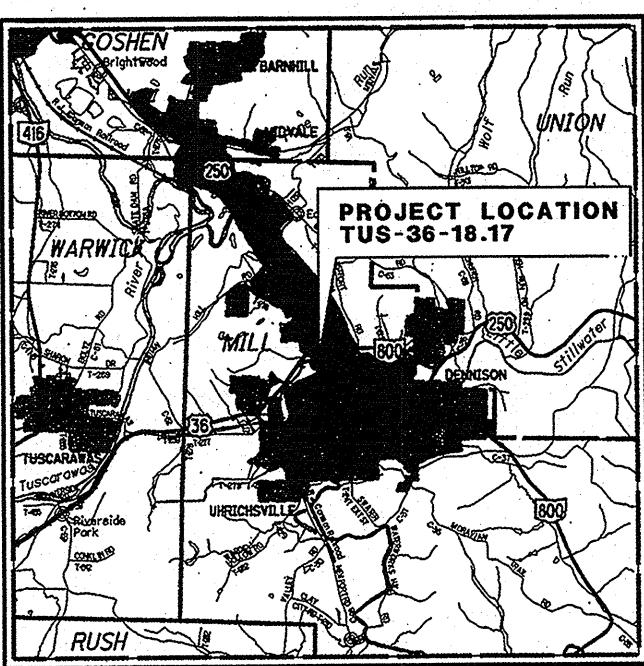
SOO

PROJECT LOCATION TUS-77-19.80

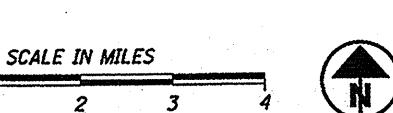
LOCATION MAP

LATITUDE: N40°28'45" LONGITUDE: W81°29'00"



LOCATION MAP

LONGITUDE: ₩81°21′00" LATITUDE: N40°24'15"



UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

1-800-362-2764 OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

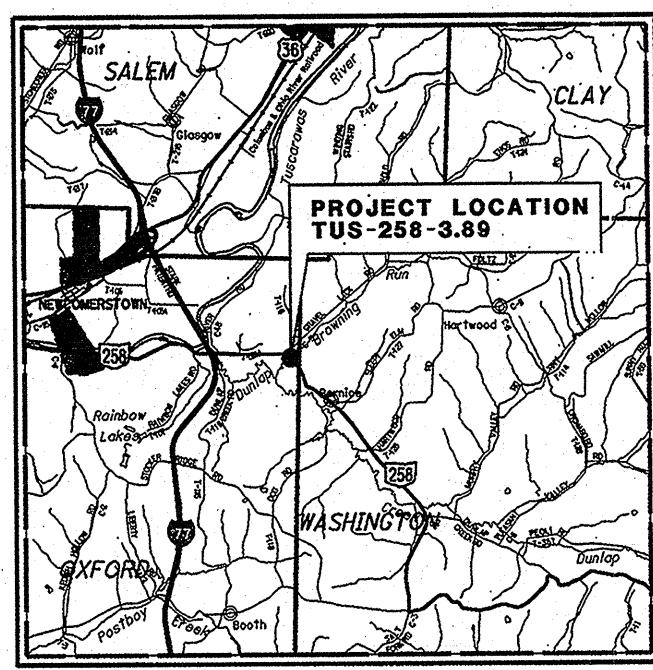
PLAN PREPARED BY: O.D.O.T. DISTRICT II PLANNING AND ENGINEERING NEW PHILADELPHIA, OHIO

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

TUS-77-19.80 TUS-36-18.17 TUS-258-3.89

DOVER, MILL, OXFORD TOWNSHIPS TUSCARAWAS COUNTY



LOCATION MAP

LATITUDE: N40°16'15" LONGITUDE: W81°31'40"

INDEX OF SHEETS:

TITLE SHEET GENERAL NOTES MAINTENANCE OF TRAFFIC GENERAL SUMMARY STRUCTURES (20' SPAN AND OVER)

PROJECT DESCRIPTION

SUBSTRUCTURE REPAIRS ON FOUR STRUCTURES IN VARIOUS TOWNSHIPS IN TUSCARAWAS COUNTY: STRUCTURES TUS-77-1980 LAR OVER TWP. RD 329 IN DOVER TOWNSHIP, TUS-36-1817 J, RAMP J OVER BIG STILLWATER CREEK IN MILL TOWNSHIP, AND TUS-258-0389 OVER GRAVEL LICK CREEK IN OXFORD TOWNSHIP.

EARTH DISTURBED AREA:

PROJECT EARTH DISTURBED AREA: ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	N/A	(MAINTENANCE)
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	N/A	(MAINTENANCE)
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A	(MAINTENANCE)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2010 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL 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.

TRANSPORTATION

			STANDAR	D CONSTR	UCTION DRAWINGS	SUPPLEMENTAL SPECIFICATIONS
					•	800 4-19-2013
	GSD-1-96	7-19-2002				823 7-20-2012
• • • • • •						832 5-5-2009
ENGINEER'S SEAL:						
ENGINEER 3 SEAL.			TC-42.20	1-21-2011		
			TC-52.10	1-18-2013		
Minimum Market			TC-52.20	1-18-2013		
ATE OF ONLINE	MT-97.10	7-20-2012				
RAYMOND	MT-98.28	7-20-2012				
PAUL TRIVOLI X E-63963	MT-105.10	7-20-2012	er e			SPECIAL
RAYMOND PAUL TRIVOLI E-63963						PROVISIONS
O COISTE!						7,7,0,7,0,7,0
TONA EXPLINITION				• .		
03000	DM-4.3	1-18-2013				
SIGNED: Comme the ineli	- DM-4.4	7-20-2012				
DATE: JANUARY 29, 2013						1

AEP OHIO POWER COMPANY P.O. BOX 24400 CANTON, OHIO 44701 (330)-438-7061 ATTN: KATHY MOSSBARGER

FRONTIER COMMUNICATIONS 1121 TUSCARAWAS AVENUE, NW NEW PHILADELPHIA, OHIO 44663 (330)-364-0510 ATTN: LARRY WENDELL

AT&T OHIO, INC. 2932 S. 6TH STREET IRONTON, OHIO 45638 (740)-532-9927 ATTN: DAVE MALONE

ARTEX OIL COMPANY 2163A STATE ROUTE 821 MARIETTA. OHIO 45750 (740)-373-3313 ATTN: JOE SNIDER

RED HILL DEVELOPMENT 3596 SR 39, NW DOVER, OHIO 44622 (330)-365-3054 ATTN: CHRIS KIMBLE

OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 11 2201 REISER AVENUE, SE NEW PHILADELPHIA, OHIO 44663 (330)-339-6633 ATTN: NICK SUSICH

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

EXISTING PLANS

EXISTING PLANS ENTITLED TUS-77-16.66 (1965), TUS-36-16.63 (1965). AND TUS-258-3.89 (1982) MAY BE INSPECTED IN THE ODOT DISTRICT 11 OFFICE AT THE FOLLOWING LOCATION:

OHIO DEPARTMENT OF TRANSPORTATION 2201 REISER AVE. S.E. NEW PHILADELPHIA, OHIO 44663

EXISTING PLANS CAN ALSO BE FOUND ON THE DISTRICT'S WEB SITE AT:

http://www.dot.state.oh.us/Divisions/ContractAdmin/ Contracts/Pages/designfiles.aspx

ELEVATION DATUM

ALL ELEVATIONS ARE ASSUMED.

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 OF OUTSIDE THESE WORK LIMITS

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. ALL VEGETATION WITHIN 15' OF THE EDGE OF DECK AND UNDER THE STRUCTURE IS TO BE REMOVED. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

ODOT LIGHTING MAINTENANCE CONTRACT

THE CONTRACTOR IS HEREBY ADVISED THAT THE LIGHTING FOR ODOT IS MAINTAINED VIA DISTRICT WIDE CONTRACT. TWO WEEKS PRIOR TO PERFORMING THE ELECTRICAL REMOVALS SHOWN IN THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE LIGHTING MAINTENANCE CONTRACTOR.

RIDGE ELECTRIC COMPANY GREG KOHR CELL: 330-705-2985 OFFICE: 330-866-2771

THE CONTRACTOR SHALL COOPERATE WITH THE OTHER CONTRACTORS IN ACCORDANCE WITH SEC. 105.08 AND ARRANGE A MUTUALLY ACCEPTABLE WORK SCHEDULE SUBJECT TO THE APPROVAL OF THE ENGINEER. ANY CONFLICTS BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREAS, OR COOPERATION WILL BE RESOLVED BY THE ENGINEER.

ITEM 607, FENCE REBUILT, TYPE 47, AS PER PLAN

REBUILD FENCE IN ITS ORIGINAL LOCATION, IN ACCORDANCE WITH CMS 607 AND AS OUTLINED BELOW.

FURNISH NEW CONNECTION HARDWARE. REPLACE POSTS, WIRE OR ADDITIONAL ELEMENTS THAT WERE NOT CONSIDERED SALVAGEABLE PER CMS 202.09 AND 202.02.

ITEM 614. MAINTAINING TRAFFIC

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

US 36, RAMP J

A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES PER ITEM 614 AND AS PER STANDARD CONSTRUCTION DRAWING MT-98.28. THE LENGTH OF RESTRICTED RAMP LANE WIDTH SHALL BE KEPT TO A MINIMUM CONSISTENT WITH THE SPECIFICATION REQUIREMENTS FOR THE PROTECTION OF WORK ITEMS WHICH NECESSITATE THE RESTRICTION.

SR 258

A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES PER ITEM 614 AND AS PER STANDARD CONSTRUCTION DRAWING MT-97.10. THE LENGTH OF RESTRICTED TRAFFIC LANES SHALL BE KEPT TO A MINIMUM CONSISTENT WITH THE SPECIFICATION REQUIREMENTS FOR THE PROTECTION OF WORK ITEMS WHICH NECESSITATE THE RESTRICTION.

IR 77

SHORT DURATION CLOSING OF IR 77

THE FOLLOWING NOTES SHALL APPLY FOR THE JACKING AND TEMPORARY SUPPORT OF THE SUPERSTRUCTURE.

- 1. THE CONTRACTOR SHALL COORDINATE CLOSURE TIMES WITH TUSCARAWAS COUNTY AND THE STATE OF OHIO TRAFFIC AND LAW ENFORCEMENT DEPARTMENTS SO CLOSURES DO NOT OCCUR DURING CROWD EVENTS WHICH INCREASE I.R. 77 TRAFFIC.
- 2. THE MAXIMUM DURATION OF CLOSURES SHALL NOT EXCEED 15 MINUTES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, TRAFFIC SHALL BE COMPLETELY CLEARED BEFORE BEGINNING THE NEXT CLOSURE.

ALL LANES OF I.R. 77 SHALL BE OPENED TO TRAFFIC AT ALL TIMES EXCEPT DURING SHORT DURATION CLOSURES AS DESCRIBED BELOW.

- 3. THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) "WATCH FOR STOPPED TRAFFIC" SIGNS (SPECIAL) 1500 FEET UPSTREAM FROM THE "ROAD CONSTRUCTION AHEAD" SIGNS ON I.R. 77 NB AND SB. THE CONTRACTOR SHALL INSTALL ADDITIONAL "WATCH FOR STOPPED TRAFFIC" SIGNS EVERY 1800 FEET UPSTREAM FROM THE "WATCH FOR STOPPED TRAFFIC" SIGNS ON I.R. 77 IF TRAFFIC BACKUPS REACH THE FIRST SET OF SIGNS. THE NEED FOR THESE SIGNS SHALL BE CONSTANTLY MONITORED BY THE CONTRACTOR. ALL "WATCH FOR STOPPED TRAFFIC" SIGNS AND "PREPARE TO STOP" SIGNS SHALL BE EQUIPPED WITH A TYPE B HIGH INTENSITY FLASHING WARNING LIGHT.
- 4. A MINIMUM OF TWO (2) LAW ENFORCEMENT OFFICERS WITH PATROL VEHICLES SHALL BE USED TO PACE MOTORISTS TO A STOP. AFTER TRAFFIC HAS BEEN STOPPED. ONE PATROL VEHICLE SHALL TRAVEL ALONG THE ROADWAY SHOULDER 50 FEET BEHIND THE BACKUP OF STOPPED VEHICLES WHEN STOPPAGES OCCUR. IN THE VICINITY OF FREEWAY ENTRANCES OR EXITS, THE CONTRACTOR SHALL PLACE FLAGGERS ON THE RAMPS TO SLOW ENTERING TRAFFIC. SEE SHEET 4 FOR DETAILS.

- 5. PATROL VEHICLES SHALL HAVE FLASHING BEACONS TO PROVIDE ADEQUATE VISIBILITY TO APPROACHING TRAFFIC. INFORMATION REGARDING THE FEES. ARRANGEMENTS AND PAYMENT FOR SPECIAL DUTY PATROL SERVICES MAY BE OBTAINED BY CONTACTING THE APPROPRIATE LAW ENFORCEMENT AGENCIES AS SPECIFIED IN THE NOTE COVERING "LAW ENFORCEMENT OFFICER WITH PATROL CAR". PAYMENT FOR THE ABOVE IS INCLUDED IN ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.
- 6. FOR A PERIOD OF SEVEN (7) CALENDAR DAYS BEFORE THE START OF ANY SHORT TERM CLOSURES, THE CONTRACTOR SHALL PLACE A PORTABLE CHANGEABLE MESSAGE SIGN NEAR THE POINT OF CLOSURE, FACING THE APPROPRIATE DIRECTION OF TRAVEL.

