. WELDING REPAIRS MUST ONLY BE PERFORMED BY THE CMS 513 FABRICATOR. THE QCPS MUST VISUALLY INSPECT AND DOCUMENT THAT THE BLAST CONFORMS TO SSPC-SP6, THAT ALL CONDITIONING IS PERFORMED PER ASTM A6, AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

D. GALVANIZING (QCP #4)

GALVANIZE PER 711.02 AND THIS SPECIFICATION. COATING THICKNESS MUST BE A MINIMUM OF 4 MILS MEASURED AS SPECIFIED. MATERIAL MUST BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE FABRICATOR, GALVANIZER AND ERECTOR MUST USE LIFTING CLAMPS OR SOFTENERS FOR HANDLING. PRIOR TO GALVANIZING, SURFACE IMPERFECTIONS MAY BE REPAIRED BY THE FABRICATOR IN CONFORMANCE WITH ASTM A6. IMPERFECTIONS GREATER THAN THE LIMITS ALLOWED BY ASTM A6 MUST BE DOCUMENTED. REPAIR OR REPLACEMENT OF THIS MEMBER WILL BE AT THE DISCRETION OF THE COUNTY. ALL DAMAGED GALVANIZING MUST BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3. DOCUMENTATION OF COATING THICKNESS MUST BE PERFORMED BY THE QCPS. THE QCPS MUST RECORD THE GAGE READINGS AND PROVIDE A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

E. FAYING SURFACE CLEANING (QCP #5)

AREAS OF FIELD CONNECTIONS MUST HAVE A UNIFORM GALVANIZED COATING THICKNESS FREE OF LOCAL EXCESSIVE ROUGHNESS WHICH WOULD PREVENT SPLICE PLATES, BEARINGS OR OTHER FIELD CONNECTIONS FROM MAKING INTIMATE CONTACT. FAYING SURFACES OF THE BOLTED SPLICES MUST BE ROUGHENED IN THE SHOP AFTER GALVANIZING BY HAND WIRE BRUSHING. POWER WIRE BRUSHING IS NOT PERMITTED. ALL FIELD SPLICE BOLT HOLES MUST BE FREE OF ZINC BUILD UP. AFTER GALVANIZING, EACH HOLE MUST BE CHECKED IN THE SHOP BY USING A DRIFT PIN WITH A DIAMETER 1/16 INCH GREATER THAN THE DIAMETER OF THE BOLT TO BE USED IN THAT HOLE. CONSIDERATION WILL BE GIVEN TO OTHER METHODS OF TREATING THE FAYING SURFACES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF STRUCTURAL ENGINEERING (OSE) IN ACCORDANCE WITH CMS 108.05. INSPECTION OF THE ROUGHENING OF THE FAYING SURFACES AND CHECKING OF HOLES WITH DRIFT PINS MUST BE PERFORMED BY THE QCPS. ACCEPTANCE OF THE FAYING SURFACES AND HOLES SHALL BE DOCUMENTED BY THE QCPS.

F. SECOND LAY DOWN (QCP #6)

AFTER GALVANIZING, MATERIALS MUST BE PLACED IN A SECOND SHOP ASSEMBLY PER CMS SECTION 513.24 TO CHECK ALIGNMENT OF HOLES, SWEEP AND CAMBER AGAINST THE FABRICATOR'S ORIGINAL RECORDED LAY DOWN DIMENSIONS. THIS SHOP ASSEMBLY MAY BE PERFORMED AT THE GALVANIZER'S FACILITY, BY THE FABRICATOR'S PERSONNEL, IF APPROVED BY THE OSE. THE SECOND LAY DOWN MAY BE WAIVED BY THE OSE IF THE FABRICATOR RECORDS INDIVIDUAL BEAM CAMBERS AND SWEEPS DURING THE FIRST LAY DOWN, AND THE NEW INDIVIDUAL BEAM CAMBERS AND SWEEPS, AFTER GALVANIZING, COMPARED TO THE FIRST LAY DOWN ARE WITHIN THE FOLLOWING TOLERANCES: BEARING POINTS AFTER GALVANIZING, MUST BE WITHIN +/- 1/8 INCH OF THE APPROVED SHOP DRAWING LAY DOWN. CAMBER POINTS AFTER GALVANIZING MUST BE + 1/4 INCH OR - 0 INCH FROM THE FIRST LAY DOWN. SWEEP POINTS AFTER GALVANIZING MUST BE +/- 3/8 INCH FROM THE FIRST LAY DOWN. INDIVIDUAL BEAMS THAT EXCEED THE LISTED TOLERANCES MUST BE PLACED WITH AT LEAST TWO ADJACENT BEAMS IN LAY DOWN FOR CHECKING AGAINST THE RECORDED SHOP ASSEMBLY RECORDS PER CMS 513.04. DOCUMENTATION OF THE SECOND LAY DOWN OR INDIVIDUAL MEMBER CAMBERS MUST BE RECORDED BY THE QCPS PER CMS 513.24.

G. FIELD REPAIR OF DAMAGED AREAS (QCP #7)

MATERIAL MUST BE FREE OF IMPERFECTIONS OR DEPRESSIONS CAUSED BY MATERIAL HANDLING. THE CONTRACTOR MUST USE LIFTING CLAMPS OR SOFTENERS FOR HANDLING. IMPERFECTIONS MAY BE REPAIRED BY GRINDING AS ALLOWED BY ASTM A6 BY THE CONTRACTOR. IMPERFECTIONS THAT ARE GREATER THAN THE GRINDING LIMITS ALLOWED BY ASTM A6, MUST BE DOCUMENTED. REPAIR OR REPLACEMENT OF THIS MEMBER WILL BE AT THE DISCRETION OF THE OSE. ALL DAMAGED GALVANIZING MUST BE REPAIRED IN ACCORDANCE WITH ASTM A780, METHOD A1 OR A3. DAMAGED GALVANIZING WHICH WILL BE INACCESSIBLE FOR REPAIR AFTER ERECTION MUST BE REPAIRED PRIOR TO ERECTION. IN ORDER TO MINIMIZE DAMAGE TO THE GALVANIZED STEEL, CONCRETE SPLATTER AND FORM LEAKAGE MUST BE WASHED FROM THE SURFACE OF THE STEEL SHORTLY AFTER THE CONCRETE IS PLACED AND BEFORE IT IS DRY. IF THE CONCRETE DRIES, IT MUST BE REMOVED. TEMPORARY ATTACHMENTS, SUPPORTS FOR SCAFFOLDING AND FINISHING MACHINE OR FORMS MUST NOT DAMAGE THE COATING SYSTEM. IN PARTICULAR, SUFFICIENT SIZE SUPPORT PADS MUST BE USED ON THE FASCIA'S WHERE BRACING IS USED. DOCUMENTATION OF GALVANIZING REPAIRS MUST BE PERFORMED BY THE QCPS BY A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

H. FINAL REVIEW (QCP #8)

AFTER THE ERECTION WORK HAS BEEN COMPLETED, INCLUDING ALL CONNECTIONS AND THE APPROVED REPAIR OF ANY DAMAGED BEAMS, GIRDERS OR OTHER STEEL MEMBERS, AND THE DECK HAS BEEN PLACED, THE CONTRACTOR AND ENGINEER MUST INSPECT THE STRUCTURE FOR DAMAGED COATING. (QCP #8). DAMAGED AREAS MUST BE REPAIRED BY QCP #7. AT THE COMPLETION OF CONSTRUCTION, THE GALVANIZING MUST BE UNDAAGED AND THE SURFACES FREE FROM GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPLATTER OR OTHER SILAGE. SUCH SILAGE WILL BE REMOVED BY SOLVENT CLEANING PER SSPC-SP1 (QCP #1). DOCUMENTATION OF FINAL REVIEW MUST BE PERFORMED BY THE QCPS BY A COVER LETTER LISTING EACH MAIN MEMBER INSPECTED.

4.0 TESTING EQUIPMENT

THE FABRICATOR MUST PROVIDE THE QCPS INSPECTOR THE FOLLOWING TESTING EQUIPMENT IN GOOD WORKING ORDER FOR THE DURATION OF THE PROJECT: ONE (1) POSITECTOR 2000 OR 6000, QUANIX 2200, OR ELCOMETER A345FB11 AND THE CALIBRATION PLATES, 38-200 MM AND 250-625 MM [1.5 - 8 MILS AND 10-25 MILS] AS PER THE NBS CALIBRATION STANDARDS IN ACCORDANCE WITH ASTM D-1186.

5.0 COATING THICKNESS

GALVANIZED THICKNESS MUST BE DETERMINED BY USE OF TYPE 2 MAGNETIC GAGE IN ACCORDANCE WITH THE FOLLOWING: FIVE SEPARATE SPOT MEASUREMENTS MUST BE MADE, SPACED EVENLY OVER ONE (1) RANDOMLY SELECTED, 100 SQUARE FEET OF SURFACE AREA ON EACH STRUCTURAL MEMBER. THREE GAGE READINGS MUST BE MADE FOR EACH SPOT MEASUREMENT. THE PROBE MUST BE MOVED A DISTANCE OF 1 TO 3 INCHES FOR EACH NEW GAGE READING. ANY UNUSUALLY HIGH OR LOW GAGE READING THAT CANNOT BE REPEATED CONSISTENTLY MUST BE DISCARDED. THE AVERAGE (MEAN) OF THE 3 GAGE READINGS MUST BE USED AS THE SPOT MEASUREMENT. THE AVERAGE OF FIVE SPOT MEASUREMENTS FOR EACH SUCH 100 SQUARE FOOT AREA MUST NOT BE LESS THAN THE SPECIFIED THICKNESS. NO SINGLE SPOT MEASUREMENT IN ANY 100 SQUARE FOOT AREA MUST BE LESS THAN 80% OF THE SPECIFIED MINIMUM THICKNESS. ANY ONE OF 3 READINGS WHICH ARE AVERAGED TO PRODUCE EACH SPOT MEASUREMENT, MAY UNDER-RUN OR OVER-RUN BY A GREATER AMOUNT. THE 5 SPOT MEASUREMENTS MUST BE MADE FOR ONE (1) RANDOMLY SELECTED, 100 SQUARE FEET OF AREA ON EACH STRUCTURAL MEMBER. ALL SPLICE MATERIAL AND SECONDARY MEMBERS MUST HAVE AT LEAST ONE SPOT MEASURED ON EACH PIECE. THE PROBE MUST BE MOVED SO THAT ONE READING IS TAKEN AT EACH END AND MIDDLE OF THE PIECE FOR A TOTAL OF THREE READINGS. THE QCPS MUST INSPECT AND PROVIDE DOCUMENTATION OF ACTUAL DATA, THE GALVANIZED THICKNESS CHECKS WERE PERFORMED PER SPECIFICATION, AND THE COATING THICKNESS MEETS SPECIFICATION REQUIREMENTS.

6.0 HANDLING AND SHIPPING

REASONABLE CARE MUST BE EXERCISED IN HANDLING THE GALVANIZED STEEL DURING SHIPPING, ERECTION, AND SUBSEQUENT CONSTRUCTION OF THE BRIDGE. THE STEEL MUST BE INSULATED FROM THE BINDING CHAINS BY SOFTENERS, HOOKS AND SLINGS USED TO HOIST STEEL MUST BE PADDED. DIAPHRAGMS AND SIMILAR PIECES MUST BE SPACED IN SUCH A WAY THAT NO RUBBING WILL OCCUR DURING SHIPMENT THAT MAY DAMAGE THE GALVANIZING. THE STEEL MUST BE STORED ON PALLETS AT THE JOB SITE, OR BY OTHER MEANS, SO THAT IT DOES NOT REST ON THE GROUND OR SO THAT COMPONENTS DO NOT FALL OR REST ON EACH OTHER.

7.0 SAFETY REQUIREMENTS AND PRECAUTIONS

THE CONTRACTOR MUST MEET THE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), IN ADDITION TO THE SCAFFOLDING REQUIREMENTS BELOW. THE CONTRACTOR IS REQUIRED TO MEET THE APPLICABLE SAFETY REQUIREMENTS OF THE OHIO INDUSTRIAL COMMISSION IN ADDITION TO THE SCAFFOLDING REQUIREMENTS SPECIFIED BELOW.

8.0 SCAFFOLDING

RUBBER ROLLERS, OR OTHER PROTECTIVE DEVICES MEETING THE APPROVAL OF THE ENGINEER, MUST BE USED ON SCAFFOLD FASTENINGS. METAL ROLLERS OR CLAMPS AND OTHER TYPES OF FASTENINGS WHICH WILL MAR OR DAMAGE COATED SURFACES MUST NOT BE USED.

9.0 INSPECTION ACCESS FOR FIELD REPAIR

IN ADDITION TO THE REQUIREMENT OF 105.10, THE CONTRACTOR MUST FURNISH, ERECT, AND MOVE SCAFFOLDING AND OTHER APPROPRIATE EQUIPMENT, TO PERMIT THE INSPECTOR THE OPPORTUNITY TO INSPECT (CLOSELY OBSERVE), ALL AFFECTED SURFACES. THIS OPPORTUNITY MUST BE PROVIDED TO THE INSPECTOR DURING ALL PHASES OF THE WORK AND CONTINUE FOR A PERIOD OF AT LEAST TEN (10) WORKING DAYS AFTER THE TOUCH-UP WORK HAS BEEN COMPLETED. WHEN SCAFFOLDING IS USED, IT MUST BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. WHEN SCAFFOLDING, OR THE HANGERS ATTACHED TO THE SCAFFOLDING ARE SUPPORTED BY HORIZONTAL WIRE ROPES, OR WHEN SCAFFOLDING IS PLACED DIRECTLY UNDER THE SURFACE TO BE PAINTED, THE FOLLOWING REQUIREMENTS MUST BE COMPLIED WITH: WHEN SCAFFOLDING IS SUSPENDED 43" OR MORE BELOW THE COATED SURFACE TO BE REPAIRED, TWO ROWS OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF THE SCAFFOLDING. ONE ROW OF GUARDRAIL MUST BE PLACED AT 42" ABOVE THE SCAFFOLDING AND THE OTHER ROW AT 20" ABOVE THE SCAFFOLDING. WHEN THE SCAFFOLDING IS SUSPENDED AT LEAST 21", BUT LESS THAN 43" BELOW THE COATED SURFACE TO BE REPAIRED, A ROW OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF THE SCAFFOLDING AT 20" ABOVE THE SCAFFOLDING. TWO ROWS OF GUARDRAIL MUST BE PLACED ON ALL SIDES OF SCAFFOLDING NOT PREVIOUSLY MENTIONED. THE ROWS OF GUARDRAIL MUST BE PLACED AT 42" AND 20" ABOVE SCAFFOLDING, AS PREVIOUSLY MENTIONED. ALL SCAFFOLDING MUST BE AT LEAST 24" WIDE WHEN GUARDRAIL IS USED AND 28" WIDE WHEN THE SCAFFOLDING IS SUSPENDED LESS THAN 21" BELOW THE COATED SURFACE TO BE REPAIRED AND GUARDRAIL IS NOT USED. IF TWO OR MORE SCAFFOLDING ARE LAID PARALLEL TO ACHIEVE THE PROPER WIDTH, THEY MUST BE TIGHTLY ATTACHED TO EACH OTHER TO PRECLUDE ANY DIFFERENTIAL MOVEMENT.

DESIGN AGENCY: KOHILA KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Bates Range Ave., Lima, Ohio 45805 419-227-1182

DATE: 3/21/2016

REVIEWED: DGB

STRUCTURE FILE NUMBER: 6932509

DRAWN: DJK

REVISOR: XXX

DESIGNED: DJK

CHECKED: BLS

GENERAL NOTES: BRIDGE NO. PUT-M-6-0575 OVER RILEY CREEK

PUT - TR M-6-5.75

PID No. 98795

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GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL BRIDGES (CONT.):

ALL GUARDRAIL MUST BE CONSTRUCTED AS A SUBSTANTIAL BARRIER WHICH IS SECURELY FASTENED IN PLACE AND IS FREE FROM PROTRUDING OBJECTS SUCH AS NAILS, SCREWS AND BOLTS. THERE MUST BE AN OPENING IN THE GUARDRAIL, PROPERLY LOCATED, TO ALLOW THE INSPECTOR ACCESS ONTO THE SCAFFOLDING. THE RAILS AND UPRIGHTS MUST BE EITHER METAL OR WOOD. IF PIPE RAILING IS USED, THE RAILING MUST HAVE A NOMINAL DIAMETER OF NO LESS THAN ONE AND ONE HALF INCHES. IF STRUCTURAL STEEL RAILING IS USED, THE RAILS MUST BE 2 X 2 X 3/8 INCH STEEL ANGLES OR OTHER METAL SHAPES OF EQUAL OR GREATER STRENGTH. IF WOOD RAILING IS USED, THE RAILING MUST BE 2 X 4 INCH (NOMINAL) STOCK. ALL UPRIGHTS MUST BE SPACED AT NO MORE THAN 8 FEET ON CENTER. IF WOOD UPRIGHTS ARE USED, THE UPRIGHTS MUST BE 2 X 4 INCH (NOMINAL) STOCK.

