

GENERAL, MAINTENANCE OF TRAFFIC DURING CONSTRUCTION

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT 6 PUBLIC INFORMATION OFFICER VIA EMAIL (D06.PIO@DOT.OHIO.GOV) 21 DAYS IN ADVANCE OF THE START OF CONSTRUCTION ACTIVITIES TO PROPERLY COORDINATE EFFORTS TO NOTIFY THE TRAVELING PUBLIC, INCLUDING RESIDENTS, BUSINESSES, LOCAL EMERGENCY SERVICES, LAW ENFORCEMENT, AND SCHOOLS. THE DISTRICT 6 PIO SHALL PROVIDE NOTIFICATION NO LATER THAN 15 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. IF, SUBSEQUENT TO THE ADVANCE NOTIFICATION, THE START DATE IS CHANGED, THEN A NEW SEVEN (7) DAY NOTIFICATION SHALL BE REQUIRED. THE ROAD CANNOT BE CLOSED UNLESS PRIOR NOTIFICATION HAS BEEN ACCOMPLISHED. THE SAME PARTIES SHALL BE NOTIFIED WHEN THE CLOSURE HAS CONCLUDED AND THE ROAD IS BACK OPEN TO TRAFFIC. ALL NOTIFICATIONS SHALL BE MADE UTILIZING THE TEMPLATE PROVIDED BY THE DISTRICT 6 PUBLIC INFORMATION OFFICE.

ECOLOGICAL, AGENCY COORDINATION

1. THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSE OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

2. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ALL COMPONENTS OF THE EXISTING BRIDGE (PIERS, ABUTMENTS, ETC.) FROM THE STREAM AND PLACE THEM IN AN UPLAND LOCATION. THE CONTRACTOR SHALL REMOVE THE ASPHALT DECK MATERIAL PRIOR TO ANY DEMOLITION ACTIVITIES. PIERS SHALL BE REMOVED DOWN TO AN ELEVATION OF 1 FOOT BELOW THE STREAM BOTTOM. THE CONTRACTOR SHALL AVOID RELEASING DECK MATERIAL INTO THE STREAM. IF ANY MATERIAL FALLS INTO THE RIVER, THE CONTRACTOR SHALL REMOVE IT IMMEDIATELY. IF ANY MATERIAL FALLS INTO THE RIVER OUTSIDE OF THE IN-STREAM WORK DATES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ODOT CONSTRUCTION PROJECT MANAGER AND THE DISTRICT 6 DISTRICT ENVIRONMENTAL COORDINATOR (MARCI LININGER) AND AWAIT FURTHER INSTRUCTIONS FOR REMOVAL.

3. THE CONTRACTOR MUST ABIDE BY ALL STATE AND FEDERAL REQUIREMENTS FOR THE STORAGE OF FUELS, PETROCHEMICALS, EQUIPMENT AS WELL AS THESE ADDITIONAL REQUIREMENTS: IDLE EQUIPMENT (INACTIVE FOR MORE THAN 6 HOURS), PETROCHEMICALS, TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED OR DISCHARGED IN THE 100-YEAR FLOODPLAIN, OR NEAR ANY DRAINAGE WAYS, DITCHES, OR STREAMS THAT COULD CONVEY SUCH MATERIALS INTO THE BIG DARBY CREEK (NATIONAL/STATE SCENIC RIVER) OR ANY OF ITS TRIBUTARIES. REFUELING OF EQUIPMENT SHOULD NOT OCCUR IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES, OR STREAMS.

4. MATERIAL DISPOSITION RELATED TO BIG DARBY CREEK (NATIONAL/STATE SCENIC RIVER): APRONS, SHROUDS, AND/OR OTHER CONTAINMENT DEVICES MUST BE IN PLACE DURING BRIDGE DEMOLITION, BRIDGE CONSTRUCTION, AND SURFACING ACTIVITIES TO CAPTURE FALLING DEBRIS, PAINTS, WELDING, SLAG, SEALANT OVERSPRAY, OR OTHER DEBRIS. ANY AND ALL CONSTRUCTION AND DEMOLITION DEBRIS, EARTHEN DEBRIS, CONCRETE CHUNKS, ASPHALT, GRINDINGS, CONCRETE

ECOLOGICAL, AGENCY COORDINATION (continued)

MATERIALS, WOOD, REBAR, EXCESS ASPHALT OR CONCRETE, WOOD DEBRIS FROM CLEARING, EXCESS FILL MATERIAL, MATERIAL EXCAVATED FROM THE RIVER BOTTOM, MIXES, CEMENTS, FLUIDS, OTHER CONSTRUCTION WASTE, AND TRASH SHALL BE DISPOSED OF AT AN APPROVED UPLAND SITE OR LANDFILL ABOVE 100-YEAR FLOOD ELEVATIONS. ANY DEBRIS THAT ENTERS THE RIVER MUST BE IMMEDIATELY REMOVED. DISPOSAL OF ANY SUCH MATERIALS IN WETLANDS, FLOODPLAINS, OR WITHIN 1000 FEET OF STATE SCENIC RIVERS IS PROHIBITED. IF ANY MATERIAL FALLS INTO THE RIVER OUTSIDE OF THE IN-STREAM WORK DATES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ODOT CONSTRUCTION PROJECT MANAGER AND THE DISTRICT 6 DISTRICT ENVIRONMENTAL COORDINATOR (MARCI LININGER) AND AWAIT FURTHER INSTRUCTIONS FOR REMOVAL.

5. THE CONTRACTOR SHALL ONLY PERFORM ALL IN-STREAM WORK DURING DRY PERIOD OF EXTREMELY LOW FLOW OF THE BIG DARBY CREEK BETWEEN JULY 1 AND NOVEMBER 30. THE WORK PAD AND ALL MATERIALS MUST BE REMOVED FROM THE BIG DARBY CREEK BY NOVEMBER 30 TO ALLOW FOR FREE FLOW DURING HIGH WATER SEASONS.

6. ANY DISTURBED AREAS IN THE STREAM BOTTOM SHALL BE RETURNED TO PRE-CONSTRUCTION CONTOURS NO LATER THAN NOVEMBER 30, 2020 OR CONSTRUCTION COMPLETION DATE, WHICHEVER IS EARLIER. STREAM BOTTOM ELEVATIONS SHALL BE DETERMINED BEFORE IN-STREAM WORK COMMENCES TO ENSURE THAT ALL FILL MATERIAL AND DEBRIS IS COMPLETELY REMOVED BEFORE CONSTRUCTION IS COMPLETE. THE CONTRACTOR WILL PROVIDE PRE AND POST-CONSTRUCTION SURVEY ELEVATIONS OF THE STREAM BOTTOM TO THE DEC TO VERIFY THIS COMMITMENT IS MET.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 690 - SPECIAL - ENVIRONMENTAL STREAM SURVEY LS

7. PIER CONSTRUCTION WILL UTILIZE DRILLED SHAFT CONSTRUCTION METHODS WITH HOLDING PITS. SEDIMENT LADEN WATER AND EXCESS CONCRETE WILL BE CONTAINED, STORED AND DISPOSED OF APPROPRIATELY, OFF SITE.

8. RECYCLED PORTLAND CEMENT CONCRETE (RPCC) IS NOT PERMITTED TO BE USED AS THE MATERIAL FOR ROCK CHANNEL PROTECTION (RCP) INSTALLATION FOR THE BIG DARBY CREEK BRIDGES.

9. DE-WATERING: NO WASTEWATER OF ANY KIND SHOULD BE DIRECTLY DISCHARGED INTO BIG DARBY CREEK (NATIONAL/STATE SCENIC RIVER) OR ANY OF ITS TRIBUTARY STREAMS, DRAINAGE WAYS OR DITCHES. IF DEWATERING IS NECESSARY TO FACILITATE IN-STREAM WORK OR PIER CONSTRUCTION, ALL WASTEWATER SHOULD BE PUMPED ONTO A VEGETATED AREA AT LEAST 100 FEET FROM THE RIVERBANK TO ALLOW FOR COMPLETE INFILTRATION. IF DISCHARGE TO A VEGETATED AREA IS NOT FEASIBLE, THEN WASTEWATER SHALL BE DISCHARGED INTO A SEDIMENT FILTER BAG OR INTO A TEMPORARY DETENTION/RETENTION POND WITH SUFFICIENT RETENTION TIME TO PERMIT FOR THE SETTLING OF ALL SUSPENDED SOLIDS PER THE BMP REQUIREMENTS.

10. CLEARING AND GRUBBING: ALL STREAMBANK VEGETATION SHALL BE LEFT UNDISTURBED TO THE MAXIMUM EXTENT POSSIBLE. CUTTING OR CLEARING OF ANY RIPARIAN VEGETATION WITHIN 1000 FEET OF THE BIG DARBY CREEK BEYOND THE EXISTING CONSTRUCTION LIMITS SHALL BE PROHIBITED, HOWEVER VERTICAL TRIMMING IS PERMITTED WHERE NECESSARY. NO GRUBBING SHALL OCCUR WITHIN THE 1,000 FT. SCENIC RIVER BUFFER IN ORDER TO MAINTAIN GROUND STABILIZATION AND LIMIT SEDIMENT EROSION.

ECOLOGICAL, AGENCY COORDINATION (continued)

11. PAINTING AND SAND/WATER BLASTING: WHEN PAINTING, SAND OR WATER BLASTING ANY PORTION OF THE BRIDGE IS NECESSARY THEN APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT DEBRIS PARTICLES AND OTHER DEBRIS. APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT AND/OR SEALANT OVER-SPRAY. ANY SUCH DEBRIS SHALL BE REMOVED IMMEDIATELY FROM WITHIN 1000 FEET OF THE BIG DARBY CREEK AND DISPOSED OF AT AN APPROVED UPLAND SITE ABOVE THE 100-YEAR FLOOD ELEVATIONS. DISPOSAL IN WETLANDS, FLOODPLAINS, OR WITHIN 1000-FEET OF STATE SCENIC RIVERS IS PROHIBITED.

12. ODOT D-6 ENVIRONMENTAL COORDINATOR SHALL INVITE ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER TO THE PRE-BID AND PRE-CONSTRUCTION MEETINGS WITH THE CONTRACTOR PRESENT.

13. ODOT D-6 WITH OES WILL HIRE AN ENVIRONMENTAL COMMITMENT MONITOR TO CONDUCT PERIODIC INSPECTIONS OF THE PROJECT TO ENSURE ALL COMMITMENTS, INCLUDING THE SPECIAL SCENIC RIVER PROTECTION MEASURES ARE BEING MET.

14. SCENIC RIVER PROGRAM PROJECT CONDITIONS HAVE BEEN INCORPORATED INTO THE PROJECT PLANS AND WILL BE MADE AVAILABLE TO ALL CONSTRUCTION PERSONNEL THROUGHOUT THE DURATION OF THE PROJECT. THIS WILL ENSURE THAT THE CONTRACTORS UNDERSTAND SCENIC RIVER REQUIREMENTS. SPECIAL CONDITIONS WILL ALSO BE DISCUSSED AT PRE-CONSTRUCTION MEETING. THE SCENIC RIVER REQUIREMENTS WILL BE AN AGENDA ITEM AT THE D-6 PRE-CONSTRUCTION MEETING.

