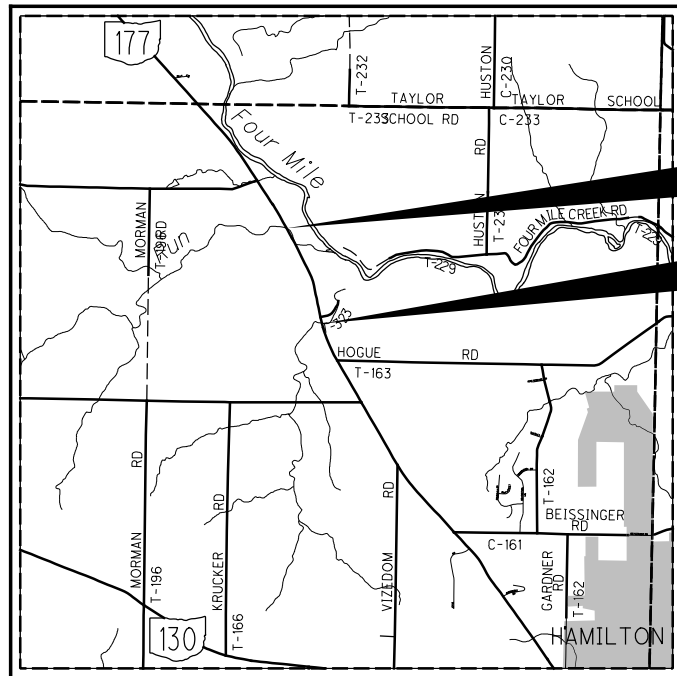


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

BUT-SR 177-0469/0529

HANOVER TOWNSHIP
BUTLER COUNTY, OHIO



LOCATION MAP

BUT-177-0469 - LATITUDE: N39°27'37" LONGITUDE: W84°37'39"
 BUT-177-0529 - LATITUDE: N39°28'06" LONGITUDE: W84°37'54"

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

DESIGN DESIGNATION

CURRENT ADT (2022)	3,800
DESIGN YEAR ADT (2042)	4,600
DESIGN HOURLY VOLUME (2042)	450
DIRECTIONAL DISTRIBUTION	0.5
TRUCKS (24 HOUR B&C)	0.17
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
05 RURAL MAJOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

N/A

ADA DESIGN WAIVERS

N/A

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 ENGINEERING
505 SOUTH S.R. 741 LEBANON, OHIO 45036

INDEX OF SHEETS:

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ENGINEER'S SEAL:	STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
 SIGNED: <i>Chris Howard</i> DATE: 10/21/21	BP-3.1	1/17/20	MT-95.31	7/19/19	TC-41.30	10/18/13	800-2019	10/15/21	ASBESTOS REPORTS 10/8/21
	BP-4.1	7/19/13	MT-95.41	1/17/20	TC-41.50	10/18/13	815	4/20/18	
			MT-95.50	7/21/17	TC-42.10	10/18/13	816	10/18/19	
	MGS-1.1	1/19/18	MT-96.11	4/17/20	TC-42.20	10/18/13	832	10/19/18	WATERWAY PERMIT 6/11/21
	MGS-2.1	1/19/18	MT-96.20	7/15/16	TC-61.10	1/17/20	844	4/20/18	
	MGS-4.2	7/19/13	MT-96.26	1/18/19	TC-61.30	7/19/19	846	4/17/15	
	MGS-4.3	1/18/13	MT-97.10	4/19/19	TC-65.10	1/17/14	848	1/15/21	
	MGS-5.3	7/15/16	MT-97.12	1/20/17	TC-65.11	7/21/17	843	10/18/19	
			MT-97.20	4/19/19			906	10/15/10	
			MT-101.60	1/17/20			907	10/18/19	
	RM-4.2	4/17/20	MT-101.70	1/17/20					
			MT-101.75	1/17/20					
	CPA-1-08	7/18/08	MT-101.90	7/17/20					
	DBR-2-73	7/19/02	MT-105.10	1/17/20					
	DBR-3-11	7/15/11							
	PCB-91	7/17/20	TC-41.20	10/18/13					

FEDERAL PROJECT NUMBER

E191395

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

REHABILITATE PIERS, SEAL CONCRETE DECK AND UPGRADE BRIDGE RAILINGS FOR BUT-177-4.69.
 PERFORM DECK OVERLAY, UPGRADE BRIDGE RAILING, PERFORM STRUCTURE PATCHING AND CONCRETE SEALING FOR BUT-177-5.29.

BUT-177-0469 EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.1 ACRES
 NOTICE OF INTENT EARTH DISTURBED AREA: 0.1 ACRES
 NOI NOT REQUIRED

BUT-177-0529 EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 0 ACRES
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.1 ACRES
 NOTICE OF INTENT EARTH DISTURBED AREA: 0.1 ACRES
 NOI NOT REQUIRED

2019 SPECIFICATIONS

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

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

APPROVED *Tammy K Campbell*
 DATE 9-27-2021 DISTRICT DEPUTY DIRECTOR

APPROVED _____
 DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

BUT-SR 177-0468/0529

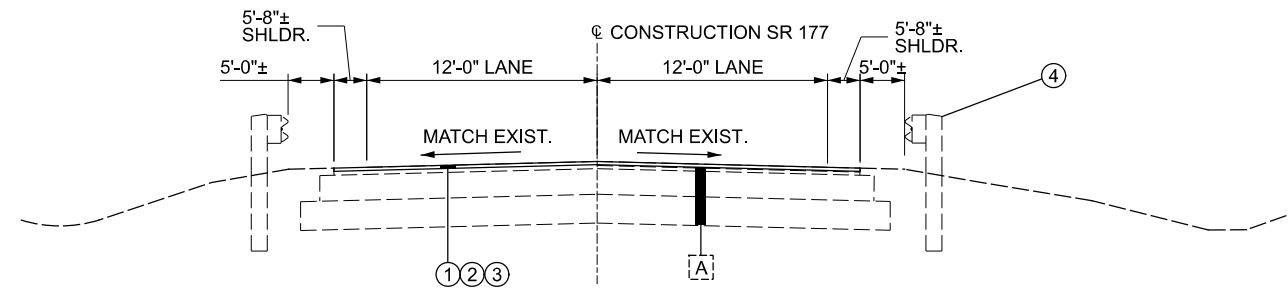
MODEL: Sheet PAPER: 17x11 (in.) DATE: 12/22/2021 TIME: 2:18:54 PM USER: choward4 pwc:\ohio\dot-pw\benley.com\dot-pw-02\Documents\01 Active Projects\District 8\Butler\102748\400-Engineering\Roadway\Sheets\102748_GT001.dgn

TITLE SHEET

DESIGN AGENCY

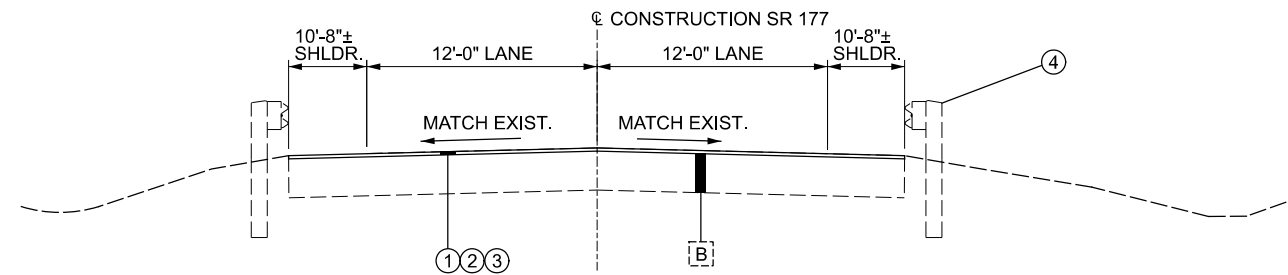


DESIGNER	CAH
REVIEWER	GTF 7-12-21
PROJECT ID	102748
SHEET	TOTAL
1	22



BUT - SR 177 TYPICAL ROADWAY MILL/FILL SECTION
 STA. 351+50.00 (MM 5.246) TO STA. 353+57.00 = 207.00 FT
 STA. 355+17.13 TO STA. 357+50.00 (MM 5.360) = 232.87 FT
 439.87 FT

BUT-SR 177-5.29 BRIDGE LIMITS
 STA. 353+82.00 TO STA. 354+92.13 = 110.13 FT



BUT - SR 177 TYPICAL APPROACH SLAB MILL/FILL SECTION
 STA. 353+57.00 TO STA. 353+82.00 = 25.00 FT
 STA. 354+92.13 TO STA. 355+17.13 = 25.00 FT
 50.00 FT

LEGEND

- ① ITEM 441 - 1.50" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448)
- ② ITEM 407 - NON-TRACKING TACK COAT - PLACED OVER EXISTING ASPHALT (0.09 GAL/SY)
- ③ ITEM 254 - ASPHALT PAVEMENT PLANING (T=1.50")
- ④ ITEM 606 - EX. GUARDRAIL
- [A] EXISTING ASPHALT PAVEMENT
- [B] EXISTING APPROACH SLAB

NOTES:

- 1. TYPICAL SECTIONS ARE NOT TO SCALE.
- 2. MILL/FILL TO EXTEND TO LIMITS OF M.O.T. SCARING.

DESIGN AGENCY



DESIGNER

CAH

REVIEWER

GTF 7-12-21

PROJECT ID

102748

SHEET

2

TOTAL

22

ROUNDING

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

UTILITIES

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

DUKE ELECTRIC (DISTRIBUTION)
 2010 DANA AVE
 CINCINNATI, OHIO 45207
 PHONE 513-514-8211 (AARON WRIGHT)
 AARON.WRIGHT@DUKE-ENERGY.COM

DUKE ELECTRIC (TRANSMISSION)
 139 EAST 4TH STREET, ROOM 552A
 CINCINNATI, OHIO 45202
 513-287-1266 (TIM MEYER)
 TIM.MEYER@DUKE-ENERGY.COM

BUTLER RURAL ELECTRIC COOPERATIVE, INC.
 3888 STILLWELL BECKETT ROAD
 OXFORD, OHIO 45056
 PHONE: 513-867-4438 (RAY BRUNNER)
 RAYB@BUTLERRURAL.COOP

CINCINNATI BELL TELEPHONE (UNDERGROUND)
 221 EAST 4TH STREET, BLDG. 121-900
 CINCINNATI, OHIO 45201
 513-566-3154 (DERRICK BROWN)
 (PLEASE SEND ALL UTILITY PLAN REVIEWS TO THIS ADDRESS: ROADPROJECTS@CINBELL.COM)

CINCINNATI BELL TELEPHONE (AERIAL)
 209 WEST 7TH STREET, BLDG. 121-900
 CINCINNATI, OHIO 45202
 513-565-6014 (ROBERT STROCHINSKY)
 (PLEASE SEND ALL UTILITY PLAN REVIEWS TO THIS ADDRESS: ROADPROJECTS@CINBELL.COM)

FRONTIER COMMUNICATIONS
 10 MULBERRY STREET
 BROOKVILLE, OHIO 45309
 541-390-3910 (CHARLES BERNACCHI)
 CHARLES.BERNACCHI@FTR.COM

SOUTHWEST REGIONAL WATER DISTRICT
 3640 OLD OXFORD HIGHWAY
 HAMILTON, OH 45013
 513-863-0828 (TOM PUCKETT)
 PUCKETTT@SWWATER.ORG

BUTLER COUNTY ENGINEER'S OFFICE
 1921 FAIRGROVE AVENUE
 HAMILTON, OHIO 45011
 513-785-4134 (MARK CONNER)
 CONNERM@BCEO.ORG

ITEM 623 - CONSTRUCTION LAYOUT STAKES & SURVEYING, AS PER PLAN

PRIOR TO THE START OF CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL REFERENCE THE LENGTH OF THE PROJECT ON BOTH SIDES OF THE ROADWAY, IN A MANNER SATISFACTORY TO THE ENGINEER. THE PAVEMENT SHALL BE REFERENCED IN 25 FOOT INCREMENTS, OR IN INCREMENTS ACCEPTABLE TO THE ENGINEER, IN A SEMI-PERMANENT CONDITION.

ITEM 201, CLEARING AND GRUBBING, AS PER PLAN

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN.

REMOVE ANY TREES, BRUSH OR STUMPS NOT SPECIFICALLY MARKED FOR REMOVAL IF LOCATED UNDER OR WITHIN TEN FEET OF THE BRIDGE STRUCTURES. REMOVE BRUSH WITHIN THE LIMITS OF STATE RIGHT-OF-WAY. THE REMOVAL OF DEBRIS FROM AROUND THE ABUTMENTS AND/OR PIERS AS DIRECTED BY THE ENGINEER SHALL ALSO BE INCLUDED WITH THIS ITEM FOR PAYMENT. CONTRACTOR SHALL VERIFY POSITIVE DRAINAGE.