WHEN THE SURFACE TO BE INSPECTED IS MORE THAN 15 FEET ABOVE THE GROUND OR WATER, AND THE SCAFFOLDING IS SUPPORTED FROM THE STRUCTURE BEING PAINTED, THE CONTRACTOR MUST PROVIDE THE INSPECTOR WITH A SAFETY BELT AND LIFELINE. THE LIFELINE MUST NOT ALLOW A FALL GREATER THAN 6 FEET. THE CONTRACTOR MUST PROVIDE A METHOD OF ATTACHING THE LIFELINE TO THE STRUCTURE INDEPENDENT OF THE SCAFFOLDING, CABLES, OR BRACKETS SUPPORTING THE SCAFFOLDING. WHEN SCAFFOLDING IS MORE THAN TWO AND ONE HALF FEET ABOVE THE GROUND, THE CONTRACTOR MUST PROVIDE A LADDER FOR ACCESS ONTO THE SCAFFOLDING. THE LADDER AND ANY EQUIPMENT USED TO ATTACH THE LADDER TO THE STRUCTURE MUST BE CAPABLE OF SUPPORTING 250 POUNDS WITH A SAFETY FACTOR OF AT LEAST FOUR (4). ALL RUNGS, STEPS, CLEATS, OR TREADS MUST HAVE UNIFORM SPACING AND MUST NOT EXCEED 12" ON CENTER. AT LEAST ONE SIDE RAIL MUST EXTEND AT LEAST 36" ABOVE THE LANDING NEAR THE TOP OF THE LADDER. AN ADDITIONAL LANDING MUST BE REQUIRED WHEN THE DISTANCE FROM THE LADDER TO THE POINT WHERE THE SCAFFOLDING MAY BE ACCESSED, EXCEEDS 12". THE LANDING MUST BE A MINIMUM OF AT LEAST 24" WIDE AND 24" LONG. IT MUST ALSO BE OF ADEQUATE SIZE AND SHAPE SO THAT THE DISTANCE FROM THE LANDING TO THE POINT WHERE THE SCAFFOLDING IS ACCESSED DOES NOT EXCEED 12". THE LANDING MUST BE RIGID AND FIRMLY ATTACHED TO THE LADDER; HOWEVER, IT MUST NOT BE SUPPORTED BY THE LADDER. THE SCAFFOLDING MUST BE CAPABLE OF SUPPORTING A MINIMUM OF 1000 LBS. IN ADDITION TO THE AFOREMENTIONED REQUIREMENTS, THE CONTRACTOR IS STILL RESPONSIBLE TO OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS, ORDERS AND DECREES. THE CONTRACTOR MUST FURNISH ALL NECESSARY TRAFFIC CONTROL TO PERMIT INSPECTION DURING AND AFTER ALL PHASES OF THE PROJECT.

10.0 PROTECTION OF PERSONS AND PROPERTY

THE CONTRACTOR MUST INSTALL AND MAINTAIN SUITABLE SHIELDS OR ENCLOSURES TO PREVENT DAMAGE TO ADJACENT BUILDINGS, PARKED CARS, TRUCKS, BOATS, OR VEHICLES TRAVELING ON, OVER, OR UNDER STRUCTURES HAVING GALVANIZED REPAIRS. THEY MUST BE SUITABLY ANCHORED AND REINFORCED TO PREVENT INTERFERING WITH NORMAL TRAFFIC OPERATIONS IN THE OPEN LANES. PAYMENT FOR THE SHIELDS MUST BE INCLUDED AS INCIDENTAL TO THE APPLICABLE FIELD COATING OPERATION. WORK MUST BE SUSPENDED WHEN DAMAGE TO ADJACENT BUILDINGS, MOTOR VEHICLES, BOATS, OR OTHER PROPERTY IS OCCURRING. WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY, THE CONTRACTOR MUST RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY, TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE.

11.0 POLLUTION CONTROL

THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO COMPLY WITH POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF FEDERAL, STATE OR LOCAL AGENCIES.

12.0 METHOD OF MEASUREMENT

THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO GALVANIZE AND TO FABRICATE THE STRUCTURAL STEEL IN ACCORDANCE WITH CMS 513 AND PERFORM ANY NECESSARY FIELD REPAIR SHALL BE INCLUDED IN THE APPLICABLE CMS 513, AS PER PLAN ITEM.

13.0 BASIS OF PAYMENT

PAYMENT WILL BE MADE AT CONTRACT PRICES FOR THE APPLICABLE CMS 513, AS PER PLAN ITEM.

ITEM 513 - STRUCTURAL STEEL, MISC.: GALVANIZE EXISTING AND NEW TRUSS MEMBERS, STRINGERS, HANGER BOLTS, BEARINGS, AND HARDWARE

WORK UNDER THIS ITEM INCLUDES THE TRANSPORT, CLEANING AND GALVANIZATION OF THE EXISTING STRUCTURAL STEEL DESIGNATED FOR REUSE IN THE REHABILITATED BRIDGE AND THE GALVANIZATION OF NEWLY REFACTRICATED BRIDGE MEMBERS.

THE CLEANING AND GALVANIZING OF THE MEMBERS SHALL BE PER THE "GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL BRIDGES" NOTE.

AFTER GALVANIZING, THE NEW AND EXISTING STRUCTURAL STEEL MEMBERS SHALL BE SHIPPED TO THE FABRICATOR FOR SHOP FIT UP OF THE CONNECTIONS TO THE NEW AND EXISTING STRUCTURAL STEEL MEMBERS.

PAYMENT FOR THE WORK DESCRIBED ABOVE SHALL BE PER THE LUMP SUM BID PRICE FOR ITEM 513 - STRUCTURAL STEEL, MISC.: GALVANIZE EXISTING AND NEW TRUSS MEMBERS, STRINGERS, AND HARDWARE.

ITEM 513 - STRUCTURAL STEEL, MISC.: LEVEL UP, CONTINGENCY QUANTITY, BEARINGS

WORK UNDER THIS ITEM INCLUDES FABRICATION OF TRUSS END POST BEARINGS DEEMED NECESSARY AS PER INSPECTION AFTER TRUSS DISASSEMBLY, CLEANING AND INSPECTION. THE EXISTING TRUSS BEARING MEMBER SHALL BE UTILIZED AS THE PROTOTYPE FOR FABRICATION OF THE NEW BEARING.

PAYMENT FOR THE ABOVE INDICATED WORK SHALL BE PER EACH.

ITEM SPECIAL 519 - PATCHING CONCRETE STRUCTURES: REFURBISHING ABUTMENT BEARING AREAS

WORK UNDER THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, AND INCIDENTALS REQUIRED TO PREPARE THE EXISTING ABUTMENT SEATS FOR THE BEARING DEVICES. THE BEARING AREAS SHALL BE MADE FLAT AND SMOOTHLY FINISHED.

THE BRIDGE SEAT AREA SHALL BE GROUND TO THE ELEVATION GIVEN IN THE PLANS. THE BRIDGE SEAT AREA WILL THEN BUILT UP TO THE FINISHED GRADE IN ACCORDANCE WITH ITEM 519. PLACE EPOXY URETHANE CONCRETE SEALER ON THE BRIDGE SEAT BUT NOT UNDER THE ELASTOMERIC STRIP BEARING AREA.

PAYMENT SHALL BE MADE AT THE CONTRACT BID PRICE FOR ITEM SPECIAL, SF, PATCHING CONCRETE STRUCTURES: REFURBISHING ABUTMENT BEARING AREAS.

ITEM 516 - 1/8" PREFORMED BEARING PADS (6"x6")

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 6"x6", UNDER THE ELASTOMERIC STRIP WHERE REQUIRED FOR PROPER BEARING. FURNISH FOUR SHIMS PER ABUTMENT. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES UNDER THE CONTRACT BID PRICE FOR ITEM 516 - 1/8" PREFORM BEARING PAD. ANY UNUSED SHIMS WILL BECOME PROPERTY OF THE COUNTY.

ADDITIONAL 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 6"x6", SHALL BE PLACED BETWEEN THE STRINGERS AND FLOOR BEAM WHERE REQUIRED FOR PROPER BEARING. V-EPOXY-R FROM THE DS BROWN COMPANY OR APPROVED EQUAL EPOXY ADHESIVE SHALL BE USED TO ATTACH THE 1/8" PREFORMED BEARING PADS TO THE FLOOR BEAMS. FURNISH THREE SHIMS PER FLOOR BEAM. ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED FOR THE PLACEMENT OF THE SHIMS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR ITEM 516 - 1/8" PREFORM BEARING PAD, EACH. ANY UNUSED SHIMS WILL BECOME PROPERTY OF THE COUNTY.

ITEM 516 - 1/8" PREFORMED BEARING PADS (12"x14")

PLACE 1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 12"x14", UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. FURNISH ONE SHIMS PER END POST BEARING. THE COUNTY WILL PAY FOR ACCEPTED QUANTITIES UNDER THE CONTRACT BID PRICE FOR ITEM 516 - 1/8" PREFORM BEARING PAD. ANY UNUSED SHIMS WILL BECOME PROPERTY OF THE COUNTY.

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GENERAL NOTES BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK	DESIGN AGENCY  KOHLI & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2344 Bates Road, Ave., Lima, Ohio 45803 419-227-1155
PUT-TR M-6-5-75 PID No. 98795	REVIEWED DATE DGB 3/21/2016 STRUCTURE FILE NUMBER 6932509
DESIGNED DJK CHECKED BLS	DRAWN DJK REVISED XXX
5 / 23	16 34

ITEM SPECIAL 530 - STRUCTURE, MISC.: 4" STRIP FLOOR

DESCRIPTION:
 TIMBER SHALL CONSIST OF FURNISHING, CUTTING, PRESERVATIVE TREATMENT, PLACING AND ERECTING OF TIMBER AND THE FURNISHING AND INSTALLING OF ALL NECESSARY HARDWARE, AS SPECIFIED. THE TIMBER STRIP FLOOR SHALL CONSIST OF NO. 1 DENSE MIXED SOUTHERN PINE OR SOUTHERN PINE AS RATED BY THE SOUTHERN PINE INSPECTION BUREAU; OR AN ALTERNATE WOOD TYPE, ACCEPTED BY THE ENGINEER, WITH AN ALLOWABLE BENDING STRESS EQUAL OR GREATER THAN $F > 1600$ (WET SERVICE CONDITION).

MATERIALS:
 MATERIALS SHALL CONFORM TO THE FOLLOWING:
 STRUCTURAL TIMBER AND LUMBER SHALL CONFORM TO AASHTO M 168 WITH THE FOLLOWING ADDITIONS: TIMBER AND LUMBER SHALL BE AIR DRIED OR KILN DRIED TO A MOISTURE CONTENT NOT TO EXCEED 19 PERCENT BY WEIGHT. SIZE AND GRADE SHALL CONFORM TO AMERICAN LUMBER STANDARDS. ALL STRUCTURAL TIMBER AND LUMBER ORIGINATING WITHIN THE STATE OF OHIO SHALL BE SUBJECT TO INSPECTION BY AN AUTHORIZED INSPECTOR OF THE DEPARTMENT. ALL UNTREATED LUMBER ORIGINATING OUTSIDE THE STATE OF OHIO SHALL BE GRADED UNDER THE RULES OF ONE OF THE FOLLOWING ASSOCIATIONS:

- (1) WEST COAST LUMBER INSPECTION BOARD
- (2) WESTERN WOOD PRODUCTS ASSOCIATION
- (3) SOUTHERN PINE INSPECTION BUREAU
- (4) NORTHERN HARDWOOD AND PINE MANUFACTURERS ASSOCIATION

THE UNTREATED LUMBER SHALL BE GRADED BY AND BEAR THE MARK OF AN AGENCY CERTIFIED FOR GRADING LUMBER UNDER THE RULES OF ONE OF THE ABOVE ASSOCIATIONS. THE LABORATORY HAS A LISTING OF APPROVED AGENCIES. ALL TREATED TIMBER AND LUMBER ORIGINATING OUTSIDE THE STATE OF OHIO SHALL BE CERTIFIED BEFORE TREATMENT AS TO GRADE, SPECIES AND GRADING AGENCY BY THE FOLLOWING MEANS:

- (A) A CERTIFICATE OF INSPECTION FROM AN APPROVED GRADING AGENCY.
- (B) A MARK OF IDENTIFICATION ON ONE END OF EACH PIECE INDICATING THE GRADE, GRADING AGENCY, AND PRODUCER. SUCH IDENTIFICATION IS TO BE APPLIED BY THE MANUFACTURER PRODUCING THE MATERIAL.

PRESERVATIVE TREATMENT FOR STRUCTURAL TIMBER AND LUMBER:

STRUCTURAL TIMBER AND LUMBER SHALL CONFORM TO THE CURRENT AWP A STANDARDS AND REQUIREMENTS OF THIS SPECIFICATION.

MATERIAL TREATED WITHIN THE STATE OF OHIO SHALL EITHER BE INSPECTED BY AN AUTHORIZED INSPECTOR OF THE DEPARTMENT OR, WHERE SUCH INSPECTION IS WAIVED, THE COMPANY TREATING THE MATERIAL SHALL SUBMIT FOR EACH CHARGE:

- (1) CHARTS FROM AUTOMATIC RECORDING INSTRUMENTS SHOWING CONDITIONS WITHIN THE TREATING CYLINDER AT ALL TIMES DURING TREATMENT
- (2) COMPUTATIONS SHOWING THE VOLUME OF WOOD IN THE CHARGE, THE VOLUME OF PRESERVATIVE MATERIAL USED AND THE FINAL NET RETENTION OF EACH CHARGE.
- (3) APPROXIMATELY ONE DOZEN REPRESENTATIVE CORES TAKEN FROM THE MATERIAL WITH AN INCREMENT BORER. THE DEPARTMENT SHALL BE NOTIFIED AT LEAST 72 HOURS (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS) IN ADVANCE OF THE TREATING OF THE MATERIAL.

MATERIAL TREATED OUTSIDE THE STATE OF OHIO SHALL BEAR THE IDENTIFICATION MARK OF THE INSPECTION AGENCY. A CERTIFICATE OF INSPECTION FOR TREATMENT SHALL BE FORWARDED TO THE DEPARTMENT. AN AGENCY QUALIFIED AND APPROVED BY THE DEPARTMENT FOR SUCH INSPECTION SHALL MAKE THE REQUIRED INSPECTION AND THE COST OF THIS INSPECTION AND FURNISHING OF THE REPORTS SHALL BE INCLUDED IN THE PRICE BID FOR MATERIAL. THE SUPPLIER SHALL FURNISH A NOTARIZED CERTIFICATE OF CONFORMANCE WITH EACH SHIPMENT OF MATERIAL STATING THE SIZE, SPECIES, QUANTITY SHIPPED, PROJECT NUMBER, SOURCE OF MATERIAL, WHERE TREATED, TYPE OF TREATMENT, DATE TREATED, RETENTION IN POUNDS PER CUBIC FOOT, CHARGE NUMBER, INSPECTION AGENCY, INSPECTION REPORT NUMBER, AND DATE ISSUED.

MATERIALS:
 THE TIMBER MEMBERS SHALL BE TREATED BY CHROMATED COPPER ARSENATE (CCA) IN ACCORDANCE WITH AWP A STANDARD P5-02, STANDARD FOR WATERBORNE PRESERVATIONS. THE TIMBER SHALL HAVE A MINIMUM PRESERVATIVE RETENTION OF 0.6 POUNDS PER CUBIC FOOT OF LUMBER.

PREPARATION FOR TREATMENT:

SORTING
 WHENEVER IT IS PRACTICAL THE MATERIAL SHALL BE SORTED INTO ONE KIND OR DESIGNATED GROUP OF KINDS OF WOOD AND INTO PIECES OF APPROXIMATELY EQUAL SIZE, MOISTURE AND SAPWOOD CONTENT, THIS WILL INSURE THE CONTACT OF TREATING MEDIUM WITH ALL SURFACES.

FRAMING
 ALL ADZING, BORING, CHAMFERING, FRAMING, GRADING, MORTISING, SURFACING, ETC., SHALL BE DONE PRIOR TO TREATMENT AS LONG AS PRACTICABLE.