THE PCMS SHALL BE PROGRAMMED AS SHOWN IN THE DIAGRAM BELOW LABELED "PORTABLE CHANGEABLE MESSAGE SIGN ADVANCED NOTICE OF CLOSURE".

> PORTABLE CHANGEABLE MESSAGE SIGN ADVANCED NOTICE OF CLOSURE

15 MIN	(DATE)
FREEWAY	TO
CLOSURE	(DATE)
FRAME 1	FRAME 2
O.8 SEC	0.8 SEC
(TIME)	(DATF)
```	(DATE)
TO	TO
	(5)=
TO	TO
TO (TIME)	TO (DATE)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

MEMORIAL DAY FOURTH OF JULY

LABOR DAY

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY	TIME ALL LANES MUST
OR EVENT	BE OPEN TO TRAFFIC
SUNDA Y	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N FRIDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SA TURDA Y	12:00N FRIDAY THROUGH 12:00N MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS. THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$50.00 PER MINUTE FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MA-TERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT.. RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM. TO DIM THE SIGN DURING DARKNESS. AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03. IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET 4 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CON-TRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELO-CATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EX-TENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PRO-VIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPRO-GRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PRO-GRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTI-VATED. DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

# ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, IN-CLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

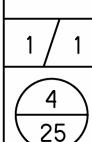
PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR. MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFT-WARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK. THE CONTRACTOR SHALL ONLY BE PAID FOR PCMS UNITS WHEN THEY ARE IN OPERATION ON THE PROJECT AS SPECIFIED IN THE PLANS OR BY THE ENGINEER.

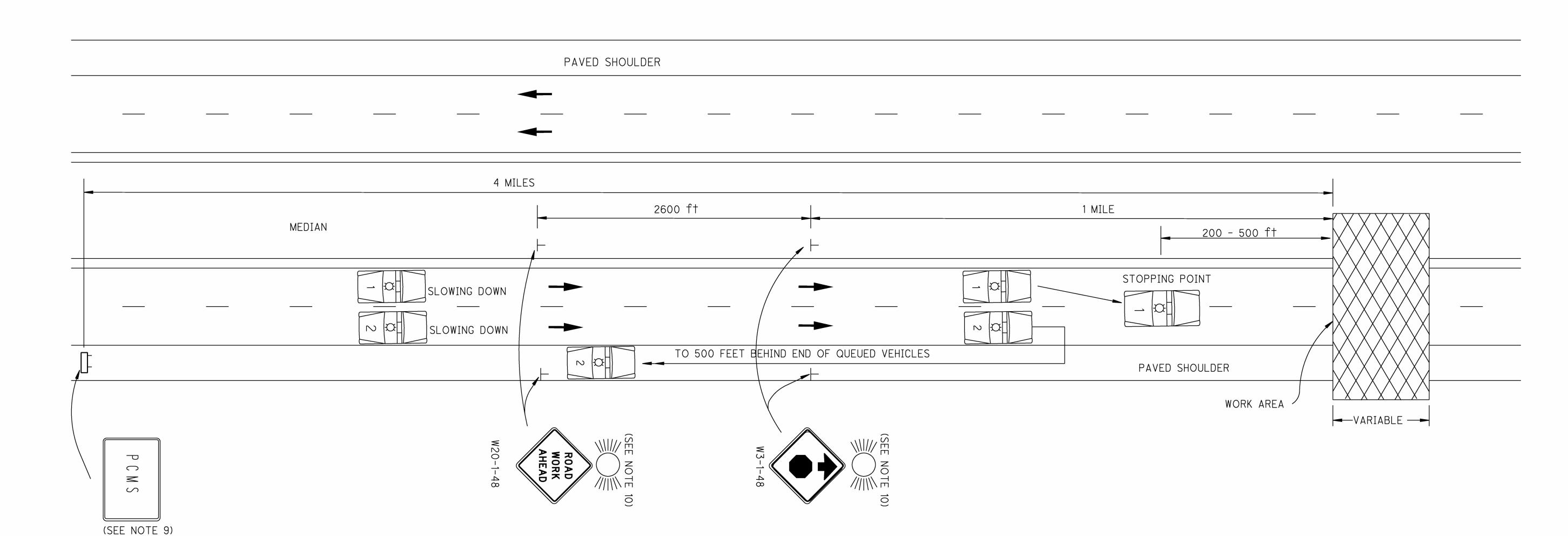
ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, 

# WORK ZONE LANE RESTRICTIONS

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST EIGHTEEN (18) DAYS PRIOR TO IMPLEMENTING ANY WORK ZONE RESTRICTIONS THAT WILL REDUCE THE WIDTH OR VERTICAL CLEARANCE OF ANY LANE ON WHICH TRAFFIC WILL BE MAINTAINED DURING CONSTRUCITON.

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# NOTES

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- 1. This type of highway closure shall be used for all construction, maintenance and utility operations when the duration of closure will not exceed 15 minutes.
- 2. A minimum of two law enforcement officers (LEO) with patrol cars per direction shall be provided to block traffic and pace motorists to a stop. The number of patrol cars shall equal the number of lanes closed on the highway.
- 3. Patrol cars, with lights flashing, should enter the stream of traffic at approximately 3 miles before the point of closure. At approximately 2 miles before the point of closure, they should begin the gradual slow down. Traffic shall be brought to a complete stop a safe distance, between 200 and 500 feet, from the work area. This slowing operation shall take no more than 10 minutes. After traffic has been stopped, one patrol car shall travel along the roadway shoulder 500 feet behind the end of the queued vehicles.
- 4. The Contractor shall not begin work until traffic has been brought to a complete stop.

- 5. All entrance ramps located between the stopped traffic and the work area shall be closed.
- 6. After the highway has been closed and reopened via this procedure, both of the following requirements shall have been met before implementation of another short duration closure, except with the approval of the Engineer:
  - a) A minimum period of 15 minutes shall have elapsed; and
  - b) The queued traffic shall have dissipated.
- 7. The time frame for stopping traffic shall be specified.
- 8. The public shall be given advance notice of the upcoming closure by providing portable changeable message signs at the site in advance of the scheduled closing. Closure information should also be provided to the Engineer.

- 9. An ODOT-approved portable changeable message sign, Class 1, shall be provided during operation. The message sign shall be placed approximately 4 miles in advance of the closure or as directed by the Engineer. The message shall be ROAD CLOSED AHEAD (2 sec.), PREPARE TO STOP (2 sec.)
- 10. The Contractor shall erect and maintain 48-inch ROAD WORK AHEAD and Stop Ahead signs on each side of the highway. Each sign shall be equipped with one Type A flashing warning light and one flare. There shall be one flare at each sign on both sides of the roadway. The flare shall be replaced if it burns out.

