TUS - US 250-12.32
220153 PID - 113790
Dist 11 3/10/2022

Contract Proposal available @
www.contracts.dot.state.oh.us

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 10/28/2021 TIME: 9:21:03 AM USER: CMT008
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STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

TUS-250-12.32R

CITY OF NEW PHILADELPHIA

TUSCARAWAS COUNTY

LOCATION MAP

LATITUDE: 40°29'30" LONGITUDE: 81°28'45"

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

DESIGN DESIGNATION

CURRENT ADT (2022)	24,000
DESIGN YEAR ADT (2034)	24,500
DESIGN HOURLY VOLUME (2034)	2,400
DIRECTIONAL DISTRIBUTION	100%
TRUCKS (24 HOUR B&C)	16%
Td	7%
DESIGN SPEED	70 MPH
LEGAL SPEED	70 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
02 - OTHER FREEWAYS OR EXPRESSWAYS	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

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:
CARPENTER MARTY transportation
6812 SINGLETREE DRIVE COLUMBUS, OH 43229
614.659.2424 * WWW.CMTRAN.COM

ENGINEER'S SEAL:
FOR STRUCTURES OVER 20' SPAN
STATE OF OHIO · SHANE THOMAS KALINOSKI · No. 73589 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: Shane Kalinoski
DATE: 10/28/2021

ENGINEER'S SEAL:
FOR ENTIRE PLAN EXCEPT STRUCTURES OVER 20' SPAN
STATE OF OHIO · TONY W GRIESHOP · No. 70196 · REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 10/28/2021

INDEX OF SHEETS:

STANDARD CONSTRUCTION DRAWINGS

DM-4.3	1/15/16	MT-104.10	10/16/15
DM-4.4	1/15/16	MT-105.10	1/17/20
RM-4.2	4/17/20	TC-42.10	10/18/13
		TC-42.20	10/18/13
EXJ-4-87	1/19/18	TC-52.10	10/18/13
GSD-1-19	1/15/21	TC-52.20	1/15/21
PCB-91	7/17/20	TC-65.10	1/17/14
		TC-65.11	7/21/17
MT-95.30	7/19/19		
MT-95.40	1/17/20		
MT-95.50	7/21/17		
MT-99.30	1/17/20		
MT-101.70	1/17/20		
MT-101.75	1/17/20		
MT-102.10	1/17/20		

SUPPLEMENTAL SPECIFICATIONS

800-2019	10/15/21
808	1/18/19
821	4/20/12
832	10/19/18
873	4/16/21
908	10/20/17
921	4/20/12

SPECIAL PROVISIONS

ASBESTOS REPORT 10/23/2012

FEDERAL PROJECT NUMBER

E201 (253)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

REPAIR STRUCTURE TUS-250-1232R BY REPLACING THE EXPANSION JOINTS AT THE ENDS OF THE BRIDGE DECK AND ABOVE THE PIN AND HANGER JOINTS IN THE BEAMS. IN ADDITION, PARTIAL DECK REPLACEMENTS WILL BE REQUIRED.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.2 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.2 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)

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.

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 Thomas D Gray
DATE 11-2-2021 DISTRICT DEPUTY DIRECTOR

APPROVED Jack Marchbanks OMS
DATE 11/19/2021 DIRECTOR, DEPARTMENT OF TRANSPORTATION

TITLE SHEET

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	KDW
REVIEWER	TWG 02-25-21
PROJECT ID	113790
SHEET	1
TOTAL	47

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER, OR ADJACENT TO, THE WORK AREA.

WORK LIMITS

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

CLEARING AND GRUBBING

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

EXISTING PLANS

EXISTING PLANS ENTITLED TUS-21-26.33/TUS-250-11.60 AND TUS-250-1232R MAY BE INSPECTED IN THE ODOT DISTRICT 11 OFFICE AT 2201 REISER AVENUE, NEW PHILADELPHIA, OHIO 44663.