15. SCENIC RIVER SIGNAGE: SIGNS IDENTIFYING THE "BIG DARBY CREEK STATE AND NATIONAL SCENIC RIVER" SHALL BE INSTALLED AT ALL APPROACHES OF THE NEW BRIDGE STRUCTURES. AN ADDITIONAL SIGN STATING (BRIDGE NAME, ROAD NAME/NUMBER, AND RIVER MILE) WILL BE INSTALLED ON THE UPSTREAM SIDE OF THE NEW BRIDGE, IDENTIFYING THE STRUCTURE AND LOCATION TO BE VISIBLE TO RECREATIONAL RIVER USERS. SEE TRAFFIC CONTROL SHEET 196.

16. VISUAL COMPATIBILITY: TO MINIMIZE CONTRAST WITH THE SURROUNDING LANDSCAPE TO PROTECT AND ENHANCE THE SCENERY OF BIG DARBY CREEK, CONCRETE FORM LINERS WITH ROUGH CUT STONE FINISH SHALL BE USED ON THE BRIDGE PARAPETS. WEATHERING STEEL WILL BE UTILIZED FOR THE STEEL GIRDERS OF THE BRIDGE.

17. DISTURBANCES TO THE RIPARIAN ZONE MUST BE LIMITED TO THE ACCESS POINTS AND CONSTRUCTION LIMITS. PROVISIONS SHALL BE IN PLACE TO PROTECT REMAINING VEGETATION/TREES FROM DAMAGE BY CONSTRUCTION EQUIPMENT. THESE PROVISIONS MUST LIMIT THE REMOVAL OF RIPARIAN VEGETATION AND INCLUDE MEASURES TO AVOID DAMAGE TO REMAINING TREES (TRUNKS, BRANCHES, AND/OR ROOTS) LOCATED IN OR ADJACENT TO THE WORK AREA. THE OPERATION OF MACHINERY WITHIN THE DRIP LINE OF TREES SCHEDULED TO REMAIN MUST BE AVOIDED TO THE GREATEST EXTENT POSSIBLE. SEVERELY DAMAGED TREES (WHERE DAMAGE WOULD LEAD TO MORTALITY) MAY REMAIN ONSITE WHERE UNLIKELY TO POSE A SAFETY HAZARD TO SERVE AS NESTING CAVITIES, HOLD SOIL, AND PREVENT EROSION.

18. THE CONTRACTOR SHALL ABIDE BY THE NATIVE PLANTING PLAN INCLUDED IN THESE PLANS FOR THE RIPARIAN CORRIDOR OF BIG DARBY CREEK.

19. THE USE OF HERBICIDES IN THE RIPARIAN CORRIDOR OF BIG DARBY CREEK IS PROHIBITED. ALL FERTILIZERS SHALL BE APPLIED BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH

ECOLOGICAL, AGENCY COORDINATION (continued)

APPLICATION GUIDELINES AND USED ONLY FOR PLANTINGS.

20. THIS PROJECT INCLUDES WORK IN AND NEAR A NATIONAL AND STATE SCENIC RIVER. THIS RESOURCE IS OF EXCEPTIONAL VALUE AND SENSITIVITY. THEREFORE ODOT DISTRICT 6 DEC AND ENVIRONMENTAL COMMITMENT MONITOR WILL ATTEND THE PRE-BID, PRE-CONSTRUCTION, AND POST-CONSTRUCTION MEETINGS WITH CONTRACTOR TO EMPHASIZE THE SENSITIVE NATURE OF BIG DARBY CREEK PROJECT AREA AND REINFORCE THE NECESSITY TO ADHERE TO ALL CMS STANDARDS AND THE ENVIRONMENTAL COMMITMENTS FOR THE PROJECT.

21. THE ODOT DISTRICT 6 ENVIRONMENTAL COORDINATOR WILL ENSURE THAT WEEKLY ENVIRONMENTAL COMPLIANCE INSPECTIONS ARE CONDUCTED BY THE ODOT ENVIRONMENTAL COMMITMENT MONITOR AND ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER. FURTHER THE DEC WILL INVITE THE ODNR CENTRAL ASSISTANT REGIONAL SCENIC RIVER MANAGER TO THE WEEKLY ON-SITE INSPECTIONS.

22. THE PROJECT DESIGNER SHALL ENSURE A PASSAGEWAY WILL BE INCLUDED IN THE PROJECT PLANS FOR DEER AND OTHER TERRESTRIAL WILDLIFE UNDER THE NEW BIG DARBY CREEK BRIDGE.

23. ODOT-OES ECOLOGICAL UNIT WILL PLACE CAMERAS WITHIN VIEWING RANGE OF THE WILDLIFE PASSAGEWAY FOLLOWING COMPLETION OF CONSTRUCTION TO MONITOR UNDER CROSSING FOR USAGE AND TO GAIN STRATEGIES FOR FUTURE APPLICATION WITHIN THE STATE.

24. ODOT DISTRICT 6 DEC AND ODOT-OES WILL HOLD A PRE-BID MEETING FOR CONTRACTORS TO BECOME ACUTELY AWARE OF THE EXTENSIVE ENVIRONMENTAL COMMITMENTS ON THIS PROJECT AND THEIR ABSOLUTE AND MANDATORY ADHERENCE TO THOSE COMMITMENTS DURING CONSTRUCTION.

25. DISTURBED/EXPOSED AREAS IN THE RIPARIAN CORRIDOR (SLOPE AND BANKS) OF BIG DARBY CREEK MUST BE PROPERLY STABILIZED (SEEDED, MULCHED, OR OTHERWISE) IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND ESTABLISHMENT OF INVASIVE PLANT SPECIES.

26. THE CONTRACTOR SHALL NOT USE CONSTRUCTION DEBRIS AS ROCK CHANNEL PROTECTION OR ALLOW CONSTRUCTION DEBRIS TO REMAIN IN THE VICINITY OF THE RIVER. SPOIL PILES SHALL BE COVERED OR OTHERWISE MANAGED TO REDUCE SEDIMENTATION. ALL TEMPORARY STRUCTURES MUST BE COMPLETELY REMOVED FROM THE RIVERBED/BANKS FOLLOWING PROJECT COMPLETION. TEMPORARY ROCK USED FOR ACCESS ROADS AND DOCKS OR OTHER TEMPORARY RIVER ACCESS SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF THE PROJECT AND STORED/DISPOSED OF AT AN APPROPRIATE UPLAND SITE OUTSIDE OF THE 100-YEAR FLOODPLAIN AREA.

27. THE CONTRACTOR SHALL NOTIFY THE DISTRICT 6 ENVIRONMENTAL COORDINATOR [(740)-833-8065] AND ODNR SCENIC RIVERS PROGRAM REGIONAL MANAGER [(740) 258-0567] ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF WORK TO NOTIFY THEM OF THE PROJECT START DATE. THE SCENIC RIVERS PROGRAM REGIONAL MANAGER WILL ALSO BE CONTACTED 1 WEEK PRIOR TO COMPLETION OF THE PROJECT TO CONDUCT A FINAL SITE INSPECTION WITH THE CONTRACTOR PRESENT.

28. NOT USED

29. IN-STREAM WORK SHALL NOT COMMENCE UNTIL THE MUSSEL SURVEY AND RELOCATION HAS BEEN COMPLETED AND USFWS AND ODNR HAVE APPROVED THE RESULTS. THE CONTRACTOR SHALL CONFIRM WITH DISTRICT 6 DEC THAT THE SURVEY WORK HAS BEEN COMPLETED AND APPROVED.

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CALCULATED
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ENVIRONMENTAL GENERAL NOTES

FRA - 71-1.53

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SHEET NUM.									PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED DCB CHECKED DLW
7	9	113	114	115	118	284	CALC		01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR							
ROADWAY																			
LS										LS				201	11000	LS	CLEARING AND GRUBBING		
							9,899		6,236	3,663				202	23001	9,899	SY	PAVEMENT REMOVED, AS PER PLAN	9
							5,827		3,671	2,156				202	23010	5,827	SY	PAVEMENT REMOVED, ASPHALT	
		167							167					202	30700	167	FT	CONCRETE BARRIER REMOVED	
		403							150	253				202	35100	403	FT	PIPE REMOVED, 24" AND UNDER	
		2,728							2,182	546				202	38000	2,728	FT	GUARDRAIL REMOVED	
		6							2	4				202	58100	6	EACH	CATCH BASIN REMOVED	
		498							427	71				202	75000	498	FT	FENCE REMOVED	
				10,696					6,738	3,958				203	10000	10,696	CY	EXCAVATION	
				3,610					2,274	1,336				203	20000	3,610	CY	EMBANKMENT	
1,245									810	435				204	10000	1,245	SY	SUBGRADE COMPACTION	
415									270	145				204	13000	415	CY	EXCAVATION OF SUBGRADE	
415									270	145				204	30010	415	CY	GRANULAR MATERIAL, TYPE B	
1									1					204	45000	1	hour	PROOF ROLLING	
1,245									810	435				204	50000	1,245	SY	GEOTEXTILE FABRIC	
							43		27	16				206	10500	43	TON	CEMENT	
							1,426		898	528				206	11000	1,426	SY	CURING COAT	
							1,426		898	528				206	15010	1,426	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
		2,362.5							2,250	112.5				606	15050	2,362.5	FT	GUARDRAIL, TYPE MGS	
		687.5								687.5				606	15550	687.5	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS	
		1							1					606	26050	1	EACH	ANCHOR ASSEMBLY, MGS TYPE B	7
		3							1	2				606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
		2							2					606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		2								2				606	35006	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, BARRIER DESIGN	
		2							2					606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		2								2				606	60012	2	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	7
			282						282					607	15100	282	FT	FENCE, TYPE 47RA	
						4			4					623	40500	4	EACH	REFERENCE MONUMENT	
									LS	LS				878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
							698		440	258				206	10500	698	TON	ROADWAY OPTION A - ASPHALT CEMENT	
							23,480		14,792	8,688				206	11000	23,480	SY	CURING COAT	
							23,480		14,792	8,688				206	15010	23,480	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
							681		429	252				206	10500	681	TON	ROADWAY OPTION B - CONCRETE CEMENT	
							22,889		14,420	8,469				206	11000	22,889	SY	CURING COAT	
							22,889		14,420	8,469				206	15010	22,889	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
		3.6							55.0	0.8				601	21050	55.8	SY	EROSION CONTROL TIED CONCRETE BLOCK MAT, TYPE 1	
									272.8					601	21060	272.8	SY	TIED CONCRETE BLOCK MAT, TYPE 2	
									771	380				601	32000	1,151	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
									2.6					601	32200	2.6	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
2									1	1				659	00100	2	EACH	SOIL ANALYSIS TEST	
2,111									1,689	422				659	00300	2,111	CY	TOPSOIL	
				19,020					15,216	3,804				659	10000	19,020	SY	SEEDING AND MULCHING	
951									761	190				659	14000	951	SY	REPAIR SEEDING AND MULCHING	
951									761	190				659	15000	951	SY	INTER-SEEDING	
2.65									2.12	0.53				659	20000	2.65	TON	COMMERCIAL FERTILIZER	
3.93									3.14	0.79				659	31000	3.93	ACRE	LIME	
106									85	21				659	35000	106	MGAL	WATER	
43									34	9				659	40000	43	MSF	MOWING	
									1,168	292				659	98000	1,460	SY	SEEDING, MISC.:NATIVE SEED MIX	202
			1,434						72	1,362				670	00700	1,434	SY	DITCH EROSION PROTECTION	
				LS					LS					832	15001	LS		STORM WATER POLLUTION PREVENTION PLAN, AS PER PLAN	118