	<u> </u>	HEET NUME	BER	01/NFP/BR	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SE SHE NO
2	3								ROADWAY	- NO
LUMP				LUMP	201	11001	LUMP		CLEARING AND GRUBBING, AS PER PLAN	2
									EROSION CONTROL	
				3000	832	30000	3000	EACH	EROSION CONTROL	
									STRUCTURES	
									STRUCTURES (TUS-77-1980 L&R, TUS-36-1817, & TUS-258-0389) FOR ESTIMATED QUANTITIES SEE SHEET NO. 6.	
									MAINTENANCE OF TRAFFIC	
	20			20	614	18401	20	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	3
	LUMP			LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	
	LOMI			4	619	16000	4	MONTH	FIELD OFFICE, TYPE A	
				LUMP	624	10000	LUMP		MOBILIZATION	
				LUMP	823	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
			+							

ESTIMATED QUANTITIES

STRUCTURE NO.TUS-77-1980 L&R

CALCULATED BY: CCN DATE: 10/23/2012 CHECKED BY: RPT DATE: 10/29/2012

SFN: 7902700, 7902735

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION		UND STRUC SFN: 790270		NORTHBOUND STRUCTURE (R) SFN: 7902735			GENERAL	SEE STRUCTURE SHT. NO.
					SUPERSTR.	ABUT.	PIERS	SUPERSTR.	ABUT.	PIERS	1	
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN							LUMP	2/20
202	75200	80	FT	FENCE REMOVED FOR REUSE		40			40			
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN		50			50			2/20
511	81300	67	EACH	CONCRETE, MISC.: EMBEDDED GALVANIC ANODE (EGA)	25 42						2/20	
512	10001	158	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)			79			79		3/20
<i>512</i>	10100	410	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		115	90		115	90		
<i>512</i>	10600	44	FT	CONCRETE REPAIR BY EPOXY INJECTION		31			13			
512	74000	230	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES (SEE PROPOSAL NOTE)		115			115			
514	27700	1184	SQ FT	FIELD PAINTING, MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL	562	30		562	30			3/20
516	44101	20	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN		10			10			12/20 - 14/20
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN							LUMP	3/20
519	11101	104	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		38			66			3/20
607	16001	80	FT	FENCE REBUILT, TYPE 47, AS PER PLAN		40			40			*

* - SEE ROADWAY PLAN SHEET 2/25

				STRUCTURE NO. TUS-36-1817	SFN: 7900511				
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTMENTS	PIERS	GENERAL	SEE STRUCTURE SHT. NO.
202	98100	1	EACH	REMOVAL MISC.: ABANDONED LIGHTING SYSTEM				1	2/20
202	75200	20	FT	FENCE REMOVED FOR REUSE		20			
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	2/20
511	81300	13	EACH	CONCRETE, MISC.: EMBEDDED GALVANIC ANODE (EGA)	11	2			2/20
512	10100	51	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		51			
520	11100	49	SQ FT	PNEUMATICALLY PLACED MORTAR	17	32			
601	32200	36	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER				36	
607	16001	20	FT	FENCE REBUILT , TYPE 47, AS PER PLAN		20			*

* - SEE ROADWAY PLAN SHEET 2/25

	STRUCTURE NO. TUS-258-0389 SFN: 7905564												
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE	ABUTMENTS	PIERS	GENERAL	SEE STRUCTURE SHT. NO.				
509	20001	100	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	2/20				
511	81300	93	EACH	CONCRETE, MISC.: EMBEDDED GALVANIC ANODE (EGA)	67	26			2/20				
512	10100	27	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		27							
520	11100	138	SQ FT	PNEUMATICALLY PLACED MORTAR	101	37							

### DESIGN DATA:

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE PATCHING)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE PATCHING)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI, EPOXY COATED

# EXISTING STRUCTURE VERIFICATION

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. CONSE-QUENTLY, 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 RECOGNITION OF THE UNCER-TAINTIES 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 202. PORTIONS OF STRUCTURE REMOVED. AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS 3. BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT. ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

# ITEM 202, REMOVAL MISC.: ABANDONED LIGHTING SYSTEM:

THIS ITEM SHALL CONSIST OF REMOVING THE ABANDONED LIGHTING SYSTEM ON BRIDGE NO. TUS-36-1817 J. THE REMOVAL INCLUDES ALL CONDUIT, WIRING, FASTENERS, JUNCTION BOXES, AND THE ELECTRIC DISCONNECT BOX LOCATED NEAR THE FORWARD RIGHT WING WALL. THE ELECTRIC DISCONNECT BOX IS TO BE DISCONNECTED FROM THE EXISTING PULL BOX WHICH IS TO REMAIN AND IN SERVICE. PROPERLY DISPOSE OF ALL MATERIALS REMOVED IN ACCORDANCE WITH CMS 202.

#### REMOVAL OF END CROSSFRAME

REMOVE SECONDARY MEMBERS AS NEEDED FOR BACKWALL ACCESS. CROSSFRAME ACCESS. OR AS DIRECTED BY THE ENGINEER. REMOVE MEMBERS AS SHOWN BELOW IN OPTION 1 OR OPTION 2.

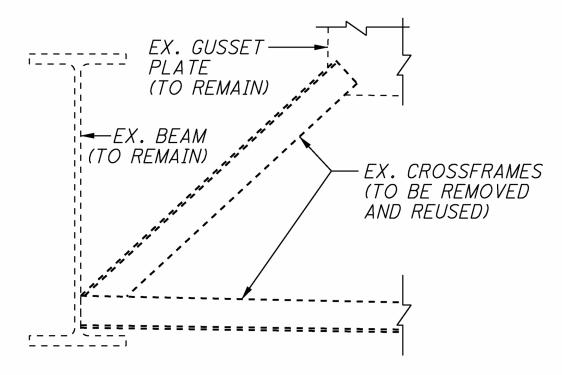