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

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING
 ORTHOMETRIC HEIGHT DATUM: NAVD 88 (2011)
 GEOD: GEOD 12B

HORIZONTAL POSITIONING
 REFERENCE FRAME: NAD83(CORS96)EPOCH2002.0
 ELLIPSOID: GRS80
 MAP PROJECTION: LAMBERT CONFORMAL CONIC
 COORDINATE SYSTEM: OHIO SOUTH ZONE (SPC 3402)
 COMBINED SCALE FACTOR : 1.0000000000
 UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

PERMANENT PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS

ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS ON THE BRIDGE SUPERSTRUCTURES AND APPROACH PAVEMENTS SHALL BE REPLACED AS SHOWN IN THE PLANS. PROPOSED PAVEMENT MARKINGS SHALL BE ITEM 642.

THE CONTRACTOR SHALL REFERENCE ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS BEFORE THE START OF ANY PAVEMENT REMOVAL. THIS WILL BE NECESSARY TO ASSURE CORRECT REPLACEMENT IN THEIR ORIGINAL AND/OR RECONFIGURED LOCATIONS. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO THE RESPECTIVE PROPOSED PAVEMENT MARKING AND RPM PAY ITEMS.

RPM, MISC.: RPM REFLECTOR REMOVED

THE CONTRACTOR SHALL REMOVE THE EXISTING RPM REFLECTORS FROM THEIR CASTINGS IN ORDER TO PLACE THE GRAVITY FED RESIN DECK SEALER. THE CONTRACTOR SHALL PROTECT THE CASTINGS FROM THE SEALER UNTIL THE REFLECTORS CAN BE REPLACED.

WORK LIMITS

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

TREE CLEARING RESTRICTIONS

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. THE CONTRACTOR SHALL NOT REMOVE TREES UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THE CONTRACTOR SHALL DEMARCATÉ CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES 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.

WATERWAY IMPACTS

NO WORK IN AQUATIC RESOURCES IS AUTHORIZED FOR BRIDGE BUT-177-5.29 AS PART OF THIS PROJECT OR THE ACCOMPANYING WATERWAY PERMIT.

SOLE SOURCE AQUIFER

"THIS PROJECT IS LOCATED IN OR NEAR THE GREATER MIAMI SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR CONTAMINATION, THE CONTRACTOR SHALL NOT PERFORM PROJECT RELATED REFUELING AND VEHICLE MAINTENANCE ACTIVITIES AT THE BUT-129-14.25 LOCATION OVER THE GREAT MIAMI RIVER. 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 BUTLER COUNTY EMERGENCY MANAGEMENT AT 513-785-5810. IF THE SPILL IS A REPORTABLE AMOUNT (PER OHIO EPA'S RELEASE REPORTING REQUIREMENTS), THE CONTRACTOR SHALL CONTACT THE CITY OF HAMILTON FIRE DEPARTMENT AT 513-868-5911 OR THE OHIO EPA'S SPILLS HOTLINE 1-800-282-9378 FOR CLEAN-UP OF THE SPILL."

ITEM 623 - CONSTRUCTION LAYOUT STAKES & SURVEYING, AS PER PLAN

PRIOR TO THE START OF CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL REFERENCE THE LENGTH OF THE PROJECT ON BOTH SIDES OF THE ROADWAY, IN A MANNER SATISFACTORY TO THE ENGINEER. THE PAVEMENT SHALL BE REFERENCED IN 25 FOOT INCREMENTS, OR IN INCREMENTS ACCEPTABLE TO THE ENGINEER, IN A SEMI-PERMANENT CONDITION.

ASBESTOS ABATEMENT

AN ASBESTOS SURVEY FOR SFN 0903507 SCHEDULED FOR RENOVATION WORK WAS CONDUCTED BY A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST. THE ASBESTOS SURVEY DID NOT IDENTIFY THE PRESENCE OF ANY ASBESTOS CONTAINING MATERIALS.

AN ASBESTOS SURVEY FOR SFN 0903523 SCHEDULED FOR RENOVATION WORK WAS CONDUCTED BY A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST. THE ASBESTOS SURVEY DID NOT IDENTIFY THE PRESENCE OF ANY ASBESTOS CONTAINING MATERIALS.

ELECTRONIC SUBMISSION:

THE CONTRACTOR SHALL SUBMIT ELECTRONICALLY TO OEPA A COMPLETED NOTIFICATION OF DEMOLITION & RENOVATION FORM (NDRF) AND APPLICABLE FEES ALONG WITH THE ASBESTOS SURVEY REPORT. THE COMPLETED NDRF MUST BE SUBMITTED TO OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION AND RENOVATION ACTIVITY. THE CONTRACTOR IS RESPONSIBLE FOR RETAINING AN ELECTRONIC COPY OF THE NDRF (IN PDF FORM) FOR SUBMISSION TO THE DISTRICT ENVIRONMETNAL STAFF AND A ONE HARD COPY TO THE PROJECT ENGINEER.

(GO TO THE OEPA EBUSINESS CENTER AND SUBMIT THE DNR AND PAYMENT ALONG WITH THE ASBESTOS SURVEY REPORT)

HARD COPY SUBMISSION:

THE CONTRACTOR MAY ELECT TO SUBMIT A HARD COPY OF THE COMPLETED NDRF AND PAYMENT ALONG WITH THE ASBESTOS SURVEY REPORT TO THE FOLLOWING:

ASBESTOS PROGRAM OHIO EPA, DAPC P.O. BOX 1049 COLUMBUS, OHIO 43216-1049	OR	ASBESTOS PROGRAM OHIO EPA, DAPC 50 W. TOWN ST., SUITE 700 COLUMBUS, OHIO 43215
--	----	---

IF THE CONTRACTOR ELECTS TO SUBMIT A HARD COPY TO OEPA THEY ARE RESPONSIBLE FOR RETAINING A HARD COPY OF THE NDRF FOR SUBMISSION TO THE DISTRICT ENVIRONMETNAL STAFF AND A ONE HARD COPY TO THE PROJECT ENGINEER.

BASIS OF PAYMENT

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

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

DESIGN AGENCY



DESIGNER	CAH
REVIEWER	GTF
PROJECT ID	7-12-21
	102748
SHEET	TOTAL
3	22

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNI-DIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS WEB PAGE FOR ROADWAY STANDARDS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

MAINTENANCE OF TRAFFIC NOTES

DESIGN AGENCY



DESIGNER

CAH

REVIEWER

GTF 7-12-21

PROJECT ID

102748

SHEET TOTAL

5 22

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	8									01/STR/BR	EXT	TOTAL				
LUMP	49										LUMP 49	201 202	11001 23000	LS 49	SY	ROADWAY CLEARING AND GRUBBING, AS PER PLAN PAVEMENT REMOVED	3
LUMP											LUMP 4,000	SPECIAL 832	69098400 30000	LS 4,000	EACH	EROSION CONTROL MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS EROSION CONTROL	3
		1,913									1,913	254	01000	1,913	SY	PAVEMENT PAVEMENT PLANING, ASPHALT CONCRETE (T=1.50")	
		172									172	407	20000	172	GAL	NON-TRACKING TACK COAT	
		80									80	441	50000	80	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
																TRAFFIC CONTROL	
		7									7	621	00100	7	EACH	RPM	
		4									4	621	00300	4	EACH	RPM REFLECTOR	
		7									7	621	54000	7	EACH	RAISED PAVEMENT MARKER REMOVED	
		4									4	621	90000	4	EACH	RPM, MISC.: RPM REFLECTOR REMOVED	3
		8									8	626	00102	8	EACH	BARRIER REFLECTOR, TYPE 1 BI-DIRECTIONAL	
		16									16	626	00110	16	EACH	BARRIER REFLECTOR, TYPE 2 BI-DIRECTIONAL	
		0.03									0.03	642	00104	0.03	MILE	EDGE LINE, 6", TYPE 1	
		0.02									0.02	642	00300	0.02	MILE	CENTER LINE, TYPE 1	
		0.19									0.19	644	00104	0.19	MILE	EDGE LINE, 6"	
		0.09									0.09	644	00300	0.09	MILE	CENTER LINE	
		0.28									0.28	644	30030	0.28	MILE	REMOVAL OF PAVEMENT MARKING	
		0.04									0.04	646	10010	0.04	MILE	EDGE LINE, 6"	
		0.02									0.02	646	10200	0.02	MILE	CENTER LINE	
																STRUCTURE REPAIR (BUT-SR 177-4.69)	12
																STRUCTURE REPAIR (BUT-SR 177-5.29)	18
																MAINTENANCE OF TRAFFIC	
	4										4	614	12384	4	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	
	10										10	614	12800	10	EACH	WORK ZONE RAISED PAVEMENT MARKER	
	8										8	614	13310	8	EACH	BARRIER REFLECTOR, TYPE 1 (BI-DIRECTIONAL)	
	16										16	614	13312	16	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)	
	4										4	614	13360	4	EACH	OBJECT MARKER, TWO WAY	
	0.49										0.49	614	21100	0.49	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
	0.11										0.11	614	21550	0.11	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
	0.56										0.56	614	22110	0.56	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	
	0.22										0.22	614	22360	0.22	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	
	48										48	614	26200	48	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
	112										112	615	25000	112	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
	LUMP										LUMP	615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
	520										520	622	41100	520	FT	PORTABLE BARRIER, UNANCHORED	
																INCIDENTALS	
	LUMP										LUMP	614	11000	LS		MAINTAINING TRAFFIC	
											LUMP	623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	3
											LUMP	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER
CAH
REVIEWER
GTF 7-12-21
PROJECT ID
102748
SHEET TOTAL
7 22

BUT-SR 177-4.69/5.29

MODEL: Sheet PAPER: 17x11 (in.) DATE: 12/22/2021 TIME: 2:19:48 PM USER: choward4 pwc:\hobol-pw-bentley.com\shahid-pw-102748\Roadway\Sheets\102748_GS001.dgn

DESCRIPTION	LOG POINT (STA.)		LENGTH OR AVERAGE LENGTH (L) FT	BEGIN WIDTH FT	END WIDTH FT	AVERAGE WIDTH (W) FT	TOTAL AREA (A = L x W) SQ FT	254	407	441
	FROM	TO						PAVEMENT PLANING ASPHALT CONCRETE BASE (T=1.50')	NON-TRACKING TACK COAT @ 0.09 GAL/SQ YD	1.50" - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
TOTALS CARRIED TO GENERAL SUMMARY								1913	172	80
BUT-177-0529										
ASPHALT RESURFACING										
PVMT. PLANING/TACK/SURFACE	351+50.00	353+57.00	207.00	34.00	34.00	34.00	7038.00	782	70.4	32.6
PVMT. PLANING/TACK/SURFACE	353+57.00	353+82.00	25.00	45.33	45.33	45.33	1133.33	125.9	11.3	5.2
PVMT. PLANING/TACK/SURFACE	354+92.18	355+17.13	24.95	45.33	45.33	45.33	1131.06	125.7	11.3	5.2
PVMT. PLANING/TACK/SURFACE	355+17.13	357+50.00	232.87	34.00	34.00	34.00	7917.58	879.7	79.2	36.7

COUNTY-ROUTE	LOG POINT (STA.)		TOTAL FEET	TOTAL MILE	644 - THERMO				646 - EPOXY				644		642 - PAINT				REMARKS
					EDGE LINE 6", TYPE 1		CENTER LINE, TYPE 1		EDGE LINE 6" T TYPE 1		CENTER LINE TYPE 1		REMOVAL OF PAVEMENT MARKING		EDGE LINE 6" T TYPE 1		CENTER LINE TYPE 1		
					WHITE	YELLOW	DASHED	SOLID	WHITE		DASHED	SOLID	EDGE	CENTER	WHITE		DASHED	SOLID	
FROM	TO	FEET	MILE	MILE	MILE	MILE	MILE	MILE		MILE	MILE	MILE		MILE	MILE	MILE	MILE		
BUT-177-5.29	351+50.00	353+57.00	207.00	0.039	0.078		0.039						0.078	0.039					
BUT-177-5.29	353+57.00	353+82.00	25.00	0.005	0.009		0.005						0.009	0.005					
BUT-177-5.29	353+82.00	354+92.13	110.13	0.021				0.042			0.021								
BUT-177-5.29	354+92.13	355+17.13	25.00	0.005	0.009		0.005						0.009	0.005					
BUT-177-5.29	355+17.13	357+50.00	232.87	0.044	0.088		0.044						0.088	0.044					
BUT-177-4.69	321+35.84	322+22.91	87.07	0.016											0.033			0.016	
TOTALS CARRIED TO GENERAL SUMMARY					0.186	0.093	0.042	0.021	0.278	0.033	0.016								

PART	COUNTY	ROUTE	LOCATION		DETAIL	ITEM 621				PRISMATIC RETRO-REFLECTOR COLORS					REMARKS
			S.L.M. SECTION			RPM	RPM REMOVED	RPM REFLECTOR	RPM, MISC.: REFLECTOR REMOVED	ONE-WAY		TWO-WAY			
			FROM	TO						WHITE	YELLOW	WHITE/WHITE	YELLOW/YELLOW	WHITE/RED	
EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH				
BUT	177		351+50.00	357+50.00		7	7						7		CENTERLINE PVMT. MARKING (OMIT BUT-177-5.29 BRIDGE)
BUT	177		321+35.84	322+22.91				4	4				4		CENTERLINE PVMT. MARKING (INCL. BUT-177-4.69 BRIDGE) - CURVED ALIGN.
TOTALS CARRIED TO GENERAL SUMMARY						7	7	4	4						

ROADWAY QUANTITIES

DESIGN AGENCY



DESIGNER

CAH

REVIEWER

GTF 7-12-21

PROJECT ID

102748

SHEET

8

TOTAL

22

ITEM 626 - BARRIER REFLECTOR, TYPE 1 (BI-DIRECTIONAL) = 8 EACH
 ITEM 626 - BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL) = 16 EACH

REFER TO THE FOLLOWING STANDARD DRAWINGS:

CPA-1-08	7/18/08
DBR-2-73	7/19/02
PCB-91	7/17/20
DBR-3-11	7/15/11

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

843	10/18/19
844	4/20/18
846	4/17/15
848	1/15/21

DESIGN SPECIFICATIONS

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

DESIGN LOADING

HS 20-44 -> BUT-177-4.69

HS 20-44 -> BUT-177-5.29

DESIGN STRESSES

- CLASS QC1 CONCRETE - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE & FOOTING)
- CLASS QC3 CONCRETE - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
- CLASS QC3 CONCRETE - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
- REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
- STRUCTURAL STEEL - ASTM A709 GRADE 50, MINIMUM YIELD STRENGTH = 50 KSI

DECK PROTECTION METHOD

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SDC CONCRETE OVERLAY

HMWM CONCRETE SEALER

THE CONTRACTOR SHALL SEAL ALL CONSTRUCTION JOINTS IN THE DECK SLAB OVERLAY, ABUTMENT BACK WALL, APPROACH SLABS AND/OR APPROACH SLAB OVERLAY WITH A HIGH MOLECULAR WEIGHT METHACRYLATE SEALER PER CMS 511.22.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
ITEM 514 - PAINTING EXISTING STRUCTURAL STEEL

PRIME COAT:

THE PIER PILES TO BE STRENGTHENED ARE TO BE BLASTED PER 514.13 AND PAINTED WITH ORGANIC ZINC PRIME COAT PRIOR TO WELDING STRENGTHING PLATES.