THESE EXISTING PLANS CAN ALSO BE DOWNLOADED FROM THE FOLLOWING FTP SITE:
ftp://ftp.dot.state.oh.us/pub/Contracts/Attach

PAVEMENT MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED TO REPLACE THE PAVEMENT MARKINGS TO BE REMOVED DURING MAINTENANCE OF TRAFFIC OPERATIONS AS SHOWN ON THE PLAN SHEETS. THESE ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 646, EDGE LINE, 6", WHITE --- 0.67 MILE

ITEM 646, EDGE LINE, 6", YELLOW --- 0.82 MILE

ITEM 646, LANE LINE, 6" --- 0.73 MILE

ITEM 646, CHANNELIZING LINE, 12" --- 770 FT

ITEM 646, DOTTED LINE, 6" --- 1100 FT

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 100 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
OBSTRUCTION EVALUATION GROUP
10101 HILLWOOD PARKWAY
FORT WORTH, TX 76177
FAX: (817) 222-5920
HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
OHIO.AIRPORT.PROTECTION@DOT.OHIO.GOV

WATERS OF THE US

WATERS OF THE US HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT NO IMPACTS OCCUR TO WATERS OF THE US. NO TEMPORARY OR PERMANENT FILL OF ANY TYPE MAY BE PLACED IN ANY STREAM OR WETLAND AS PART OF THIS PROJECT. ANY ACTIVITIES OCCURRING IN STREAMS OR WETLANDS WOULD REQUIRE PERMITS FROM THE US ARMY CORPS OF ENGINEERS AND/OR THE OHIO EPA.

ANY OTHER SITE PROPOSED BY THE CONTRACTOR FOR OFF PROJECT ANCILLARY CONSTRUCTION (STAGING AREAS, WASTE LOCATIONS, AND/OR BORROW LOCATIONS) MUST MEET THE REQUIREMENTS OF CMS 105.16.

NO ASBESTOS OR ASBESTOS BELOW REGULATORY LIMITS

AN ASBESTOS SURVEY FOR BEL-148-1135 SCHEDULED FOR DEMOLITION WORK WAS CONDUCTED BY A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST. A COPY OF THE ASBESTOS INSPECTION REPORT FOR THE STRUCTURE IS INCLUDED IN THE PLAN PACKAGE FOR THIS PROJECT. THE ASBESTOS INSPECTION REPORT DID NOT IDENTIFY THE PRESENCE OF ANY ASBESTOS CONTAINING MATERIALS ABOVE REGULATORY LIMITS.

DISPOSE ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE OHIO DEPARTMENT OF HEALTH AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. THE REMOVAL AND DISPOSAL OF ALL ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE (OAC) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS.

ELECTRONIC SUBMISSION:

SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT TO THE OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING THE OEPA EBUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY AND ONE HARD COPY OF THE NDRF TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL STAFF.

HARD COPY SUBMISSION:

THE CONTRACTOR MAY SUBMIT A HARD COPY OF THE COMPLETED NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT. FOLLOW THE MAILING INSTRUCTIONS ON THE NDRF. CHECK WITH LOCAL HEALTH DEPARTMENT TO DETERMINE IF THEY REQUIRE A HARD COPY SUBMITTAL.

SUBMIT THE COMPLETED NDRF TO OEPA AT LEAST 10 DAYS PRIOR TO DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. RETAIN TWO HARD COPIES OF THE NDRF AND SUBMIT ONE COPY TO THE ENGINEER AND ONE COPY TO DISTRICT ENVIRONMENTAL, THOMAS STRATTON.

BASIS OF PAYMENT

SUBMIT ALL DOCUMENTATION RELATED TO THE SURVEY, ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS TO THE ENGINEER WITHIN TWO WEEKS OF COMPLETION. THE ENGINEER WILL PROVIDE A COPY OF THE DOCUMENTATION TO THE DISTRICT ENVIRONMENTAL STAFF. PAYMENT FOR THIS WORK SHALL BE MADE AT THE BID PRICE OF LUMP SUM.