INCISING
 A SUITABLE POWER-DRIVEN MACHINE BEFORE TREATMENT SHALL INCISE ALL TIMBER WITH THE EXCEPTION OF RAIL AND RAIL POSTS WHEN THE LEAST DIMENSION IS 2 INCHES OR OVER. LUMBER HAVING A THICKNESS OF 3 INCHES AND OVER SHALL BE INCISED ON ALL FOUR SIDES. LUMBER LESS THAN THREE INCHES THICK SHALL BE INCISED ON THE WIDE FACES ONLY, EXCEPT WHERE INDICATED ON THE PLANS. THE SPACING AND SHAPE OF THE CUTTING TEETH AND THE METHOD OF INCISING SHALL BE SUCH AS TO PRODUCE A UNIFORM PENETRATION. THE DEPTH OF THE INCISION SHALL BE NOT LESS THAN THE FOLLOWING:

SIZE	MINIMUM DEPTH OF INCISION (IN)
2 X 12	3/8
3 X 12	7/16
4 X 12	1/2
8 X 12	9/16
10 X 12	5/8
12 X 12	3/4

AMOUNT OF PRESERVATIVE
 THE NET RETENTION IN ANY CHARGE SHALL BE NOT LESS THAN 90 PERCENT OF THE QUANTITY OF PRESERVATIVE SPECIFIED; HOWEVER, THE AVERAGE RETENTION BY THE MATERIAL TREATED UNDER ANY CONTRACT OR ORDER AND THE AVERAGE RETENTION OF ANY FIVE CONSECUTIVE CHARGES SHALL BE AT LEAST 100 PERCENT OF THE QUANTITY SPECIFIED. THE MINIMUM AMOUNTS OF PRESERVATIVE RETAINED SHALL BE AS SPECIFIED BY AASHTO M 133 WHICH ARE THOSE SET FORTH IN THE REFERENCED AMERICAN WOOD-PRESERVERS' ASSOCIATION STANDARD P5-02. ALL SPECIES OF STRUCTURAL TIMBER AND LUMBER SHALL BE TREATED ACCORDING TO THE CURRENT AWP A STANDARD SPECIFICATIONS.

HARDWARE

HARDWARE SHALL BE OF A GOOD QUALITY AND STANDARD MAKE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT DIMENSIONS.

BOLTS, WASHERS, LAG SCREWS, NAILS, SPIKES, TWISTED DRIVE DOWELS, ANCHOR PLATES (FOR FLOOR) AND SIMILAR ITEMS SHALL BE CONSIDERED HARDWARE.

CAST IRON OGEE OR MALLEABLE RIBBED WASHERS SHALL BE USED UNDER THE HEADS OF LAG SCREWS AND AT BOTH ENDS OF BOLTS BEARING ON TIMBER.

ALL HARDWARE NAILS, SPIKES, TWISTED DRIVE DOWELS, CAST IRON AND MALLEABLE WASHERS SHALL BE GALVANIZED STEEL ACCORDING TO CMS 711.02.

GENERAL

HOLES FOR BOLTS SHALL BE DRILLED TO THE EXACT SIZE OF BOLTS. HOLES FOR DOWELS AND DRIFT BOLTS SHALL BE DRILLED 1/16 INCH SMALLER THAN THE DIAMETER OF THE DOWEL OR DRIFT BOLT. HOLES FOR LAG SCREWS SHALL BE NEAT SIZE IN THE HELD TIMBER AND THE SIZE OF THE SCREW AT ROOT OF THREADS FOR THE HOLDING TIMBER.

STRIP FLOOR:

THE TIMBER SHALL BE ALL OF THE SAME SPECIES IN ANY ONE STRUCTURE, SURFACED ON ALL SIDES. THE DECK SHALL HAVE A NOMINAL HEIGHT OF 4 INCHES, WITH A FINISHED HEIGHT OF 3 1/2 INCHES. STRIPS SHALL HAVE A WIDTH NOT TO EXCEED 3 INCHES EXCEPT FOR END BLOCKS AT DECK JOINTS. THERE SHALL BE NO VARIATION OF MORE THAN 1/8 INCH FROM THE SPECIFIED DIMENSIONS IN MATERIAL HAVING THE SAME AMOUNT OF SURFACING AND NO VARIATION OF DEPTH OF MORE THAN 1/8 INCH BETWEEN ADJACENT STRIPS. ALL STRIPS ON A STRUCTURE SHALL HAVE THE SAME SURFACING. STRIPS SHALL EXTEND ENTIRELY ACROSS THE ROADWAY WITH NO SPLICES.

EACH STRIP OF FLOOR SHALL BE PLACED AGAINST THE PRECEDING STRIP LAID, THE GREATER DIMENSION BEING VERTICAL, AND SHALL BE SPIKED TO THE PRECEDING STRIP AT EACH END AND AT APPROXIMATELY 12 INCH INTERVALS USING CUT SPIKES OR DRIVE DOWELS OF 1/4 INCH NOMINAL SIZE THAT WILL REACH THROUGH THE ADJACENT STRIP. THE STRIPS SHALL BE SECURELY FASTENED TO THE STEEL STRINGERS BY THE USE OF APPROVED METAL CLIPS. CARE SHALL BE TAKEN TO HAVE EACH STRIP VERTICAL AND TIGHT AGAINST THE PRECEDING ONE AND BEARING EVENLY ON ALL THE JOISTS. ANY SPECIAL TOOLS OR EQUIPMENT NECESSARY TO SECURE THIS RESULT SHALL BE USED. THE STRIPS SHALL BE LAID IN STRAIGHT PARALLEL LINES. IF THE LAST STRIP PLACED DOES NOT FIT SNUGGLY AGAINST THE ADJACENT STRIP, CAREFUL MEASUREMENTS OF THE OPENING SHALL BE MADE AND STRIPS OF LENGTH TO PROPERLY STAGGER THE JOINTS SHALL BE RIPSAWN TO MAKE A TIGHT FIT. IN NO CASE WILL SPREADING OF ADJACENT STRIPS TO TAKE UP THIS FINAL GAP DISTANCE BE PERMITTED.

METHOD OF MEASUREMENT:

STRIP FLOORS, INCLUDING THE END PLANKS FOR STRIP FLOORS, SHALL BE MEASURED IN SQUARE FEET.

BASIS OF PAYMENT

PAYMENT WILL BE MADE AT CONTRACT PRICES PER SQ. FT. FOR ITEM SPECIAL - STRUCTURE, MISC.: 4" STRIP FLOOR

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PUT-TR M-6-5.75	GENERAL NOTES	BRIDGE NO. PUT-M-6-0575 OVER RILEY CREEK	DESIGN AGENCY KOHL & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2544 Baton Rouge Ave., Lima, Ohio 43105 419-227-1155
PID No. 98795	REVIEWED DOB	DATE 3/21/2016	STRUCTURE FILE NUMBER 6932509
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ESTIMATED QUANTITIES								
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	SHEET #
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN		LUMP		3
202	23501	154	SY	WEARING COURSE REMOVED, AS PER PLAN		154		3
407	10000	8	GAL	TACK COAT		8		
441	50000	8	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22		8		
503	21300	LUMP		UNCLASSIFIED EXCAVATION			LUMP	
512	10100	158	SY	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	158			2,8,9
512	33001	132	SY	TYPE 2 WATERPROOFING, AS PER PLAN (ON TIMBER DECK)		132		3,11
512	33001	36	SY	TYPE 2 WATERPROOFING, AS PER PLAN (ON STRINGERS)		36		3,11
513	10001	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN		LUMP		3,20
513	10120	LUMP		STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN (FLOOR BEAM FABRICATION)		LUMP		3
513	10241	13578	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN		13578		3,11
513	90000	510	LB	STRUCTURAL STEEL, MISC.: LEVEL 6, CONTINGENCY QUANTITIES, LOWER CHORD MEMBER FABRICATION		510		3
513	95020	LUMP		STRUCTURAL STEEL, MISC.: DISASSEMBLE EXISTING TRUSS		LUMP		3
513	95020	LUMP		STRUCTURAL STEEL, MISC.: REASSEMBLE TRUSS		LUMP		3
513	95020	LUMP		STRUCTURAL STEEL, MISC.: GALVANIZE EXISTING AND NEW TRUSS MEMEBERS, STRINGERS, HANGER BOLTS, BEARINGS AND HARDWARE		LUMP		5
513	95030	12	EACH	STRUCTURAL STEEL, MISC.: LEVEL 6, CONTINGENCY QUANTITIES, HANGER BOLT FABRICATION		12		3
513	95030	2	EACH	STRUCTURAL STEEL, MISC.: LEVEL UF, CONTINGENCY QUANTITIES, BEARINGS		2		5
516	20000	15	SF	3/4" ELASTOMERIC ERECTION STRIP (6"x14'-2"x3/4")			15	
SPECIAL	51631200	28	FT	SAWING AND SEALING OF BITUMINOUS CONCRETE JOINTS			28	23A
516	41100	26	EACH	1/8" PREFORMED BEARING PADS (6"x6")			26	5
516	41100	4	EACH	1/8" PREFORMED BEARING PADS (12"x14")			4	5
516	42000	4	EACH	ELASTOMERIC BEARING PAD, MISC.: 1/4"x12"x14"			4	
517	70001	189	FT	RAILING (TWIN STEEL TUBE), AS PER PLAN		189		11,19
SPECIAL	51822300	215	FT	STEEL DRIP STRIP		215		
519	11101	755	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	755			2
SPECIAL	51911600	161	SF	PATCHING CONCRETE STRUCTURE: REFURBISHING ABUTMENT BEARING AREAS	161			5
SPECIAL	53000600	57	SF	STRUCTURE MISC.: TIMBER BACKWALL	57			
SPECIAL	53000600	1187	SF	STRUCTURE, MISC.: 4" STRIP FLOOR		1187		

ESTIMATED QUANTITIES
BRIDGE NO. PUT-M6-0575
OVER RILEY CREEK

PUT-TR M-6-5.75
PID No. 98795

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DESIGN AGENCY
KOHJI J. KALNER ASSOCIATES, INC.
ENGINEERS AND SURVEYORS
224 State Street Ave., Lima, Ohio 43004 615-227-1118

DATE
3/21/2016

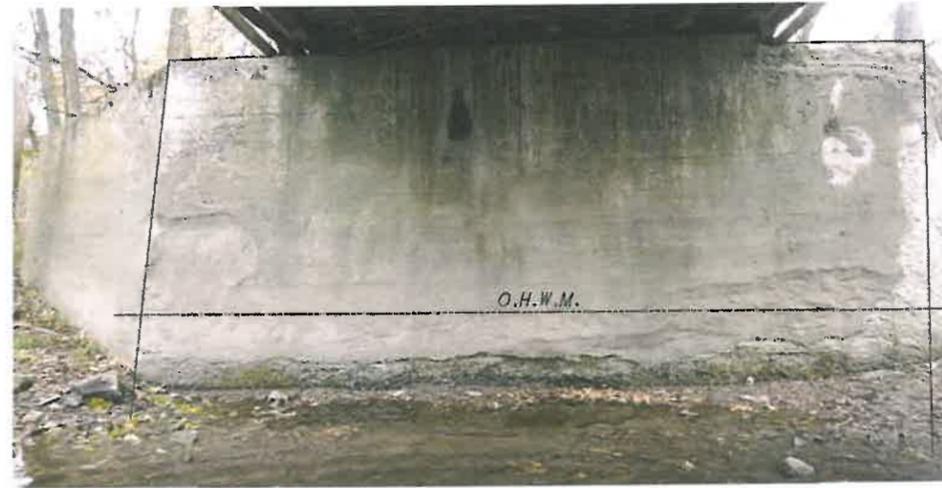
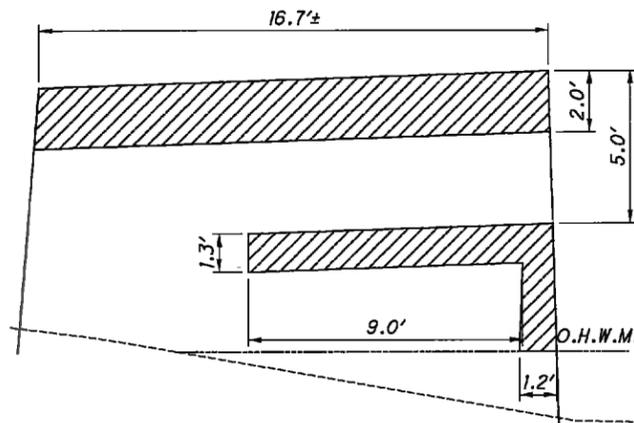
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DESIGNED
DJK
BLS

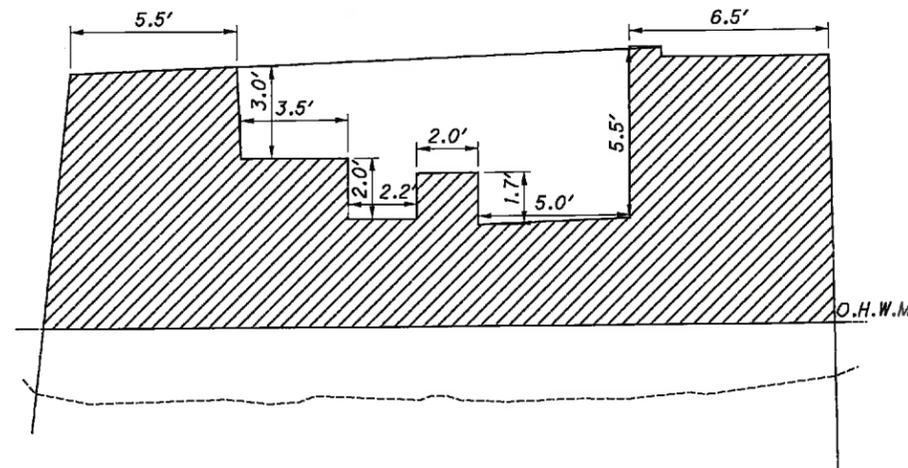
STRUCTURE FILE NUMBER
6932509



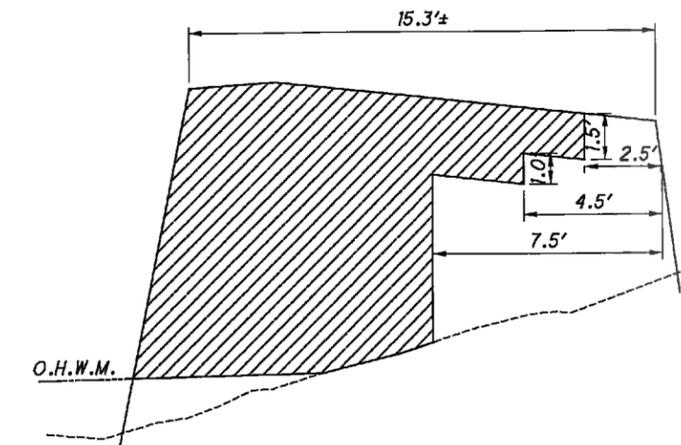
SOUTH EAST WINGWALL



SOUTH (REAR) ABUTMENT



SOUTH WEST WINGWALL



NOTE: NO WORK IS TO BE PERFORMED BELOW THE ORDINARY HIGH WATER MARK (O.H.W.M.)
O.H.W.M = ELEV. 733.49

 ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

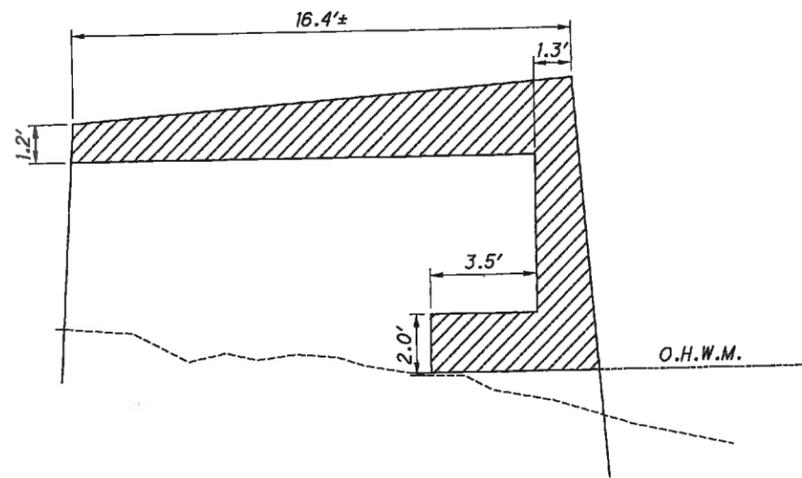
SEAL EXPOSED ABUTMENT CONCRETE SURFACES ABOVE THE ORDINARY HIGH WATER MARK WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE)