THE PRIME COAT SHALL BE 708.02B. ALL SURFACE PREPARATION OF THE EXISTING STEEL PILES FOR FIELD PAINTING WILL BE PAID FOR UNDER ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL. ALL PRIME COAT APPLICATION ON THE EXISTING STEEL PILES WILL BE PAID FOR UNDER ITEM 514 - PAINTING EXISTING STRUCTURAL STEEL, PRIME COAT.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THIS ITEM INCLUDES SEALING THE CONCRETE SUPERSTRUCTURE AND SUBSTRUCTURE SURFACES OF SPECIFIED BRIDGES AS SHOWN ON THE PLANS. THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR STANDARD NO. 17778 (LIGHT NEUTRAL) FOR THE BRIDGE PARAPETS AND FEDERAL COLOR STANDARD NO. 16515 (GRAY) FOR PRESTRESSED BOX BEAMS.

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, MATERIAL AND LABOR NECESSARY TO PERFORM THIS TASK. PAYMENT SHALL BE MADE AT THE BID PRICE PER SQUARE YARD.

EXISTING STRUCTURE VERIFICATION

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

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 517 - DEEP BEAM RAIL RETROFIT, AS PER PLAN

REPLACEMENT OF BRIDGE RAIL "W" BEAM SHALL BE INCLUDED WITH THE RETROFIT WORK FOR PAYMENT.

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

THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE EXISTING STRUCTURES, ETC. AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING SUBSTRUCTURE REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION AND DEMOLITION PLANS TO THE ENGINEER FOR APPROVAL.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ALL REMOVAL OPERATIONS. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

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

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY PORTION OF THE STRUCTURE THAT WILL REMAIN IN SERVICE. ANY PORTION OF THE REMAINING STRUCTURE DAMAGED AS A RESULT OF CONTRACTOR ACTIONS SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

REHABILITATE BRIDGE BUT-177-0469 (SFN 0903507) WHICH CARRIES SR 177 OVER BECKETT'S RUN AS FOLLOWS:

1. PLATE OVER ANY HEAVILY CORRODED PIER PILES. REMOVE EXISTING RUST AND EXISTING PAINT AND APPLY ONE COAT OF PRIMER PRIOR TO INSTALLATION OF THE STRENGTHENING PLATES. PAINT ALL PIER PILES WITH OZEU TO 2 FEET BELOW THE EXISTING GRADE LINE. CORRODED PILES REQUIRING STRENGTHENING ARE AS FOLLOWS:

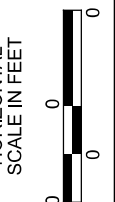
- PIER 2, COLUMN 1
- PIER 1, COLUMN 3
- PIER 1, COLUMN 4
- PIER 1, COLUMN 5
- PIER 1, COLUMN 6
- PIER 1, COLUMN 7

STRENGTHENING SHALL CONSIST OF PLACING A CONTINUOUS WELD ON THE OUTSIDE FACE OF THE FLANGES AND ONE SIDE OF THE WEB. THE PLATES SHALL BE 3/8" THICK, HAVE A MINIMUM LENGTH OF 4 FEET, SHALL BE DEVELOPED BEYOND THE LIMITS OF CORROSION AND SET A MINIMUM OF 18" BELOW GRADE.

2. UPGRADE EXISTING GUARDRAIL PER DBR-3-11 AND REPLACE THE "W" SECTION OF THE GUARDRAIL (THE POSTS AND TUBULAR BACK-UP CAN REMAIN).
3. PATCH THE BACKWALL WITH 519 PATCHING. INCLUDE INSTALLATION OF A BOND BREAKER BETWEEN THE TURN-DOWN AND THE BEAM SEAT TO ENSURE THE SUPERSTRUCTURE AND ABUTMENTS FUNCTION SEPARATELY.
4. SEAL THE SUPERSTRUCTURE WITH GRAVITY FED RESIN.
5. FINAL PAVEMENT MARKINGS SHALL BE ITEM 642 PAINT.
6. CLEAR AND GRUB WITHIN 10 FEET OF THE STRUCTURE INCLUDING COMPLETE REMOVAL OF ALL VINES IN THE VICINITY OF AND ATTACHED TO THE STRUCTURE.

REHABILITATE BRIDGE BUT-177-0569 (SFN 0903523) WHICH CARRIES SR 177 OVER STONY RUN AS FOLLOWS:

1. REMOVE THE 1 1/4" MSC OVERLAY PLUS AN ADDITIONAL 1" OF THE ORIGINAL DECK USING HYDRODEMOLITION. REPLACE WITH 2 1/4" SDC.
2. INSTALL POLYMER MODIFIED ASPHALT EXPANSION JOINTS (PMAJ) OVER EACH EXPANSION JOINT.
3. UPGRADE EXISTING GUARDRAIL PER DBR-3-11.
4. FINAL PAVEMENT MARKINGS SHALL BE ITEM 646 EPOXY.
5. PATCH THE UNSOUND PORTIONS OF THE UNDERSIDE OF THE SLAB NEAR THE ABUTMENTS WITH 519 PATCHING. INCLUDE THE INSTALLATION OF GALVANIC PUCKS TO SLOW SLAB DETERIORATION.
6. SEAL THE ABUTMENTS AND DECK EDGES WITH EPOXY URETHANE SEALER, FEDERAL COLOR 17778.



STRUCTURE NOTES - 1
BRIDGE No.: BUT-177-0469/0529
SR 177 OVER BECKETT'S RUN AND STONY RUN

SFN 0903507/0903523
DESIGN AGENCY



DESIGNER	CHECKER
CAH	GTF
REVIEWER	
XXX 7-12-21	
PROJECT ID	
102748	
SUBSET	TOTAL
1	2
SHEET	
TOTAL	
9	22

ITEM 848 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T= 2.25")

THIS ITEM SHALL CONFORM TO SS 848 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIERS CHOICE OF ONE OF THESE ADMIXTURES DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

REVISIONS TO 848.21: THE FINAL SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY. HAND CHIPPING IS FOR THE PURPOSE OF CHIPPING AREAS WHERE THE HYDRODEMOLITION MACHINE DOES NOT HAVE ACCESS. IF THE DESIRED DEPTH IS ACHIEVED BY HYDRODEMOLITION, NO FURTHER REMOVAL IS NECESSARY.

REVISIONS TO 848.15: AT THE OPTION OF THE ENGINEER, THE CONTRACTOR SHALL MAKE ONE OR MORE, ONE CUBIC YARD, TRIAL BATCHES OF OVERLAY MATERIAL AT LEAST 30 DAYS BEFORE THE OVERLAY IS TO BE PLACED. DEMONSTRATE THE ABILITY TO MEET 848.26 AND 848.31. DEVELOP BEAM BREAK MATURITY CURVES.

REVISIONS TO 848.20: MECHANICAL MEANS MAY BE USED TO REMOVE THE TOP 0.5 INCH OF THE ORIGINAL DECK. THE REMAINING 0.5 INCH OF ORIGINAL DECK SHALL BE REMOVED BY HYDRODEMOLITION.

AT LEAST THIRTY DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A SCHEDULE OF OVERLAY WORK ITEMS TO BE COMPLETED. THE SCHEDULE SHALL INCLUDE A BREAKDOWN OF ALL MAJOR WORK ACTIVITIES ON AN HOURLY BASIS. OVERLAY WORK SHALL NOT BEGIN UNTIL THE SCHEDULE IS APPROVED BY THE ENGINEER.

CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN THE WHEEL LINE UNLESS SHOWN IN THE PLANS.

REVISIONS TO 848.21: THE FINAL SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY. HAND CHIPPING IS FOR THE PURPOSE OF CHIPPING AREAS WHERE THE HYDRODEMOLITION MACHINE DOES NOT HAVE ACCESS. IF THE DESIRED DEPTH IS ACHIEVED BY HYDRODEMOLITION, NO FURTHER REMOVAL IS NECESSARY.

REVISIONS TO 848.23: FULL DEPTH REPAIR WILL NOT BE REQUIRED IF LESS THAN ONE HALF OF THE DECK ORIGINAL CONCRETE THICKNESS IS SOUND.

REVISIONS TO 848.26: LONGITUDINAL GROOVES SHALL BE SAWED IN THE CONCRETE SURFACE OF THE TRAVELLED LANES PER 511.20, AFTER THE WET CURE IS COMPLETE. AFTER THE TEXTURING THE CONCRETE SURFACE, CLEAN THE SURFACE AND SPRAY AN UNIFORM APPLICATION OF CURING MATERIAL 705.07, TYPE 1 OR 1D, AS PER CMS 511.17 METHOD B OF MEMBRANE CURING. THE DECK SURFACE MUST BE DRY PRIOR TO PLACEMENT OF THE CURING MATERIAL. IF THE SAWING OF THE LONGITUDINAL GROOVES CANNOT BE DONE WITHIN THE SAME SHORT-TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL HAVE 24 HOURS FROM REMOVAL OF THE WET CURE TO SAW THE LONGITUDINAL GROOVES AND REAPPLY THE MEMBRANE-CURING COMPOUND.

IF THE CONTRACTOR FAILS TO OPEN LANES TO TRAFFIC AT THE TIMES REQUIRED IN THE MAINTENANCE OF TRAFFIC NOTES, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FOR THE MAINTENANCE OF TRAFFIC REQUIREMENT.

TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER COMPLETION OF THE WET CURE, WHICH IS A MINIMUM OF 36 HOURS, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 650 PSI.

FOR EACH POUR, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 36 HOURS, 48 HOURS, 60 HOURS, AND 72 HOURS.

THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS AND THE MODULUS OF RUPTURE OF EACH BEAM UNTIL THE MODULUS OF RUPTURE OF TWO TESTS IS NOT LESS THAN 650 PSI.

REVISIONS TO 848.30: THE REMOVAL OPERATIONS SHALL NOT BEGIN IF SUSTAINED RAINS (5 HOURS OR MORE WITH BREAKS BETWEEN SHOWERS LESS THAN 1 1/2 HOURS) ARE PREDICTED WITHIN 48 HOURS OF COMMENCEMENT.

PAYMENT FOR ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN ITEM 848- MICROSILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN, ON A SQUARE YARD BASIS.

DECK SURVEY

THE DECK SLAB AND APPROACH SLAB ELEVATIONS PROVIDED SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. PRIOR TO THE START OF DEMOLITION, THE CONTRACTOR SHALL SURVEY THE EXISTING DECK SLAB AND APPROACHES TO THE BRIDGE TO ENSURE THAT A PROFILE IS RE-ESTABLISHED THAT TRANSITIONS SMOOTHLY FROM THE EXISTING ASPHALT APPROACH PAVEMENT ONTO THE BRIDGE.

THE SURVEY SHALL ALSO BE USED TO CONSTRUCT EXPANSION JOINTS WITH A PROPER CROSS SLOPE THAT MATCHES EXISTING. ALL COSTS ASSOCIATED WITH THE SURVEY SHALL BE CONSIDERED INCIDENTAL TO ITEM 848.

ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CONSTRUCTION AND MATERIAL SPECIFICATIONS 455.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S) AND EQUIPMENT AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIANS SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TESTS AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR.

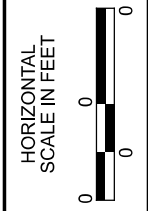
THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

- UPON APPROVAL OF CONSULTANT 20%
- PROGRESSIVE EQUIVALENT PAYMENTS 50%
- UPON SUBMISSION OF FINAL REPORT 30%

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.