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

GENERAL NOTES

DESIGN AGENCY
CARPENTER MARTY Transportation

DESIGNER
KDW

REVIEWER
TWG 02-26-21

PROJECT ID
113790

SHEET 2 TOTAL 47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:11 AM USER: CMT008
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ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 LANE OF TRAFFIC ON U.S.R. 250 EASTBOUND AND 2 LANES ON U.S.R. 250 WESTBOUND SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING ROADWAY PAVEMENT AND STRUCTURES. THE CONTRACTOR SHALL MAINTAIN TRAFFIC PER THE PLAN AND AS DESCRIBED IN THE SEQUENCE OF CONSTRUCTION.

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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 10 CU. YD.

PRIOR TO THE BEGINNING OF ANY CONSTRUCTION THAT WILL REQUIRE THE MODIFICATION OR CLOSURE OF EXISTING LANES TO TRAFFIC, ALL WORK ZONE SIGNS, CONSTRUCTION DRUMS AND PAVEMENT MARKINGS SHALL BE FURNISHED AND INSTALLED AS SHOWN ON THE APPLICABLE STANDARD CONSTRUCTION DRAWINGS.

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

SEQUENCE OF CONSTRUCTION

IT IS THE INTENT OF THE FOLLOWING SEQUENCE OF CONSTRUCTION TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC; THEREFORE, ALL PHASES SHALL HAVE STRICT ADHERENCE. COMPLETE EACH PHASE PRIOR TO ADVANCING TO THE NEXT CONSTRUCTION PHASE.

PHASE 1
THE CONTRACTOR SHALL MAINTAIN TRAFFIC PER THE DETAILS ON SHEETS 8-12. REMOVE CONFLICTING PAVEMENT MARKINGS AND PLACE WORK ZONE PAVEMENT MARKINGS. INSTALL TEMPORARY DEVICES FOR THE PROTECTION OF TRAFFIC PER C&MS 501.05.

ON THE SOUTHERN PORTION OF THE TUS-250-1232R BRIDGE, REPLACE THE EXPANSION JOINTS AT THE ENDS OF THE BRIDGE DECK AND ABOVE THE PIN AND HANGER JOINTS IN THE BEAMS AND PERFORM PARTIAL DECK REPLACEMENT.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH C&MS 501.05.B.2.a.

PHASE 2
THE CONTRACTOR SHALL MAINTAIN TRAFFIC PER THE DETAILS ON SHEETS 13-17. REMOVE CONFLICTING PAVEMENT MARKINGS AND PLACE WORK ZONE PAVEMENT MARKINGS. INSTALL TEMPORARY DEVICES FOR THE PROTECTION OF TRAFFIC PER C&MS 501.05.

ON THE MIDDLE PORTION OF THE TUS-250-1232R BRIDGE, REPLACE THE EXPANSION JOINTS AT THE ENDS OF THE BRIDGE DECK AND ABOVE THE PIN AND HANGER JOINTS IN THE BEAMS AND PERFORM PARTIAL DECK REPLACEMENT.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH C&MS 501.05.B.2.a.

PHASE 3
THE CONTRACTOR SHALL MAINTAIN TRAFFIC PER THE DETAILS ON SHEETS 18-22. REMOVE CONFLICTING PAVEMENT MARKINGS AND PLACE WORK ZONE PAVEMENT MARKINGS. INSTALL TEMPORARY DEVICES FOR THE PROTECTION OF TRAFFIC PER C&MS 501.05.

ON THE NORTHERN PORTION OF THE TUS-250-1232R BRIDGE, REPLACE THE EXPANSION JOINTS AT THE ENDS OF THE BRIDGE DECK AND ABOVE THE PIN AND HANGER JOINTS IN THE BEAMS AND PERFORM PARTIAL DECK REPLACEMENT.