GENERAL SUMMARY

FRA - 71 - 1.53

108
285

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SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	9	10	11	113	114	118	189	190	CALC	01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR						
			LS							LS				SPECIAL	69070000	LS		ENVIRONMENTAL / REMEDIATION	11
		LS								LS				SPECIAL	69070000	LS		ENVIRONMENTAL , SECTION 4F, IDENTIFIED SECTION 4(F) PROPERTIES	10
						120,709				78,461	42,248			832	30000	120,709	EACH	EROSION CONTROL	
														602	20000	1,35	CY	CONCRETE MASONRY	
										1,34	0,01			605	11000	19,179	FT	6" CONSTRUCTION UNDERDRAINS	
										4,177	1,044			605	11100	5,221	FT	6" SHALLOW PIPE UNDERDRAINS	
										1,296	324			605	11101	1,620	FT	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	174
	50									787	197			605	13300	984	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
														605	14000	6,970	FT	6" BASE PIPE UNDERDRAINS	
	50									810	326			611	00510	1,136	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
										28	17			611	04600	45	FT	12" CONDUIT, TYPE C, 706.02	
										89	22			611	05900	11	FT	15" CONDUIT, TYPE B	
										772	168			611	06100	940	FT	15" CONDUIT, TYPE C	
										18	11			611	06100	29	FT	15" CONDUIT, TYPE C, 706.02	
										104	35			611	06700	139	FT	15" CONDUIT, TYPE F	
	50									50				611	10600	50	FT	24" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	
										198	51			611	96600	249	FT	CONDUIT, BORED OR JACKED	
														611	98150	1	EACH	CATCH BASIN, NO. 3	
										4	1			611	98180	5	EACH	CATCH BASIN, NO. 3A	
										7	3			611	98410	10	EACH	CATCH BASIN, NO. 8	
										10				611	98634	10	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
										2	1			611	99574	3	EACH	MANHOLE, NO. 3	
	2					26								611	99710	28	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																		PAVEMENT	
										1,483	935	548		254	01000	1,483	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
										389	245	144		302	46000	389	CY	ASPHALT CONCRETE BASE, PG64-22	
										228	144	84		304	20000	228	CY	AGGREGATE BASE	
										201	127	74		407	20000	201	GAL	NON-TRACKING TACK COAT	
										209	132	77		442	00100	209	CY	ANTI-SEGREGATION EQUIPMENT	
										59	37	22		442	10100	59	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
						256				161	95			SPECIAL	45130000	256	FT	PRESSURE RELIEF JOINT, TYPE A	8
										252				609	24510	252	FT	CURB, TYPE 4-C	
										150	95	55		806	00101	150	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, AS PER PLAN	9
																		PAVEMENT OPTION A - ASPHALT	
										6,627	4,175	2,452		302	46000	6,627	CY	ASPHALT CONCRETE BASE, PG64-22	
										3,854	2,428	1,426		304	20000	3,854	CY	AGGREGATE BASE	
										2,466	1,554	912		407	20000	2,466	GAL	NON-TRACKING TACK COAT	
										1,924	1,212	712		442	00100	1,924	CY	ANTI-SEGREGATION EQUIPMENT	
										1,036	653	383		442	10100	1,036	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
														618	40100	6,313	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)	
										6,313	3,156			618	40200	240	FT	RUMBLE STRIPS, (CONCRETE)	
										888	559	329		806	00101	888	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, AS PER PLAN	9
																		PAVEMENT OPTION B - CONCRETE	
										3,756	2,366	1,390		304	20000	3,756	CY	AGGREGATE BASE	
										21,301	13,420	7,881		452	16060	21,301	SY	13.5" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1 WITH QC/QA	
										6,553	3,277	3,276		618	40200	6,553	FT	RUMBLE STRIPS, (CONCRETE)	
																		TRAFFIC CONTROL	
														620	00500	33	EACH	DELINEATOR, POST GROUND MOUNTED TYPE C	
										33				621	00100	111	EACH	RPM	
										67	44			626	00102	60	EACH	BARRIER REFLECTOR, TYPE 1	
										60				630	02100	121.4	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
										121.4				630	03100	29	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										29									
										2				630	08600	2	EACH	SIGN POST REFLECTOR	
										65.5				630	80100	65.5	SF	SIGN, FLAT SHEET	
										8				630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
										8				630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
										14,565				644	30000	14,565	FT	REMOVAL OF PAVEMENT MARKING	

CALCULATED DCB CHECKED DLW
GENERAL SUMMARY
FRA - 71 - 1.53
109
285

X:\4037000\121957.15\93496\roadway_sheets\93496GG003.dgn Sheet 12/6/2018 9:38:30 AM 1781aim

SHEET NUM.				PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
116	189			01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR						
											TRAFFIC CONTROL OPTION A - ASPHALT		
	4.24			4.24				644	00104	4.24	MILE	EDGE LINE, 6"	
	2.32			2.32				644	00204	2.32	MILE	LANE LINE, 6"	
	0.28			0.28				646	10010	0.28	MILE	EDGE LINE, 6" (ALTERNATE 1)	
	0.14			0.14				646	10110	0.14	MILE	LANE LINE, 6" (ALTERNATE 1)	
	0.28			0.28				646	10010	0.28	MILE	EDGE LINE, 6" (POLYCARB MARK 55.4) (ALTERNATE 2)	
	0.14			0.14				646	10110	0.14	MILE	LANE LINE, 6" (POLYCARB MARK 55.4) (ALTERNATE 2)	
											TRAFFIC CONTROL OPTION B - CONCRETE		
	4.52			4.52				646	10010	4.52	MILE	EDGE LINE, 6" (ALTERNATE 1)	
	2.46			2.46				646	10110	2.46	MILE	LANE LINE, 6" (ALTERNATE 1)	
	4.52			4.52				646	10010	4.52	MILE	EDGE LINE, 6" (POLYCARB MARK 55.4) (ALTERNATE 2)	
	2.46			2.46				646	10110	2.46	MILE	LANE LINE, 6" (POLYCARB MARK 55.4) (ALTERNATE 2)	
											STRUCTURE OVER 20 FOOT SPAN (FRA-71-0153L)		
LS						LS		202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	206, 217	
187						102	85	202	22900	187	SY	APPROACH SLAB REMOVED	
1,227						674	553	202	23500	1,227	SY	WEARING COURSE REMOVED	
LS						LS		503	11101	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	206, 218-220	
LS						LS		503	21300	LS	UNCLASSIFIED EXCAVATION		
LS						LS		505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION		
1,920						1,056	864	507	00200	1,920	FT	STEEL PILES HP12X53, FURNISHED	
1,600						880	720	507	00250	1,600	FT	STEEL PILES HP12X53, DRIVEN	
64						35	29	507	93300	64	EACH	STEEL POINTS OR SHOES	
288,328						158,580	129,748	509	10001	288,328	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	206
849						466	383	511	21522	849	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	
2						1	1	511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	
64						35	29	511	41010	64	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS	
212						116	96	511	44112	212	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	
276						151	125	511	46512	276	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
1,228						675	553	512	10100	1,228	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
11						6	5	512	33000	11	SY	TYPE 2 WATERPROOFING	
794,144						436,779	357,365	513	10401	794,144	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN	206-207
7,665						4,215	3,450	513	20000	7,665	EACH	WELDED STUD SHEAR CONNECTORS	
18						9	9	516	13600	18	SF	1" PREFORMED EXPANSION JOINT FILLER	
135						90	45	516	10010	135	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)	
366						201	165	516	13900	366	SF	2" PREFORMED EXPANSION JOINT FILLER	
162						89	73	516	14020	162	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
7						4	3	516	44300	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" X 27" X 4.9" WITH 23" X 28" X 2.5" LOAD PLATE)	
14						8	6	516	44301	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" X 20" X 4.35" WITH 15" X 21" X 2.0" LOAD PLATE)	247
193						106	87	518	21200	193	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
181						99	82	518	40000	181	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
20						11	9	518	40011	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	243
50						27	23	524	94904	50	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK	
70						38	32	524	94906	70	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK	
449						246	203	526	30011	449	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	272-276
135						74	61	526	90030	135	FT	TYPE C INSTALLATION	
5						3	2	SPECIAL	53000400	5	EACH	STRUCTURES PILOT EXPLORATION HOLES	207
2,172						1,194	978	SPECIAL	53013000	2,172	SF	FORM LINER	207
											STRUCTURE OVER 20 FOOT SPAN (FRA-71-0153R)		
LS						LS		202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	206, 217	
187						102	85	202	22900	187	SY	APPROACH SLAB REMOVED	
1,227						674	553	202	23500	1,227	SY	WEARING COURSE REMOVED	
LS						LS		503	11101	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	206	
LS						LS		503	21300	LS	UNCLASSIFIED EXCAVATION		