STRUCTURE NOTES - 2
BRIDGE No.: BUT-177-0469/0529

SFN
0903507/0903523
DESIGN AGENCY



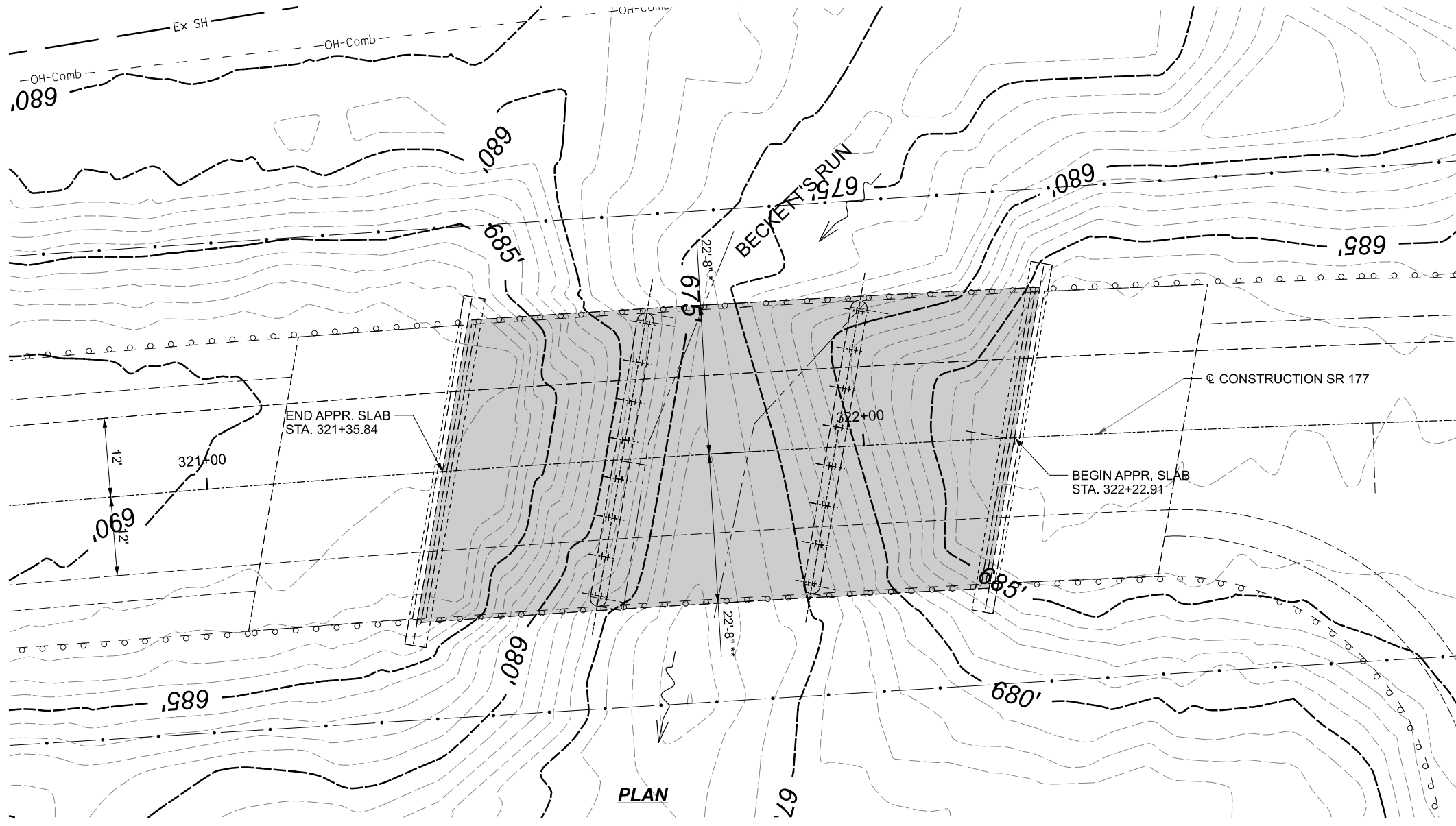
DESIGNER CHECKER
CAH GTF

REVIEWER
XXX 7-12-21

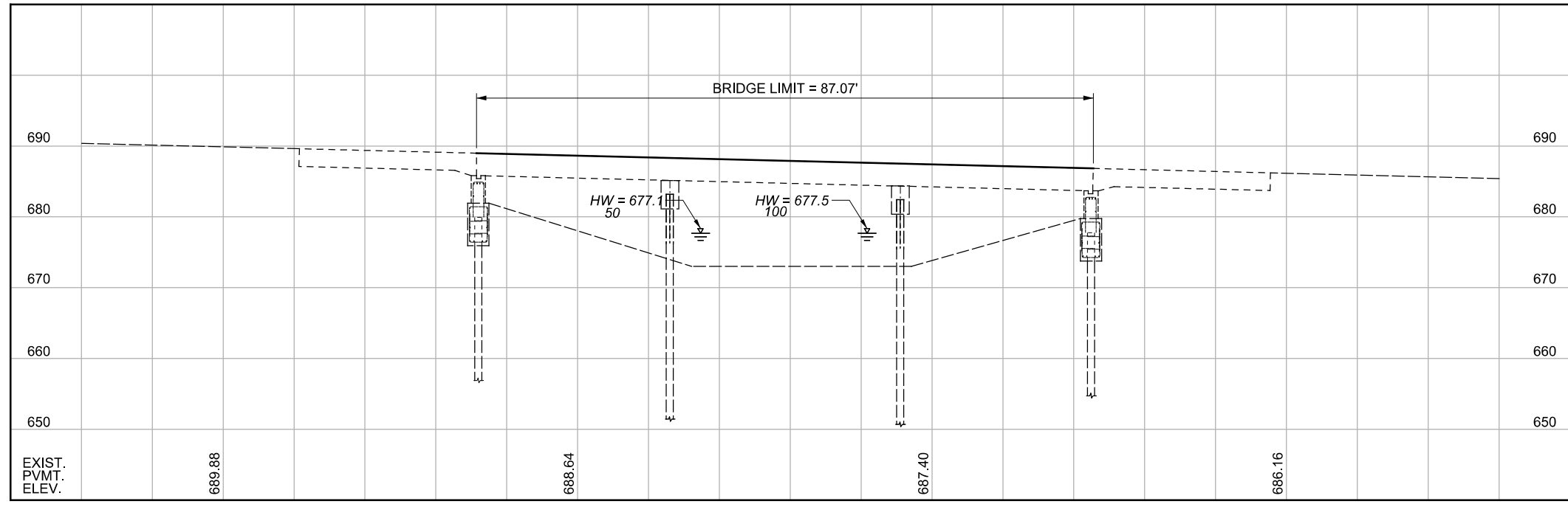
PROJECT ID
102748

SUBSET	TOTAL
2	2

SHEET	TOTAL
10	22



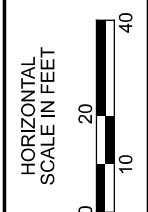
PLAN



PROFILE ALONG CONSTRUCTION SR 177

CURVE DATA

$\Delta = 9^{\circ}56'06''$
 $D = 1^{\circ}28'00''$
 $T = 339.54'$
 $L = 677.38'$
 $E = 14.73'$
 P.I. STA = 319+39.54



LEGEND

- - SEAL DECK SURFACE WITH GRAVITY FED RESIN
- * - PHASE 1 CONSTRUCTION
- ** - PHASE 2 CONSTRUCTION

NOTES

REMOVE VINES FROM BRIDGE. CLEAR AND GRUB UNDER AND WITHIN 10 FEET OF BRIDGE.

HYDRAULIC DATA

DRAINAGE AREA = 3.11 SQ. MILES
 $Q(50) = 1,404 \text{ CFS}$ $V(50) = 8.3 \text{ FT/S}$
 $Q(100) = 1,603 \text{ CFS}$ $V(100) = 8.4 \text{ FT/S}$
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 8.5 FEET.
 OHWM EL. 677.00±


EXISTING STRUCTURE	
TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH REINFORCED CONCRETE CAPPED PILE PIERS AND ABUTMENTS	
SPANS: 26'-0", 32'-6", 26'-0"	
ROADWAY: 44'-0" F/F SAFETY CURB	
LOADING: HS20-44	
SKEW: 13°00'00" LF	
WEARING SURFACE: 2.5" THK. CONCRETE OVERLAY	
APPROACH SLABS: 25'-0" (AS-1-72)	
ALIGNMENT: 1°28'00" CURVE RIGHT	
SUPERELEVATION: 0.035 FT/FT	
STRUCTURE FILE NUMBER: 0903507	
DATE BUILT: 1980	
DISPOSITION: DECK SEALING, RAILING UPGRADE & CONC. PATCHING	
DECK AREA: 3,915 SF	
COORDINATES: LATITUDE N39°27'37"	
LONGITUDE W84°37'39"	

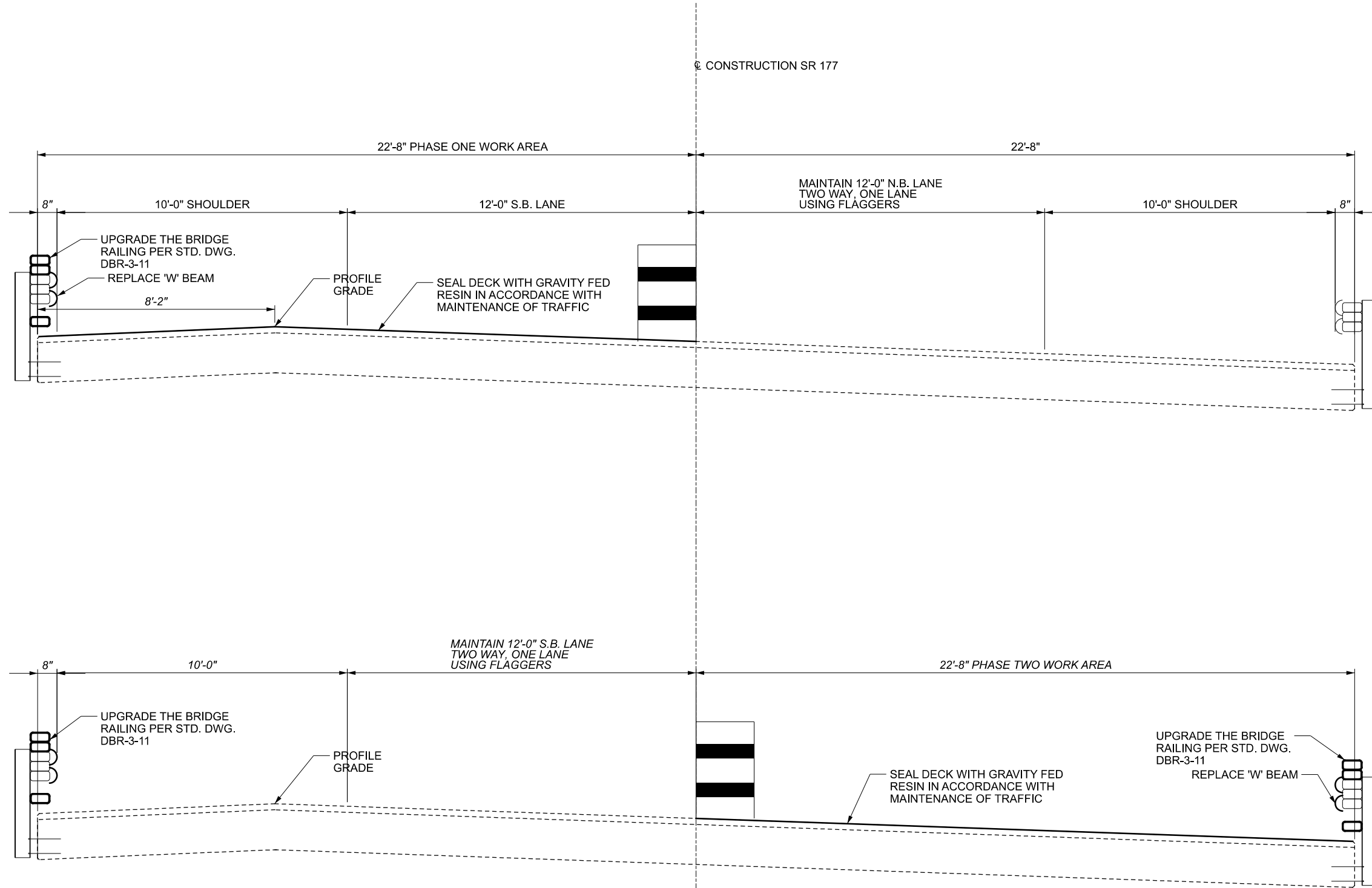
SITE PLAN
 BRIDGE No.: BUT-177-0469
 SR 177 OVER BECKETT'S RUN

SFN 0903507	
DESIGN AGENCY	
DESIGNER/CHECKER	CAH GTF
REVIEWER	XXX 7-12-21
PROJECT ID	102748
SUBSET	TOTAL
1	6
SHEET	TOTAL
11	22