IF USING OPTION 1, REMOVE MEMBERS BY BREAKING THE EXISTING WELDS.

IF USING OPTION 2. INCLUDE THE COST OF THE CONNECTOR PLATES IN THIS ITEM.

FLAME OR SAW CUT THE EXISTING MEMBERS USING A MECHANICAL GUIDE ACCORDING TO CMS 513.12. PROVIDE SHIELDING AS NECESSARY TO PREVENT DAMAGE TO MAIN OR SECONDARY MEMBERS THAT WILL REMAIN AND/OR BE REUSED. GRIND THE EXISTING MAIN OR SECONDARY MEMBER SMOOTH IN PREPARATION FOR FILLET WELDING.

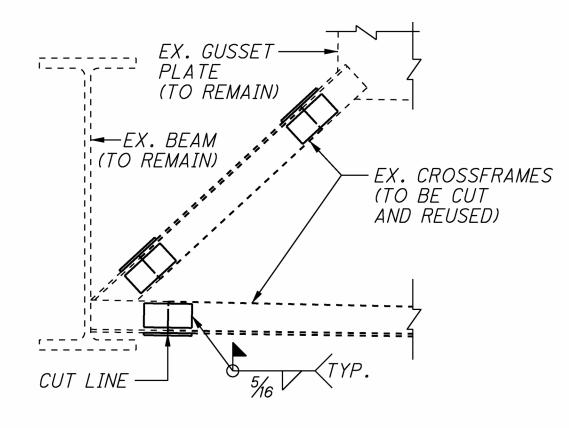
### OPTION 1:

- 1. REMOVE ANGLES FROM BEAM WEB AND GUSSET PLATE.
- 2. PERFORM PROPOSED SEALING ON BACKWALL SECTION AND PAINTING ON END CROSSFRAMES.
- 3. GRIND BEAM WEB AND GUSSET PLATE SMOOTH. ANY DAMAGE TO BEAM OR GUSSET PLATE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
- REATTACH ANGLES PER SCD GSD-1-96.



# OPTION 2:

- CUT ANGLES 4"± FROM ATTACHED BEAM WEB OR GUSSET PLATE.
- 2. PERFORM PROPOSED PATCHING ON BACKWALL SECTION AND PAINTING ON END CROSSFRAMES.
- REATTACH ANGLE SECTIONS USING NEW 6"x3"x 5/6" STEEL PLATES.



# MEASUREMENT AND 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. AS PER PLAN. ANY NECESSARY PAINTING WILL BE PAID FOR UNDER ITEM 514. FIELD PAINTING, MISC .: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL.

# ITEM 509, REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

# ITEM 511, CONCRETE MISC.: EMBEDDED GALVANIC ANODE (EGA)

### PART 1 GENERAL:

#### 1.01 SUMMARY:

- A. THIS WORK UNDER THIS SECTION INCLUDES FURNISH-ING ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO PROPERLY INSTALL ZINC-BASED EMBEDDED GALVANIC CORROSION PROTECTION SYSTEMS FOR PATCHING APPLICATIONS AS SHOWN IN THE PLAN.
- B. THE GALVANIC CORROSION PROTECTION SYSTEM SHALL CONSIST OF INTER-CONNECTED GALVANIC ANODES THAT ARE PLACED WITHIN THE CONCRETE PATCHES AND ARE ELECTRIC-ALLY CONNECTED TO THE REINFORCING STEEL THROUGH A HEADER WIRE OR STRAP. THE HEADER CONNECTS ROWS OF ANODES TO THE REINFORCING STEEL AS SHOWN. AFTER THE ANODES ARE INSTALLED AND ENCASED IN THE CONCRETE PATCH, THE ANODES WILL PROVIDE GALVANIC PROTECTION TO THE REINFORCING STEEL IN THE CONCRETE PATCH.

# 1.02 REFERENCES:

- A. ACI 222R PROTECTION OF METALS IN CONCRETE AGAINST CORROSION.
- B. ASTM B6 STANDARD SPECIFICATIONS FOR ZINC.
- C. ASTM B69 STANDARD SPECIFICATION FOR ROLLED ZINC.
- D. ASTM B418 STANDARD SPECIFICATION FOR CAST AND WROUGHT GALVANIC ZINC ANODES.

# PART 2 PRODUCTS:

# 2.01 MATERIALS:

A. EMBEDDED GALVANIC ANODES SHALL BE PUCK-SHAPED. APPROXIMATELY 21/2 INCHES IN DIAMETER BY 1 INCH HIGH, PRE-MANUFACTURED, AND CONSIST OF ELECTROLYTIC HIGH GRADE ZINC IN COMPLIANCE WITH ASTM B418 CAST AROUND A PAIR OF STEEL TIE WIRES AND ENCASED IN A HIGHLY ALKALINE CEMENTITIOUS SHELL WITH A PH OF 14 OR GREATER.

- B. EMBEDDED GALVANIC ANODES (EGAs) SHALL BE GALVASHIELD XP AVAILABLE FROM VECTOR CORROSION TECHNOLOGIES (813) 830-7566 OR APPROVED EQUAL.
- C. REPAIR MORTARS, CONCRETE AND BONDING AGENTS SHALL BE PORTLAND CEMENT-BASED MATERIALS WITH SUITABLE ELECTRICAL CONDUCTIVITY. NON-CONDUCTIVE REPAIR MATERIALS SUCH AS EPOXY, URETHANE, OR MAGNESIUM PHOSPHATE SHALL NOT BE PERMITTED.

#### PART 3 EXECUTION:

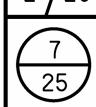
- 3.01 SURFACE AND REINFORCING STEEL PREPARATION: A. PERFORM CONCRETE REMOVAL AND SURFACE PREPARA-TION FOR THE CONCRETE PATCH IN ACCORDANCE WITH ITEM SPECIAL, PATCHING CONCRETE STRUCTURE, MISC.: WITH HIGH EARLY STRENGTH PUMPED SELF CONSOLIDATING CONCRETE.
  - B. FULLY EXPOSE REINFORCING STEEL AT EACH EDGE OF THE PREPARED SURFACE AT INTERVALS AS INDICATED ON THE DRAWINGS TO ALLOW ELECTRICAL CONNECTION OF THE HEADER TO THE REINFORCING STEEL.
- C. CLEAN EXPOSED REINFORCING STEEL OF RUST, MORTAR, ETC. TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND MECHANICAL BOND.
- 3.01 SURFACE AND REINFORCING STEEL PREPARATION (CONT...) D. IF SIGNIFICANT REDUCTION IN THE CROSS SECTION OF THE REINFORCING STEEL HAS OCCURRED. REPLACE OR INSTALL SUPPLEMENTAL REINFORCEMENT AS DIRECTED BY THE ENGINEER.
  - E. SECURE LOOSE REINFORCING STEEL BY TYING TIGHTLY TO OTHER BARS WITH STEEL TIE WIRES.

### 3.02 GALVANIC ANODE INSTALLATION:

- A. GALVANIC ANODES SHALL BE INSTALLED ALONG THE PERIMETER OF THE REPAIR AT SPACING AS SPECIFIED ON THE DRAWINGS. IN NO CASE SHALL THE DISTANCE BETWEEN ANODES EXCEED 30 INCHES.
- B. PROVIDE SUFFICIENT CLEARANCE BETWEEN ANODES AND SUBSTRATE TO ALLOW REPAIR MATERIAL TO ENCASE ANODE. PROVIDE AT LEAST 11/2 INCHES OF CONCRETE COVER OVER THE ANODES.
- C. SECURE THE GALVANIC ANODES AS CLOSE AS POSSIBLE TO THE PATCH EDGE USING THE ANODE TIE WIRES. THE TIE WIRES SHOULD BE TIGHTENED TO ALLOW LITTLE OR NO FREE MOVEMENT.
  - 1. IF THE ANODE IS TO BE TIED ONTO A SINGLE BAR. OR IF LESS THAN 1 INCH OF CONCRETE COVER IS EXPECTED, PLACE ANODE BENEATH THE BAR AND SECURE TO CLEAN REINFORCING STEEL.