DESIGNED		DJK	CHECKED	BLS
DRAWN		DJK	REVISED	XXX
REVIEWED	DGB	DATE	3/21/2016	STRUCTURE FILE NUMBER
6932509		DESIGN AGENCY		
 KOHLI & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 244 Balcon Ridge Ave., Lima, Ohio 45805 419-227-1155				
REAR ABUTMENT DETAILS BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK				
PUT-TR M-6-5.75		PID No. 98795		
8 / 23		19 / 34		

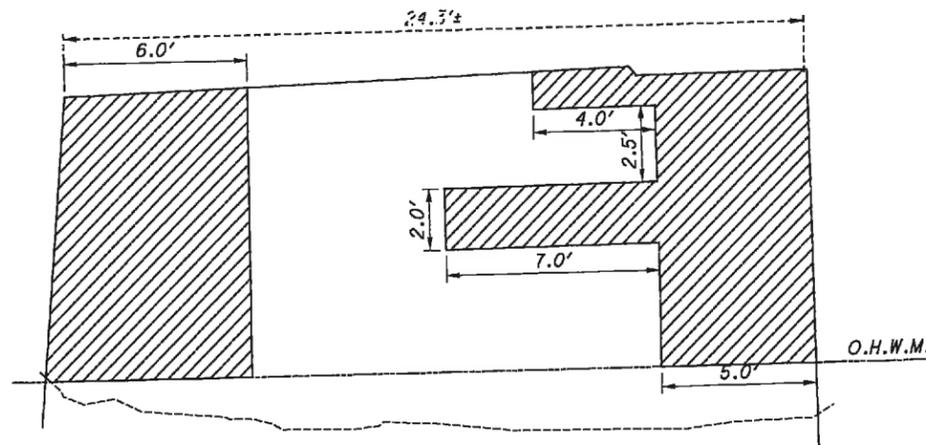
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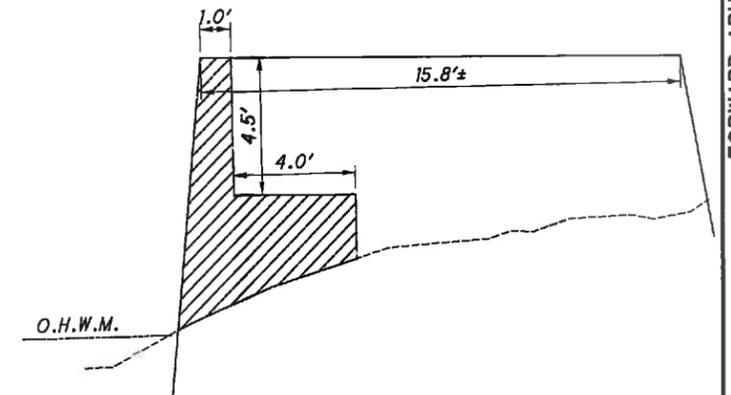
NORTH WEST WINGWALL



NORTH (FORWARD) ABUTMENT



NORTH EAST WINGWALL



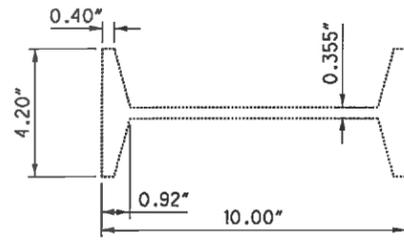
NOTE: NO WORK IS TO BE PERFORM BELOW THE ORDINARY HIGH WATER MARK (O.H.W.M)
O.H.W.M = ELEV. 733.49

 ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

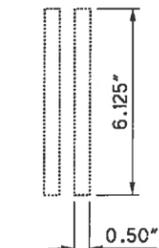
SEAL EXPOSED ABUTMENT CONCRETE SURFACES ABOVE THE ORDINARY HIGH WATER MARK WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE)

DESIGNED		DJK	CHECKED	BLS
DRAWN		DJK	REVISED	XXX
REVIEWED	DOB	DATE	3/21/2016	DESIGN AGENCY
STRUCTURE FILE NUMBER		6932509		KOHLHA KALHER ASSOCIATES, INC.
BRIDGE NO. PUT-M6-0575		OVER RILEY CREEK		ENGINEERS AND SURVEYORS
PID No. 98795		9/23		2844 Baton Rouge Ave., Lima, Ohio 43005 419-227-1155
PUT-TR M-6-5.75		20		
		34		

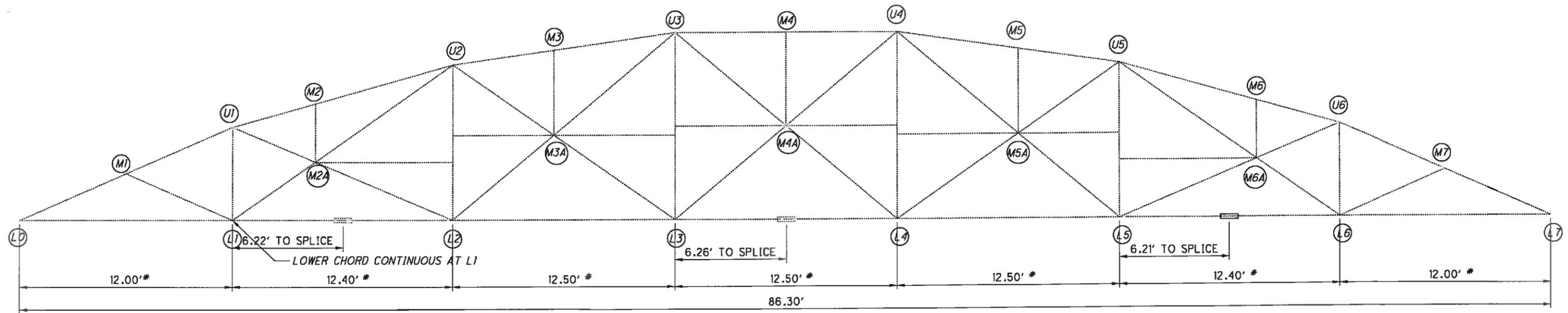
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TOP CHORD



LOWER CHORD



TRUSS ELEVATION

* USE EXISTING STEEL DIMENSIONS AS THEY VARY SLIGHTLY FROM PLAN DIMENSIONS.

DESIGN AGENCY
KOHL & KALHER ASSOCIATES, INC.
 ENGINEERS AND SURVEYORS
 2344 Baton Rouge Ave., Lima, Ohio 48806 419-227-1138

DESIGNED	DJK	CHECKED	BLS
DRAWN	DJK	REVISED	XXX
REVIEWED	DOB	STRUCTURE FILE NUMBER	6932509
DATE	3/21/2016		

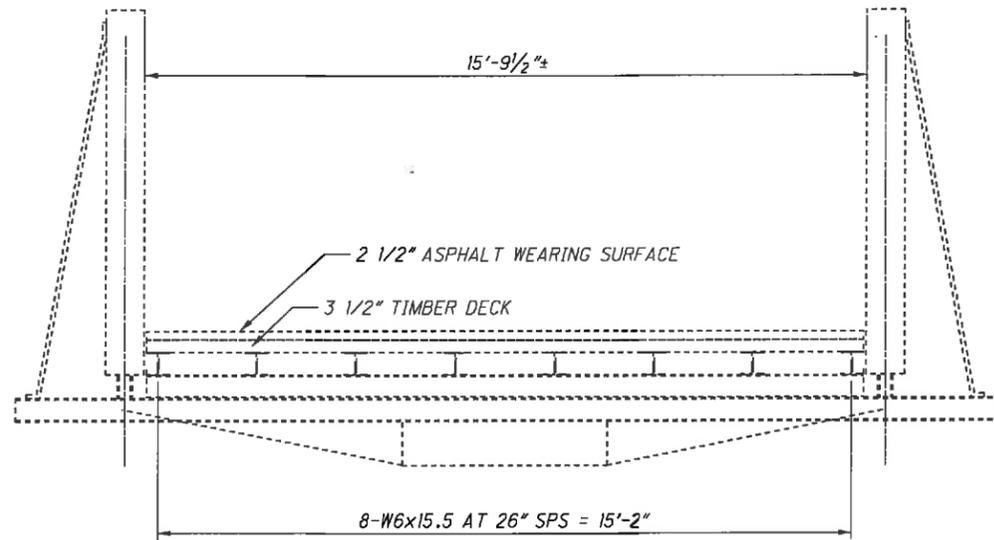
EXISTING TRUSS ELEVATION
 BRIDGE NO. PUT-M6-0575
 OVER RILEY CREEK

PUT-TR M-6-5.75
 PID No. 98795

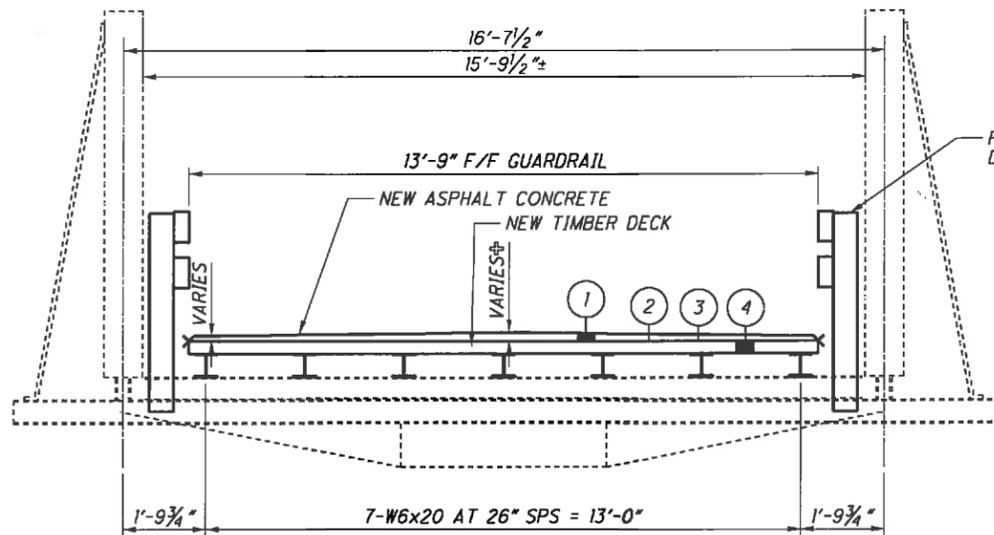
10 / 23

21
 34

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EXISTING TRANSVERSE SECTION

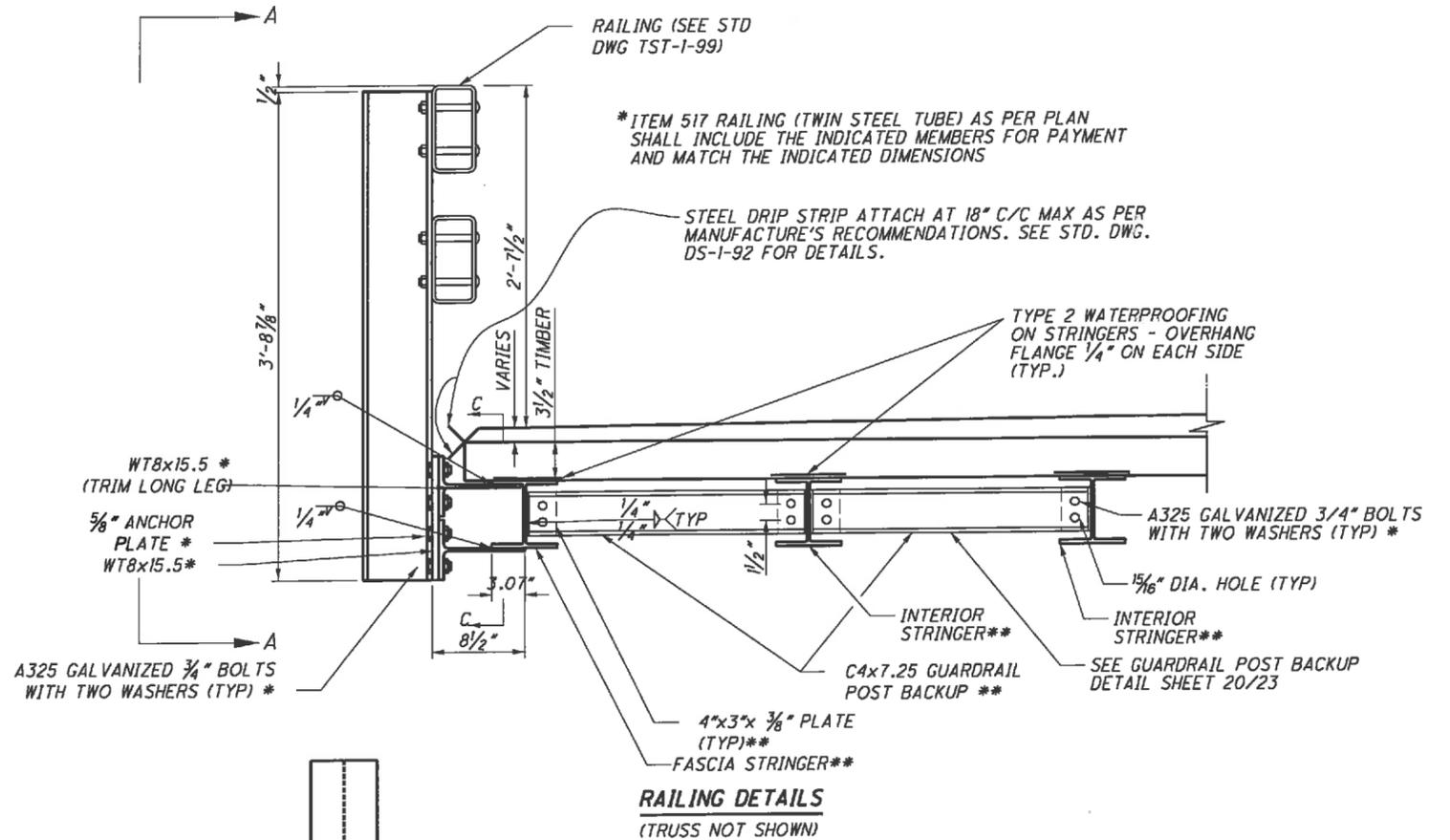


PROPOSED TRANSVERSE SECTION

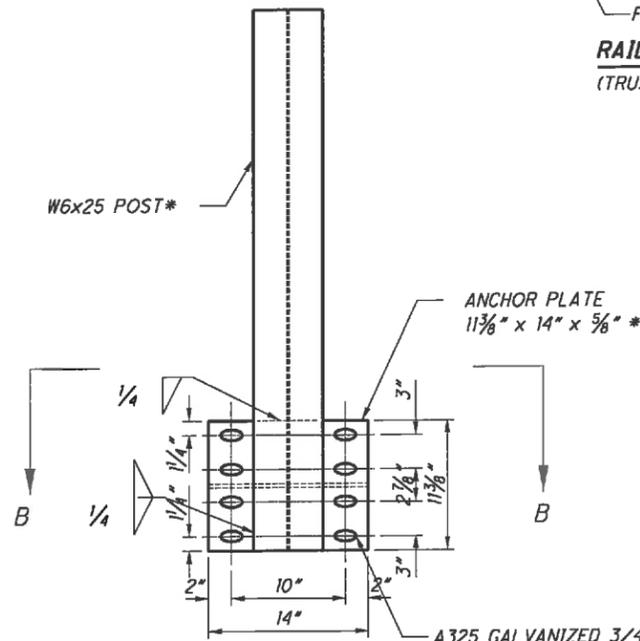
- ① ITEM 441 ASPHALT CONCRETE SURFACE COURSE TYPE 1, (448), PG 64-22
- ② ITEM 407 TACK COAT, APPLIED AT 0.055 GAL PER SQ YD ON WATERPROOFING
- ③ ITEM 512 TYPE 2 WATERPROOFING, AS PER PLAN
- ④ ITEM SPECIAL STRUCTURE, MISC: 4" (3 1/2" NOMINAL) STRIP FLOOR

⊕ SEE "VARIABLE THICKNESS DETAIL", SHEET 22/23.

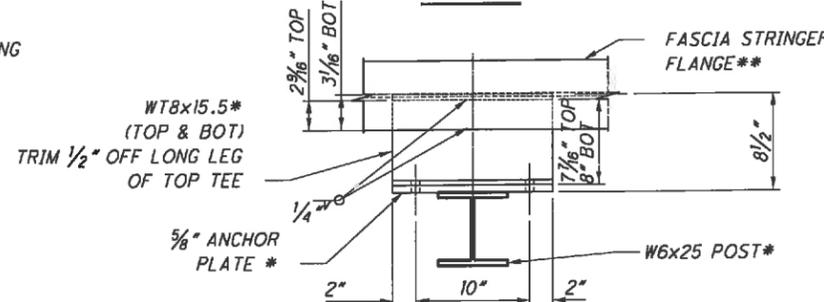
NOTE: RE-FABRICATE TRUSS FLOOR BEAMS L4, L5 AND L6 USING L3, L2, L1 TRUSS FLOORBEAM, RESPECTIVELY, AS A PROTOTYPE.