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ESTIMATED QUANTITIES - STRUCTURE No.: BUT-177-0469			
					ABUTMENT	PIERS	SUPERSTRUCTURE	GENERAL
202	11203	LS	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP	LUMP	LUMP	
503	11100	LS	LUMP	COFFERDAMS AND EXCAVATION BRACING	LUMP			
503	21300	LS	LUMP	UNCLASSIFIED EXCAVATION	LUMP			
512	10100	41	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	41			
512	73500	439	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN			439	
512	74000	41	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	41			
513	10200	1087	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF		1,087		
514	00050	1511	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL		1,511		
514	00056	1511	SF	PAINTING EXISTING STRUCTURAL STEEL, PRIME COAT		1,511		
514	00060	1440	SF	PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT		1,440		
514	00066	1440	SF	PAINTING STRUCTURAL STEEL, FINISH COAT		1,440		
514	10000	2	EACH	FINAL INSPECTION REPAIR		2		
517	75601	180	FT	DEEP BEAM BRIDGE RETROFIT RAILING , AS PER PLAN			180	
519	11100	5	SF	PATCHING CONCRETE STRUCTURE	5			
843	50000	32	SF	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	32			

STRUCTURE QUANTITIES
 BRIDGE No.: BUT-177-0469
 SR 177 OVER BECKETT'S RUN

SFN	0903507
DESIGN AGENCY	
DESIGNER	CHECKER
CAH	GTF
REVIEWER	XXX 7-12-21
PROJECT ID	102748
SUBSET	TOTAL
2	6
SHEET	TOTAL
12	22



NOTES:

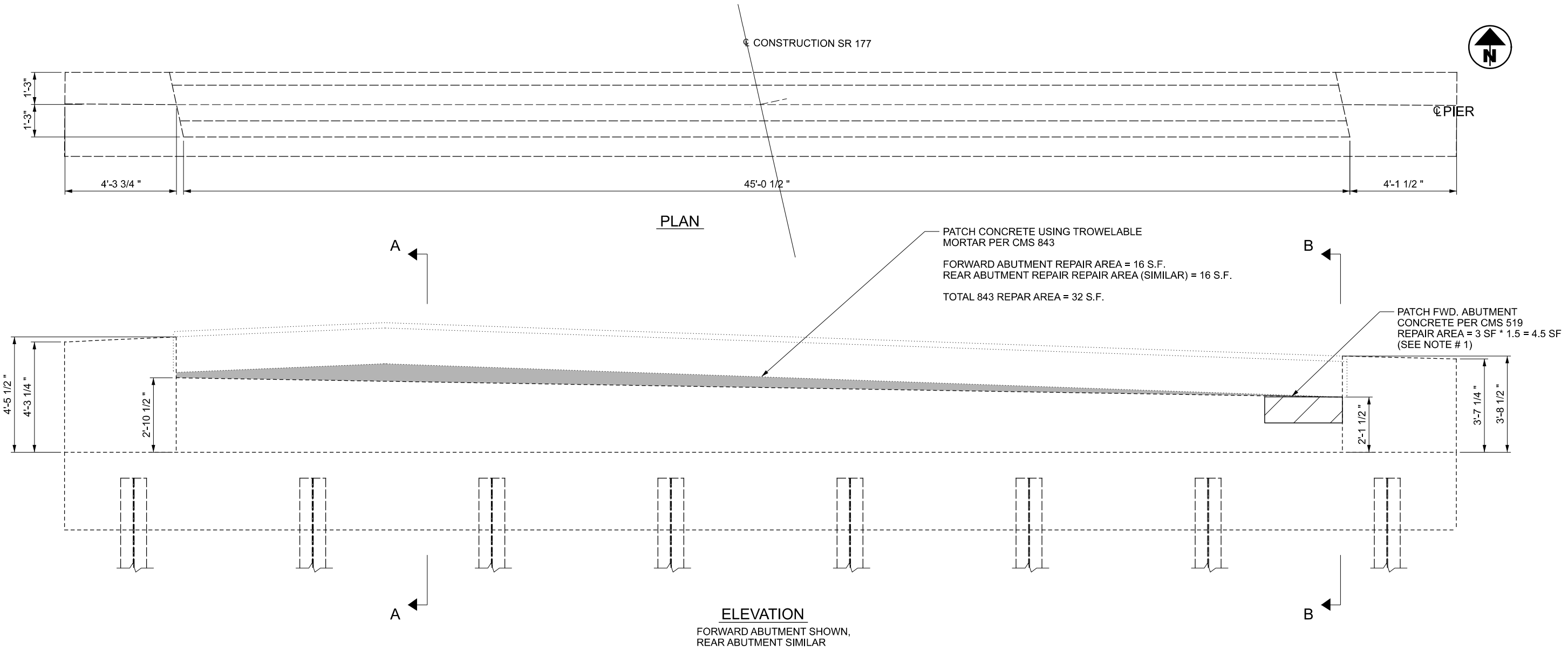
1. COST TO REPLACE BRIDGE RAIL 'W' BEAM SHALL BE INCLUDED WITH ITEM 517 - DEEP BEAM RAIL RETROFIT.

STAGE CONSTRUCTION
 BRIDGE No.: BUT-177-0469
 SR 177 OVER BECKETT'S RUN

SFN
 0903507
 DESIGN AGENCY



DESIGNER	CHECKER
CAH	GTF
REVIEWER	
XXX	7-12-21
PROJECT ID	
0	
SUBSET	TOTAL
3	6
SHEET	TOTAL
13	22

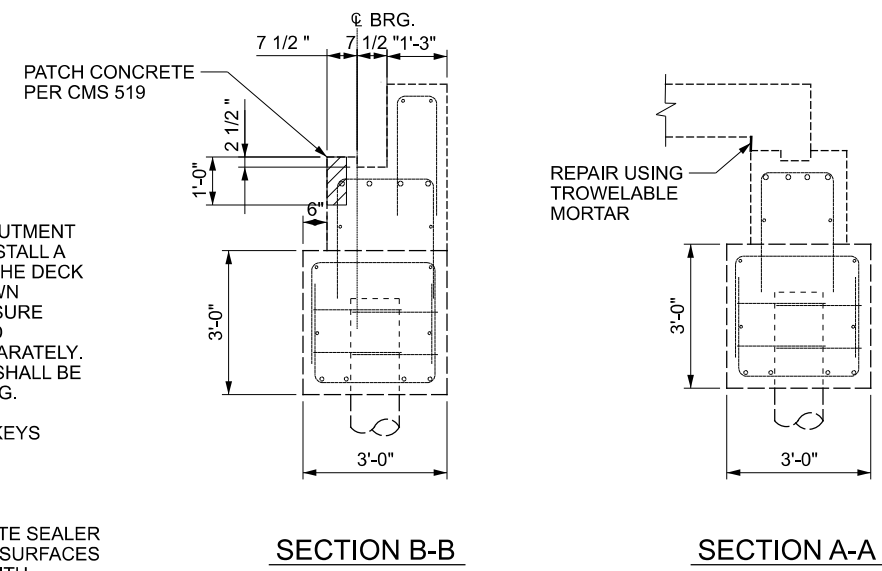


PLAN

ELEVATION
 FORWARD ABUTMENT SHOWN,
 REAR ABUTMENT SIMILAR

PATCH CONCRETE USING TROWELABLE MORTAR PER CMS 843
 FORWARD ABUTMENT REPAIR AREA = 16 S.F.
 REAR ABUTMENT REPAIR AREA (SIMILAR) = 16 S.F.
 TOTAL 843 REPAIR AREA = 32 S.F.

PATCH FWD. ABUTMENT CONCRETE PER CMS 519
 REPAIR AREA = 3 SF * 1.5 = 4.5 SF
 (SEE NOTE # 1)



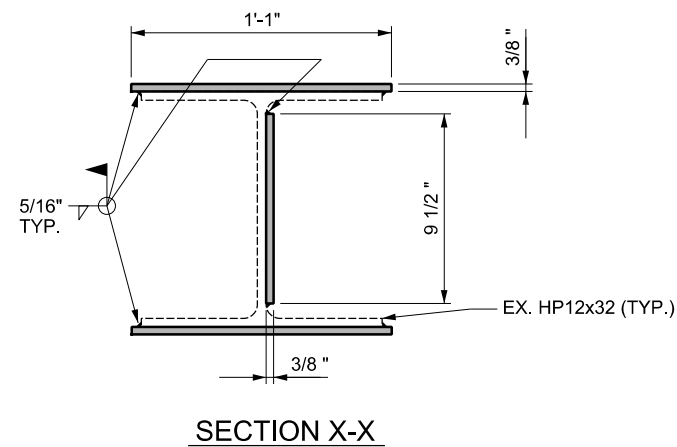
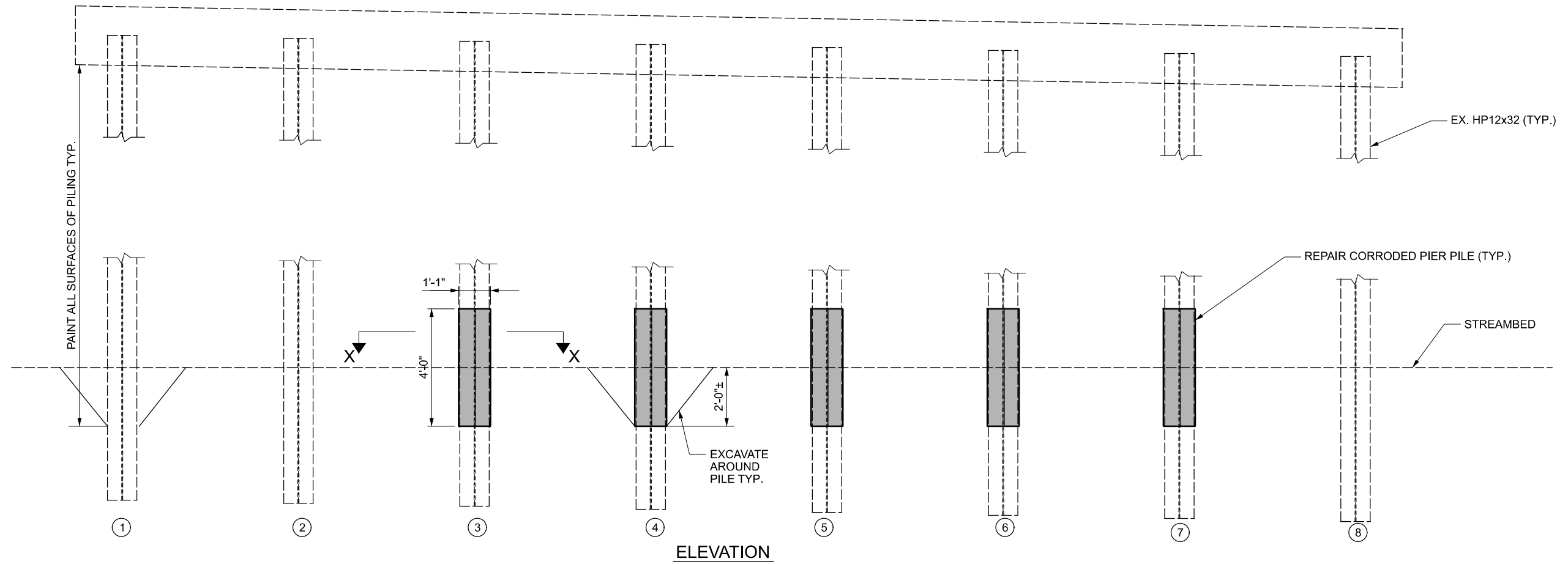
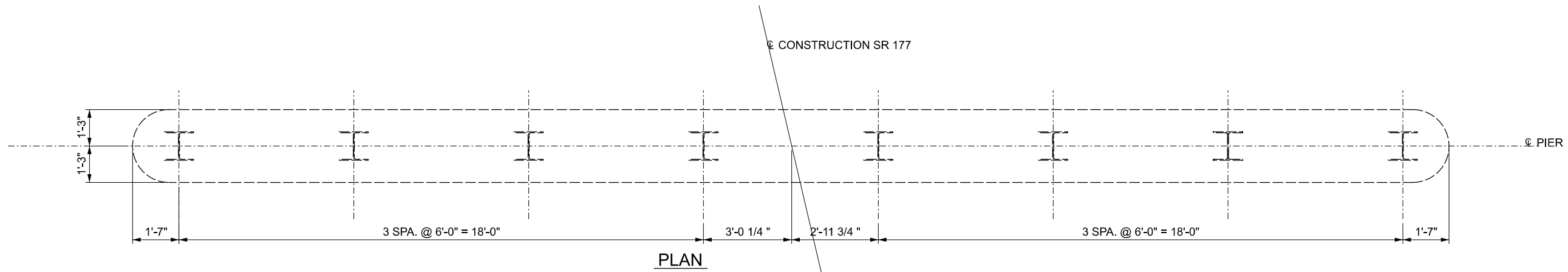
SECTION B-B

SECTION A-A

- NOTES:**
1. PRIOR TO PATCHING THE ABUTMENT BACKWALL PER CMS 519, INSTALL A BOND BREAKER BETWEEN THE DECK SLAB SHEAR KEY TURN-DOWN AND THE BEAM SEAT TO ENSURE THE SUPERSTRUCTURE AND ABUTMENTS FUNCTION SEPARATELY. COST FOR BOND BREAKER SHALL BE INCIDENTAL TO 519 PATCHING.
 2. REPAIR DECK SLAB SHEAR KEYS AT THE ABUTMENTS USING TROWELABLE MORTAR PER CMS 843.
 3. REMOVE EXISTING CONCRETE SEALER AND RE-SEAL ALL EXPOSED SURFACES OF EXISTING ABUTMENTS WITH EPOXY-URETHANE.