GENERAL SUMMARY

FRA-71-1.53

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SHEET NUM.					PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
13	15	16	20	116	01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR						
				LS			LS		505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION		
				1,760			968	792	507	00200	1,760	FT	STEEL PILES HP12X53, FURNISHED	
				1,440			792	648	507	00250	1,440	FT	STEEL PILES HP12X53, DRIVEN	
				64			35	29	507	93300	64	EACH	STEEL POINTS OR SHOES	
				289,137			159,025	130,112	509	10001	289,137	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	206
				849			466	383	511	21522	849	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	
				2			1	1	511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	
				64			35	29	511	41010	64	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS	
				214			117	97	511	44112	214	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	
				273			150	123	511	46512	273	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	
				1,269			697	572	512	10100	1,269	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
				11			6	5	512	33000	11	SY	TYPE 2 WATERPROOFING	
				794,144			436,779	357,365	513	10401	794,144	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN	206-207
				7,665			4,215	3,450	513	20000	7,665	EACH	WELDED STUD SHEAR CONNECTORS	
				135			90	45	516	10010	135	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)	
				18			9	9	516	13600	18	SF	1" PREFORMED EXPANSION JOINT FILLER	
				366			201	165	516	13900	366	SF	2" PREFORMED EXPANSION JOINT FILLER	
				162			89	73	516	14020	162	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
				7			4	3	516	44300	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" X 27" X 4.9" WITH 23" X 28" X 2.5" LOAD PLATE)	
				14			8	6	516	44301	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" X 20" X 4.35" WITH 15" X 21" X 2.0" LOAD PLATE)	247
				193			106	87	518	21200	193	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
				181			99	82	518	40000	181	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
				20			11	9	518	40011	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	243
				50			27	23	524	94904	50	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK	
				70			38	32	524	94906	70	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK	
				449			246	203	526	30011	449	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	272-276
				135			74	61	526	90030	135	FT	TYPE C INSTALLATION	
				5			3	2	SPECIAL	53000400	5	EACH	STRUCTURES PILOT EXPLORATION HOLES	207
				2,172			1,194	978	SPECIAL	53013000	2,172	SF	FORM LINER	207
													MAINTENANCE OF TRAFFIC	
													LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
													WORKSITE TRAFFIC SUPERVISOR	
													WORK ZONE INCREASED PENALTIES SIGN	
													REPLACEMENT SIGN	
													REPLACEMENT DRUM	
													ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
													MAINTAINING TRAFFIC, MISC.: BRIDGE DECK AND PAVEMENT PATCHING	16
													WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	
													WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	
													WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
													ROADS FOR MAINTAINING TRAFFIC	15
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 1	15-16
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 2	15-16
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 3	15-16
													PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN TYPE 4	15-16
													WATER	
													DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	

GENERAL SUMMARY

FRA - 71 - 1.53

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SHEET NUM.				PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	16	20	22A	01/MS/P/V	02/NHS/PV	03/IMS/BR	04/NHS/BR						
		12,759						254	01000	12,759	SY	MAINTENANCE OF TRAFFIC OPTION A - ASPHALT	
		330						411	10000	330	CY	PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	
		10						614	12336	10	EACH	STABILIZED CRUSHED AGGREGATE	
		1						614	12338	1	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
8		3,782						614	12800	3,790	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
1,382								614	12801	1,382	EACH	WORK ZONE RAISED PAVEMENT MARKER	15
								614	12801	1,382	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	
379		1,320						614	13310	1,699	EACH	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	
		94						614	13312	94	EACH	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	
379		534						614	13350	913	EACH	OBJECT MARKER, ONE WAY	
		2.44						614	20100	2.44	MILE	WORK ZONE LANE LINE, CLASS I, 4", 642 PAINT	
		12.31						614	22100	12.31	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 642 PAINT	
		18,550						614	23200	18,550	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
		12,759						615	20001	12,759	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN, PLAN A	23
		12,961						615	20001	12,961	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN, PLAN B	30A
		18,370						622	41000	18,370	FT	PORTABLE BARRIER, 32"	
		760						622	41020	760	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
MAINTENANCE OF TRAFFIC OPTION B - CONCRETE													
		8,899						254	01000	8,899	SY	PAVEMENT PLANING, ASPHALT CONCRETE (9" THICK)	
		677						411	10000	677	CY	STABILIZED CRUSHED AGGREGATE	
		13						614	12336	13	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
68		3,400						614	12800	3,468	EACH	WORK ZONE RAISED PAVEMENT MARKER	
1,301								614	12801	1,301	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	15
306		1,365						614	13310	1,671	EACH	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	
		65						614	13312	65	EACH	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	
306		520						614	13350	826	EACH	OBJECT MARKER, ONE WAY	
		3.91						614	20100	3.91	MILE	WORK ZONE LANE LINE, CLASS I, 4", 642 PAINT	
		14.82						614	22100	14.82	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 642 PAINT	
		17,956						614	23200	17,956	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
		8,899						615	20001	8,899	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN, PLAN A	59
		12,432						615	20001	12,432	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN, PLAN B	65A
		20,088						622	41000	20,088	FT	PORTABLE BARRIER, 32"	
		760						622	41020	760	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
								108	10000	LS		INCIDENTALS	
								614	11001	LS		CPM PROGRESS SCHEDULE	
								619	16021	20	MNTH	MAINTAINING TRAFFIC, AS PER PLAN	16
								623	10000	LS		FIELD OFFICE, TYPE C, AS PER PLAN	9
								624	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												MOBILIZATION	

GENERAL SUMMARY

FRA - 71 - 1.53

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SHEET NO.	202	202	202	202	202	451	601	601	601	601	602	605		605	605	605	605	606	606	606	606	606	606	606	606	
	CONCRETE BARRIER REMOVED FT	PIPE REMOVED, 24" AND UNDER FT	GUARDRAIL REMOVED FT	CATCH BASIN REMOVED EACH	FENCE REMOVED FT	SPECIAL - PRESSURE RELIEF JOINT, TYPE A FT	TIED CONCRETE BLOCK MAT, TYPE 1 SY	TIED CONCRETE BLOCK MAT, TYPE 2 SY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER CY	CONCRETE MASONRY CY	6" CONSTRUCTION UNDERDRAINS FT		6" SHALLOW PIPE UNDERDRAINS FT	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN FT	6" UNCLASSIFIED PIPE UNDERDRAINS FT	6" BASE PIPE UNDERDRAINS FT	GUARDRAIL, TYPE MGS FT	GUARDRAIL - BARRIER DESIGN, TYPE MGS FT	ANCHOR ASSEMBLY, MGS TYPE B EACH	ANCHOR ASSEMBLY, MGS TYPE T EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL) EACH	
128		85		2																						
131			454															1337.5				1		1		
134	167	84	1058	1			3.6	150.8		0.54								125	400		2	1	1	1	1	
137		84	1216	1	498	256	1.8	122.0	1151	1.3	0.54							900	287.5	1	1	1	1	1	1	
140		150		2																						
143										1.3	0.27															
146																										
176A							12.6					6844														
176B							7.2					1732		2561	733	240	2693									
177							7.2					3412		2660	887	240	4277									
178							19.8					7191				454										
TOTALS CARRIED TO GENERAL SUMMARY	167	403	2728	6	498	256	52.2	272.8	1151.0	2.6	1.35	19179		5221	1620	934	6970	2362.5	687.5	1	3	2	2	2	2	

CALCULATED DCB CHECKED JMB	ROADWAY SUBSUMMARY
FRA - 71 - 1.53	
113 285	

SHEET NO.	607	609	611	611	611	611	611	611	611	611	611	611	611	611	611	611	618	618	670						
	FENCE, TYPE 47RA FT	CURB, TYPE 4-C FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	12" CONDUIT, TYPE C, 706.02 FT	15" CONDUIT, TYPE B FT	15" CONDUIT, TYPE C FT	15" CONDUIT, TYPE C, 706.02 FT	15" CONDUIT, TYPE F FT	CONDUIT BORED OR JACKED, 15", TYPE B FT	CATCH BASIN, NO. 3 EACH	CATCH BASIN, NO. 3A EACH	CATCH BASIN, NO. 8 EACH	CATCH BASIN RECONSTRUCTED TO GRADE EACH	MANHOLE, NO. 3 EACH	PRECAST REINFORCED CONCRETE OUTLET EACH	RUMBLE STRIPS, (ASPHALT CONCRETE) FT	RUMBLE STRIPS, (CONCRETE) FT	DITCH EROSION PROTECTION SY							
128				45		479	29					3	6	1				0							
131																	2740.0		279						
134		120				14	95	138	1	2	1							125							
137	282	132			111	347	44			3	2			1		3573.0	240.4	30							
140																			125						
143						100		111				4		1					553						
146													4												
176A																	7								
176B						444											4								
177						542											4								
178						100											11								
TOTALS CARRIED TO GENERAL SUMMARY	282	252	1086	45	111	940	29	139	249	1	5	10	10	3	26	6313.0	240.4	1112							

BRIDGE ESTIMATED QUANTITIES

FRA-71-0153L (SOUTHBOUND)	FRA-71-0153R (NORTHBOUND)				ITEM	EXTENSION	UNIT	DESCRIPTION
LUMP	LUMP				202	11003	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
187	187				202	22900	SY	APPROACH SLAB REMOVED
1227	1227				202	23500	SY	WEARING COURSE REMOVED
LUMP	LUMP				503	11101	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
LUMP	LUMP				503	21300	LS	UNCLASSIFIED EXCAVATION
LUMP	LUMP				505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION
1,920	1,760				507	00200	FT	STEEL PILES HP12X53, FURNISHED
1,600	1,440				507	00250	FT	STEEL PILES HP12X53, DRIVEN
64	64				507	93300	EACH	STEEL POINTS OR SHOES
288,328	289,137				509	10001	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN
849	849				511	21522	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE
2	2				511	33500	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE
64	64				511	41010	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS
212	214				511	44112	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING
276	273				511	46512	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING
1,228	1,269				512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
11	11				512	33000	SY	TYPE 2 WATERPROOFING
794,144	794,144				513	10401	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN
7,665	7,665				513	20000	EACH	WELDED STUD SHEAR CONNECTORS
135	135				516	10010	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)
135	135				516	13600	SF	1" PREFORMED EXPANSION JOINT FILLER
18	18				516	13900	SF	2" PREFORMED EXPANSION JOINT FILLER
366	366				516	14020	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL
162	162				516	44300	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" x 27" x 4.91" WITH 23" x 28" x 2.5" LOAD PLATE)
0	0				516	44301	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (14" x 20" x 4.35" WITH 15" x 21" x 2.0" LOAD PLATE), AS PER PLAN
0	0				518	21200	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
193	193				518	40000	FT	6" PERFORATED CORRUGATED PLASTIC PIPE
181	181				518	40011	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN
0	0				524	94904	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK
50	50				524	94906	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK
0	0				526	30011	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN
449	449				526	90030	FT	TYPE C INSTALLATION
0	0				SPECIAL	530E00400	EACH	SPECIAL - STRUCTURES: PILOT EXPLORATION HOLES
2172	2172				SPECIAL	530E13000	SF	SPECIAL - FORMLINER
587	564				601	32000	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER