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH C&MS 501.05.B.2.a.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

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 APPROVED PRODUCTS 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.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

PERMITTED LANE CLOSURE SCHEDULE (PLCS)

LANE CLOSURE(S) SHALL CONFORM TO THE PLCS. PUBLISHED PLCS INFORMATION CAN BE FOUND ON THE ODOT WEBSITE AT: HTTPS://WWW.TRANSPORTATION.OHIO.GOV/WPS/PORTAL/GOV/ODOT/WORKING/DATA-TOOLS/RESOURCES/PERMITTED-LANE-CLOSURE

ALLOWABLE LANE CLOSURE HOURS FOR FACILITIES NOT COVERED BY THE PLCS, IF ANY, SHALL BE AS SPECIFIED ELSEWHERE IN THE PLANS.

MAINTENANCE OF TRAFFIC GENERAL NOTES

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER KDW
REVIEWER TWG 02-25-21
PROJECT ID 113790
SHEET 3 TOTAL 47

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 10/28/2021 TIME: 4:01:43 PM USER: CMT008
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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 MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, 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. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET 7 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 CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE 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 EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL 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.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 4 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED 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 PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 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, INCLUDING 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, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
8 SIGN MONTH ASSUMING 1 PCMS SIGN FOR 8 MONTH(S)

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL; AND, ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 2 (ONE WAY) 28 EACH

ITEM 614, OBJECT MARKER, ONE WAY 28 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

ESTIMATED QUANTITIES HAVE BEEN INCLUDED ON SHEET 6

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.

THE R11-H5A-48 SIGNS SHALL BE MOUNTED ON 2 NO. 3 POSTS WHEN LOCATED WITHIN CLEAR ZONES.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 2 EACH

WORK ZONE INCREASED PENALTIES SIGNS WILL BE PLACED AT THE FOLLOWING LOCATIONS:
SOUTHBOUND I.R. 77/EASTBOUND U.S.R. 250, AS SHOWN ON SHEET 7

MAINTENANCE OF TRAFFIC GENERAL NOTES

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER
KDW

REVIEWER
TWG 02-25-21

PROJECT ID
113790

SHEET 4 TOTAL 47

TUS-250-12.32R

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ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:
- ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND
- AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,
- AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:
- THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
- THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR
- OTHER LOCATION AS APPROVED BY THE ENGINEER.

THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR
FOR ASSISTANCE 240 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER(S) COUNTY-ROUTE-SECTION(S) DIRECTION(S)
WZ-60630 TUS-250-12.32R EB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF 55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

WZSZS USING TEMPORARY FLATSHEET SPEED LIMIT SIGNS SHALL BE IN ACCORDANCE WITH THIS NOTE AND SCD MT-104.10. ADDITIONALLY PAYMENT MAY BE REMOVED, OR A DISINCENTIVE APPLIED, FOR WZSZS USING TEMPORARY FLATSHEET SPEED LIMIT SIGNS THE SAME AS DESCRIBED IN THE MOST RECENT PUBLICATION OF SS 808 IN REGARDS TO WZSZS USING DSL SIGN ASSEMBLIES (SEE SS 808.06 PARAGRAPHS 4 THROUGH 7, INCLUDING TABLE 1).

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH)
FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY
12 SIGN MNTH
(ASSUMING 2 DSL SIGN ASSEMBLY FOR 6 MONTHS)

MAINTENANCE OF TRAFFIC GENERAL NOTES

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER KDW
REVIEWER TWG 02-25-21
PROJECT ID 113790
SHEET 5 TOTAL 47