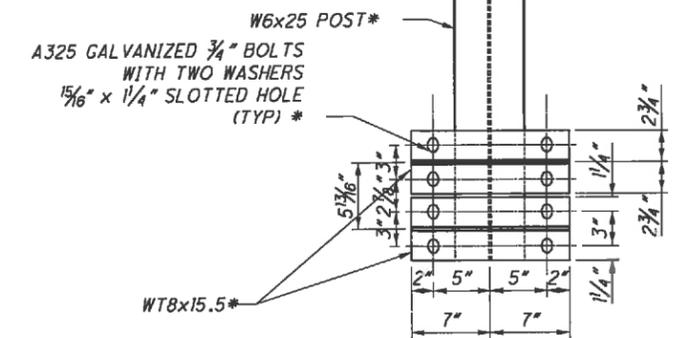
RAILING DETAILS
(TRUSS NOT SHOWN)



VIEW A-A



VIEW B-B



VIEW C-C

- * INCLUDE WITH ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN FOR PAYMENT. THE STRUCTURAL STEEL SHALL BE GALVANIZED AS DESCRIBED IN THE "GALVANIZED COATING SYSTEM FOR STRUCTURAL STEEL BRIDGES" NOTE.
- ** INCLUDE WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN FOR PAYMENT

DESIGN AGENCY	KOHLI & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2844 Balton Road, Lima, Ohio 45805 419-227-1155
REVIEWED	DATE 3/21/2016 DOB
DRAWN	STRUCTURE FILE NUMBER 6932509
CHECKED	REVISOR XXX
DESIGNED	BL.S
TRANSVERSE SECTION	
BRIDGE NO. PUT-M-6-0575 OVER RILEY CREEK	
PUT-TR M-6-5.75	PID No. 98795
11 / 23	22 / 34



LO - SOUTH EAST CORNER



BRIDGE END GUARDRAIL AT SOUTH WEST CORNER ♦



BRIDGE END GUARDRAIL AT SOUTH EAST CORNER ♦



LO - SOUTH EAST CORNER



BRIDGE END GUARDRAIL AT NORTH WEST CORNER ♦



BRIDGE END GUARDRAIL AT NORTH EAST CORNER ♦



LO - SOUTH EAST CORNER - PLAN VIEW



SOUTH WEST CORNER END GUARDRAIL CONNECTION TO TRUSS TOP CHORD

♦ THE COST FOR REPAIR, STRAIGHTENING AND FABRICATION OF PIECES TO COMPLETE THE REFURBISHING OF THE LATTICE RAILING SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN. THE COST OF GALVANIZING SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL, MISC.: GALVANIZE EXISTING AND NEW TRUSS MEMBERS, STRINGERS, HANGER BOLTS, BEARINGS AND HARDWARE.

DESIGNED		DRAWN		REVIEWED		DATE		DESIGN AGENCY	
DJK		DJK		DGB		3/21/2016		KOHL & KALHER ASSOCIATES, INC.	
CHECKED		REVISED		STRUCTURE FILE NUMBER				ENGINEERS AND SURVEYORS	
BLS		XXX		6932509				2444 Baton Rouge Ave., Lima, Ohio 46805 419-227-1185	
TRUSS DETAILS									
BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK									
PUT-TR M-6-5.75					PID No. 98795				
12/23					23/34				



JOINT M1 - TOP



JOINT M1 - BOTTOM



JOINT M2 - BOTTOM



JOINT M2 - TOP



JOINT M3 - BOTTOM



JOINT M3 - TOP



JOINT M4 - BOTTOM



JOINT M4 - TOP



M2A



M3A



M4A



U1 - TOP



U1 - BOTTOM



U2 - BOTTOM



U2 - TOP

DESIGNED		DRAWN		REVIEWED		DATE		DESIGN AGENCY	
DJK		DJK		DGB		3/21/2016		KOHLIA KALHER ASSOCIATES, INC.	
CHECKED		REVISED		STRUCTURE FILE NUMBER				ENGINEERS AND SURVEYORS	
BLS		XXX		6932509				2244 Balon Ridge Ave., Lima, Ohio 43005 419-227-1183	
TRUSS DETAILS					BRIDGE NO. PUT-M6-0575				
PUT-TR M-6-5.75					OVER RILEY CREEK				
PID No. 98795									
14 / 23									
25									
34									



U4



U2



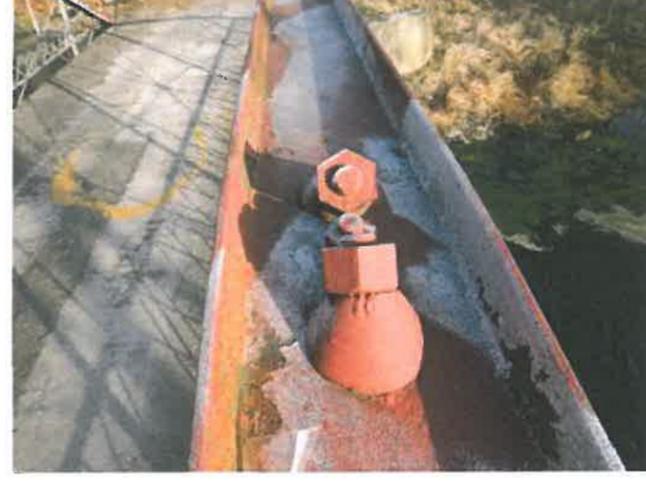
U5



U3 - BOTTOM



U5



U3 - TOP



U3



TRUSS LATERAL BRACING
L2, L3, L4, L5



L3 EAST TRUSS - LOW
LATERAL BRACING CONNECTION



L4 - LOW LATERAL
BRACING CONNECTION



L5 - SOUTH TRUSS - LATERAL TRUSS BRACE BELTED
CONNECTION TO FLOOR BEAM WILL BE
RE-ESTABLISHED WITH THE NEWLY FABRICATED FLOOR
BEAM. INCLUDE COST IN ITEM 513 - STRUCTURAL
STEEL, MEMBERS, LEVEL 6, AS PER PLAN



TYPICAL FLOOR BEAM. 0.9" HANGER BOLT. CLEAN AND GALVANIZE THE BOLT, NUTS, PLATE, AND OTHER HARDWARE FOR RE-USE.
DECISIONS REGARDING THE REUSABILITY OF A HANGER BOLT OR OTHER HARDWARE WILL BE UP TO THE COUNTY ENGINEER.
USE THE EXISTING BOLTS AND OTHER HARDWARE AS PROTOTYPES FOR FABRICATION OF NEW PARTS, AS DEEMED NECESSARY FROM THE
INSPECTION OF THE CLEANED BOLTS AND HARDWARE.
HANGER BOLTS ARE FRACTURE CRITICAL MEMBERS.



U4 - TOP LATERAL BRACE CONNECTION
CORRECT MISALIGNMENT OF TOP CHORD
UPON RE-ERECTION OF TRUSS.



U4 - BOTTOM VIEW
CORRECT MISALIGNMENT OF TOP CHORD UPON
RE-ERECTION OF TRUSS. COST SHALL BE
INCLUDED IN ITEM 513 - STRUCTURAL STEEL,
MISC.: REASSEMBLE TRUSS.

DESIGNED		DRAWN		REVIEWED		DATE		DESIGN AGENCY	
DJK	DJK	DJK	DGB	3/21/2016	KOHLI & KALHER ASSOCIATES, INC.				
BLS	XXX	BLS	XXX	6932509	ENGINEERS AND SURVEYORS				
TRUSS DETAILS									
BRIDGE NO. PUT-M6-0575									
OVER RILEY CREEK									
PUT-TR		M-6-5.75		PID No.		98795			
16		23		27		34			



TYPICAL TRUSS FLOOR BEAM L1, L2, & L3. DISASSEMBLE, CLEAN, AND GALVANIZE FOR RE-USE.
 USE L3 AS A PROTOTYPE TO FABRICATE NEW TRUSS FLOOR BEAMS AND HARDWARE FOR L4, L5, AND L6 FLOOR BEAMS.



TYPICAL HARDWARE AT LOWER CHORD FLOOR BEAMS. DISASSEMBLE, CLEAN, AND GALVANIZE FOR RE-USE AT L1, L2, AND L3. FABRICATE NEW FOR L4, L5, AND L6.

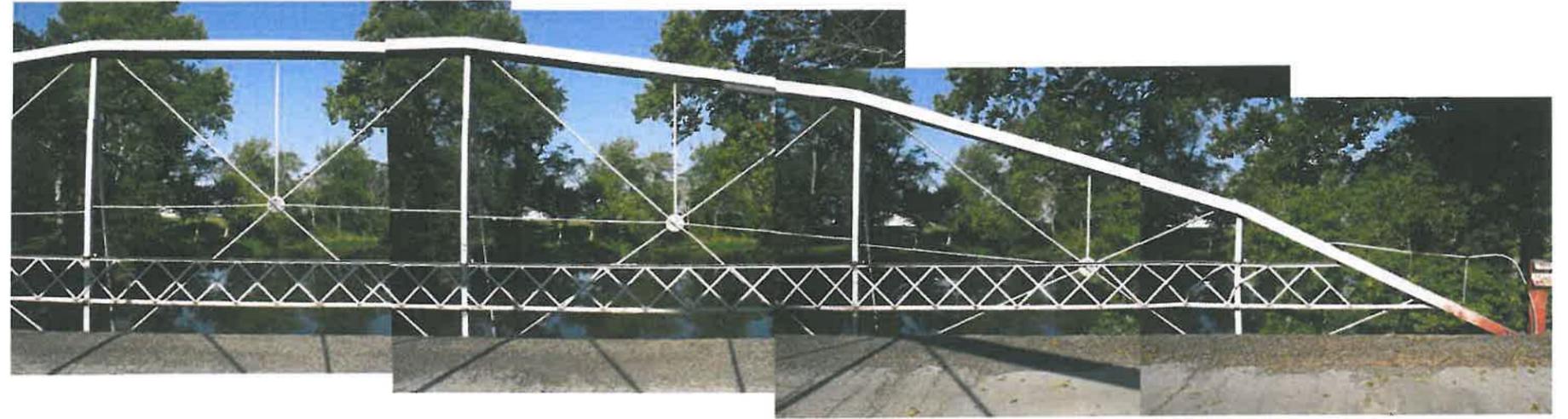


TRUSS FLOOR BEAM AT L5 - TO BE REPLACED WITH A NEWLY FABRICATED FLOOR BEAM UTILIZING L3 TRUSS FLOOR BEAM AS THE PROTOTYPE. TRUSS FLOOR BEAMS ARE FRACTURE CRITICAL MEMBERS.

DESIGNED		DRAWN		REVIEWED		DATE		DESIGN AGENCY	
DJK		DJK		DOB		3/21/2016		KOHLI & KALHER ASSOCIATES, INC.	
BLS		XXX		6932509		STRUCTURE FILE NUMBER		ENGINEERS AND SURVEYORS	
TRUSS DETAILS		BRIDGE NO. PUT-M6-0575		OVER RILEY CREEK		2244 Baton Rouge Ave., Lima, Ohio 45805		419-227-1155	
PUT-TR M-6-5.75		PID No. 98795		17 / 23		28 / 34			



SALVAGE THE GUARDRAIL HARDWARE
CLEAN AND GALVANIZE FOR RE-USE



L3

L4

L5

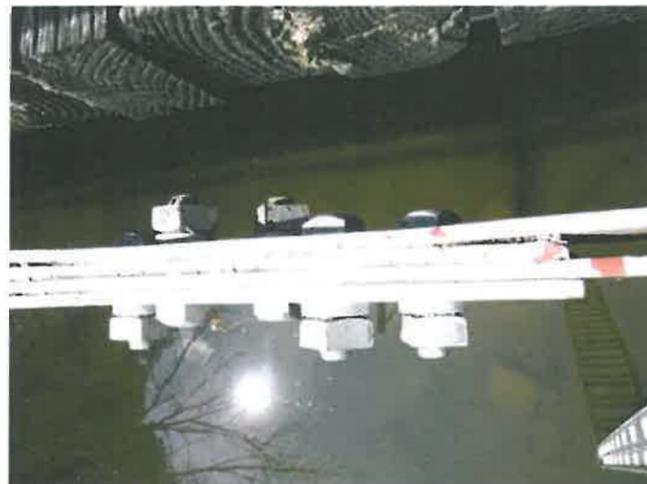
L6

L7

WEST TRUSS ELEVATION - (L3-L4-L5-L6-L7 WEST TRUSS)

SALVAGE THE GUARDRAIL - STRAIGHTEN, REPAIR, AND GALVANIZE FOR RE-USE ON BOTH THE EAST AND WEST TRUSSES.

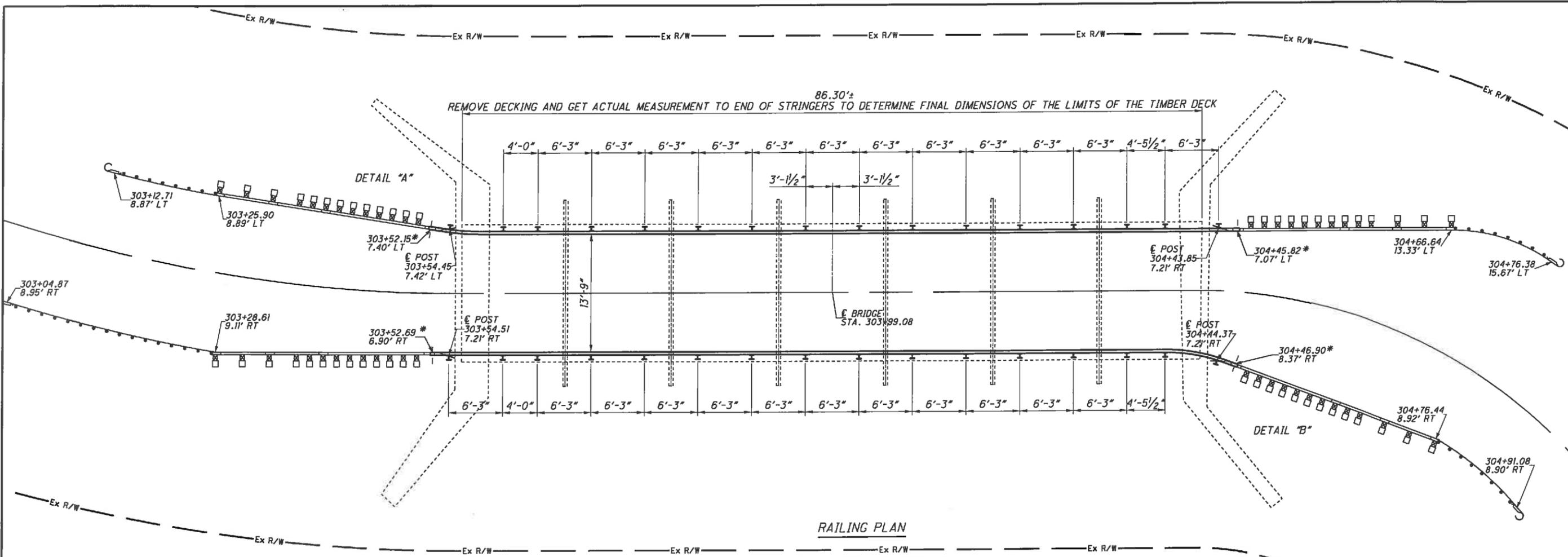
- ◆ THE COST FOR REPAIR, STRAIGHTENING AND FABRICATION OF PIECES TO COMPLETE THE REFURBISHING OF THE LATTICE RAILING SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UP, AS PER PLAN. THE COST OF GALVANIZING SHALL BE INCLUDED IN ITEM 513 - STRUCTURAL STEEL, MISC.: GALVANIZE EXISTING AND NEW TRUSS MEMBERS, STRINGERS, HANGER BOLTS, BEARINGS AND HARDWARE.



LOWER CHORD SPLICE - DISASSEMBLE SPLICE, CLEAN, GALVANIZE, AND RE-USE BOLTS, NUTS, AND LOWER CHORD.
THE SUITABILITY OF RE-USING THE BOLTS AND NUTS WHEN IN QUESTION SHALL BE DECIDED BY THE COUNTY ENGINEER.