  - 2. IF SUFFICIENT CONCRETE COVER EXISTS, THE ANODE MAY BE PLACED AT THE INTERSECTION BETWEEN TWO BARS AND SECURED TO EACH CLEAN BAR.

# 3.03 ELECTRICAL CONTINUITY AND CONNECTIONS:

- A. THE REINFORCING STEEL IN THE STRUCTURAL CONCRETE COMPONENT SHALL BE TESTED FOR ELECTRICAL CONTINUITY AT THE REPAIR AREAS WHERE REINFORCING IS EXPOSED. CONTINUITY SHALL BE CHECKED BETWEEN BARS IN EACH LOCATION, IN THE LONGITUDINAL AND TRANSVERSE DIREC-TIONS. USE A VOLTMETER DIFFERENCE BETWEEN THE TEST SITES LESS THAN 1.0mV SHALL BE CONSIDERED CONFIRMA-TIONOF ELECTRICAL CONTINUITY.
- B. IN SITUATIONS WHERE CONTINUITY IS NOT CONFIRMED, RE-ESTABLISH CONTINUITY BY TYING REINFORCING TOGET-HER WITH STEEL TIE WIRE OR BY OTHER APPROVED MEANS.
- C. GALVANIC ANODES SHALL BE INSTALLED ALONG THE PERIMETER OF THE REPAIR AT SPACING AS SPECIFIED ON THE DRAWINGS. IN NO CASE SHALL THE DISTANCE BETWEEN ANODES EXCEED 30 INCHES.



- E. ELECTRICALLY CONNECT ANODES TO EXISTING REINFORC-ING. THE TYPICAL CONNECTION IS A BRAZED CONNECTION OF A HEADER STRAP THAT IS WRAPPED AROUND THE RE-INFORCING. ALL ELECTRICAL CONNECTION DETAILS SHALL BE APPROVED BY THE ANODE MANUFACTURER.
- F. ALL REINFORCING STEEL CONNECTIONS SHALL BE CLEANED AFTER BRAZING AND RECEIVE A COAT OF 100% SOLIDS, NON-CONDUCTIVE EPOXY SUCH THAT NO BRAZING MATERIALS ARE EXPOSED TO THE CONCRETE WHEN PATCH-ING IS COMPLETE. THE CONTRACTOR SHALL VERIFY CONTINUITY BETWEEN THE ANODES AND THE REINFORCING PRIOR TO COATING WITH EPOXY.

# 3.04 CONCRETE REPLACEMENT:

A. COMPLETE THE REPAIR FOLLOWING NORMAL CONCRETE REPAIR PROCEDURES. TAKING CARE NOT TO CREATE ANY AIR VOIDS AROUND EMBEDDED GALVANIC ANODE.

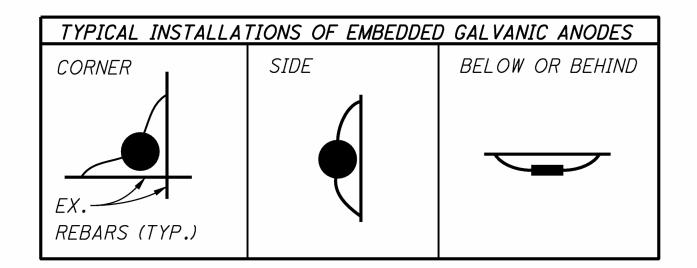
# PART 4 LOCATION OF ANODES:

A. ABUTMENT REPAIRS

1. SEE DETAILS ON SHEET NO. 6 20 , 7 20 , 9 20 16/20, 17/20, 18/20, AND 20/20.

EACH EGA PROVIDED AND INSTALLED, WITH ALL INCIDENTALS INCLUDED, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR:

DESCRIPTION ITEM UNIT511E81300 CONCRETE MISC.: EMBEDDED GALVANIC EACH ANODE (EGA)



# ITEM 512, SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

ITEM 514 - FIELD PAINTING, MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL

# DESCRIPTION:

THIS ITEM CONSISTS OF FIELD PAINTING END FRAMES AND BEAMS PREVIOUSLY COATED WITH AN OZEU PAINT SYSTEM TO CORRECT DAMAGE BY CORROSION AND WELDING. THIS ITEM ALSO INCLUDES THE FIELD PAINTING OF ALL PROPOSED BEARING STEEL PLATES AND BEARING RETAINERS. THIS WORK CONSISTS OF PERFORMING SURFACE PREPARATION AND APPLYING A THREE-COAT PAINT SYSTEM TO THE PREPARED STEEL AND FEATHERED REMOVAL AREAS OF EXISTING OZEU PAINT SYSTEMS.

#### DESCRIPTION:

THIS ITEM CONSISTS OF FIELD PAINTING END FRAMES AND BEAMS PREVIOUSLY COATED WITH AN OZEU PAINT SYSTEM TO CORRECT DAMAGE BY CORROSION AND WELDING. THIS ITEM ALSO INCLUDES THE FIELD PAINTING OF ALL PROPOSED BEARING STEEL PLATES AND BEARING RETAINERS. THIS WORK CONSISTS OF PERFORMING SURFACE PREPARATION AND APPLYING A THREE-COAT PAINT SYSTEM TO THE PREPARED STEEL AND FEATHERED REMOVAL AREAS OF EXISTING OZEU PAINT SYSTEMS.

#### *GENERAL:*

CMS 514.05 THROUGH 514.10 AND 514.13.D APPLY UNLESS MODIFIED BY THESE NOTES.

WASHING EXISTING OZEU PAINTED SURFACES:

CLEAN SURFACES TO BE COATED WITH LOW PRESSURE WATER CLEANING TO REMOVE ALL DIRT, DEBRIS, ANIMAL EXCREMENT, SALT CONTAMINANTS AND OTHER ACCUMULATED FOREIGN MATERIAL IN ACCORDANCE WITH SSPC-SP12 (LP WC). LOW PRESSURE WATER CLEANING. THE PRESSURE WASHER SHALL BE CAPABLE OF ACHIEVING AT LEAST 2000 POUNDS PER SQUARE INCH AT THE NOZZLE. WHEN USING THE POWER WASHING EQUIPMENT, THE NOZZLE SHALL BE MAINTAINED NO MORE THAN 10 INCHES FROM THE SURFACE. SUPPLY AND USE POTABLE WATER. PROVIDE TO THE ENGINEER A LETTER OF WRITTEN ACCEPTANCE FOR ANY BIODEGRADABLE DETERGENTS OR CLEANERS USED IN CONJUNCTION WITH THIS METHOD.

COLLECT AND CONTAIN WATER AND DEBRIS REMOVED DURING WASHING OPERATIONS ABOVE WATER FEATURES IN CONFORMANCE WITH CMS 514.08 AND CMS 514.13.D FOR ANY DEBRIS. CREATE SETTLEMENT COLLECTION BASINS AND STRAIN ALL WASH WATER ABOVE LAND FEATURES AS NECESSARY TO PRODUCE VISIBLY CLEAR WATER AND COMPLY WITH CMS 514.08 AND CMS 514.13.D FOR ANY DEBRIS.

# SURFACE PREPARATION:

AFTER THE PRESSURE WASHED SURFACE HAS DRIED, REMOVE EXISTING PAINT COATING TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER ACCORDING TO: SSPC-SP11. POWER TOOL CLEANING TO BARE METAL, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS3; SSPC SP6, COMMERCIAL BLAST CLEANING, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VISI; OR SSPC THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS4. SUPPLY BLAST WATER CONTAINING A COMMERCIALLY AVAILABLE RUST INHIBITOR AT A DOSAGE THAT PREVENTS FLASH RUSTING FOR 12 HOURS AND DOCUMENTED AS ACCEPTABLE TO THE COATING'S MANUFACTURER. THE ENGINEER WILL USE THE SSPC-VIS1, SSPC-VIS3 OR SSPC-VIS4 TO DETERMINE THE ACCEPTANCE OF THE SURFACE PREPARATION. FEATHER THE EXISTING PAINT TO EXPOSE A MINIMUM OF 1/2 INCH OF EACH COAT. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO CMS 514.13.D.