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:13 AM USER: CMT008
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REF. NO.	PHASE	LOCATION	STATION FROM	STATION TO	SIDE	614 INCREASED BARRIER DELINEATION	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	614 WORK ZONE RAISED PAVEMENT MARKER (ONE WAY, WHITE)	614 WORK ZONE RAISED PAVEMENT MARKER (ONE WAY, YELLOW)	614 WORK ZONE RAISED PAVEMENT MARKER, (TWO WAY, WHITE/RED)	614 WORK ZONE RAISED PAVEMENT MARKER, (TWO WAY, YELLOW/RED)	614 BARRIER REFLECTOR, TYPE 1 (ONE WAY)	614 OBJECT MARKER, ONE WAY	614 WORK ZONE EDGE LINE, CLASS I, 6", 873 (WHITE)	614 WORK ZONE EDGE LINE, CLASS I, 6", 873 (YELLOW)	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12", 873	614 WORK ZONE DOTTED LINE, CLASS I, 6", 873 (WHITE)	622 PORTABLE BARRIER, UNANCHORED	630 SIGN, TEMPORARY OVERLAY
						FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	MILE	MILE	FT	FT	FT	SF
CH-1	1	MOT REVERSE CURVE, EB U.S.R. 250	20+00	630+62	LT.					40						900			
CH-2	1	EB U.S.R. 250	623+40	635+30	LT.			46								1190			
CH-3	2	EB U.S.R. 250	632+20	642+80	LT.			84								1060			
CH-4	2	EB U.S.R. 250	632+20	642+80	LT./RT.			84								1060			
CH-5	3	RAMP D, EB U.S.R. 250	4+62	629+68	LT./RT.					40						806			
CH-6	3	EB U.S.R. 250	623+40	642+80	LT./RT.			86								1940			
DL-1	1, 2	EB U.S.R. 250	608+00	616+40	LT.												840		
DL-2	3	EB U.S.R. 250	604+00	612+40	LT.												840		
EW-1	1, 2	EB U.S.R. 250	608+00	623+40	LT.			58						0.29					
EW-2	1	RAMP D, EB U.S.R. 250	4+27	635+30	LT./RT.			46		40				0.26					
EW-3	2	EB U.S.R. 250	618+50	632+20	LT.			28						0.26					
EW-4	2	RAMP D, EB U.S.R. 250	3+25	642+80	RT.			84		40				0.42					
EW-5	3	EB U.S.R. 250	612+40	623+40	RT.			29						0.21					
EW-6	3	RAMP D, EB U.S.R. 250	3+25	642+80	RT.			86		40				0.42					
EY-1	1	EB U.S.R. 250	630+62	635+30	LT.				46						0.09				
EY-2	2	EB U.S.R. 250	618+50	642+80	LT.				86						0.46				
EY-3	2	MOT CURVE, EB U.S.R. 250	30+00	632+20	RT.				84		40				0.22				
EY-4	3	EB U.S.R. 250	604+00	642+80	LT.				157						0.73				
IA-1	1	RAMP D	6+10	6+35	LT.		1												
IA-2	2	EB U.S.R. 250	621+65	621+90	LT.		1												
IA-3	2	RAMP D	6+20	6+45	LT.		1												
IA-4	3	EB U.S.R. 250	622+75	623+00	LT.		1												
PB-1	1	RAMP D, EB U.S.R. 250	6+35	632+10	LT./RT.	870						18	18					870	
PB-2	2	EB U.S.R. 250	621+90	632+10	LT.	810						21	21					1020	
PB-3	2	RAMP D, EB U.S.R. 250	6+45	632+10	LT./RT.							18	18					860	
PB-4	3	EB U.S.R. 250	623+00	632+10	LT.							19	19					910	
PERMANENT BARRIER		EB U.S.R. 250	625+00	632+00	RT.	700													
S-1	1	EB U.S.R. 250	607+50		RT														6
S-2	3	EB U.S.R. 250	607+50		RT														6
					SUBTOTALS			631	373	200	40			1.86	1.50				
TOTALS CARRIED TO GENERAL SUMMARY						2380	4	1244				76	76	3.36		6956	1680	3660	12

MAINTENANCE OF TRAFFIC SUBSUMMARY

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER KDW

REVIEWER TWG 06-28-21

PROJECT ID 113790

SHEET 6 TOTAL 47

TUS-250-12.32R

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MAINTENANCE OF TRAFFIC LEGEND