ABUTMENT REHABILITATION
 BRIDGE No.: BUT-177-0469
 SR 177 OVER BECKETT'S RUN

SFN	
0903507	
DESIGN AGENCY	
DESIGNER	CHECKER
CAH	GTF
REVIEWER	
XXX 7-12-21	
PROJECT ID	
102748	
SUBSET	TOTAL
4	6
SHEET	TOTAL
14	22

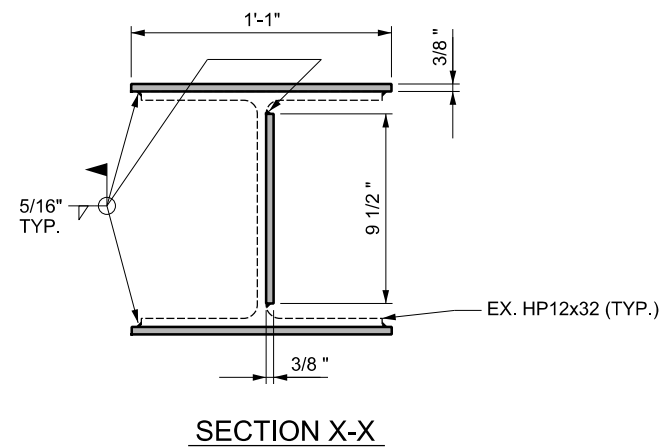
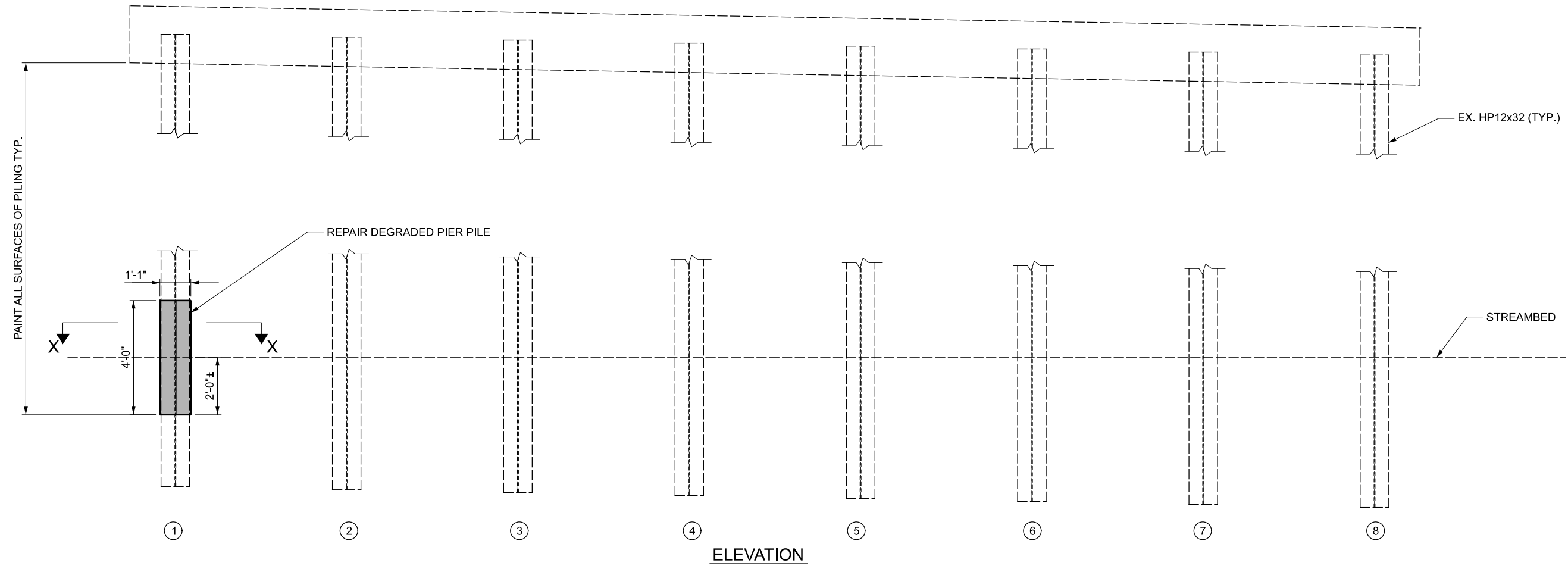
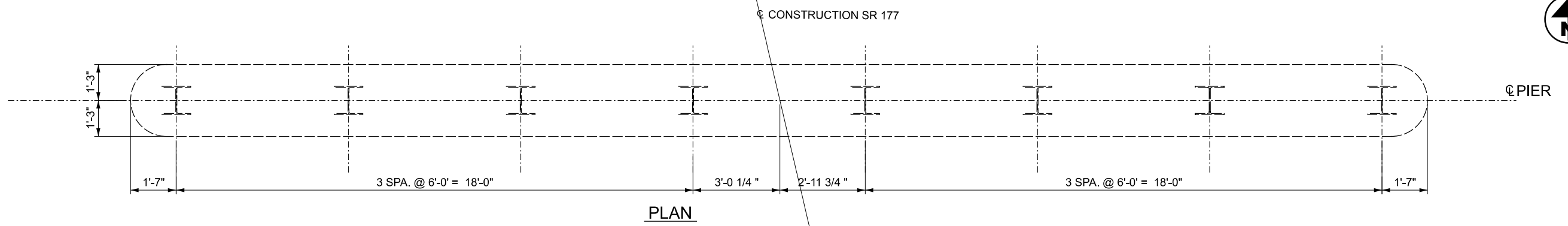


NOTES:

- EXCAVATE TO 2 FEET BELOW STREAMBED. REMOVE EXISTING RUST AND EXISTING PAINT AND APPLY ONE COAT OF PRIMER TO REPAIR AREAS ONLY PRIOR TO INSTALLATION OF THE STRENGTHENING PLATES. PLATE OVER ANY HEAVILY CORRODED PIER PILES. ONCE REPAIRS ARE COMPLETE, PAINT ALL PIER PILES WITH OZEU FROM BOTTOM OF PIER CAP TO 2 FEET BELOW THE EXISTING STREAMBED. PAINT COLOR SHALL MATCH EXISTING.
- STRENGTHENING SHALL CONSIST OF PLACING A CONTINUOUS WELD ON THE OUTSIDE FACE OF THE FLANGES AND ONE SIDE OF THE WEB. THE PLATES SHALL BE 3/8" THICK, HAVE A MINIMUM LENGTH OF 4 FEET, SHALL BE DEVELOPED BEYOND THE LIMITS OF CORROSION AND SET A MINIMUM OF 18" BELOW GRADE. WELDING SHALL BE CONSIDERED INCIDENTAL TO ITEM 513 - STRUCTURAL STEEL, LEVEL UF.
- IF PILE DETERIORATION EXTENDS BEYOND 2 FEET BELOW STREAMBED, ALERT PROJECT ENGINEER IMMEDIATELY.

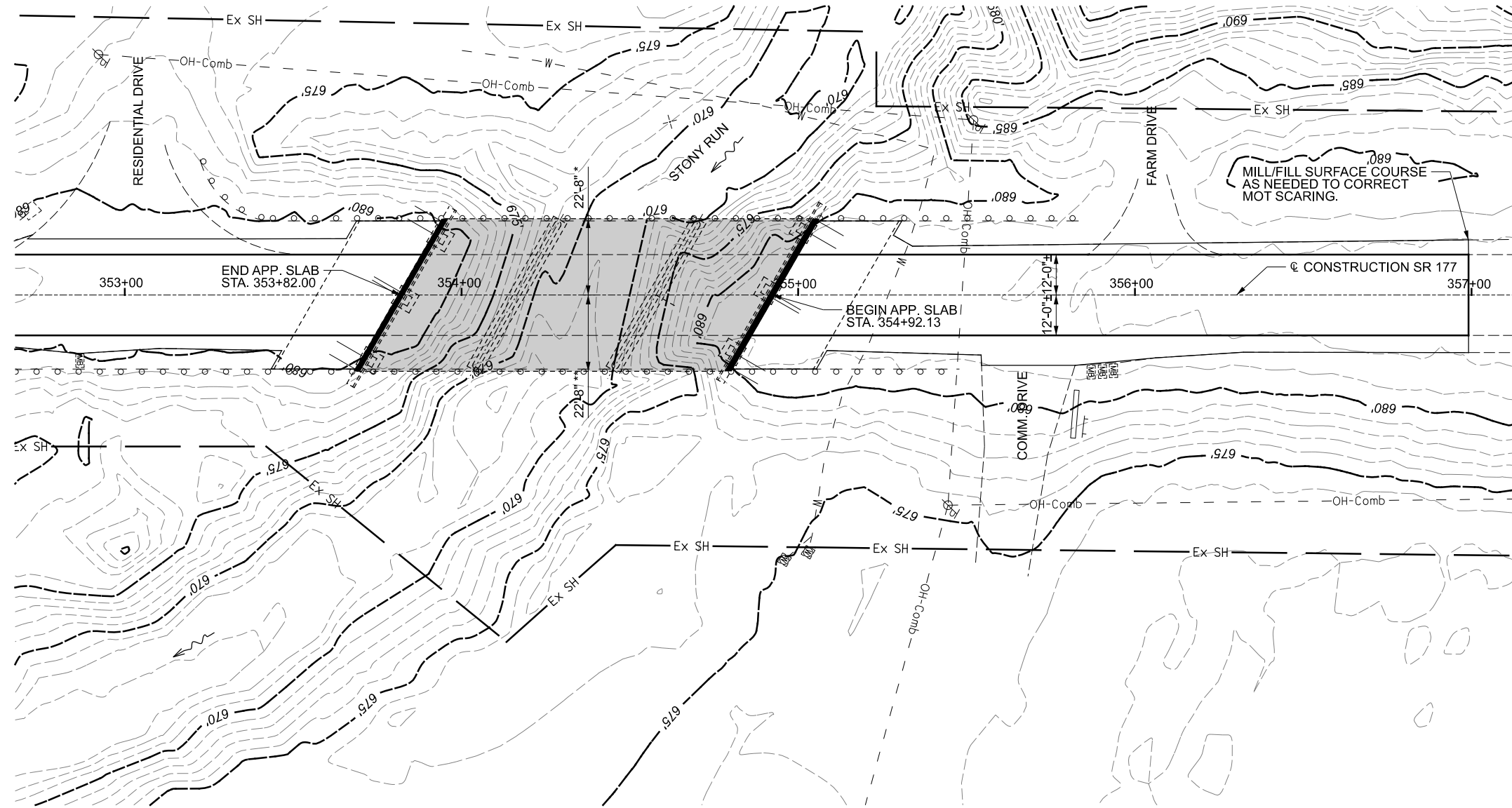


DESIGNER	CHECKER
CAH	GTF
REVIEWER	XXX
PROJECT ID	102748
SUBSET	TOTAL
5	6
SHEET	TOTAL
15	22

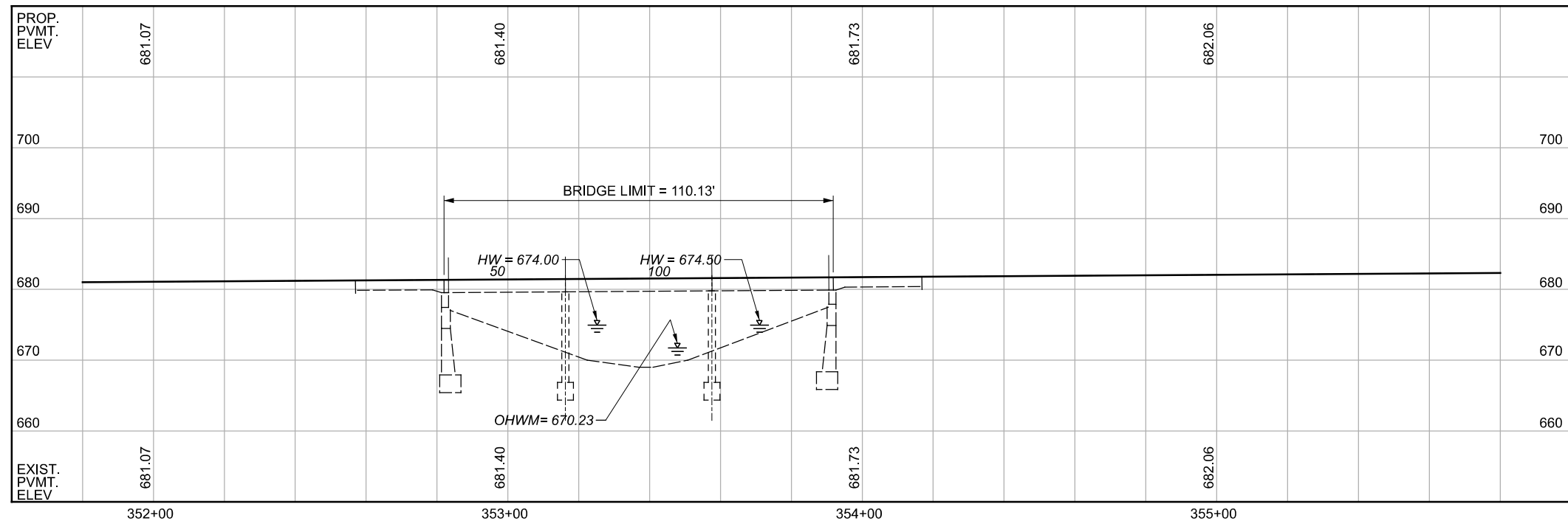


NOTES:
 1. SEE SHEET 5 FOR NOTES.