ROUND ALL EXPOSED CORNERS OF MAIN MATERIAL TO BE PAINTED AS NECESSARY TO ACHIEVE A 1/16 INCH RADIUS OR EQUIVALENT FLAT SURFACE AT A 45 DEGREE ANGLE.

### FIELD PAINTING:

APPLY THE PRIME, INTERMEDIATE AND FINISH COATS OF THE THREE-COAT PAINT SYSTEM SPECIFIED IN CMS 708.02. ACCORDING TO CMS 514.15, 514.16, 514.17, 514.19 AND 514.20 TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER. TINT THE FINISH COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR OR AS DESIGNATED IN THE CONTRACT. MATCH THE COLOR TO THE ENGINEERS SATISFACTION. THE ENGINEER WILL DETERMINE THE PRIME AND INTERMEDIATE COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. THE PRIME, INTERMEDIATE AND FINISH COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF CMS 514.20. APPLY PAINT AS FOLLOWS:

- A. APPLY THE PRIME COAT ONLY TO THE PREPARED SURFACE OF THE BARE STEEL AND THE EXISTING PRIME COAT EXPOSED BY FEATHERING. DO NOT APPLY THE PRIME COAT TO THE ADJACENT INTERMEDIATE COAT.
- B. APPLY CAULK AFTER PRIMING, IF NECESSARY.
- C. APPLY THE INTERMEDIATE COAT TO THE NEW PRIME COAT AND TO THE EXISTING INTERMEDIATE COATS THAT ARE EXPOSED BY FEATHERING.
- D. APPLY THE FINISH COAT TO THE NEW INTERMEDIATE COAT AND TO THE EXISTING FINISH COATS THAT ARE EXPOSED BY FEATHERING.

AT THE PERIMETER OF THE REPAIR AREA, APPLY THE PRIME, INTERMEDIATE AND FINISH COATS WITH A BRUSH. IN LIEU OF BRUSHING THE CONTRACTOR MAY DOUBLE MASK AREAS NOT TO BE COATED AND SPRAY TO FEATHERED REMOVAL LINES.

BLEND REPAIR AREAS WITH THE ADJACENT COATING TO PROVIDE A FINISHED SURFACE IN THE PATCHED AREAS THAT IS SMOOTH AND HAS AN EVEN PROFILE WITH THE ADJACENT SURFACE.

# BASIS OF PAYMENT:

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS: THE DEPARTMENT MAY CONSIDER PAINT AS ELIGIBLE FOR PAYMENT FOR MATERIAL ON-HAND AS SPECIFIED IN 109.10, HOWEVER, ONLY PAINT THAT THE CONTRACTOR CAN PROVE TO THE ENGINEER WILL BE USED DURING THE CONST-RUCTION SEASON IS ELIGIBLE FOR PAYMENT. THE CONTRACTOR SP12 UHP WJ-4. ULTRAHIGH-PRESSURE WATER JETTING. AS SHOWN ON SHALL PROVIDE THE ENGINEER CALCULATIONS INDICATING THE TOTAL SQUARE FEET OF STEEL TO BE PAINTED DURING THE CONSTRUCTION SEASON. THE CONTRACTOR SHALL ALSO PROVIDE CALCULATIONS SHOWING THE TOTAL NUMBER OF GALLONS REQUIRED.

> IF THE CONTRACTOR CAUSES DAMAGE OR INJURY TO PUBLIC OR PRIVATE PROPERTY. THE DEPARTMENT WILL NOT PAY FOR RESTORING THE PROPERTY TO ITS ORIGINAL CONDITION.

THE DEPARTMENT WILL NOT PAY FOR REPAIRING ADJACENT COATINGS DAMAGED DURING THE WASHING. POWER TOOL CLEANING OR BLAST CLEANING OPERATION.

THE DEPARTMENT WILL NOT PAY FOR REMOVING AND REPLACING AN AREA OF COATING BECAUSE A SPOT OR MAXIMUM AVERAGE THICKNESS EXCEEDS THE MAXIMUM SPOT THICKNESS.

THE DEPARTMENT WILL NOT PAY FOR ADDITIONAL TESTING REQUIRED BY ANY HAULER, TREATMENT FACILITY, DISPOSAL FACILITY OR LANDFILL.

THE DEPARTMENT WILL NOT PAY FOR ACCESSING, INSPECTING, AND REPAIRING AREAS THAT ARE NOT FOUND TO BE IN CONFORMANCE WITH THE SPECIFICATIONS AND PERTINENT CONTRACT DOCUMENTS.

ALL OTHER REQUIREMENTS OF THIS FIELD PAINTING SPECIFICA-TION ARE CONSIDERED INCIDENTAL TO THE WORK.

**DESCRIPTION** <u>UNIT</u> <u>ITFM</u> SQUARE FEET FIELD PAINTING, MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL

PAINT COLOR:

THE URETHANE FINISH COAT SHALL BE FEDERAL COLOR NO. 15526-BLUE.

#### *MEASUREMENT:*

THE DEPARTMENT WILL MEASURE ITEM 514 - FIELD PAINTING. MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL BY THE NUMBER OF SQUARE FEET OF STRUCTURAL STEEL PAINTED.

THE DEPARTMENT WILL DETERMINE THE SURFACE AREA BY TAKING EXACT FIELD MEASUREMENTS OF ALL PAINTED SURFACES AND CALCULATIONS. FOR SPOT PAINTING LOCATIONS, SEE STRUCTURE SHEETS [11/20], [12/20], [13/20], AND [14/20].

### ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING SUPERSTRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS INACCORDANCE WITH THE CMS 501.05.

IF, DURING THE JACKING OPERATIONS, DAMAGE TO THE SUPERSTRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THE REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

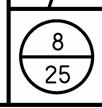
THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTUCTURE, AS PER PLAN.

# ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

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

DRAWN CCN

STRUCTURE 5-77-1980 (L&R) (C CREEK), TUS-258



THIS DOES NOT SET A PRECEDENCE THAT THE DEPARTMENT WILL ALWAYS PUT THIS NOTICE IN ALL ENVIRONMENTALLY SENSITIVE PROJECTS. ENVIRONMENTAL DOCUMENTATION IS ALWAYS AVAILABLE UPON REQUEST.