CALCULATED
CMH/DJC
CHECKED
ALM/LYH

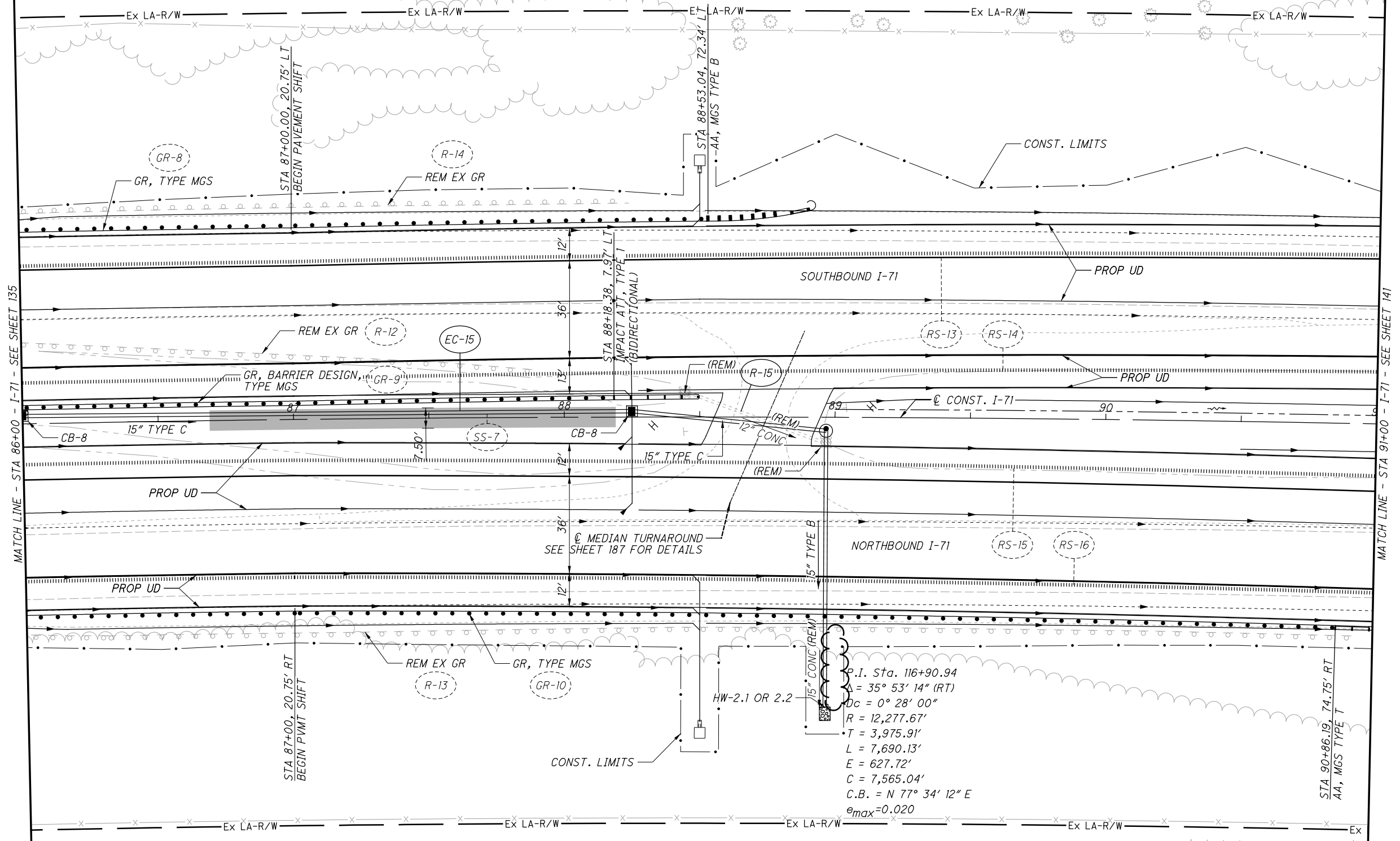
STRUCTURE SUBSUMMARY

FRA - 71 - 1.53

X:\4037000\121957.15\93496\roadway\sheet\93496S012.dgn Sheet 12/5/2018 2:50:35 PM 1781am

X:\4037000\121957.15\93496\roadway_sheets\93496GP019.dgn Sheet 11/26/2018 10:25:38 AM 1473ctw

ITEM 670 - DITCH EROSION PROTECTION, WIDTH = 14.5' UNLESS NOTED
 ROCK CHANNEL PROTECTION, TYPE C w/FILTER



P.I. Sta. 116+90.94
 $\Delta = 35^\circ 53' 14''$ (RT)
 $Dc = 0^\circ 28' 00''$
 $R = 12,277.67'$
 $T = 3,975.91'$
 $L = 7,690.13'$
 $E = 627.72'$
 $C = 7,565.04'$
 $C.B. = N 77^\circ 34' 12'' E$
 $e_{max} = 0.020$

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2-3	☉ REFERENCES AND BENCHMARKS
139	PROFILES
140	ESTIMATED QUANTITIES
183	UNDERDRAIN DETAILS

CALCULATED DCB CHECKED JMB
 0 20 40
 HORIZONTAL SCALE IN FEET

PLAN - I-71
 STA 86+00 TO STA 91+00

FRA-71-1.53

138
285

X:\4037000\121957.15\93496\drainage\sheets\934960007.dgn Sheet 1473ctw 12/3/2018 2:58:21 PM

REF. NO.	SHEET NO.	STATION	SIDE	OFFSET	INVERT	STATION	SIDE	OFFSET	INVERT	601	605	605	605	605	605	611	611	BENDS AND BRANCHES FOR INFORMATION ONLY					
										TIED CONCRETE BLOCK MAT, TYPE 1	6" CONSTRUCTION UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS	6" SHALLOW PIPE UNDERDRAINS, AS PER PLAN	6" UNCLASSIFIED PIPE UNDERDRAINS	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	PLUG	6" X 6" TEE	6" X 6" WYE	6" X 6" CROSS	6" X 90° ELL	6" X 45° ELL
		FROM			TO						SQ YD	FT	FT	FT	FT	FT	EACH	NO.	NO.	NO.	NO.	NO.	NO.
U-143	184-185	95+02	LT	31.95	791.94	96+80	LT	38.38	793.20					178			1						
U-144	184-185	95+02	RT	6.80	792.95	100+71	RT	19.40	790.70		569						1						3
U-145	184-185	94+97	RT	10.30	793.55	100+71	RT	19.50	790.30		574						1						1
U-146	184	95+02	RT	31.10	792.00	96+80	RT	38.25	793.20					178			1						
146A	186	95+02	RT	40.30	792.05	96+00	RT	41.00	792.50					98			1						
U-147	185	96+78	LT	76.25	793.49	96+80	LT	118.96	787.20	1.8	2					57	1						1
U-148	185	96+78	RT	76.25	792.59	96+80	RT	119.00	787.50	1.8	2					43	1					1	1
STATION 96+80 END FULL DEPTH PAVEMENT TAPER CONSTRUCTION																							
U-149	185-186A	96+82	LT	76.25	793.49	101+72	LT	76.25	791.60								1						
U-150	185-186A	9682	RT	76.25	792.59	101+72	RT	76.25	791.60								1						
U-151	NOT USED																						
U-152	NOT USED																						
U-153	185-186A	100+73	LT	21.44	791.60	102+59	LT	28.58	791.50								1						1
U-154	185-186A	100+73	RT	20.60	791.50	102+68	RT	27.95	791.40								1						1
U-155	186A	101+69	LT	76.25	791.60	101+73	LT	121.00	788.35	1.8	45						1		1				1
U-156	186A	101+72	RT	76.20	791.60	101+72	RT	109.50	787.35	1.8	34						1		1				1
U-157	186A	101+72	LT	76.25	791.60	105+48	LT	76.25	793.00								1						
U-158	186A	101+72	RT	76.25	791.60	105+48	RT	76.25	793.00								1						
U-159	186A	102+59	RT	39.00	791.25	102+70	RT	19.40	789.00										1	1			2
U-160	186A	102+70	LT	39.00	791.25	102+70	LT	18.70	790.60										2	1			
U-161	186A	102+83	RT	39.00	791.25	102+70	RT	19.40	789.00										1	1			2
U-162	186A & B	102+70	LT	30.00	791.50	109+50	LT	38.74	791.60								1						1
U-163	186A - C	102+72	RT	28.00	791.25	111+69	RT	35.4	802.10								1						
U-164	186A & B	105+50	RT	119.00	786.85	108+48	RT	76.25	796.50	1.8	332						1	1				1	1
U-165	186A & B	105+50	LT	125	788.25	110+48	LT	76.25	799.30	1.8	548						1	1				1	1
U-166	186C	111+71	RT	19.5	800.75	112+50	RT	37.56	804.00								1					1	1
U-167	185B & C	108+50	RT	114.1	788.15	111+48	RT	76.25	801.90	1.8	332						1	1				1	1
U-168	185B & C	110+50	LT	111.6	787	113+50	LT	76.25	805.80	1.8	336						1	1				1	1
U-169	186C	111+50	RT	113.5	787.9	114+50	RT	76.25	808.00	1.8	332						1	1				1	1
U-170	186C	113+50	LT	69	805.5	113+50	LT	125	786.40	1.8	60						1					1	2
U-171	186C	114+50	RT	76.25	806.7	116+00	RT	69	810.60	1.8	173						1	1				2	2
TOTALS CARRIED TO SHEETS 113-114										19.8	7191				454	100	11	20	8	3	10	25	

CALCULATED	DCB	CHECKED	JMB
ESTIMATED QUANTITIES - UNDERDRAINS			
FRA - 71 - 1.53			
178		285	

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ESTIMATED QUANTITIES

ITEM	EXTENSION	SOUTHBOUND	NORTHBOUND	UNIT	DESCRIPTION	SOUTHBOUND				NORTHBOUND				SHEET #
						ABUT.	PIER	SUPER.	GEN.	ABUT.	PIER	SUPER.	GEN.	
202	11003	LUMP	LUMP	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP				LUMP	4, 15
202	22900	187	187	SY	APPROACH SLAB REMOVED				187				187	
202	23500	1,227	1,227	SY	WEARING COURSE REMOVED			1,227			1,227			
503	11101	LUMP	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	LUMP	LUMP			LUMP	LUMP			4, 16-18
503	21300	LUMP	LUMP	LS	UNCLASSIFIED EXCAVATION	LUMP	LUMP		LUMP	LUMP			LUMP	
505	11100	LUMP	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION	LUMP	LUMP			LUMP	LUMP			
507	00200	1,920	1,760	FT	STEEL PILES HP12X53, FURNISHED	1,920				1,760				
507	00250	1,600	1,440	FT	STEEL PILES HP12X53, DRIVEN	1,600				1,440				
507	93300	64	64	EACH	STEEL POINTS OR SHOES	64				64				
509	10001	288,328	289,137	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	49,437	26,274	212,617		50,301	26,407	212,429		4
511	21522	849	849	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			849				849		
511	33500	2	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				2				
511	41010	64	64	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		64				64			
511	44112	212	214	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	212				214				
511	46512	276	273	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	276				273				
512	10100	1,228	1,269	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	307	155	766		345	158	766		
512	33000	11	11	SY	TYPE 2 WATERPROOFING	11				11				
513	10401	794,144	794,144	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			794,144				794,144		4, 5
513	20000	7,665	7,665	EACH	WELDED STUD SHEAR CONNECTORS			7,665				7,665		
516	10010	135	135	FT	ARMORLESS PREFORMED JOINT SEAL (TYPE C)				135				135	
516	13600	18	18	SF	1" PREFORMED EXPANSION JOINT FILLER			18				18		
516	13900	366	366	SF	2" PREFORMED EXPANSION JOINT FILLER			366				366		
516	14020	162	162	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL			162				162		
516	44300	7	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (22" x 27" x 4.91" WITH 23" x 28" x 2.5" LOAD PLATE)		7				7			
516	44301	14	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (14" x 20" x 4.35" WITH 15" x 21" x 2.0" LOAD PLATE), AS PER PLAN			14			14			45
518	21200	193	193	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	193				193				
518	40000	181	181	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	181				181				
518	40011	20	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	20				20				41
524	94904	50	50	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK		50				50			
524	94906	70	70	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK		70				70			
526	30011	449	449	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN					449			449	70-74
526	90030	135	135	FT	TYPE C INSTALLATION					135			135	
SPECIAL	530E00400	5	5	EACH	SPECIAL - STRUCTURES: PILOT EXPLORATION HOLES		5				5			5
SPECIAL	530E13000	2,172	2,172	SF	SPECIAL - FORMLINER			2,172				2,172		5
* 601	32000	587	564	CY	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	585				566				

* - FOR INFORMATION ONLY. PAID FOR UNDER ROADWAY QUANTITIES.