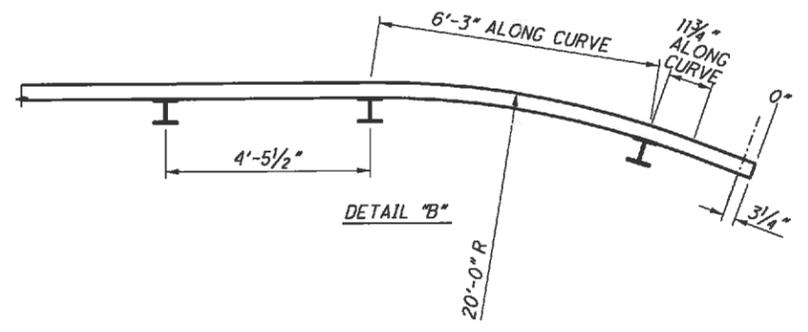
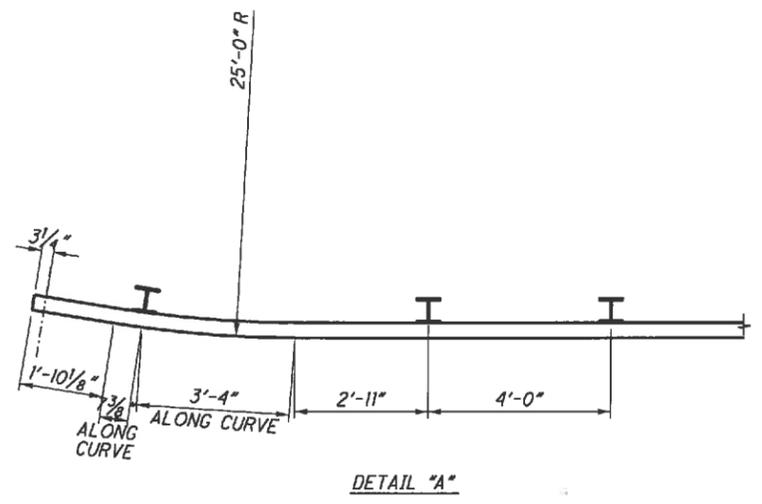
DESIGNED		DRAWN	REVIEWED	DATE	DESIGN AGENCY		
DJK	DJK	DJK	DOB	3/21/2016	KOHLI & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Balboa Regge, Ave., Lima, Ohio 45805 419-227-1135		
CHECKED	BLS	'REVISED	STRUCTURE FILE NUMBER	6932509			
TRUSS DETAILS							
BRIDGE NO. PUT-M6-0575							
OVER RILEY CREEK							
PUT-TR M-6-5.75		PID No. 98795					
18 / 23		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>29</td> </tr> <tr> <td>34</td> </tr> </table>				29	34
29							
34							

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RAILING PLAN

* ITEM 606 GUARDRAIL PAYMENT LIMITS EXTEND TO 3/4" DIA. HOLES PER STD. DWG. TST-1-99



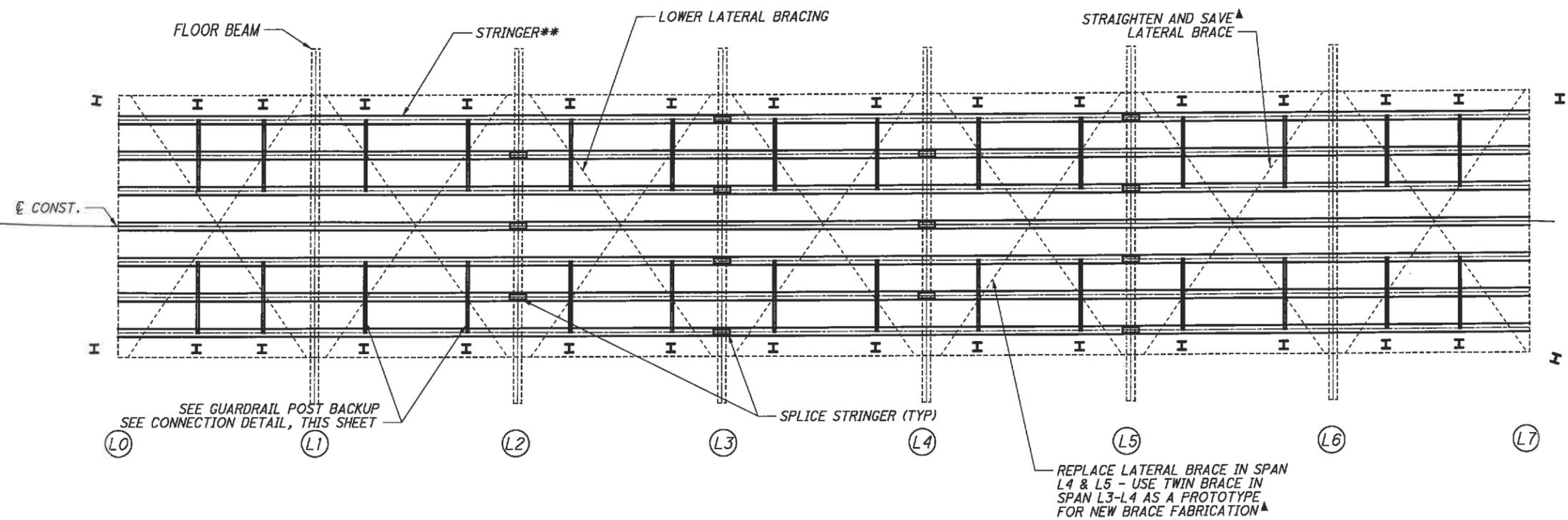
NOTE:
TST BRIDGE RAILING LEADING AND TRAILING POST SHALL BE 6'-6" LONG. POSTS SHALL BE GROUND MOUNTED AND MAY BE SET IN DRILLED HOLES OR DRIVEN TO GRADE. CARE SHALL BE TAKEN NOT TO DISTURB THE EXISTING ABUTMENTS.

SEE SHEETS 11/23 AND 20/23 FOR TWIN STEEL TUBE RAILING BRIDGE MOUNTING AND GUARDRAIL POST BACK UP DETAILS.

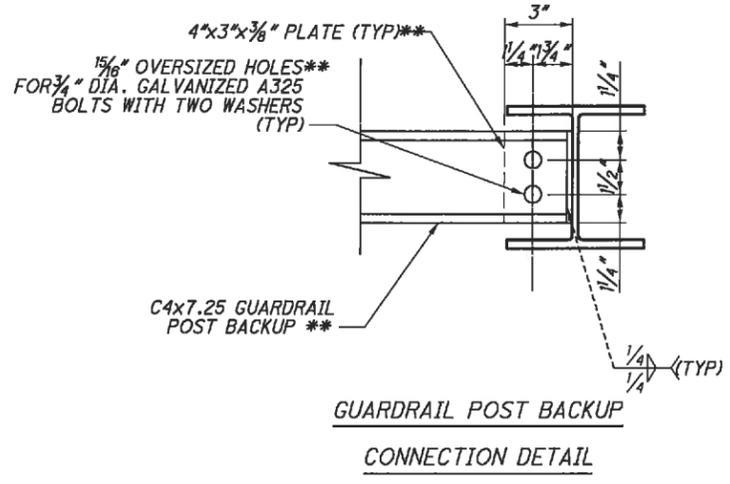
ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN: INCLUDE FABRICATION OF THE SPECIAL END DETAILS AND PROVIDE SUFFICIENT EXPANSION GAPS TO ACCOMMODATE EXPANSION RELATIVE TO THE GROUND MOUNTED GUARDRAIL POST IN ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN FOR PAYMENT.

DESIGN AGENCY KOHLI & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Balton Rouge Ave., Lima, Ohio 45805 419-227-1185	
REVIEWED DGB	DATE 8/25/2016
DRAWN DJK	STRUCTURE FILE NUMBER 6932509
CHECKED BLS	REVISED XXX
RAILING PLAN	
BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK	
PUT-TR M-6-5.75	
PID No. 98795	
19 / 23	
30 34	

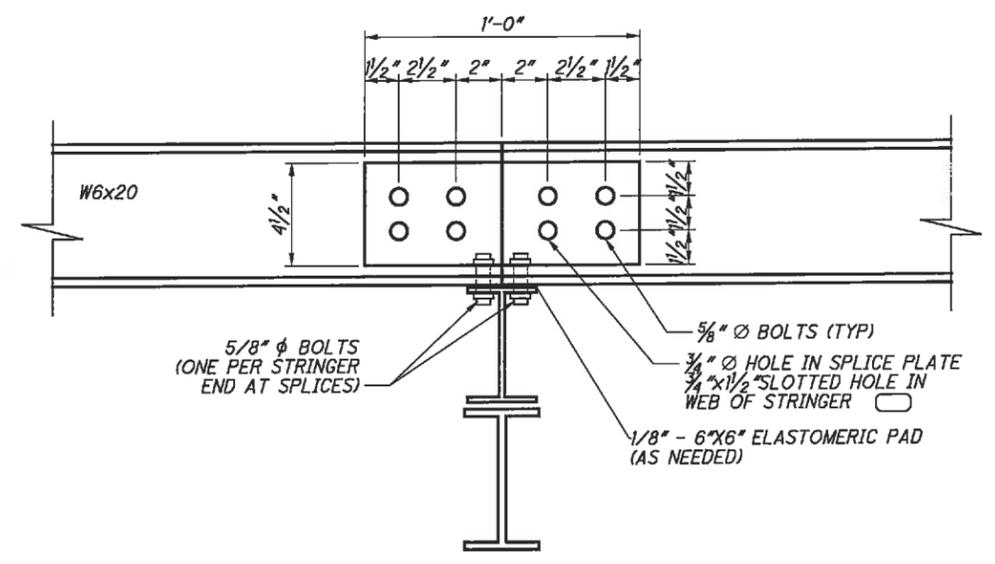
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SPLICES AT STRINGERS & FLOORBEAM CONNECTIONS



** INCLUDE WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN FOR PAYMENT

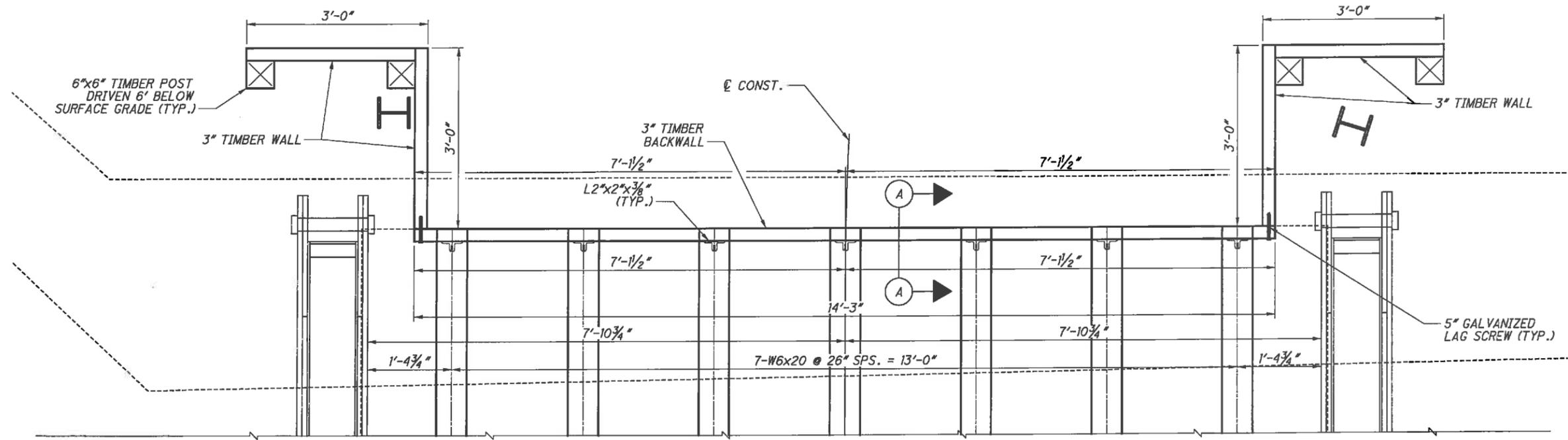


STRINGER CONNECTION & SPLICE AT FLOORBEAMS AT DESIGNATED LOCATIONS

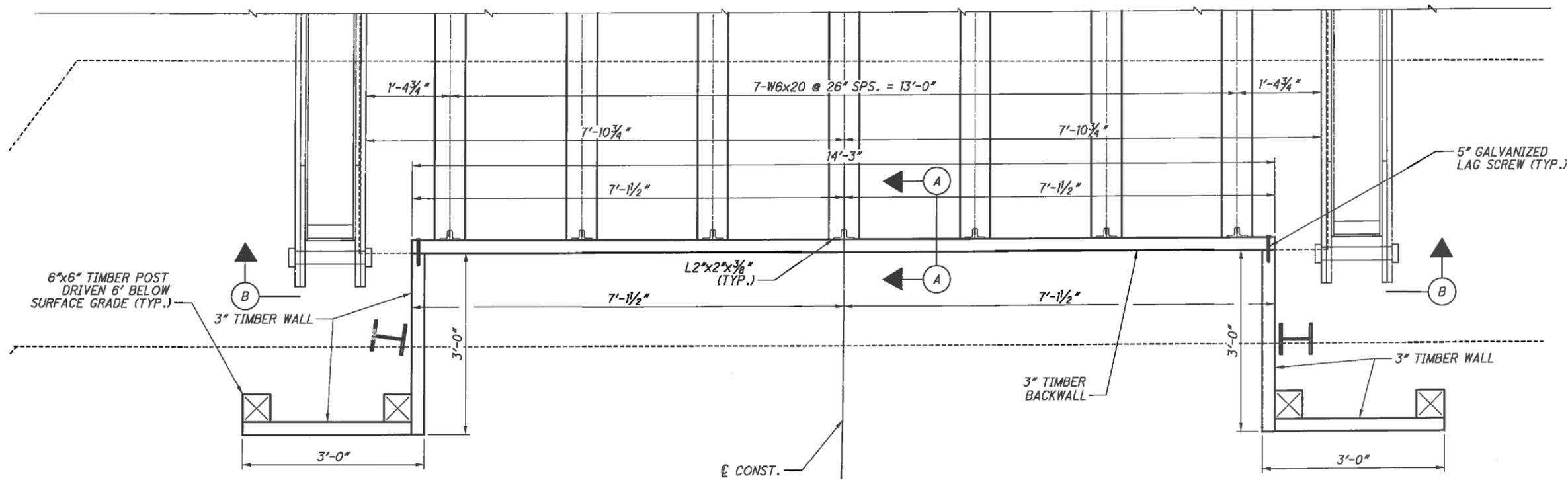
▲ INCLUDE COST IN ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

DESIGNED		DRAWN		REVIEWED		DATE		DESIGN AGENCY	
DJK	DJK	DJK	DJK	DOB	DOB	3/21/2016	3/21/2016	KOHL & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Baton Rouge Ave., Lima, Ohio 43805 418-227-1155	
CHECKED		REVISED		STRUCTURE FILE NUMBER					
BLS	BLS	XXX	XXX	6932509					
STRINGER & LOWER LATERAL BRACING DETAILS									
BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK									
PUT-TR M-6-5.75		PID No. 98795							
20/23		31/34							