# ASBESTOS NOTIFICATION

ASBESTOS SURVEYS OF THE BRIDGE STRUCTURES SCHEDULED FOR REHABILITATION WERE CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON ANY OF THE BRIDGE STRUCTURES.

COPIES OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS (4), PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORMS (4) AND SUBMIT THEM TO THE ADDRESS BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

MR. STEVE LOWRY OHIO EPA, SEDO 2195 FRONT STREET LOGAN, OHIO 43138

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORMS TO THE ENGINEER. INFORMATION REQUIRED ON THE FORMS WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL, AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORMS AND BRIDGE INSPECTION REPORTS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT OFFICE, 2201 REISER AVENUE, NEW PHILADELPHIA, OHIO 44663.

BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES. LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORMS (4). PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

# **ABBREVIATIONS**

THE FOLLOWING STANDARD ABBREVIATIONS ARE USED THROUGHOUT THE PLANS:

BRG. - BEARING

C.J. - CONSTRUCTION JOINT

CLR. - CLEARANCE

CONST. - CONSTRUCTION

DIA. - DIAMETER

EL. - ELEVATION

EX. - EXISTING

EXP. - EXPANSION

F.A - FORWARD ABUTMENT

JT. - JOINT

MIN. - MINIMUM

P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE

PR. - PROPOSED

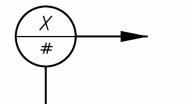
R.A. - REAR ABUTMENT

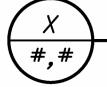
SPA. - SPACE(D) STA. - STATION

STD. DWG. OR SCD - STANDARD CONSTRUCTION DRAWING

TYP. - TYPICAL

THE SYMBOLS BELOW DESIGNATE THE NAMES AND LOCATIONS OF THE SECTION DETAILS THROUGHOUT THE STRUCTURE PLANS. THE TOP LETTER DESIGNATES THE SECTION NAME. THE BOTTOM NUMBER(S) SHOW WHICH STRUCTURE SHEET NUMBER IS BEING CROSS REFERENCED.



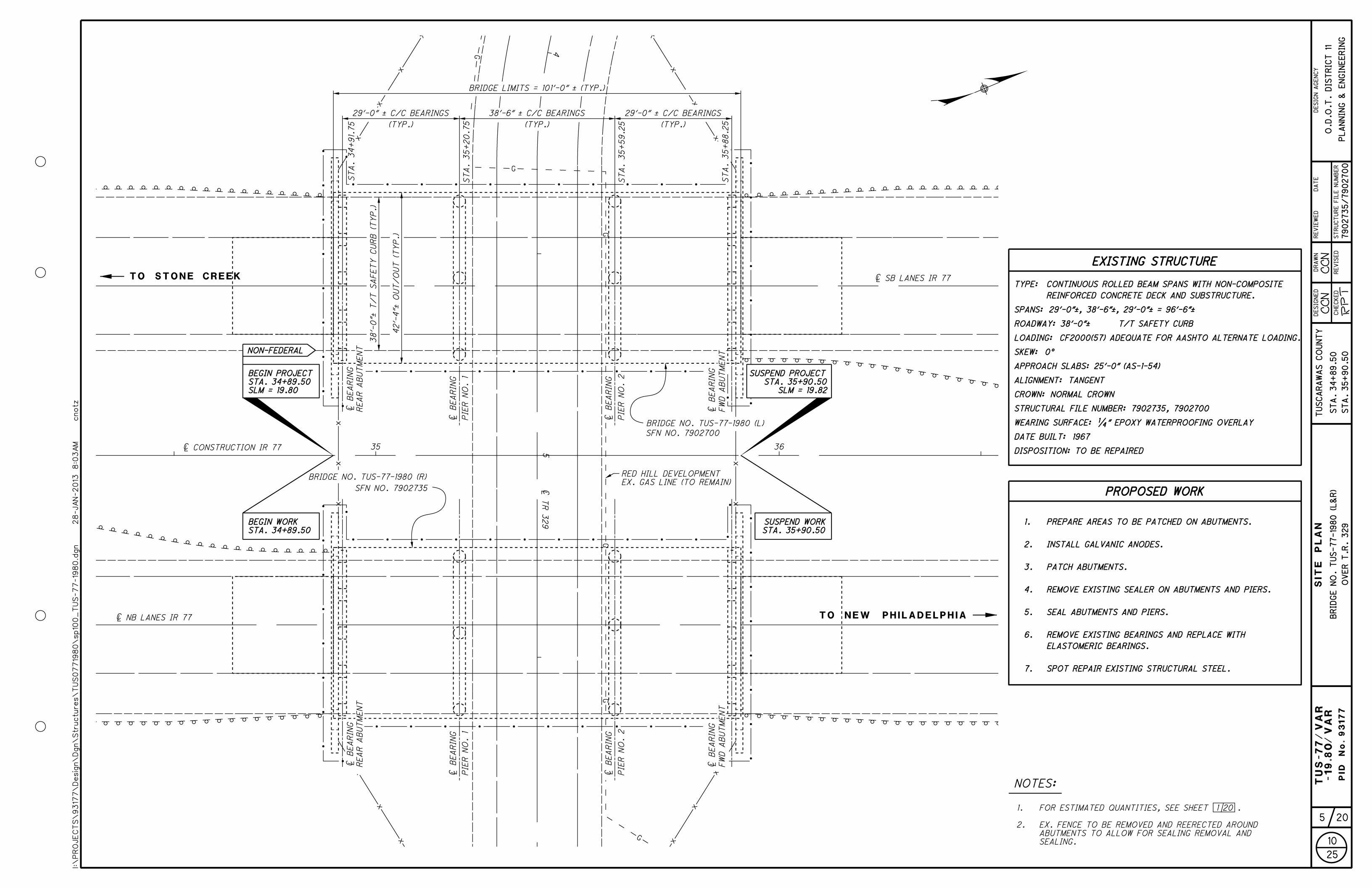


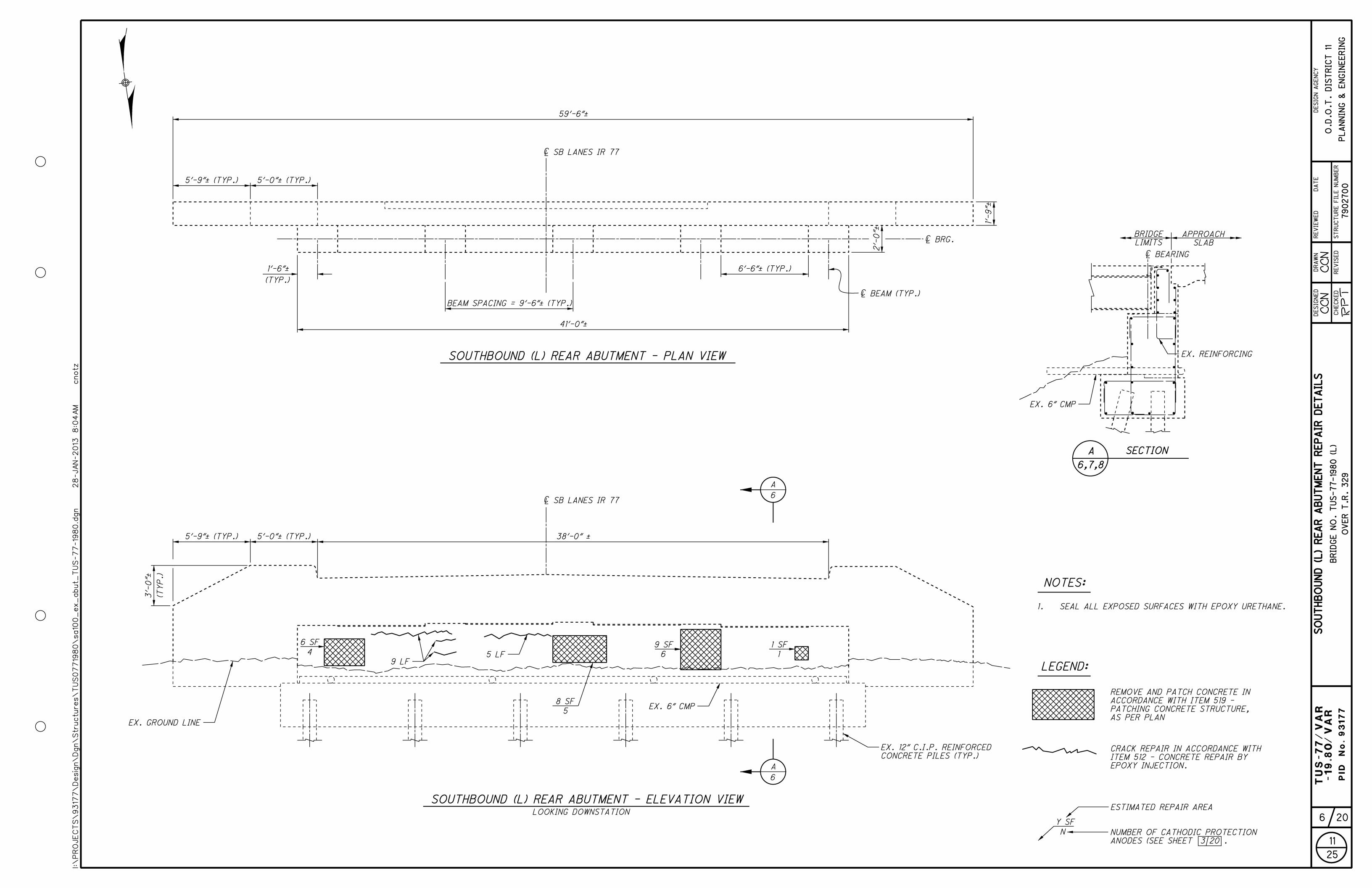
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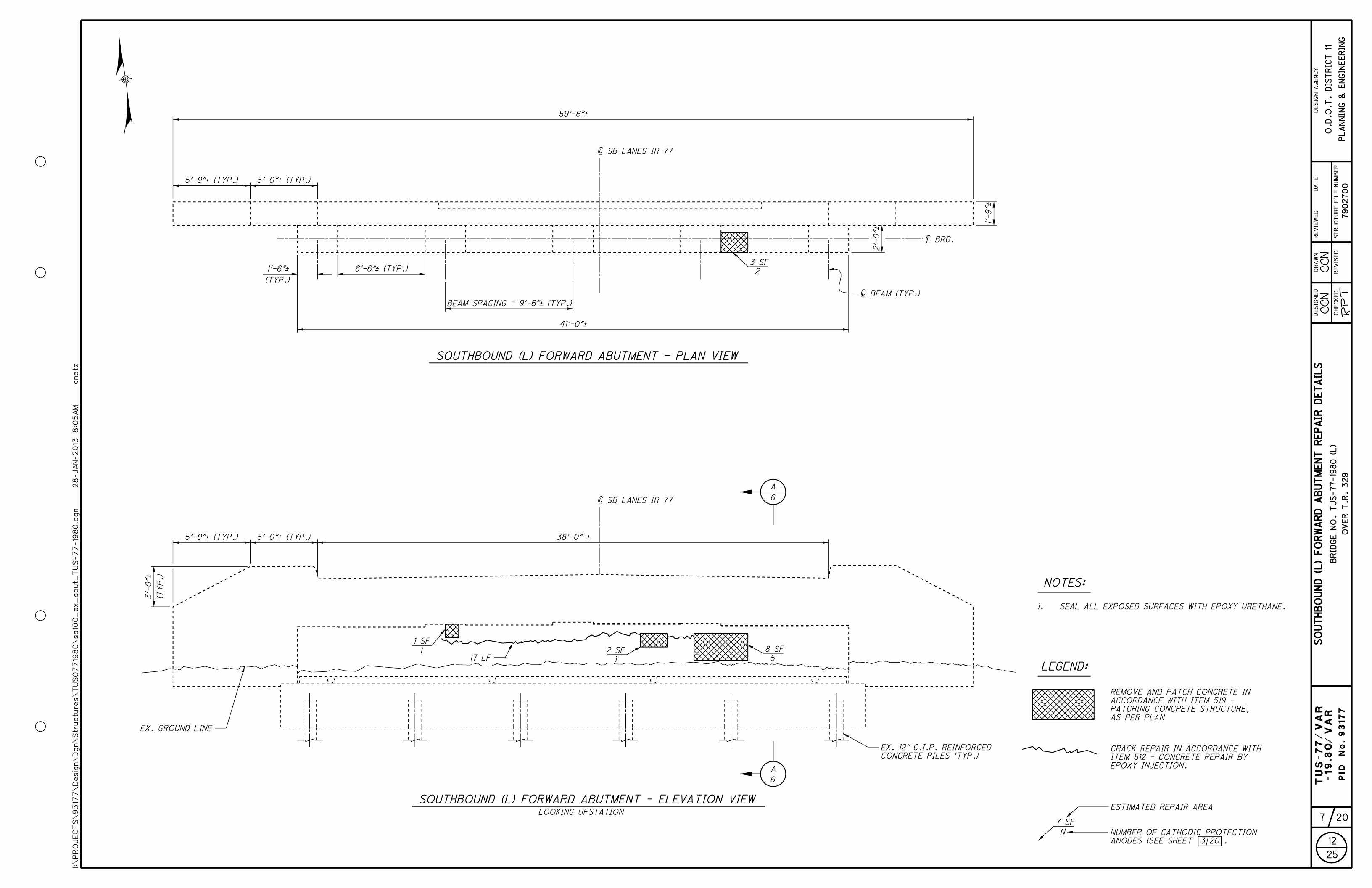
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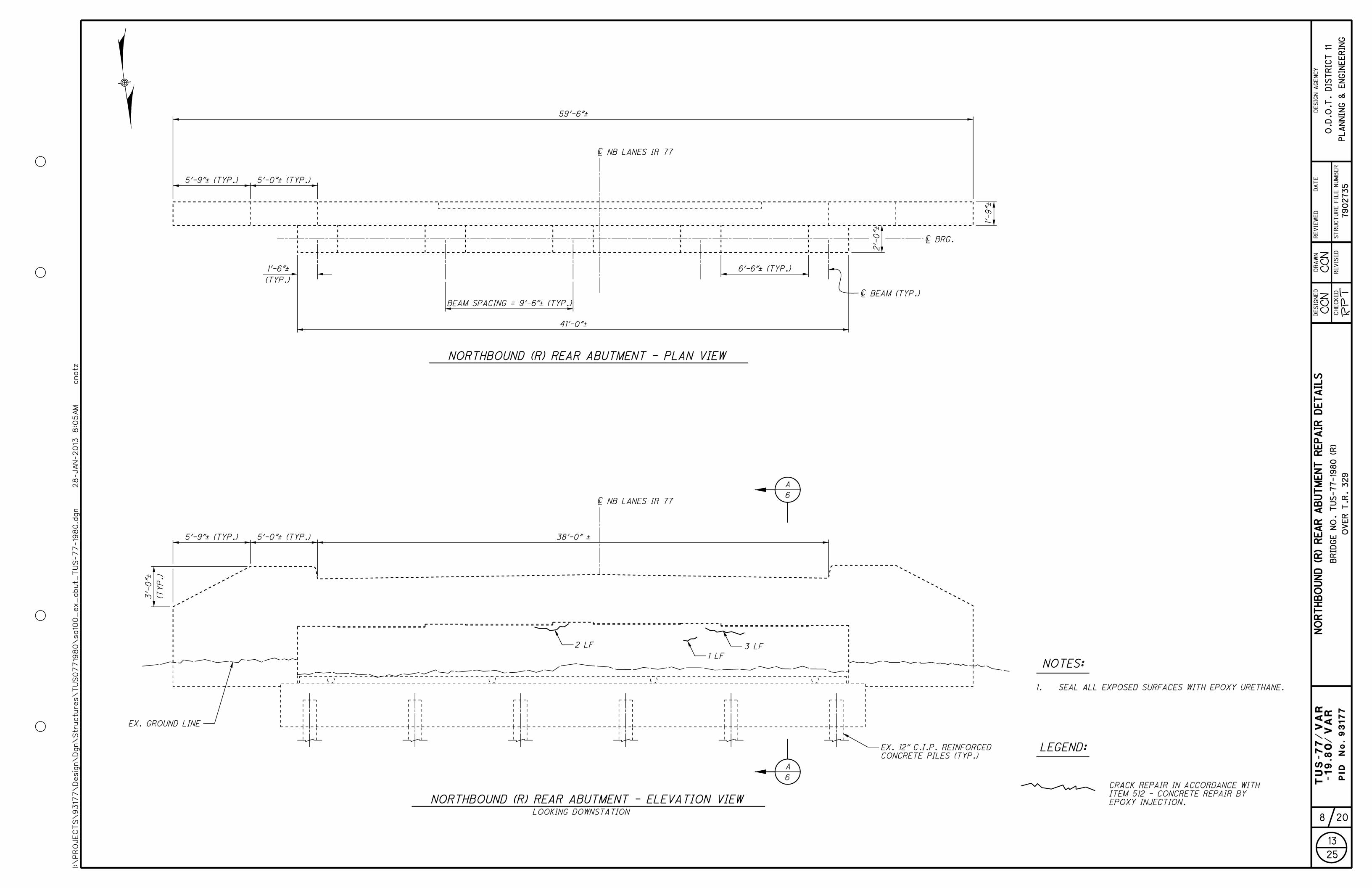
DISTRICT 11 ENGINEERIN

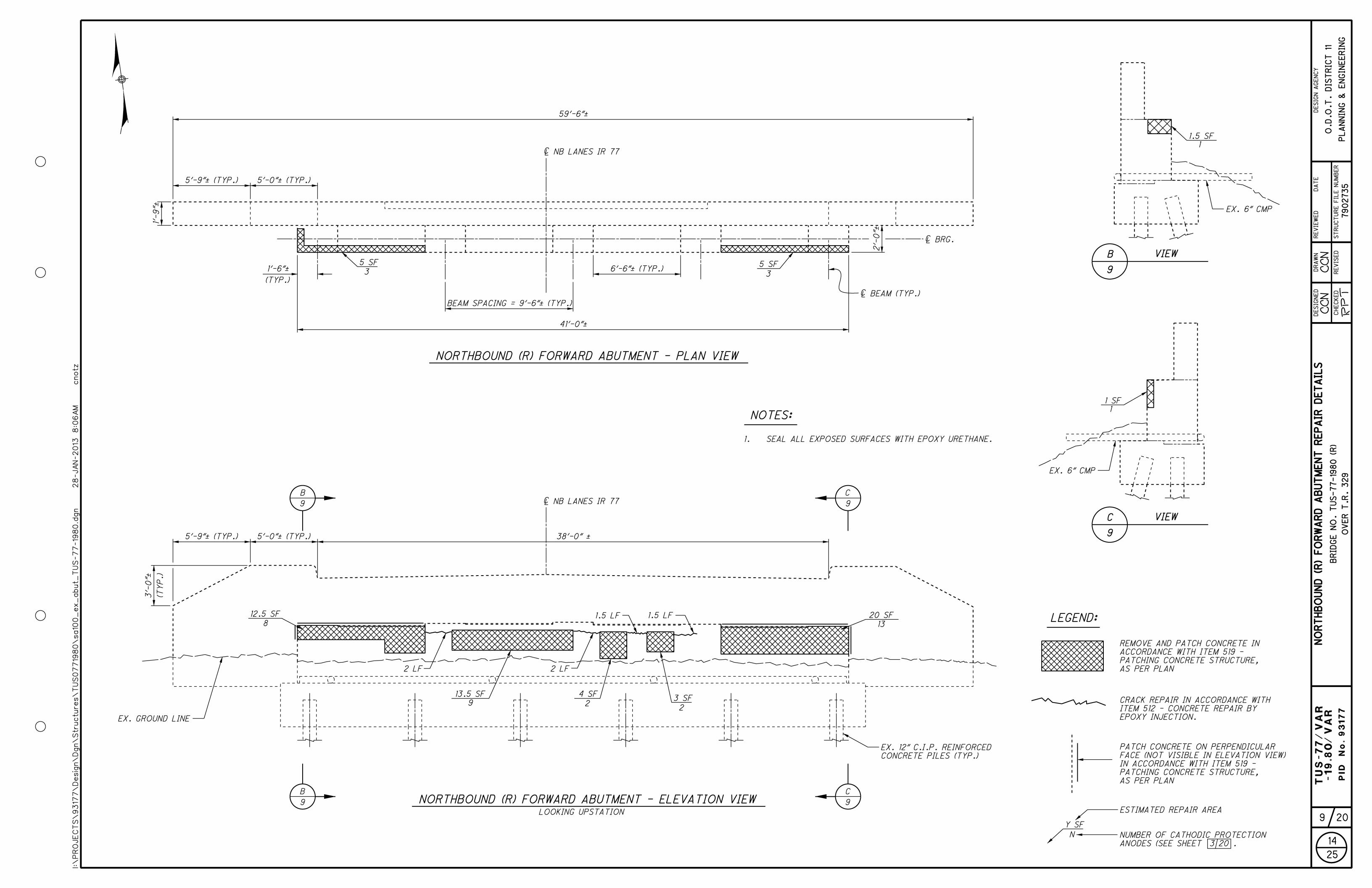
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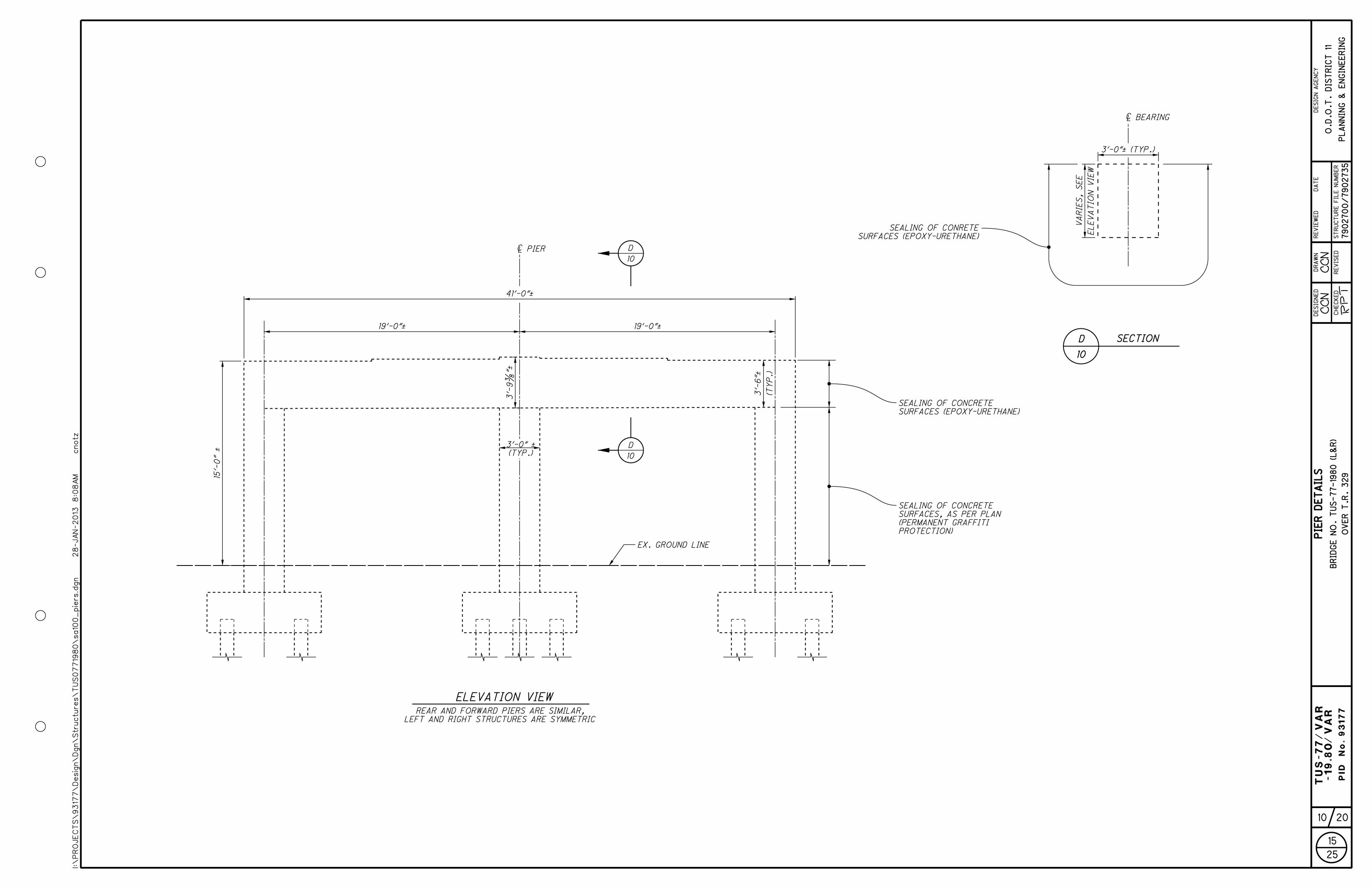


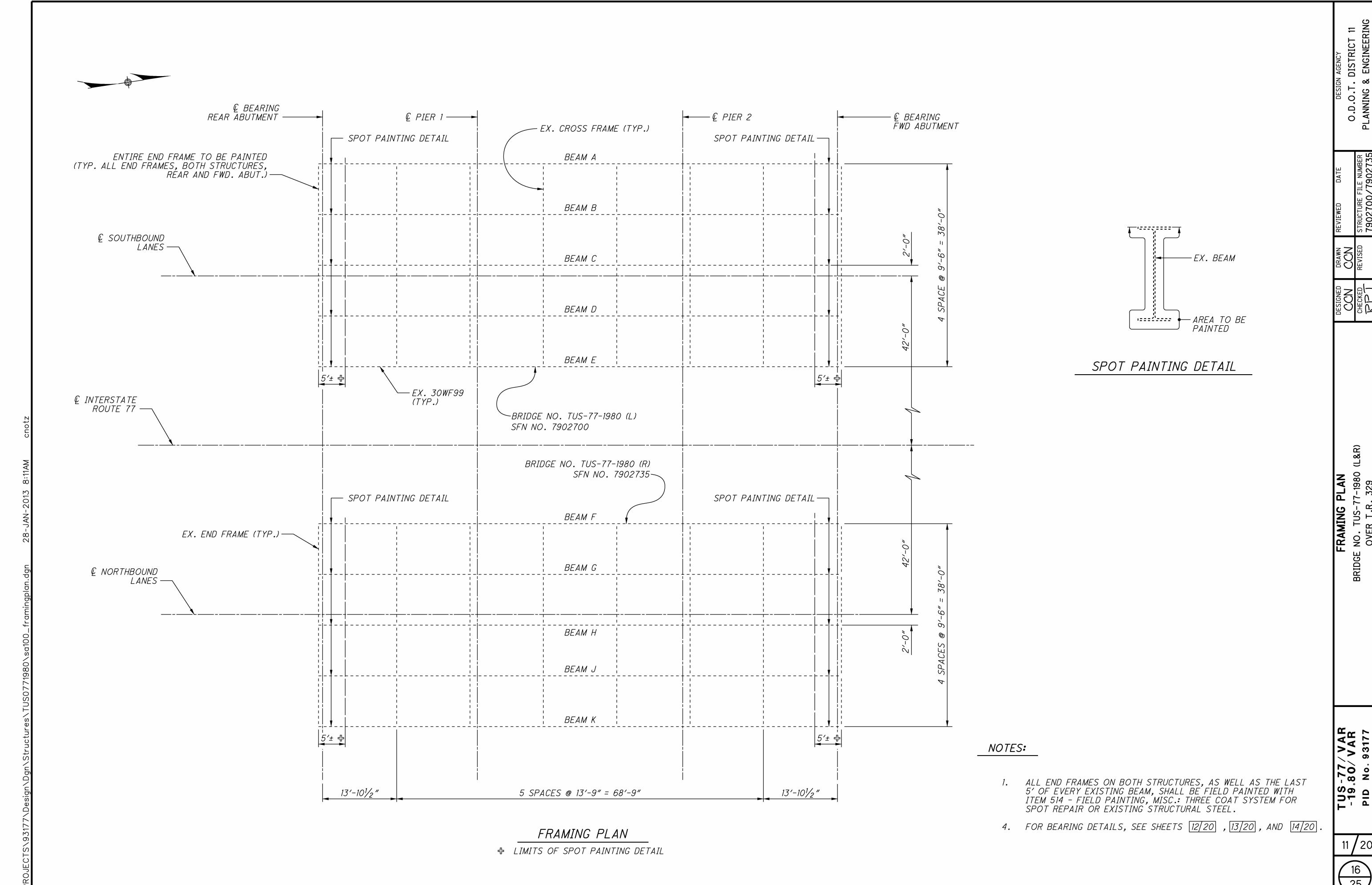




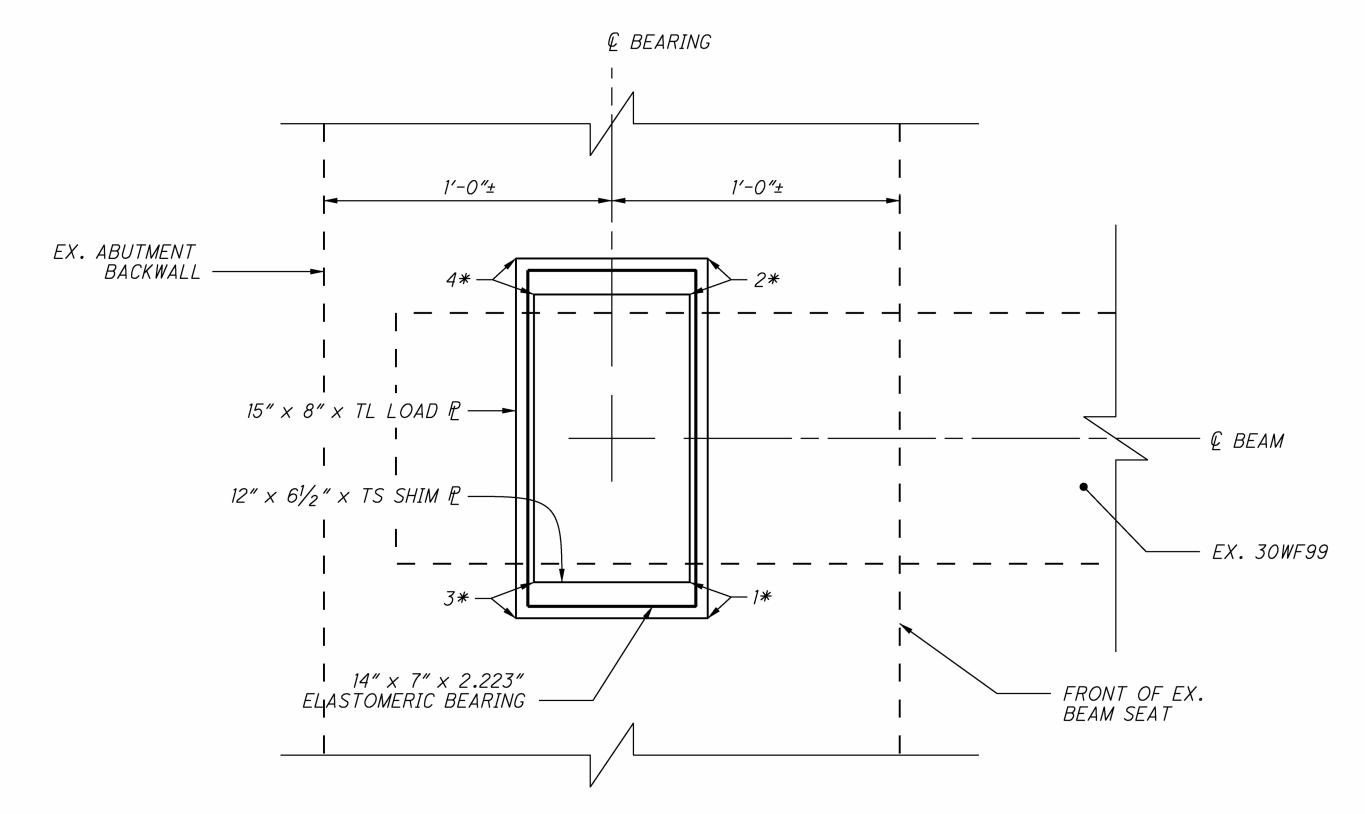




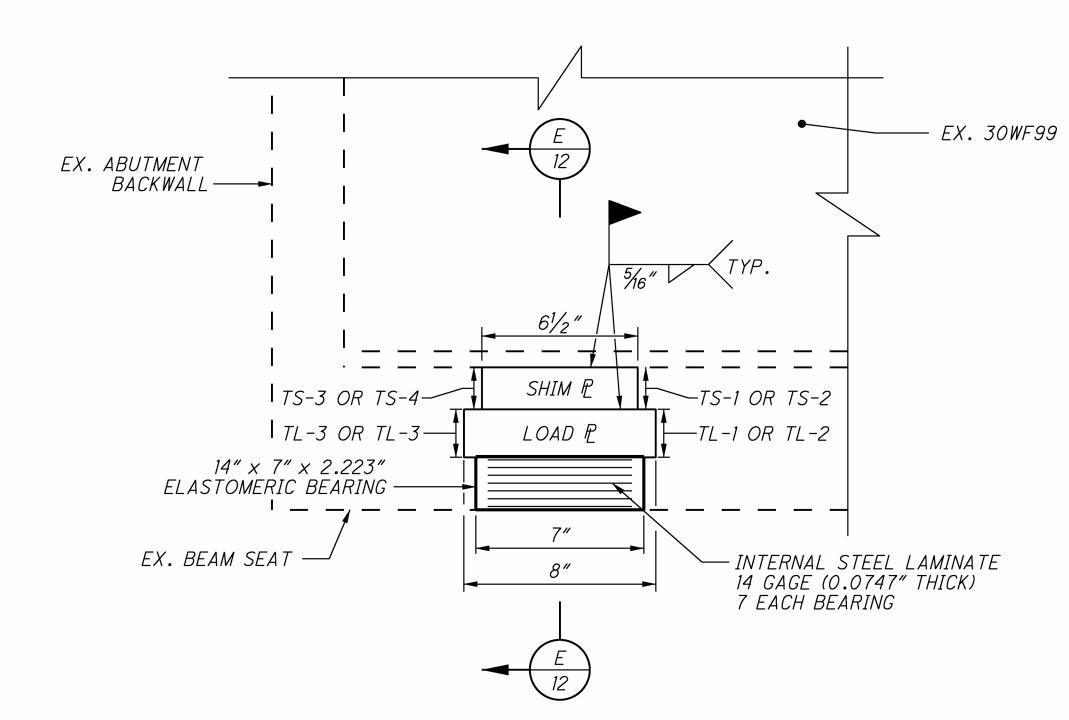




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# ABUTMENT BEARING PLAN VIEW TYP. BOTH STRUCTURES, ALL BEAMS

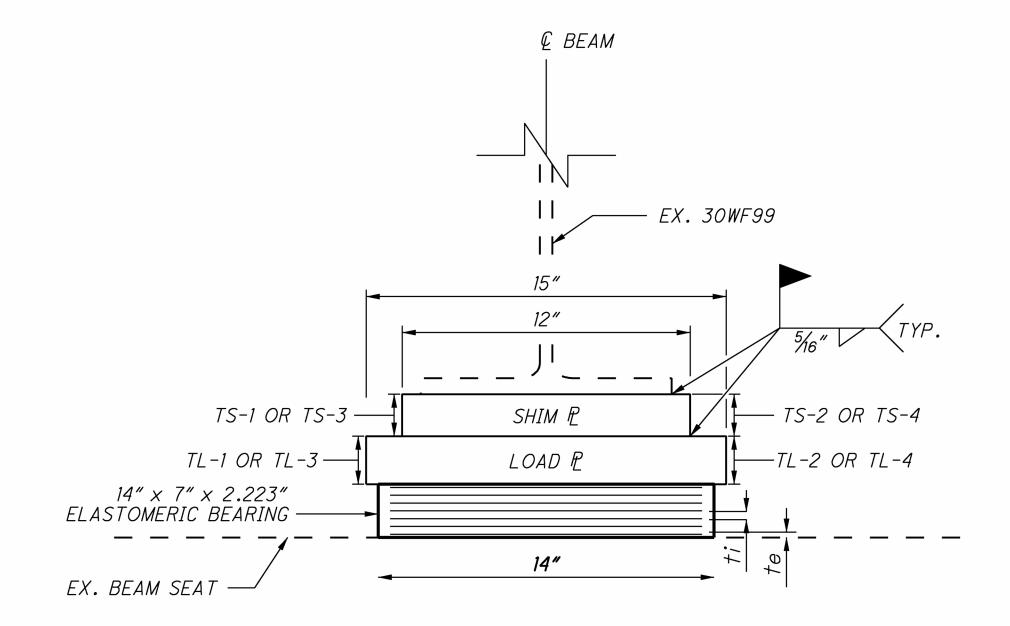


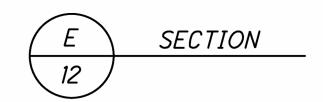
# ABUTMENT BEARING ELEVATION VIEW

TYP. BOTH STRUCTURES, ALL BEAMS

BEARING UNFACTORED DEAD LOAD REACTION = 18.4 KIPS BEARING UNFACTORED LIVE LOAD REACTION = 43.2 KIPS

> MAXIMUM UNFACTORED DESIGN LOAD = 61.6 KIPS





ti = 0.25" (6 TOTAL) te = 0.10" (2 TOTAL)

# NOTES:

- ELASTOMERIC BEARING: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES.
- 2. ELASTOMERIC BEARING LOAD PLATE AND SHIM PLATE WELDING; CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
- 3. ALL SHIM PLATES AND LOAD PLATES SHALL BE A MINIMUM OF 36 KSI STEEL. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. THE COST FOR FURNISHING AND INSTALLING ALL STEEL PLATES WILL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE ELASTOMERIC BEARINGS.
- 4. ELASTOMERIC BEARING REPOSITIONING: IF THE BEARINGS ARE PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F (+/- 10°F), RAISE THE BEAM OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (+/-) 10°F.
- 5. THE FABRICATOR SHALL PERMANENTLY MARK EACH BEARING AND LOAD PLATE. AT MINIMUM, THE MARKINGS SHALL INDICATE THE SUBSTRUCTURE LOCATION, BEAM NUMBER, BEARING NAME, AND ORIENTATION. SHIM PLATES SHALL BE MARKED SIMÍLAR.
- 6. FOR SHIM AND LOAD PLATE DIMENSIONS, SEE SHEET 13/20
- 7. BEARING NAME SHALL BE A 3 DIGIT <u>NAME</u> CONSISTING OF SUBSTRUCTURE UNIT, BEAM NUMBER, AND STRUCTURE NAME. SEE SHEET 13/20
- 8. AFTER INSTALLATION, ALL EXPOSED SURFACES SHALL BE FIELD PAINTED WITH ITEM 514 FIELD PAINTING, MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL.
- * NUMBERED CORNER CORRESPONDS TO EACH LOAD PLATE AND SHIM PLATE CORNER THICKNESS. NUMBERING CONVENTION IS SIMILAR WITH EACH STRUCTURE AND BOTH REAR AND FORWARD ABUTMENTS: WHEN FACING THE ABUTMENT FROM UNDER THE BRIDGE, FRONT LEFT CORNER - 1, FRONT RIGHT CORNER - 2, BACK LEFT CORNER -3, AND BACK RIGHT CORNER - 4.

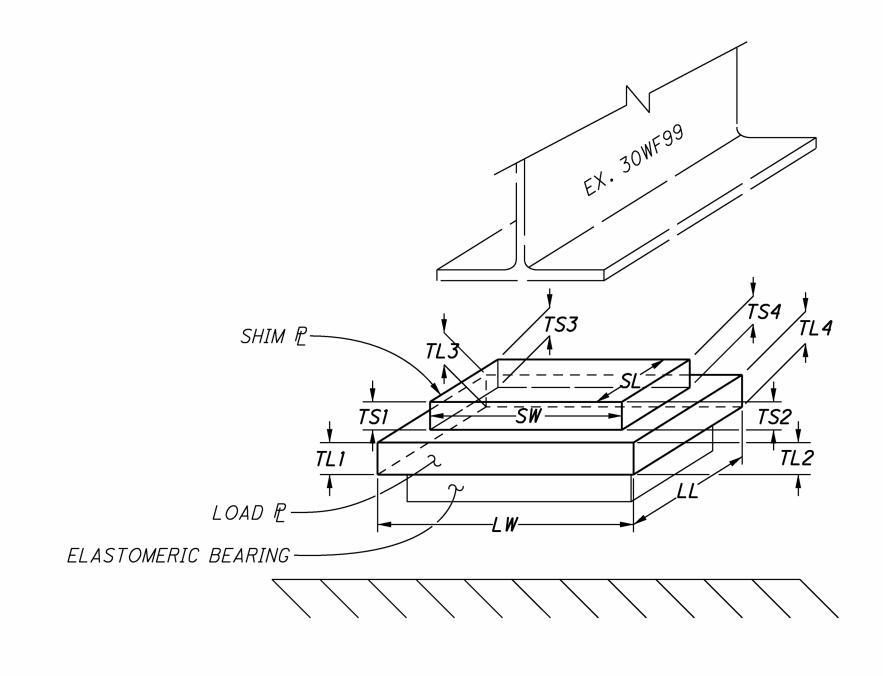
13/20
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		BF	RIDGE NO.	TUS-77-198	0 (L) SFN:	7902700							
SHIM PLATE DIMENSIONS													
	Poam #												
	Beam #	Bearing #	1	2	3	4	Width (W)	Length (L)					
	Α	FAL	1 - 3/4 "	1 - 3/4 "	1 - 3/4 "	1 - 3/4 "							
FORWARD ABUTMENT	В	FBL	1 - 3/8 "	1 - 1/4 "	1 - 3/8 "	1 - 1/4 "	12"						
7WZ TML	С	FCL	1 - 3/4 "	1 - 1/4 "	1 - 3/4 "	1 - 1/4 "		6 - 1/2 "					