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

- | | | | | | |
|--|--|-------------------------|---|--|---------------------------------|
| ABUT. - ABUTMENT | CIP - CAST-IN-PLACE | EL. - ELEVATION | JT. - JOINT | P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE | TAF - TEMPORARY ACCESS FILL |
| ADT - AVERAGE DAILY TRAFFIC | C.J. - CONSTRUCTION JOINT | EQ. - EQUAL | LT. - LEFT | P.E.J.F. - PREFORMED EXPANSION JOINT FILLER | TEMP. - TEMPORARY |
| ADTT - AVERAGE DAILY TRUCK TRAFFIC | CLR. - CLEARANCE | EX. - EXISTING | | | T/R - TOP OF ROCK |
| APPROX. - APPROXIMATE | CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS | F.A. - FORWARD ABUTMENT | MAX. - MAXIMUM | R.A. - REAR ABUTMENT | T/S - TOP OF SLOPE |
| ASTM - AMERICAN SOCIETY OF TESTING AND MATERIALS | CONST. - CONSTRUCTION | F.F. - FRONT FACE | MIN. - MINIMUM | RT. - RIGHT | T/T - TOE TO TOE |
| B.F. - BACK FACE | DIA./φ - DIAMETER | F/F - FACE TO FACE | MOT - MAINTENANCE OF TRAFFIC | | TYP. - TYPICAL |
| BOT. - BOTTOM | DWG. - DRAWING | FTG. - FOOTING | NB - NORTHBOUND | SB - SOUTHBOUND | U.N.O. - UNLESS NOTED OTHERWISE |
| BRGS. - BEARINGS | E.F. - EACH FACE | FT/FT - FOOT PER FOOT | N.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE | SPA. - SPACES OR SPACING | VERT. - VERTICAL |
| ☉ - CENTERLINE | E/P - EDGE OF PAVEMENT | FWD. - FORWARD | O/O - OUT TO OUT | STD. - STANDARD | |
| C/C - CENTER TO CENTER | E/S - EDGE OF SHOULDER | I - INTERSTATE ROUTE | | STR. - STRAIGHT | |

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 8/1/2016
 REVIEWED: KVB
 DRAWN: CMH
 DESIGNED: CMH
 CHECKED: ALM

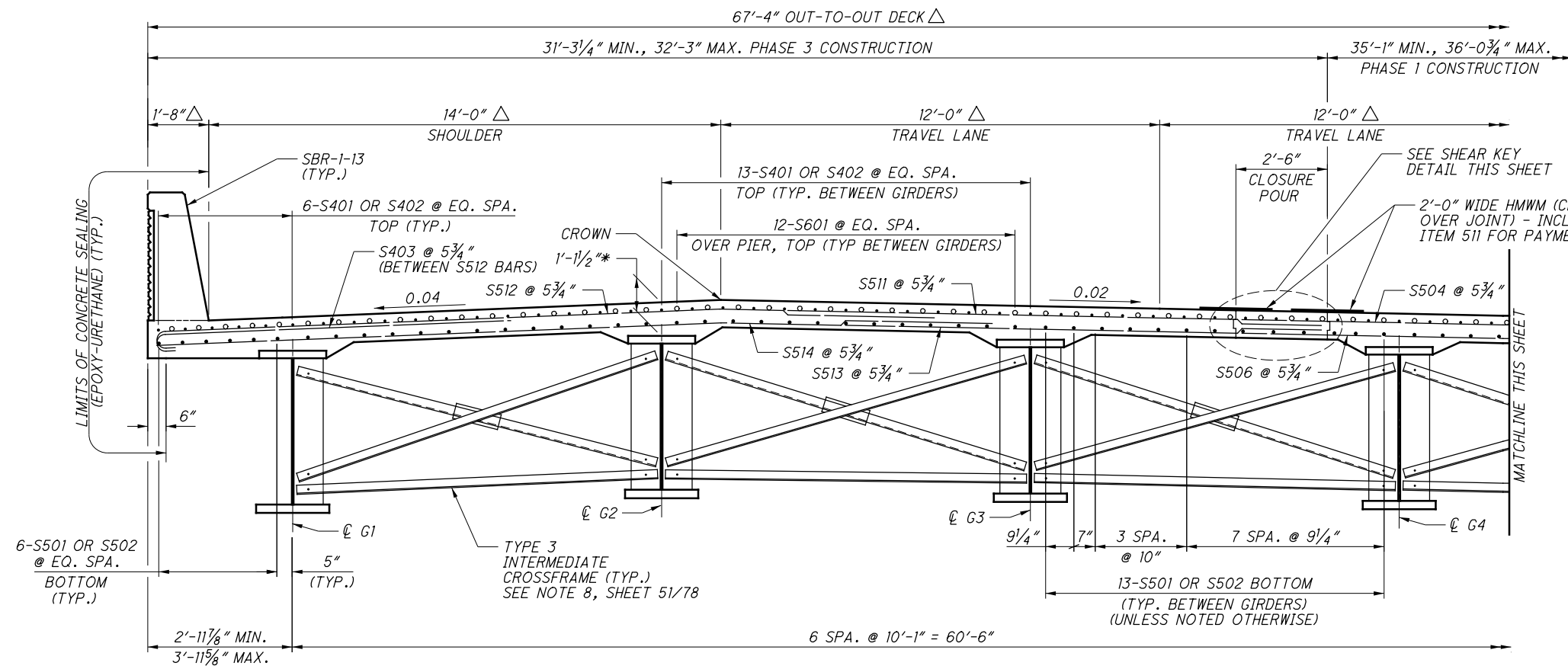
STRUCTURE FILE NUMBER: 2506786L/2506816R

ESTIMATED QUANTITIES
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

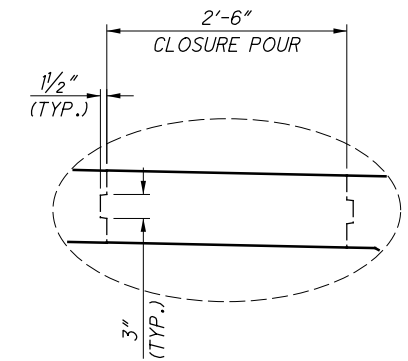
FRA-71-1.53
 PID No. 93496

6 / 78
 208
 285

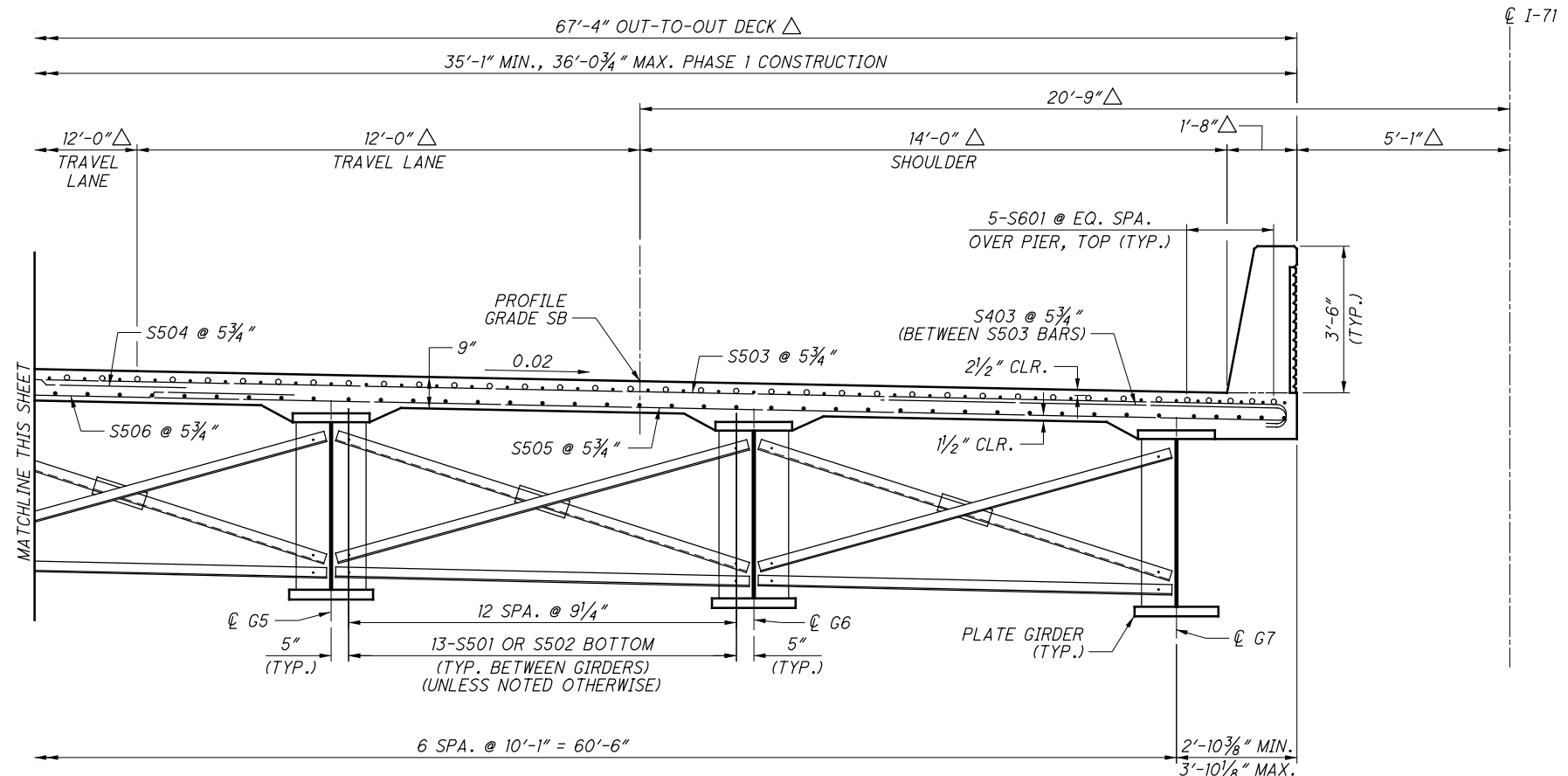
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TRANSVERSE SECTION - SOUTHBOUND BRIDGE



SHEAR KEY DETAIL



TRANSVERSE SECTION - SOUTHBOUND BRIDGE

NOTES:

1. FOR DECK REINFORCING PLAN, SEE SHEET 56/78.
2. FOR PARAPET ELEVATION AND REINFORCING, SEE SHEETS 69/78 AND 73/78.
3. FIELD BEND TRANSVERSE BARS TO FIT THE CROWN. SEE GENERAL NOTES, SHEETS 4/78 AND 5/78 FOR ADDITIONAL INFORMATION.
4. FOR DECK OVERHANG DIMENSIONS, SEE SHEETS 60/78 AND 61/78.
5. CROSSFRAMES SHALL NOT BE PERMANENTLY ATTACHED IN THE CLOSURE POUR BETWEEN GIRDERS G3 & G4 UNTIL THE CONCRETE ON BOTH SIDES OF THE CLOSURE POUR HAS BEEN COMPLETED. CROSSFRAMES SHALL BE INSTALLED AND ATTACHED PERMANENTLY PRIOR TO THE PLACEMENT OF THE CLOSURE POUR.

6. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4 1/2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ± 3 INCHES. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

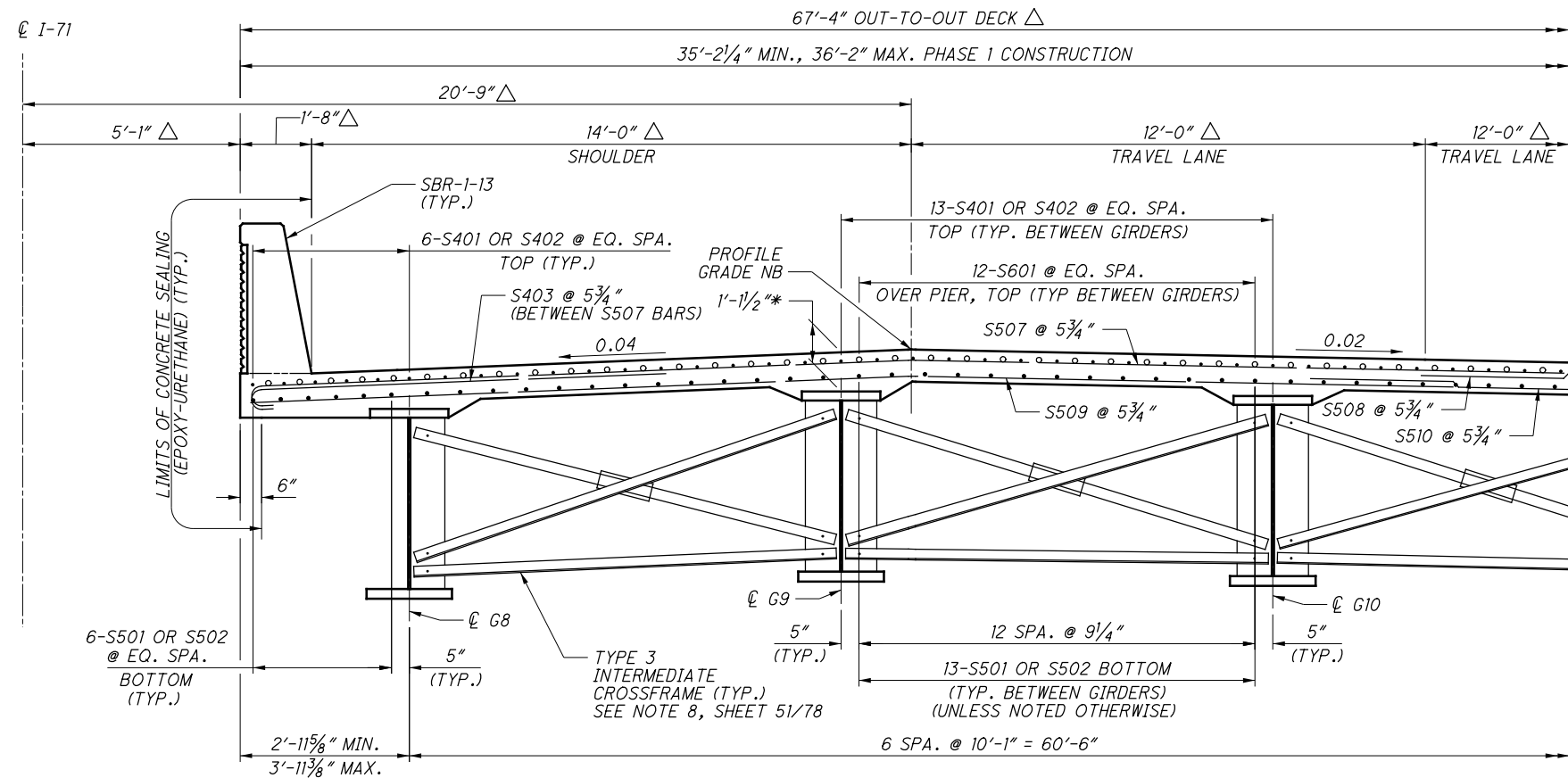
LEGEND:

- * - TOP OF SLAB/TOP OF GIRDER WEB
- ** - MINIMUM LAP LENGTH FOR NO. 5 BARS LOCATED INSIDE THE CLOSURE POUR IS 2'-4". MINIMUM LAP LENGTH FOR NO. 5 BARS IN ALL OTHER LOCATIONS IS 3'-2".
- Δ - DIMENSIONS MEASURED RADIALLY

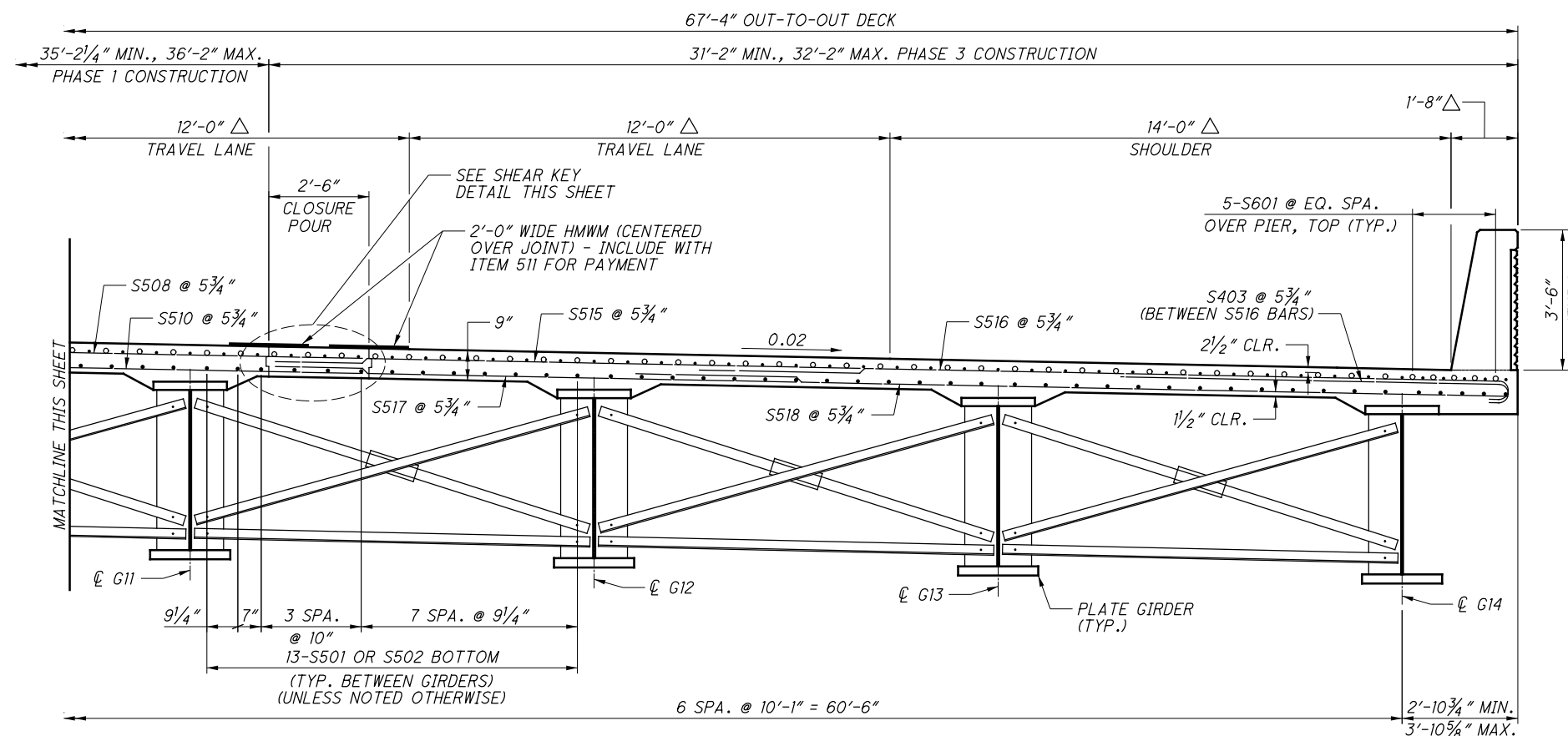
MINIMUM LAP LENGTHS	
NO. 4 BAR	2'-9"
NO. 5 BAR	3'-2" **
NO. 6 BAR	4'-1"

DESIGN AGENCY: Mead & Hunt
 4700 LAKEHURST CT., STE 110 DUBLIN, OH 43016
 (614) 792-5900 PHONE (614) 792-5901 FAX
 DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: DJC
 DESIGNED: RLC
 CHECKED: MLH
 STRUCTURE FILE NUMBER: 2506786L/2506816R
TRANSVERSE SECTION - SOUTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK
FRA-71-0.00
 PID No. 93496
 55/78
 257
 285

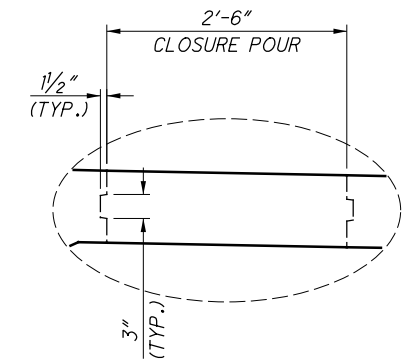
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TRANSVERSE SECTION - NORTHBOUND BRIDGE



TRANSVERSE SECTION - NORTHBOUND BRIDGE



SHEAR KEY DETAIL

NOTES:

1. FOR DECK REINFORCING PLAN, SEE SHEET 63/78.
2. FOR PARAPET ELEVATION AND REINFORCING, SEE SHEETS 69/78 AND 73/78.
3. FIELD BEND TRANSVERSE BARS TO FIT THE CROWN. SEE GENERAL NOTES, SHEETS 4/78 AND 5/78 FOR ADDITIONAL INFORMATION.
4. FOR DECK OVERHANG DIMENSIONS, SEE SHEETS 67/78 AND 68/78.
5. CROSSFRAMES SHALL NOT BE PERMANENTLY ATTACHED IN THE CLOSURE POUR BETWEEN GIRDERS G11 AND G12 UNTIL THE CONCRETE ON BOTH SIDES OF THE CLOSURE POUR HAS BEEN COMPLETED. CROSSFRAMES SHALL BE INSTALLED AND ATTACHED PERMANENTLY PRIOR TO THE PLACEMENT OF THE CLOSURE POUR.

6. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 41#2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER FLANGE IS ± 3 INCHES. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

LEGEND:

- * - TOP OF SLAB/TOP OF GIRDER WEB
- ** - MINIMUM LAP LENGTH FOR NO. 5 BARS LOCATED INSIDE THE CLOSURE POUR IS 2'-4\"/>

MINIMUM LAP LENGTHS	
NO. 4 BAR	2'-9"
NO. 5 BAR	3'-2" **
NO. 6 BAR	4'-1"

DESIGN AGENCY
Mead & Hunt
 4700 LAKEHURST CT., STE 110
 DUBLIN, OH 43016
 (614) 792-5900 PHONE
 (614) 792-5901 FAX

DATE: 6/30/2015
 REVIEWED: KVB
 DRAWN: DJC
 DESIGNED: RLC
 CHECKED: MLH

STRUCTURE FILE NUMBER: 2506786L/2506816R

TRANSVERSE SECTION - NORTHBOUND BRIDGE
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-0.00
 PID No. 93496

62 / 74

264
 285

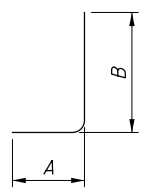
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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENTS - SOUTHBOUND BRIDGE											
A501	24	7'-2"	179	STR							
A502	24	40'-2"	1005	STR							
A503	12	19'-11"	249	2	9'-0"	2'-2"	9'-0"				
A504	10	13'-10"	144	3	2'-1"	4'-6"					
A510	24	31'-9"	795	STR							
A511	52	12'-11"	701	2	5'-9"	1'-8"	5'-9"				
A512	36	20'-8"	776	STR							
A513	4	24'-7"	103	STR							
A514	2	28'-4"	59	STR							
A515	10	28'-8"	299	STR							
	2 SR	6'-9"			2'-8"		2'-8"				
A516	OF	TO	157	2	TO	1'-8"	TO				0'-4 1/2"
	8	12'-1"			5'-4"		5'-4"				
A517	4	11'-3"	47	19	3'-2"	7'-7"	2'-10"				
A601	422	9'-10"	6233	2	3'-6"	3'-2"	3'-6"				
A602	188	12'-2"	3436	STR							
A603	176	11'-2"	2952	2	4'-5"	2'-8"	4'-5"				
A604	54	17'-6"	1419	2	3'-1"	11'-8"	3'-1"				
A605	28	16'-1"	676	STR							
A606	28	15'-2"	638	STR							
A607	50	34'-6"	2591	2	16'-7"	1'-8"	16'-7"				
A608	2	32'-6"	98	2	15'-7"	1'-8"	15'-7"				
A701	194	11'-8"	4626	STR							
*A702	58	11'-8"	452	STR							
A703	58	33'-4"	3952	STR							
*A801	8	37'-6"	801	STR							
A803	8	6'-0"	128	STR							
A804	8	31'-8"	676	STR							
A901	192	11'-8"	7616	STR							
A902	188	13'-6"	8629	1	12'-2"	1'-7"					
SUB-TOTAL			49,437								

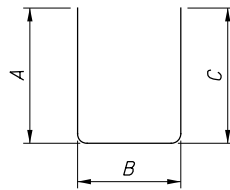
* - MECHANICAL CONNECTOR REQUIRED

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENTS - NORTHBOUND BRIDGE											
A501	28	7'-2"	209	STR							
A505	28	40'-1"	1171	STR							
A506	12	21'-5"	268	2	9'-9"	2'-2"	9'-9"				
A507	8	13'-8"	114	3	2'-1"	4'-5"					
A508	2	4'-6"	9	19	1'-3"	3'-2"	0'-8"				
A509	2	4'-6"	9	19	1'-3"	3'-2"	0'-10"				
A510	28	31'-9"	927	STR							
A511	50	12'-11"	674	2	5'-9"	1'-8"	5'-9"				
A518	36	19'-8"	738	STR							
A519	4	11'-3"	47	19	3'-2"	7'-7"	2'-10"				
	2 SR	6'-9"			2'-8"		2'-8"				
A520	OF	TO	157	2	TO	1'-8"	TO				0'-4 1/2"
	8	12'-1"			5'-4"		5'-4"				
A521	2	23'-8"	49	STR							
A522	12	27'-8"	346	STR							
A523	2	23'-10"	50	STR							
A601	422	9'-10"	6233	2	3'-6"	3'-2"	3'-6"				
A602	188	12'-2"	3436	STR							
A603	176	11'-2"	2952	2	4'-5"	2'-8"	4'-5"				
A604	54	17'-6"	1419	2	3'-1"	11'-8"	3'-1"				
A605	28	16'-1"	676	STR							
A606	28	15'-2"	638	STR							
A609	24	34'-0"	1226	2	16'-4"	1'-8"	16'-4"				
A610	1	32'-0"	48	2	15'-4"	1'-8"	15'-4"				
A611	24	34'-2"	1232	2	16'-5"	1'-8"	16'-5"				
A612	1	32'-2"	48	2	15'-5"	1'-8"	15'-5"				
A701	194	11'-8"	4626	STR							
*A702	56	11'-8"	1335	STR							
A703	56	33'-4"	3815	STR							
A802	8	37'-3"	796	STR							
*A803	8	6'-0"	128	STR							
A805	8	31'-10"	680	STR							
A901	192	11'-8"	7616	STR							
A902	188	13'-6"	8629	1	12'-2"	1'-7"					
SUB-TOTAL			50,301								

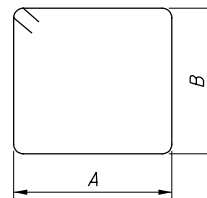
* - MECHANICAL CONNECTOR REQUIRED



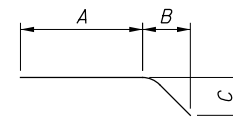
TYPE-1



TYPE-2



TYPE-3



TYPE-19

DESIGN AGENCY
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 4700 LAKEHURST CT., STE 110
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REINFORCING STEEL LIST
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

DESIGNED BY: DJC
 CHECKED BY: RLC

DRAWN BY: DJC
 REVISED BY:

REVIEWED BY: KVB
 STRUCTURE FILE NUMBER: 2506786L/2506816R

DATE: 8/1/2016

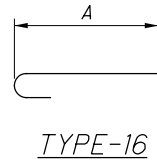
FRA-71-1.53
 PID No. 93496

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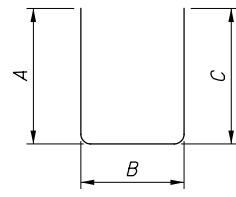
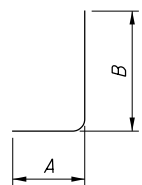
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE - SOUTHBOUND BRIDGE											
S401	913	30'-0"	18297	STR							
S402	83	12'-0"	665	STR							
S403	1280	10'-2"	8693	16	9'-8"						
S501	990	30'-0"	30977	STR							
S502	90	16'-7"	1557	STR							
S503	651	31'-1"	21105	16	30'-6"						
S504	651	11'-0"	7469	STR							
S505	651	27'-11"	18955	STR							
S506	651	13'-7"	9223	STR							
S511	651	14'-8"	9958	STR							
S512	651	21'-1"	14315	16	20'-6"						
S513	651	13'-1"	8883	STR							
S514	651	22'-1"	14994	STR							
S601	328	37'-7"	18516	STR							
SUB-TOTAL			183,607								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE - NORTHBOUND BRIDGE											
S401	913	30'-0"	18297	STR							
S402	83	12'-0"	665	STR							
S403	1280	10'-2"	8693	16	9'-8"						
S501	990	30'-0"	30977	STR							
S502	90	16'-7"	1557	STR							
S507	651	31'-2"	21162	16	30'-7"						
S508	651	10'-11"	7412	STR							
S509	651	28'-0"	19012	STR							
S510	651	13'-6"	9166	STR							
S515	651	14'-7"	9902	STR							
S516	651	21'-0"	14259	16	20'-5"						
S517	651	13'-0"	8827	STR							
S518	651	22'-0"	14938	STR							
S601	328	37'-7"	18516	STR							
SUB-TOTAL			183,383								



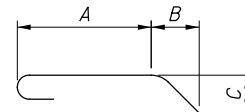
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENT DIAPHRAGMS - SOUTHBOUND BRIDGE											
D401	4	2'-8"	7	STR							
D501	98	7'-1"	724	2	2'-7"	2'-2"	2'-7"				
D502	188	9'-11"	1944	2	3'-9"	2'-8"	3'-9"				
D503	2	11'-6"	24	3	2'-9"	2'-8"					
D504	2	11'-0"	23	3	2'-6"	2'-8"					
D801	90	5'-0"	1202	18	2'-10"	1'-0"	1'-0"				
D802	32	6'-2"	527	18	4'-0"	1'-0"	1'-0"				
D803	8	28'-1"	600	1	27'-0"	1'-4"					
D804	4	27'-0"	288	STR							
*D805	20	35'-8"	1905	STR							
D806	8	7'-4"	157	1	6'-3"	1'-4"					
*D807	12	5'-1"	163	STR							
D813	32	30'-11"	2642	STR							
SUB-TOTAL			10,206								

* - MECHANICAL CONNECTOR REQUIRED



MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
ABUTMENT DIAPHRAGMS - NORTHBOUND BRIDGE											
D401	4	2'-8"	7	STR							
D501	98	7'-1"	724	2	2'-7"	2'-2"	2'-7"				
D502	188	9'-11"	1944	2	3'-9"	2'-8"	3'-9"				
D503	2	11'-6"	24	3	2'-9"	2'-8"					
D504	2	11'-0"	23	3	2'-6"	2'-8"					
D801	92	5'-0"	1228	18	2'-10"	1'-0"	1'-0"				
D802	32	6'-2"	527	18	4'-0"	1'-0"	1'-0"				
D808	8	27'-4"	584	1	26'-2"	1'-4"					
D809	4	26'-2"	279	STR							
*D810	20	34'-10"	1860	STR							
*D811	8	6'-4"	135	1	5'-2"	1'-4"					
*D812	4	5'-2"	55	STR							
D814	8	29'-3"	625	STR							
D815	24	31'-11"	2045	STR							
D816	8	8'-6"	182	STR							
SUB-TOTAL			10,242								

* - MECHANICAL CONNECTOR REQUIRED



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REINFORCING STEEL LIST
 BRIDGE NO. FRA-71-0153 L/R
 OVER BIG DARBY CREEK

FRA-71-1.53
 PID No. 93496

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REVIEWED
 KVB
 DATE
 8/1/2016
 STRUCTURE FILE NUMBER
 2506786L/2506816R

DRAWN
 DJC
 CHECKED
 RLC