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PLAN - FORWARD ABUTMENT



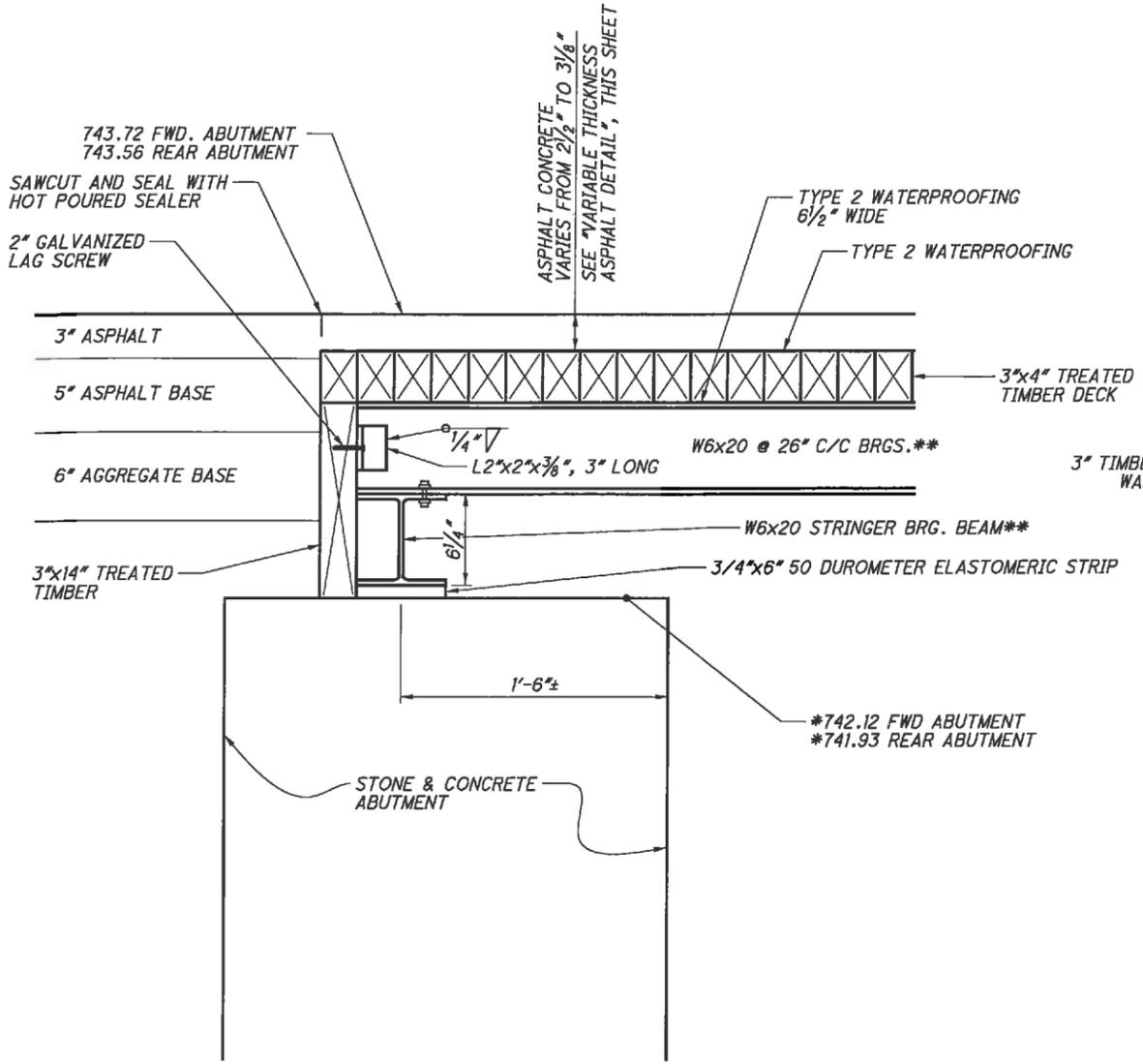
PLAN - REAR ABUTMENT

NOTES:

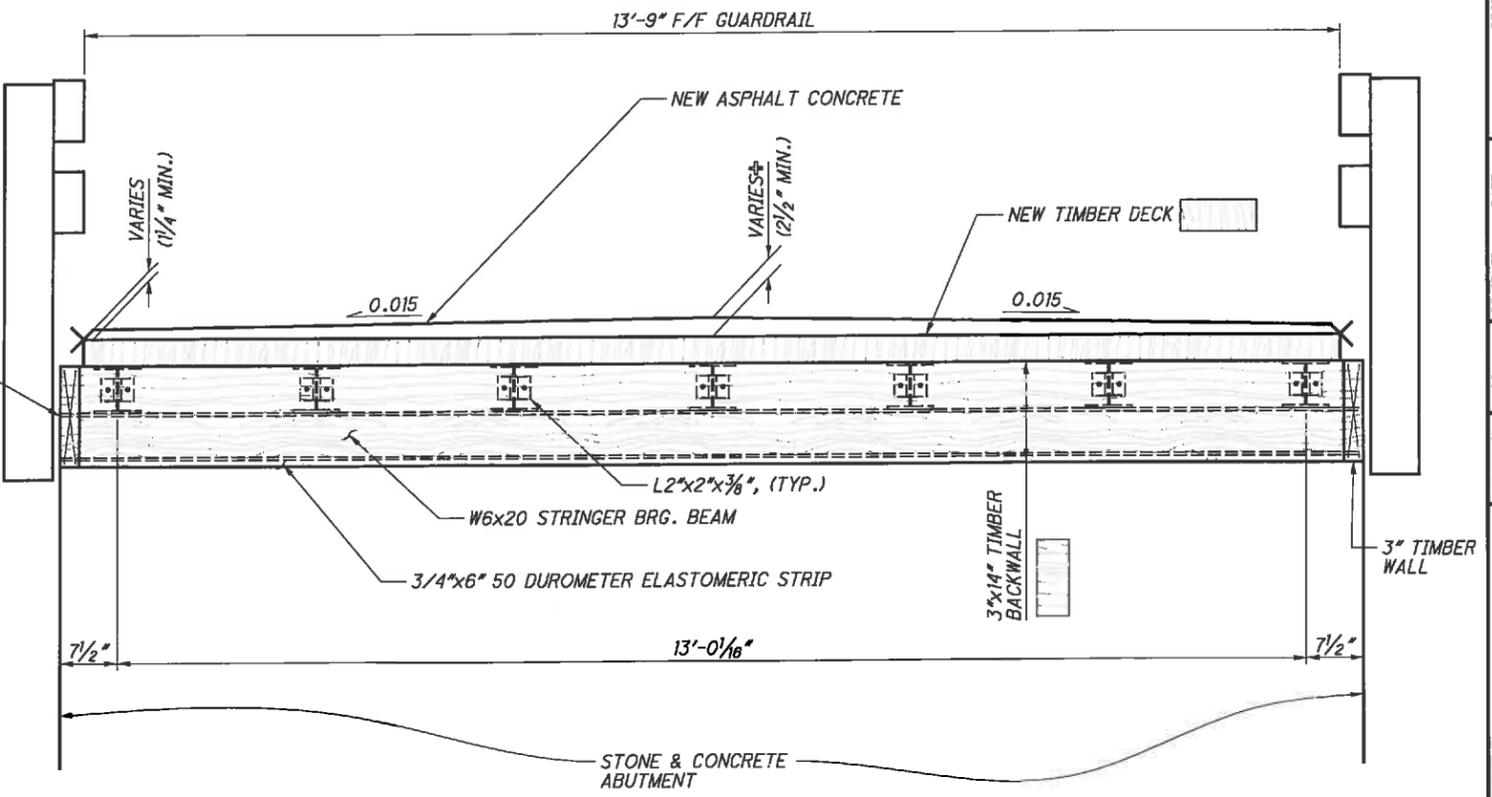
- FOR SECTION "A-A" AND SECTION "B-B", SEE SHEET 22/23.

DESIGNED	DJK	CHECKED	BLS
DRAWN	DJK	REVISED	XXX
REVIEWED	DOB	STRUCTURE FILE NUMBER	6932509
DATE	3/21/2016	DESIGN AGENCY	KOHL & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Baton Rouge Ave., Lima, Ohio 43105 419-227-1135
TIMBER BACKWALL PLAN			
BRIDGE NO. PUT-M-6-0575 OVER RILEY CREEK			
PUT-TR	M-6-5.75	PID No.	98795
			21 / 23
			32 34

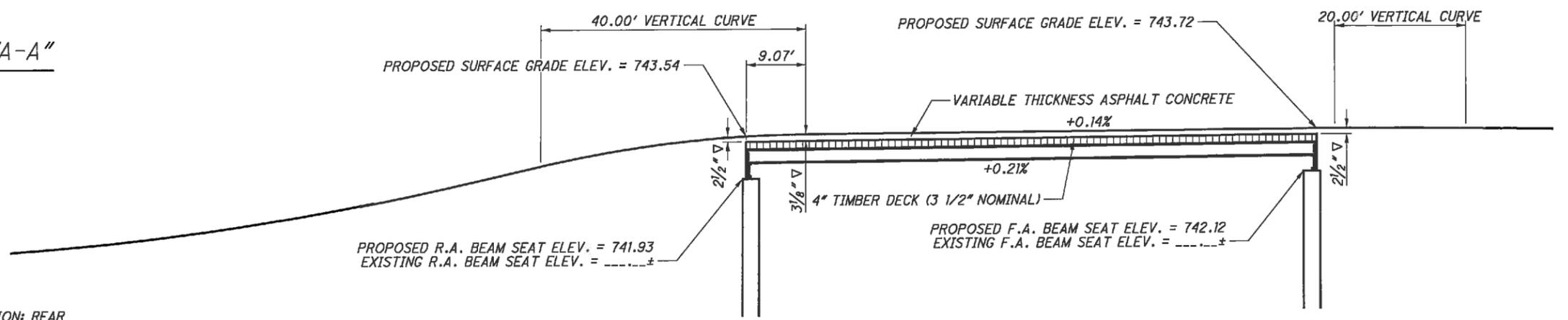
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SECTION "A-A"



SECTION "B-B"



VARIABLE THICKNESS ASPHALT DETAIL

▽ ASPHALT THICKNESS AT CROWN OF PAVEMENT

LEGEND:

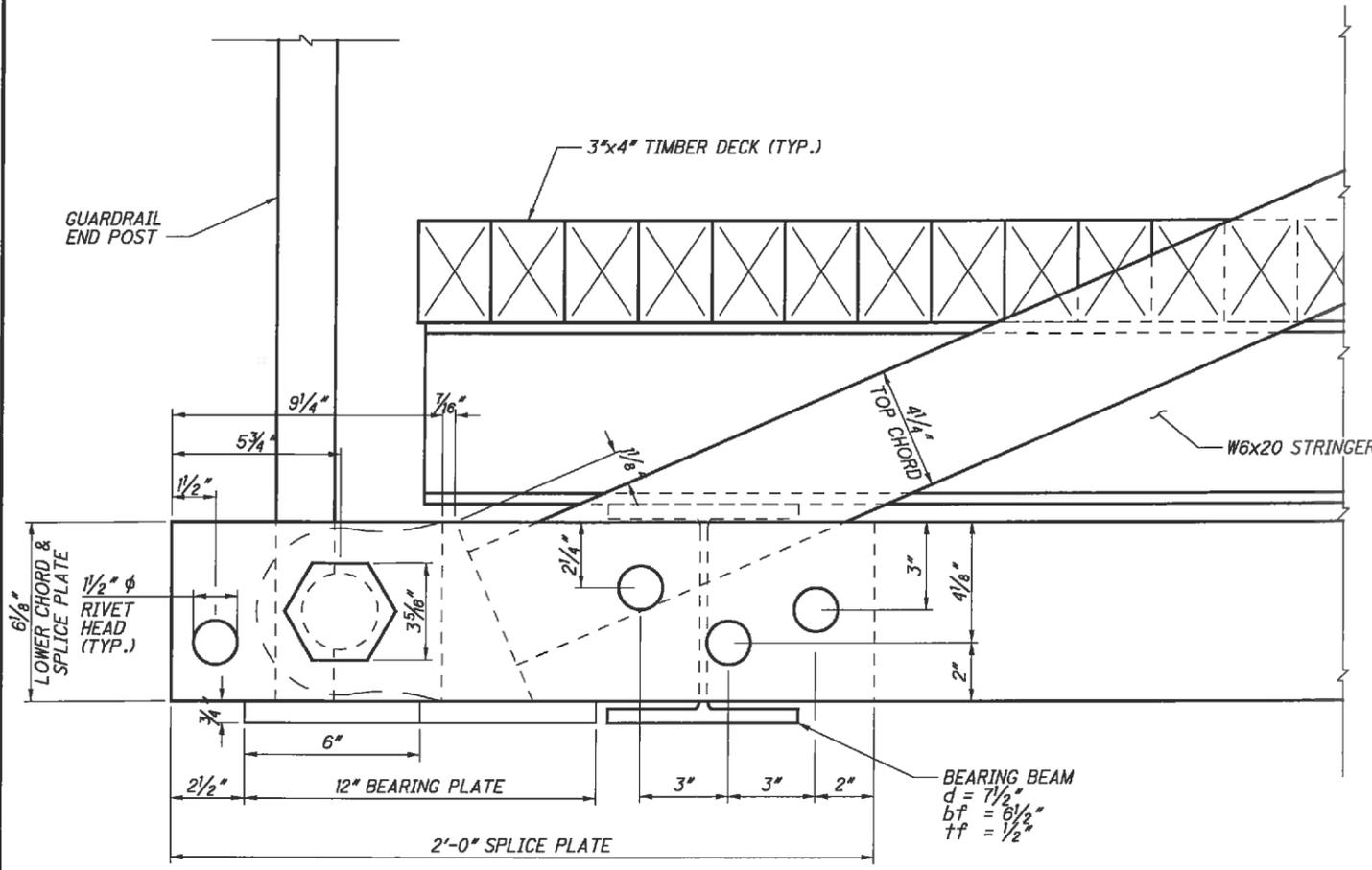
- * GRIND ABUTMENT SEAT TO ELEVATION: REAR ABUTMENT 741.68±, FORWARD ABUTMENT 741.87± AND BUILD UP TO FINISH GRADE IN ACCORDANCE TO ITEM 519.
- ** INCLUDE COST IN ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN

NOTES:

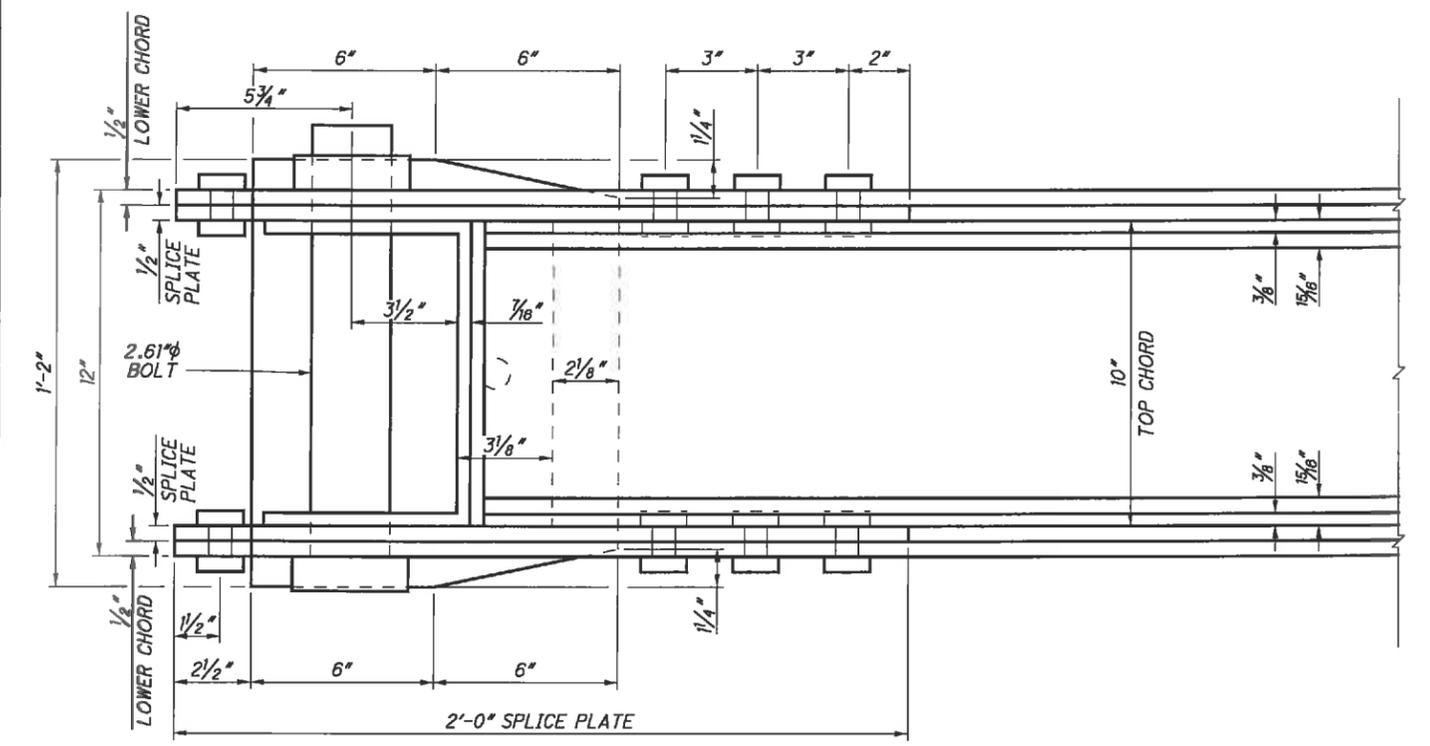
1. FOR LOCATION OF SECTION "A-A" AND SECTION "B-B", SEE SHEET 21/23.