FO4 BU	D	FDL	2"	1 - 7/8 "	2"	1 - 7/8 "							
7	Ε	FEL	1 - 7/8 "	1 - 1/2 "	1 - 7/8 "	1 - 1/2 "							
	А	RAL	1 - 1/2 "	1 - 3/8 "	1 - 1/2 "	1 - 3/8 "							
ج - ۲۷	В	RBL	1 - 1/4 "	1 - 3/8 "	1 - 1/4 "	1 - 3/8 "							
EA! TME	С	RCL	1 - 3/4 "	1 - 1/2 "	1 - 3/4 "	1 - 1/2 "	12"	6 - 1/2 "					
REAR ABUTMENT	D	RDL	2"	2"	2"	2"							
A	Ε	REL	1 - 5/8 "	1 - 3/4 "	1 - 5/8 "	1 - 3/4 "							

		BF	RIDGE NO.	TUS-77-198	0 (L) SFN:	7902700							
			LOA	D PLATE D.	IMENSIONS								
	Beam # Bearing # Dimensions												
	Beam #	Bearing #	1	2	3	4	Width (W)	Length (L)					
	А	FAL	2"	2"	2"	2"							
FORWARD ABUTMENT	В	FBL	2"	2"	2"	2"							
ZWZ TML	С	FCL	2"	2"	2"	2"	<i>15"</i>	8"					
⁻ 04 BU	D	FDL	2"	2"	2"	2"							
7	Ε	FEL	2"	2"	1 - 7/8 "	1 - 7/8 "							
	А	RAL	2"	2"	2"	2"							
۲. ا	В	RBL	2 - 1/8 "	2 - 1/8 "	2"	2"							
EA! TME	С	RCL	2"	2"	2"	2"	15"	8"					
REAR ABUTMEN	D	RDL	2"	2"	1 - 7/8 "	1 - 7/8 "							
A	Ε	REL	2"	2"	2"	2"							

		BF	RIDGE NO.	TUS-77-198	0 (R) SFN:	7902735		
			SHII	M PLATE DI	MENSIONS			
	Beam #	Pogring #			Dim	ensions		
	Dealli #	Bearing #	1	2	3	4	Width (W)	Length (L)
	F	FFR	1 - 3/4 "	1 - 5/8 "	1 - 3/4 "	1 - 5/8 "		
1 <i>RD</i> 5 <i>N</i> 7	G	FGR	2 - 1/4 "	2 - 1/4 "	2 - 1/4 "	2 - 1/4 "		
FORWARD ABUTMENT	Н	FHR	1 - 7/8 "	1 - 7/8 "	1 - 7/8 "	1 - 7/8 "	12"	6 - 1/2 "
FO) BU	J	FJR	1 - 7/8 "	1 - 7/8 "	1 - 7/8 "	1 - 7/8 "		
_ 4	K	FKR	1 - 3/4 "	1 - 3/4 "	1 - 3/4 "	1 - 3/4 "		
	F	RFR	1 - 1/4 "	1 - 1/4 "	1 - 1/4 "	1 - 1/4 "		
ا ۳۷	G	RGR	1 - 5/8 "	1 - 1/4 "	1 - 5/8 "	1 - 1/4 "		
EA! TML	Н	RHR	1 - 1/8 "	1"	1 - 1/8 "	1"	12"	6 - 1/2 "
REAR ABUTMENT	J	RJR	1"	1"	1"	1"		
A	К	RKR	1 - 1/8 "	1 - 5/8 "	1 - 1/8 "	1 - 5/8 "		

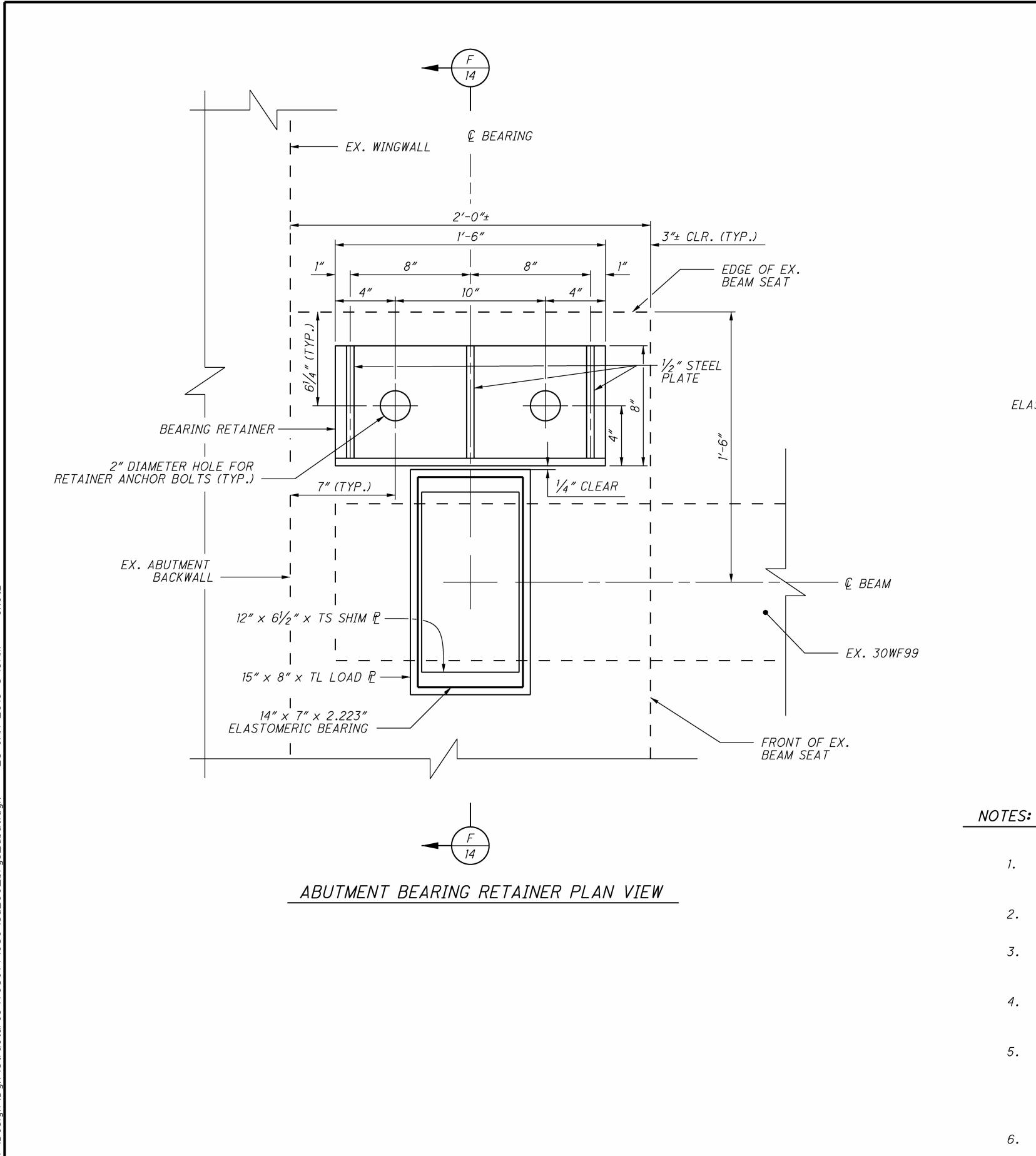
BRIDGE NO. TUS-77-1980 (R) SFN: 7902735								
LOAD PLATE DIMENSIONS								
	Beam #	Bearing #	Dimensions					
			1	2	3	4	Width (W)	Length (L)
FORWARD ABUTMENT	F	FFR	2"	2"	2"	2"	15″	8"
	G	FGR	2"	2"	2"	2"		
	Н	FHR	2"	2"	2"	2"		
	J	FJR	2"	2"	2"	2"		
	К	FKR	2"	2"	2"	2"		
REAR ABUTMENT	F	RFR	2 - 1/8 "	2 - 1/8 "	2"	2"	15″	8"
	G	RGR	1 - 7/8 "	1 - 7/8 "	2"	2"		
	Н	RHR	2"	2"	2"	2"		
	J	RJR	2"	2"	1 - 7/8 "	1 - 7/8 "		
	К	RKR	2"	2"	2"	2"		

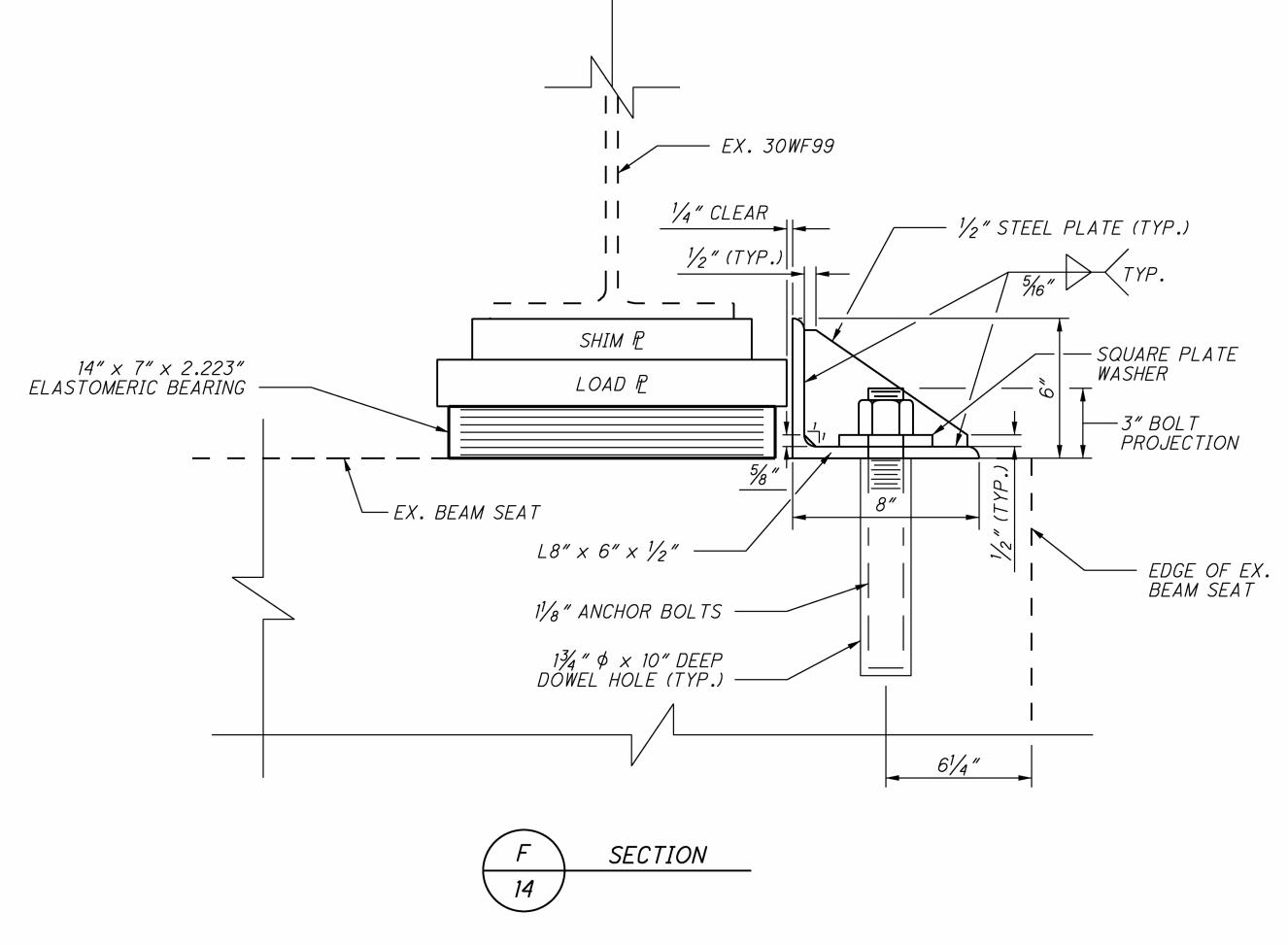


ISOMETRIC VIEW

# NOTES:

- THE FABRICATOR SHALL PERMANENTLY MARK EACH BEARING AND LOAD PLATE. AT MINIMUM, THE MARKINGS SHALL INDICATE THE SUBSTRUCTURE LOCATION, BEAM NUMBER, BEARING NUMBER, AND ORIENTATION. SHIM PLATES SHALL BE MARKED SIMILAR.
- 2. ALL SHIM PLATES AND LOAD PLATES SHALL BE A MINIMUM OF 36 KSI STEEL. THE STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. THE COST FOR FURNISHING AND INSTALLING ALL STEEL PLATES WILL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE ELASTOMERIC BEARINGS.
- 3. AFTER INSTALLATION, ALL EXPOSED SURFACES SHALL BE FIELD PAINTED WITH ITEM 514 FIELD PAINTING, MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL.





*€ BEAM* 

- FOR BRIDGE NO. TUS-77-1980 L (SFN 7902700). RETAINERS ARE TO BE INSTALLED ON THE OUTSIDE OF BEAMS A AND E AT BOTH THE REAR AND FORWARD ABÚTMENTS. FOR BRIDGE NO. TUS-77-1980 R (SFN 7902735), RETAINERS ARE TO BE INSTALLED ON THE OUTSIDE OF BEAMS F AND K AT BOTH THE REAR AND FORWARD ABUTMENTS.
- 2. BEARING RETAINERS ARE TO BE INSTALLED AFTER EXISTING BEARINGS ARE REMOVED AND NEW BEARINGS WITH CORRESPONDING LOAD PLATES AND SHIM PLATES ARE IN PLACE.
- 3. BEARING RETAINER CONSTRUCTION PROCEDURE: FIELD DRILL ANCHOR BOLT HOLES, INSTALL ANCHOR BOLTS AND PLACE EPOXY GROUT. WHEN DRILLING HOLES, TAKE PRECAUTIONS TO AVOID INTERFERING WITH EXISTING REINFORCING STEEL. POSITION AND TIGHTEN THE RETAINER DIMENSIONED AS SHOWN.
- 4. BEARING RETAINERS ARE TO BE ANCHORED WITH  $1\frac{1}{2}$ " DIAMETER  $\times$  12" LONG ANCHOR BOLTS WITH NUT AND 4"  $\times$  4"  $\times$   $\frac{1}{2}$ " SQUARE PLATE WASHER DRILLED AND GROUTED WITH AN EPOXY NON-SHRINKING GROUT IN  $1\frac{3}{4}$ "  $\times$  10" DEEP HOLES.
- 5. MATERIALS: THE STEEL RETAINER ASSEMBLIES AND THE SQUARE PLATE WASHERS SHALL BE A MINUMUM OF 36 KSI STEEL. ANCHOR BOLTS AND NUTS SHALL BE ASTM A325. AFTER INSTALLATION, STEEL RETAINER ASSEMBLIES SHALL BE FIELD PAINTED WITH ITEM 514 FIELD PAINTING, MISC.: THREE COAT SYSTEM FOR SPOT REPAIR OF EXISTING STRUCTURAL STEEL. ANCHOR BOLTS, NUTS, AND SQUARE PLATE WASHERS SHALL BE GALVANIZED ACCORDING TO 711.02. THE THREAD LENGTH REQUIREMENTS OF ASTM A325 MAY BE WAIVED. THE GROUT SHALL BE A NON-SHRINK, EPOXY GROUT MEETING THE REQUIREMENTS OF 705.20.
- 6. THE COST FOR FURNISHING AND INSTALLING THE STEEL RETAINER ASSEMBLIES WILL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID FOR THE ELASTOMERIC BEARINGS.
- 7. FOR BEARING DETAILS, SEE SHEET 12/20 .
- 8. FOR SHIM PLATE AND LOAD PLATE DIMENSIONS, SEE SHEET 13/20 .

.80/ No.8 TUS -19.

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PLANNING & ENGINEERING

VAR VAR 81712