SFN	0903507
DESIGN AGENCY	
DESIGNER	CHECKER
CAH	GTF
REVIEWER	
XXX	7-12-21
PROJECT ID	102748
SUBSET	TOTAL
6	6
SHEET	TOTAL
16	22



PLAN



PROFILE ALONG ϵ CONSTRUCTION SR 177



LEGEND

- * - PHASE 1 CONSTRUCTION
- ** - PHASE 2 CONSTRUCTION
- REMOVE EX. 1.25" THK. CONCRETE OVERLAY AND 1" OF ORIGINAL DECK USING HYDRO-DEGLIATION. PLACE 2.25" SDC CONCRETE OVERLAY.

NOTES:

1. SEE SHEET 8 FOR PAVEMENT QUANTITIES.

HYDRAULIC DATA

DRAINAGE AREA = 5.4 SQ. MILES
 Q (50) = 1,815 CFS V (50) = 6.5 FT/S
 Q (100) = 2,070 CFS V (100) = 6.8 FT/S
 STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 5.2 FEET.
 OHWM EL. 670.23±



PROPOSED STRUCTURE

TYPE: CONTINUOUS CONCRETE SLAB WITH PEDESTAL ABUTMENTS AND SOLID WALL PIERS

SPANS: 33'-0", 41'-3", 33'-0"

ROADWAY: 44'-0" F/F BRIDGE RAILING (45'-4" O/O OF SLAB)

LOADING: HS20-44

SKEW: 30°00'00" L.F.

WEARING SURFACE: 2.25" THICK SDC CONCRETE OVERLAY

APPROACH SLABS: 25'-0" (AS-1-72)

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT

STRUCTURE FILE NUMBER: 0903523

DATE BUILT:

DISPOSITION: PLACE CONC. OVERLAY & RAILING UPGRADE

DECK AREA: 4,993 S.FSF

EXISTING STRUCTURE

TYPE: CONTINUOUS CONCRETE SLAB WITH PEDESTAL ABUTMENTS AND SOLID WALL PIERS

SPANS: 33'-0", 41'-3", 33'-0"

ROADWAY: 44'-0" F/F BRIDGE RAILING (45'-4" O/O OF SLAB)

LOADING: HS20-44

SKEW: 30°00'00" L.F.

WEARING SURFACE: 1.25" THICK MSC CONCRETE OVERLAY

APPROACH SLABS: 25'-0" (AS-1-72)

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT

STRUCTURE FILE NUMBER: 0903523

DATE BUILT:

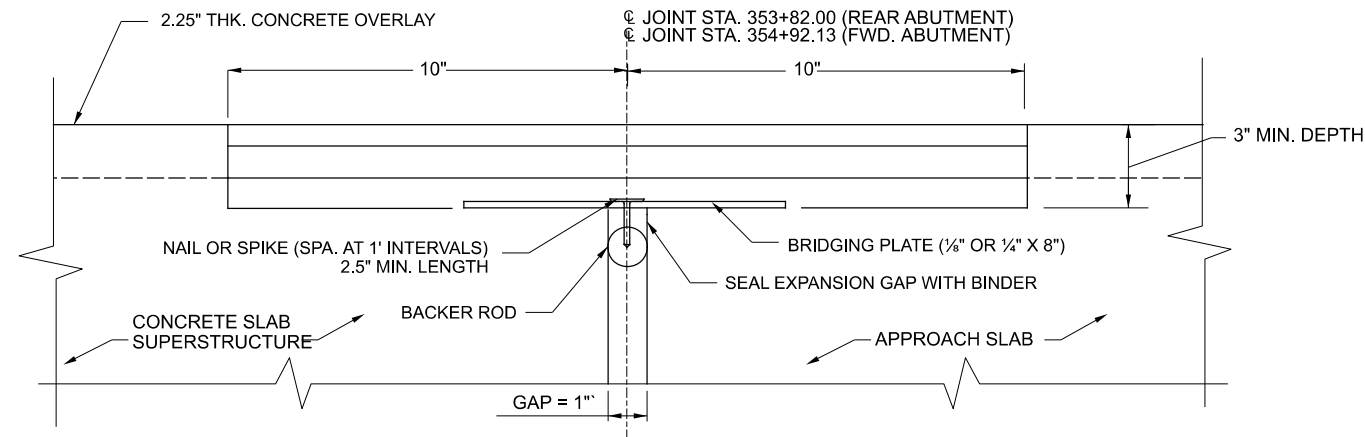
DECK AREA: 4,993 S.FSF

COORDINATES: LATITUDE N39°28'06"
 LONGITUDE W84°37'54"

SITE PLAN
BRIDGE No.: BUT-177-0529
SR 177 OVER STONY RUN

SFN	0903523
DESIGN AGENCY	
DESIGNER/CHECKER	CAH GTF
REVIEWER	7-12-21
PROJECT ID	102748
SUBSET	1 4
SHEET	17 22

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ESTIMATED QUANTITIES - STRUCTURE No.: BUT-177-0529			
					ABUTMENT	PIERS	SUPERSTRUCTURE	GENERAL
202	11203	LS	LUMP	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP		LUMP	
512	10100	111	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	56		55	
512	10300	25	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			25	
512	74000	111	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	56		55	
517	75601	226	FT	DEEP BEAM BRIDGE RETROFIT RAILING , AS PER PLAN			226	
518	22300	262	FT	SPECIAL - STEEL DRIP STRIP			262	
SPECIAL	530E00200	LS	LUMP	STRUCTURES, MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION	LUMP		LUMP	
844	10000	90	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION	15		75	
846	00110	43.6	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM			44	
848	10201	555	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T=2.25")			555	
848	20000	555	SY	SURFACE PREPARATION USING HYDRODEMOLITION			555	
848	30201	16	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN			16	
848	50000	11	SY	HAND CHIPPING			11	
848	50100	LS	LUMP	TEST SLAB			LUMP	
848	50320	555	SY	EXISTING CONCRETE OVERLAY REMOVED (T=1.25")			555	



ITEM 846 - POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM FOR CONCRETE SLAB

WIDTH = 1.67 FT LENGTH = 52.4 FT DEPTH = 0.25 FT (3" THICK)

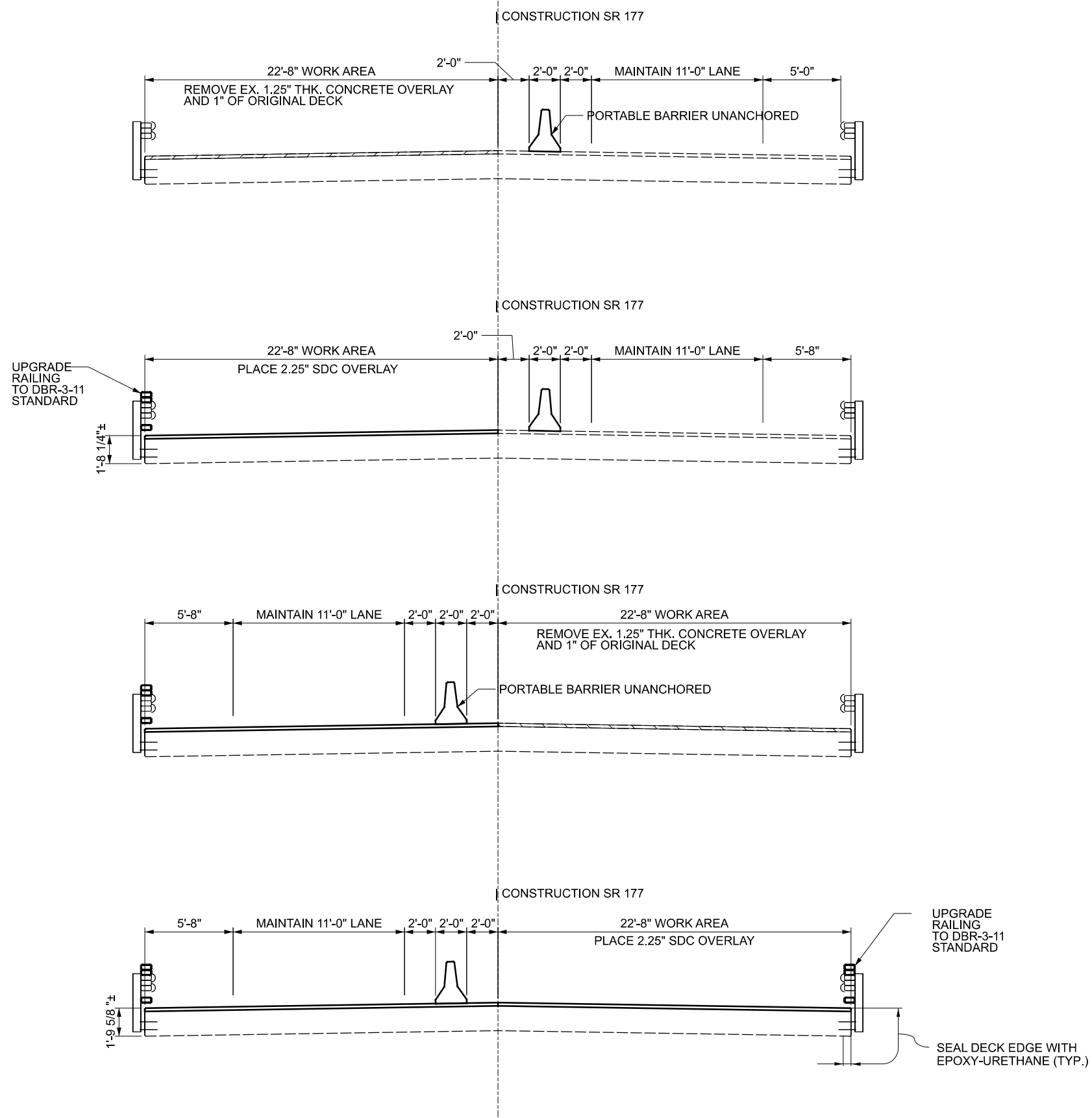
VOLUME = 1.67' * 52.4' * 0.25' = 21.9 CU FT

FINAL VOLUME = 2 EXPANSION JOINTS * 21.9 CU FT = 43.8 CU FT

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, ETC. REQUIRED TO COMPLETE THE INSTALLATION. COST FOR CONCRETE GRINDING OR LEVELING REQUIRED TO ENSURE PROPER JOINT CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL.

STRUCTURE QUANTITIES
 BRIDGE No. BUT-177-0529
 SR 177 OVER STONY RUN

SFN	0903523
DESIGN AGENCY	
DESIGNER	CHECKER
CAH	GTF
REVIEWER	
XXX	7-12-21
PROJECT ID	102748
SUBSET	TOTAL
2	4
SHEET	TOTAL
18	22



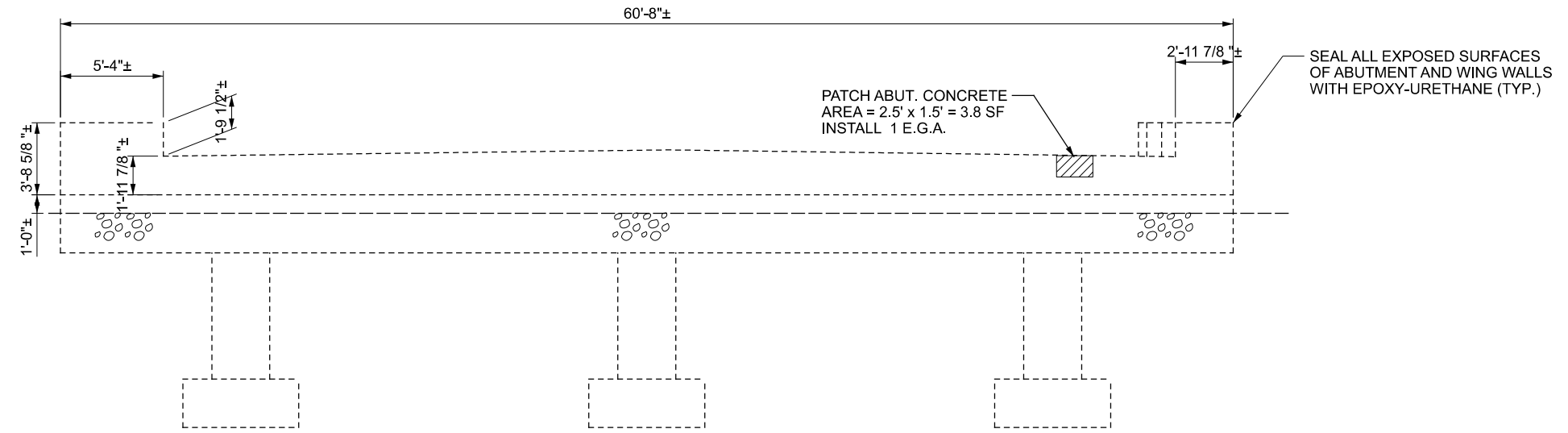
NOTES:
 1. REPLACE EXISTING STEEL DRIP STRIPS.