DESIGNED DJK	CHECKED BLS	DRAWN DJK	REVISED XXX	REVIEWED DOB	DATE 3/21/2016
TIMBER BACKWALL DETAILS BRIDGE NO. PUT-M-6-0575 OVER RILEY CREEK					
DESIGN AGENCY KOHL & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Baton Rouge Ave., Lima, Ohio 45805 419-237-1135					
STRUCTURE FILE NUMBER 6932509					
PUT-TR M-6-5.75 PID No. 98795					
22 / 23					
33 34					

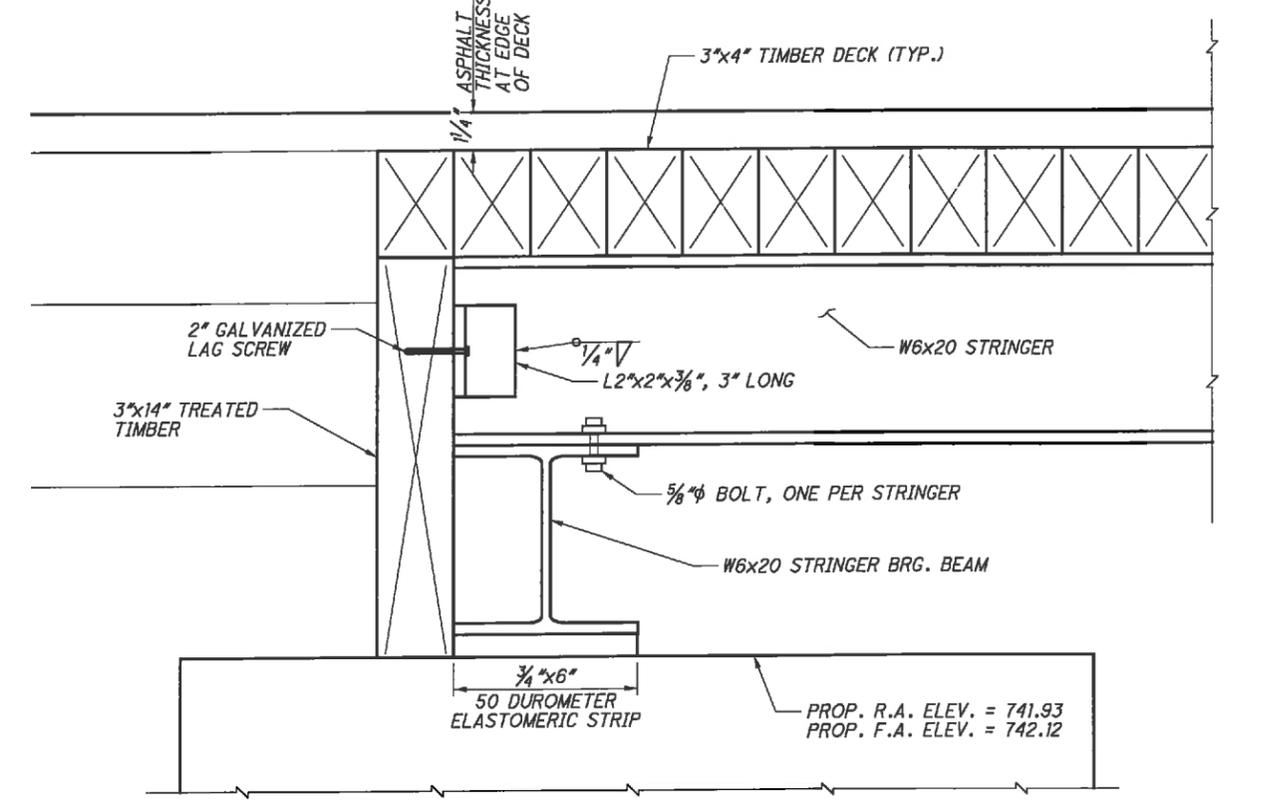
I:\ProjectData\PUT\98795\Design\Structures\PUT006_0579C_Sheets\006_0579C_SR002.dgn 3/23/2016 8:52:07 AM User



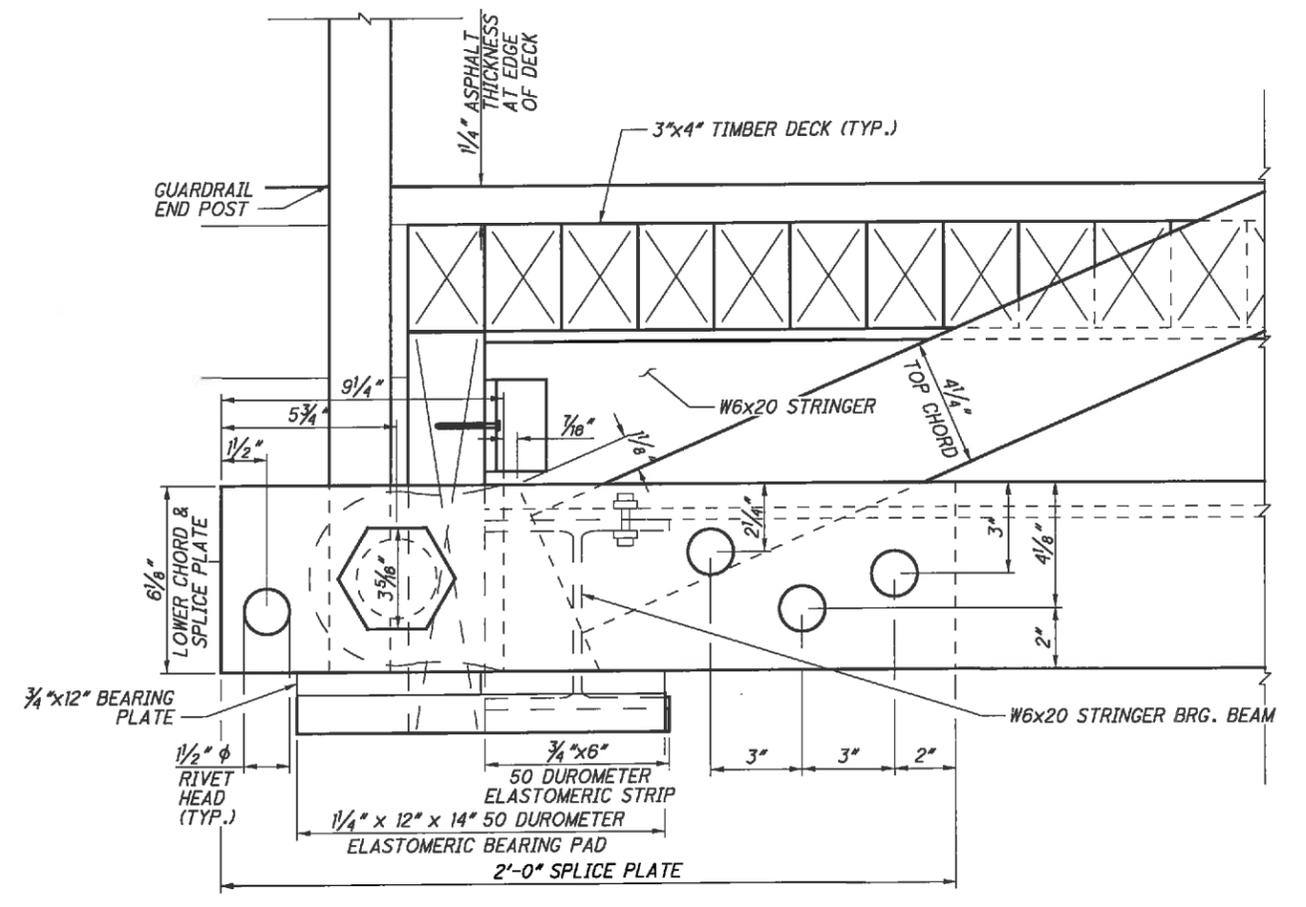
ELEVATION - TRUSS END POST BEARING (EXISTING)



PLAN - TRUSS END POST BEARING (EXISTING)



ELEVATION - STRINGER BEARING (PROPOSED)



ELEVATION - TRUSS END POST BEARING (PROPOSED)

DESIGNED	DJK	CHECKED	BLS
DRAWN	DJK	REVIS	XXX
DATE	3/21/2016	STRUCTURE FILE NUMBER	6932509
DESIGN AGENCY	 KOHL & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Babco Ridge Ave., Lima, Ohio 45805 419-227-1131		
TRUSS BEARING DETAILS			
BRIDGE NO. PUT-M6-0575			
OVER RILEY CREEK			
PUT-TR	M-6-5.75	PID No. 98795	
23	23	34	34

ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

1) DESCRIPTION:

THIS WORK SHALL CONSIST OF CUTTING AND SEALING TRANSVERSE JOINTS IN THE NEW BITUMINOUS CONCRETE OVERLAY OF BRIDGES. BITUMINOUS CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE ABUTMENT JOINT.

2) MATERIALS:

THE JOINT SEALANT SHALL MEET THE REQUIREMENTS OF ITEM 705.04, JOINT SEALANTS, HOT-POURED, FOR CONCRETE AND ASPHALT PAVEMENTS. ACCEPTABLE ALTERNATE MATERIALS ARE:

A SILICONE SEALANT MEETING FEDERAL SPECIFICATIONS TT-S-001543A CLASS A (ONE-PART SILICONE SEALANTS) AND TT-S-00230C CLASS A (ONE-COMPONENT SEALANTS), SUCH AS THOSE MANUFACTURED BY GENERAL ELECTRIC, SILICONE PRODUCTS DIVISION, 4015 EXECUTIVE PARK DRIVE, CINCINNATI, OHIO 45242 (513-243-1953) OR DOW CORNING, 400 TECHNE CENTER, SUITE 103, MILFORD, OHIO 45150 (513-831-3586); OR SOF-SEAL, A COLD-APPLIED, LOW-MODULUS, TWO-COMPONENT POLY-MERIC COMPOUND HORIZONTAL SEALANT AS MANUFACTURED BY W. R. MEADOWS, INC., P.O. BOX 543, ELGIN, ILLINOIS 60121 (800-342-5976).

3) CONSTRUCTION DETAILS:

A) GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT THE CUTTING, CLEANING AND SEALING OF TRANSVERSE JOINTS IS A CONTINUOUS OPERATION THAT WILL BE PERFORMED AS SOON AS PRACTICAL AFTER THE PAVING, BUT NO LATER THAN FOUR (4) DAYS AFTER PLACEMENT OF THE ASPHALT CONCRETE SURFACE COURSE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE JOINT CUT PRIOR TO SEALING.

B) CUTTING OF TRANSVERSE JOINTS: THE CONTRACTOR SHALL SAW OR ROUT TRANSVERSE JOINTS TO THE DIMENSIONS SHOWN IN THE DETAILS ON THIS SHEET. THE CUT JOINTS SHALL LIE DIRECTLY ABOVE EACH ABUTMENT JOINT.

THE BLADE OR BLADES SHALL BE OF SUCH SIZE THAT THE FULL WIDTH AND DEPTH OF THE CUT CAN BE MADE WITH ONE PASS. DRY OR WET CUTTING WILL BE ALLOWED. JOINTS SHALL EXTEND THE FULL WIDTH OF THE BRIDGE.

C) CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH A SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE ANY DIRT, DUST, OR DELETERIOUS MATTER. WET SAWED JOINTS SHALL BE WASHED CLEAN OF ALL CUTTINGS BY FLUSHING WITH A JET OF WATER AND WITH OTHER TOOLS AS NECESSARY. AFTER FLUSHING, THE JOINT SHALL BE BLOWN OUT WITH COMPRESSED AIR. WHEN THE SURFACES ARE THOROUGHLY CLEAN AND DRY, AND JUST PRIOR TO PLACING THE JOINT SEALER, COMPRESSED AIR HAVING A PRESSURE OF AT LEAST 90 P.S.I. SHALL BE USED TO BLOW OUT THE JOINT AND REMOVE ALL TRACES OF DUST.

IN THE EVENT FRESHLY CUT JOINTS BECOME CONTAMINATED BEFORE THEY ARE SEALED, THEY SHALL BE RECLEANED OF ALL FOREIGN MATERIAL BY HIGH PRESSURE WATER JET.

D) SEALING JOINTS: THE JOINT SHALL BE THOROUGHLY DRY WHEN THE SEALANT IS PLACED. AFTER CLEANING AND DRYING, A BOND-BREAKER MATERIAL SHALL BE APPLIED TO THE BOTTOM OF THE GROOVE.

HOT-POURED JOINT SEALANT MATERIAL SHALL BE HEATED IN A KETTLE OR MELTER CONSTRUCTED AS A DOUBLE BOILER, WITH THE SPACE BETWEEN THE INNER AND OUTER SHELLS FILLED WITH OIL OR OTHER HEAT TRANSFER MEDIUM. POSITIVE TEMPERATURE CONTROL AND MECHANICAL AGITATION SHALL BE PROVIDED. HEATING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. JOINT SEALER MATERIAL SHALL NEVER BE KEPT HEATED AT THE POURING TEMPERATURE FOR MORE THAN FOUR (4) HOURS AND SHALL NEVER BE REHEATED. SEALER LEFT IN THE APPLICATOR AT THE END OF A DAY'S WORK SHALL NOT BE USED.

HOT-POURED SEALANT SHALL BE APPLIED IMMEDIATELY THROUGH A NOZZLE, WHICH MUST PROJECT INTO THE SAWED JOINT, FILLING FROM THE BOTTOM UP. THE SEALANT SHALL COMPLETELY FILL THE JOINT IN SUCH A MANNER THAT, AFTER COOLING, THE LEVEL OF THE SEALANT WILL NOT BE HIGHER THAN 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE COOLED SEAL GREATER THAN 3/16" SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT-POURED SEALANT. CARE SHALL BE TAKEN IN THE SEALING OF THE JOINTS SO THAT THE FINAL APPEARANCE WILL PRESENT A NEAT FINE LINE.

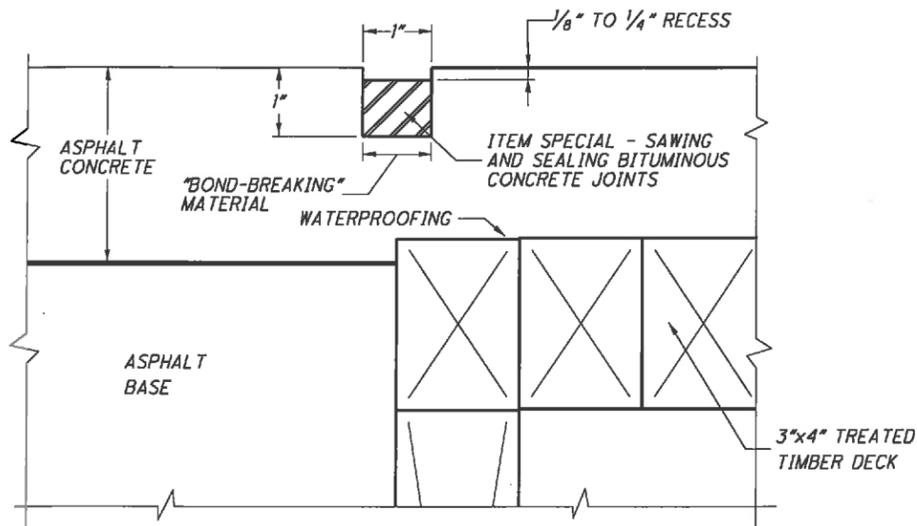
THE COLD APPLIED SEALANT MATERIALS (POLYURETHANE, SILICONE, AND POLYMERIC COMPOUNDS) SHALL BE INSTALLED AS PER MANUFACTURERS' RECOMMENDATIONS, EXCEPT AS MODIFIED BY THIS DRAWING. THE SEALANT SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES F OR HIGHER. TRAFFIC SHALL NOT BE ALLOWED ON THE JOINT FOR ONE HOUR AFTER APPLICATION OF THE SEALANT.

4) METHOD OF MEASUREMENT:

THE QUANTITY TO BE PAID FOR UNDER THIS ITEM WILL BE THE NUMBER OF FEET OF JOINTS SAWED AND SEALED AS PER THE ABOVE REQUIREMENTS.

5) BASIS OF PAYMENT:

THE UNIT PRICE PER FOOT FOR ITEM SPECIAL - "SAWING AND SEALING BITUMINOUS CONCRETE JOINTS" SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK, INCLUDING THE FURNISHING AND PLACING OF THE JOINT SEALER MATERIAL.



SEALING OF JOINTS AT ABUTMENTS

DESIGN AGENCY KOHLI & KALHER ASSOCIATES, INC. ENGINEERS AND SURVEYORS 2244 Balton Rouge Ave., Lima, Ohio 46806 419-227-1138	
DATE 3/21/2016	REVIEWED DGB
STRUCTURE FILE NUMBER 6932509	DESIGNED DJK
DRAWN DJK	CHECKED BLS
REVISOR XXX	DESIGNED DJK
SUPERSTRUCTURE DETAILS BRIDGE NO. PUT-M6-0575 OVER RILEY CREEK	
PUT-TR M-6-5.75	PID No. 98795
23A	23A
34A	34A