STAGE CONSTRUCTION
 BRIDGE No. BUT-177-0529
 SR 177 OVER STONY RUN

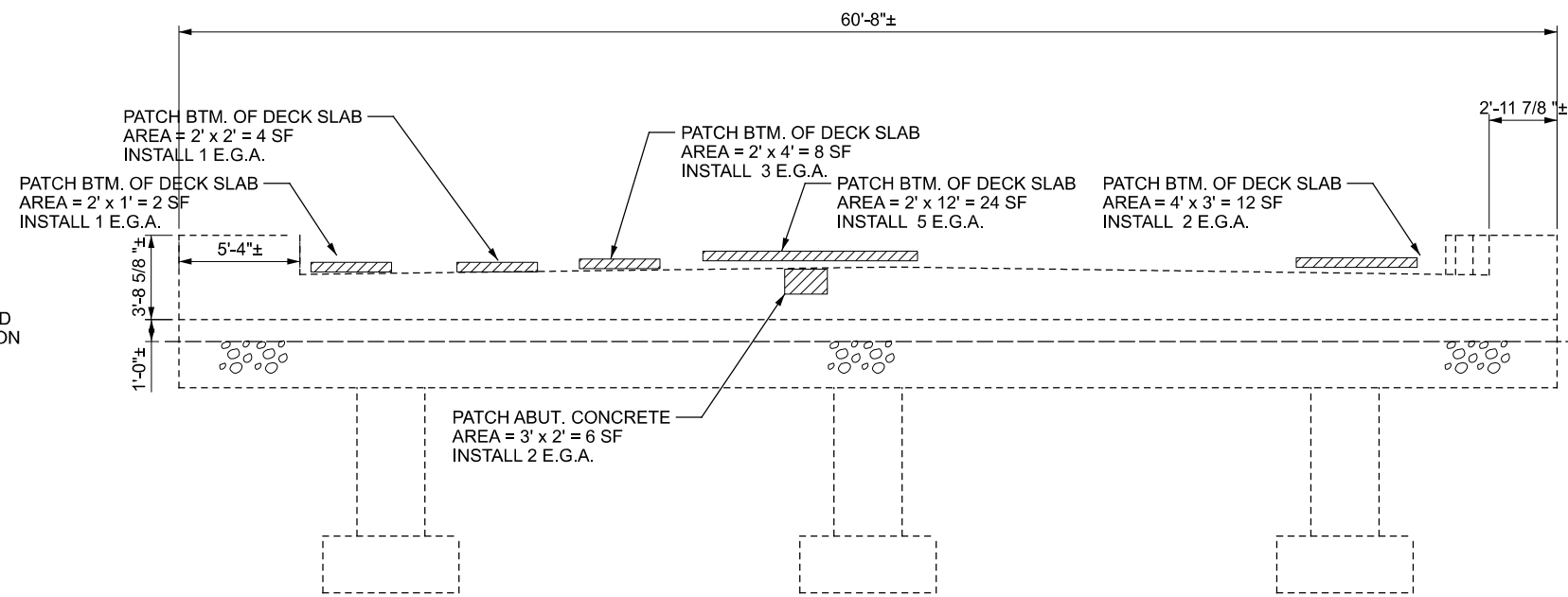
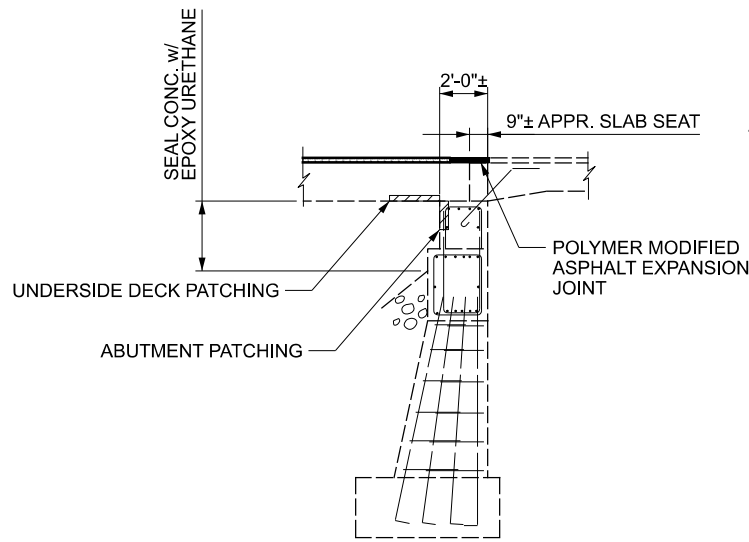
SFN
 0903523
 DESIGN AGENCY



DESIGNER	CHECKER
CAH	GTF
REVIEWER	
XXX	7-12-21
PROJECT ID	
102729	
SUBSET	TOTAL
3	4
SHEET	TOTAL
19	22



REAR ABUTMENT ELEVATION



FORWARD ABUTMENT ELEVATION

NOTES:

- TOTAL CONCRETE 519
 CONCRETE PATCHING
 AREA = 60 S.F. * 1.50 = 90 S.F.
 PATCHING AREA INCREASED
 BY 50% TO ACCOUNT FOR
 UNKNOWNNS.
- REMOVE EXISTING CONCRETE
 SEALER AND RESEAL ALL EXPOSED
 SURFACES OF ABUTMENTS WITH
 EPOXY-URETHANE.
- EMBED GALVANIC ANODES (E.G.A.) IN
 DECK PATCHES TO MINIMIZE MODERATE
 REBAR CORROSION. SPACE E.G.A.'s AT
 2' O.C. MAX. TOTAL QTY. = 15 EACH



DESIGNER	CHECKER
CAH	GTF
REVIEWER	XXX
DATE	7-12-21
PROJECT ID	102748
SUBSET	TOTAL
4	4
SHEET	TOTAL
20	22

State of Ohio
 Department of Highways
 Testing Laboratory

LOG OF BORING

Date Started: 6-22-72 Sampler: Type SS Dia. 1 3/8" Water Elev. _____
 Date Completed: 6-23-72 Casing: Length 20' Dia. 1 1/2"

Project Identification: BUTLER COUNTY
BUT-177-0610
OVER BECKETT'S RUN
BUT-177-6.10

Boring No. B-1 Station & Offset: * 0+17, 36' LT. (REAR ABUTMENT) Surface Elev. 681.5'

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So.	Physical Characteristics							SHTL Class						
						% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
681.5	0																		
679.0	2																		
676.5	4	3/5	BROWN SILTY SANDY GRAVEL	1	51656	52	22	14	-12	-	NP	NP	14	A-1-a					
	6	8/9	BROWN SILTY SANDY GRAVEL	2	51657	60	18	9	9	4	NP	NP	13	A-1-a					
	8																		
671.5	10	32/35	GRAY SANDY GRAVELLY SILT	3	51658	28	13	17	23	19	16	4	9	A-4a					
	12																		
666.5	14	12/21	GRAY SANDY GRAVELLY SILT	4	51659	32	7	10	21	30	22	7	15	A-4a					
	16																		
661.5	18	19/23	GRAY SILTY GRAVELLY SAND	5	51660	24	35	15	11	15	16	5	16	A-3a					
	20																		
656.5	22	9/14	GRAY SANDY SILT	6	51661	14	10	12	29	35	23	8	16	A-4a					
	24																		
651.5	26	11/13	GRAY SANDY SILT	7	51662	13	8	13	30	36	24	10	15	A-4a					
	28																		
646.5	30	8/9	GRAY GRAVELLY SANDY SILT	8	51663	16	9	12	28	35	24	10	15	A-4a					
	32																		
	34																		
	36																		

Form TE-153 Particle Size: Agg. > 2.00mm, Coarse Sand=2.00-0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay < 0.005mm

1/5

Boring No. B-1 Station & Offset: 0+17, 36' LT. (REAR ABUTMENT) Surface Elev. 681.5' Project: BUT-177-0610

Elev.	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So.	Physical Characteristics							SHTL Class						
						% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
641.5	38																		
	40	7/11	GRAY GRAVELLY SANDY SILT	9	51664	15	9	12	28	36	23	8	17	A-4a					
	42																		
636.5	44																		
	46	16/16	GRAY SANDY GRAVELLY SILT	10	51665	23	5	11	23	38	25	9	17	A-4a					
	48																		
631.5	50																		
630.5	52	12/13	GRAY GRAVELLY SANDY SILT	11	51666	17	7	11	26	39	26	10	17	A-4a					
	54		BOTTOM OF BORING																
	56																		
	58																		
	60																		
	62																		
	64																		
	66																		
	68																		
	70																		
	72																		
	74																		
	76																		
	78																		
	80																		

*NOTE: STA. 0+00 ASSUMED TO BE AT INTERSECTION OF CENTERLINES OF SR.177 AND WASHBURN ROAD. OFFSETS ARE FROM CL., EXISTING SR. 177, CL. OF EXISTING BRIDGE AT STA. 0+50.

Form TE-70

2/2

DESIGN AGENCY



DESIGNER

AWS

REVIEWER

JAS 12-21-21

PROJECT ID

102748

SUBSET TOTAL

1 2

SHEET TOTAL

21 22

State of Ohio
 Department of Highways
 Testing Laboratory

LOG OF BORING

Date Started: 6-20-72 Sampler Type: SS Dia: 1 3/8" Water Elev. _____
 Date Completed: 6-21-72 Casing Length: 25' Dia: 3 1/2"

Project Identification: BUTLER COUNTY
BUT-177-0610
OVER BECKETT'S RUN
BUT-177-6.10

Boring No. B-4 Station & Offset: * 0+84, 45' LT. (FORWARD ABUTMENT) Surface Elev. 675.0'

Elev	Depth	Std Pen (N)	Description	Field No	Lab. Nos. So.	Physical Characteristics							SHTL Class		
						% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	PI		W.C.	
675.0	0														
	2														
670.0	4														
	6	30/	GRAY SANDY GRAVELLY SILT	1	51667	31	11	15	27	16	16	4	8	A-4a	
667.5	8	30/	GRAY SILTY SANDY GRAVEL	2	51668	34	15	16	23	12	-	-	5	-	
665.0	10	37/	GRAY SANDY GRAVELLY SILT	3	51669	30	16	16	25	13	15	3	9	A-4a	
662.5	12														
660.0	14	50/	GRAY SILTY SANDY GRAVEL	4	51670	68	11	7	9	5	-	-	4	-	
	16	51/	GRAY SILTY SANDY GRAVEL	5	51671	45	14	13	19	9	-	-	7	-	
	18														
655.0	20	61/	GRAY SILTY SANDY GRAVEL	6	51672	53	14	9	15	9	-	-	11	-	
	22														
650.0	24														
	26	18/25	GRAY GRAVELLY SILT	7	51673	32	6	9	22	31	25	10	16	A-4a	
	28														
645.0	30	9/16	GRAY SANDY GRAVELLY SILT	8	51674	28	6	10	27	29	23	8	15	A-4a	
	32														
640.0	34														
	36	11/14	GRAY SANDY GRAVELLY SILT	9	51675	19	7	11	28	35	25	9	16	A-4a	

Form TE-53 Particle Sizes: Agg => 2.00mm, Coarse Sand=200-0.42mm, Fine Sand=0.42-0.074mm, Silt=0.074-0.005mm, Clay=< 0.005mm

3/5

Boring No. B-4 Station & Offset: 0+84, 45' LT. (FORWARD ABUTMENT) Surface Elev. 675.0' Project: BUT-177-0610

Elev	Depth	Std. Pen. (N)	Description	Field No.	Lab. Nos. So.	Physical Characteristics							SHTL Class		
						% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	PI		W.C.	
635.0	38														
	40	12/16	GRAY SANDY GRAVELLY CLAY	10	51676	29	7	8	24	32	27	11	17	A-6a	
	42														
630.0	44														
629.0	46	15/22	GRAY SANDY GRAVELLY SILT	11	51677	27	7	11	26	29	25	10	18	A-4a	
	48		BOTTOM OF BORING												
	50														
	52														
	54														
	56														
	58														
	60														
	62														
	64														
	66														
	68														
	70														
	72														
	74														
	76														
	78														
	80														

*NOTE: STA. 0+00 ASSUMED TO BE AT INTERSECTION OF CENTERLINES OF SR 177 AND WASHBURN ROAD. OFFSETS ARE FROM CL. EXISTING SR. 177 CL. OF EXISTING BRIDGE AT STA. 0+50.

Form TE-70

4/5

DESIGN AGENCY



DESIGNER
 AWS

REVIEWER
 JAS 12-21-21

PROJECT ID
 102748

SUBSET TOTAL
 2 2

SHEET TOTAL
 22 22