- TRAFFIC FLOW ARROW
- PORTABLE BARRIER
- DRUMS
- WORK ZONE IMPACT ATTENUATOR
- WORK AREA

DRUM SPACING CHART	
	MAX SPACING
TANGENT	120'
TAPERS	70'
RAMPS	20'

- SPEED LIMIT 70 — EXISTING SIGN COVERED DURING MAINTENANCE OF TRAFFIC
- SPEED LIMIT 70 — EXISTING SIGN TO REMAIN

- EW — WORK ZONE EDGE LINE, CLASS I, 6", 873 (WHITE)
- EY — WORK ZONE EDGE LINE, CLASS I, 6", 873 (YELLOW)
- CH — WORK ZONE CHANNELIZING LINE, CLASS I, 12", 873
- DL — WORK ZONE DOTTED LINE, CLASS I, 6", 873 (WHITE)

- PB — PORTABLE BARRIER, UNANCHORED
- IA — WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)
- ### — WORK ZONE PAVEMENT MARKINGS APPLIED IN PREVIOUS PHASE

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC - PHASES 1-3
LEAD-IN SIGNS

DESIGN AGENCY
CARPENTER MARTY Transportation

DESIGNER KDW
REVIEWER TWG 06-28-21
PROJECT ID 113790
SHEET 7 TOTAL 47

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HORIZONTAL SCALE IN FEET
0 20 40 80

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 600+00.00 TO STA. 610+00.00

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER KDW
REVIEWER TWG 06-28-21
PROJECT ID 113790
SHEET 8 TOTAL 47

TUS-250-12.32R

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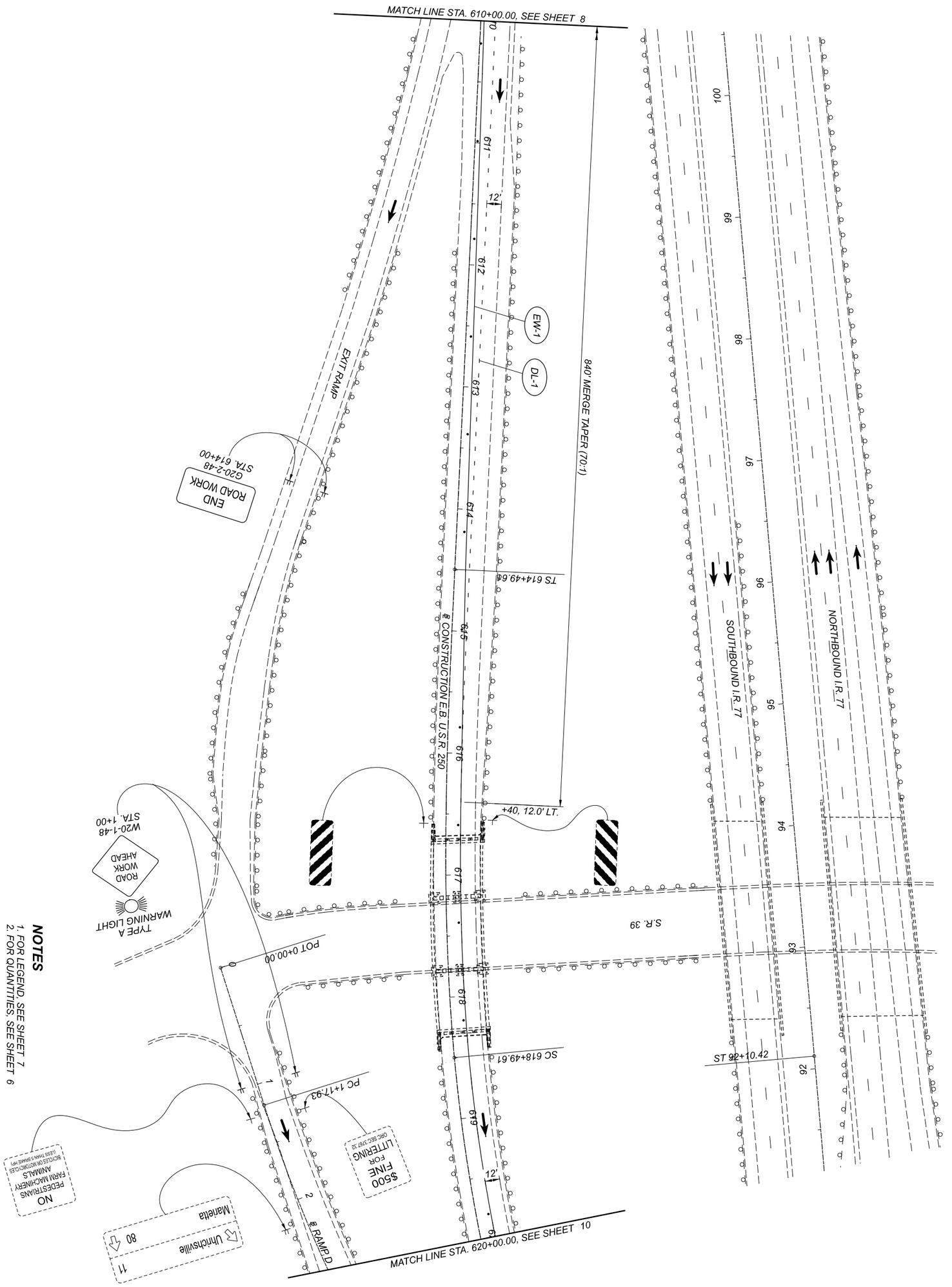


NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

SHEET	TOTAL
9	47

PROJECT ID: 113790

REVIEWER: TWG 06-28-21

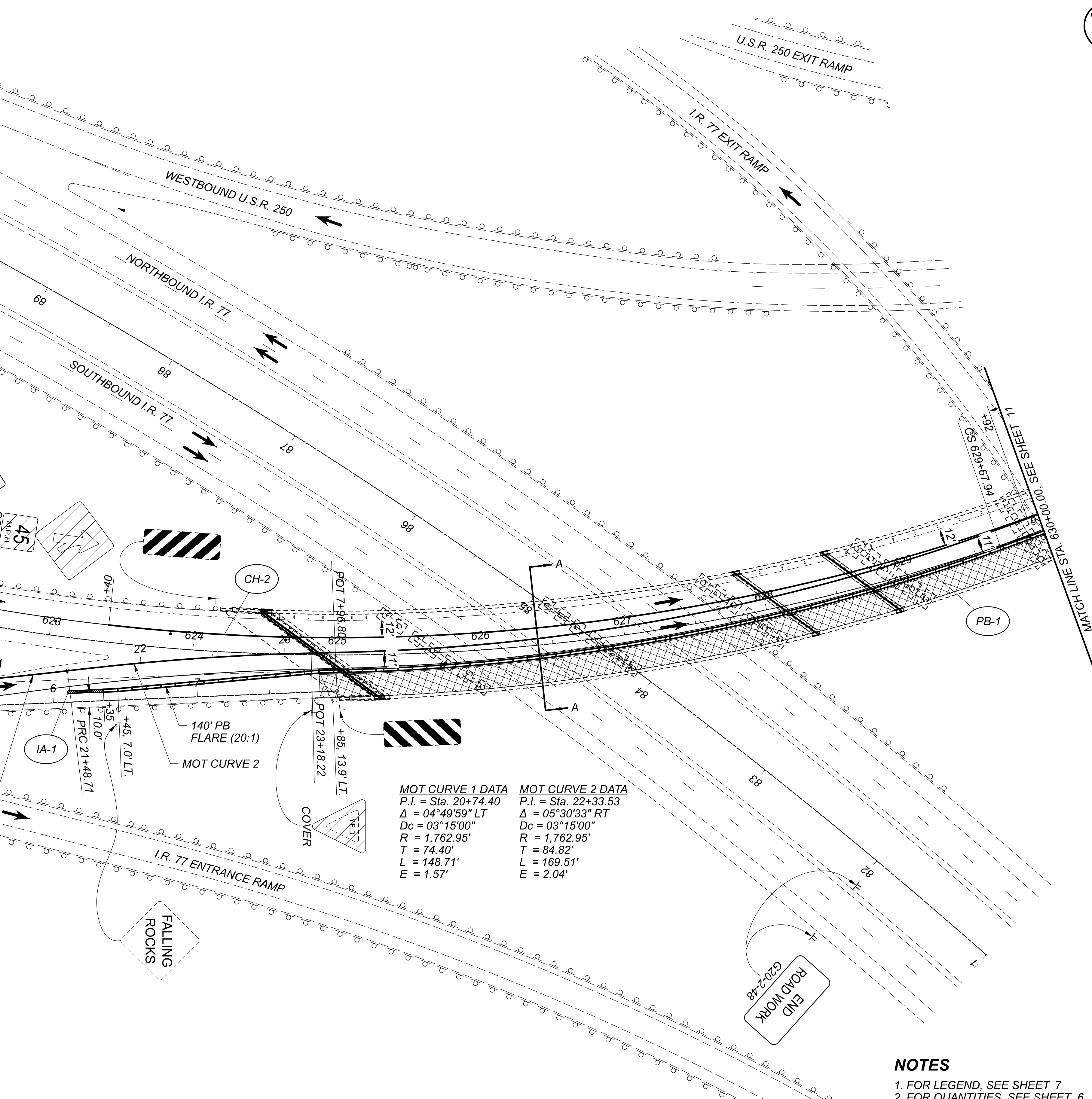
DESIGNER: KDW

DESIGN AGENCY: CARPENTER MARTY transportation

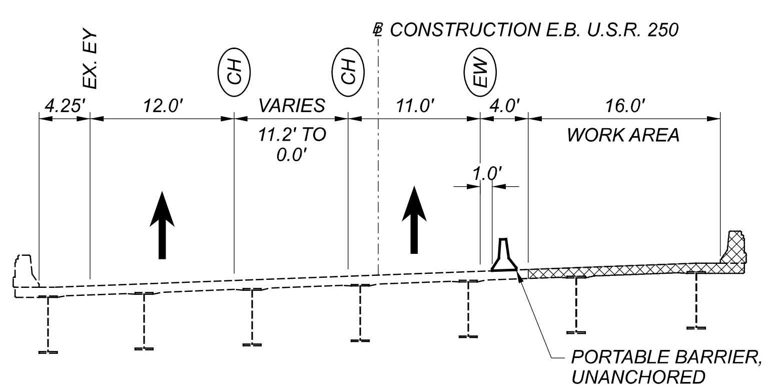
MAINTENANCE OF TRAFFIC - PHASE 1
STA. 610+00.00 TO STA. 620+00.00

HORIZONTAL SCALE IN FEET
0 40
20 80

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 620+00.00 TO STA. 630+00.00



MOT CURVE 1 DATA	MOT CURVE 2 DATA
P.I. = Sta. 20+74.40	P.I. = Sta. 22+33.53
Δ = 04°49'59" LT	Δ = 05°30'33" RT
Dc = 03°15'00"	Dc = 03°15'00"
R = 1,762.95'	R = 1,762.95'
T = 74.40'	T = 84.82'
L = 148.71'	L = 169.51'
E = 1.57'	E = 2.04'



TYPICAL A-A

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6
3. FOR PHASE CONSTRUCTION DETAILS, SEE SHEET 28
4. STA. 20+00.00 ℄ MOT REVERSE CURVE = STA. 4+62.07 ℄ RAMP D, 16.3' LT.

HORIZONTAL SCALE IN FEET 0 20 40 80

DESIGN AGENCY: CARPENTER MARTY

DESIGNER: KDW
REVIEWER: TWG 06-28-21
PROJECT ID: 113790
SHEET 10 TOTAL 47

TUS-250-12.32R

MODEL: 113790_MPI03 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:17 AM USER: CMT008
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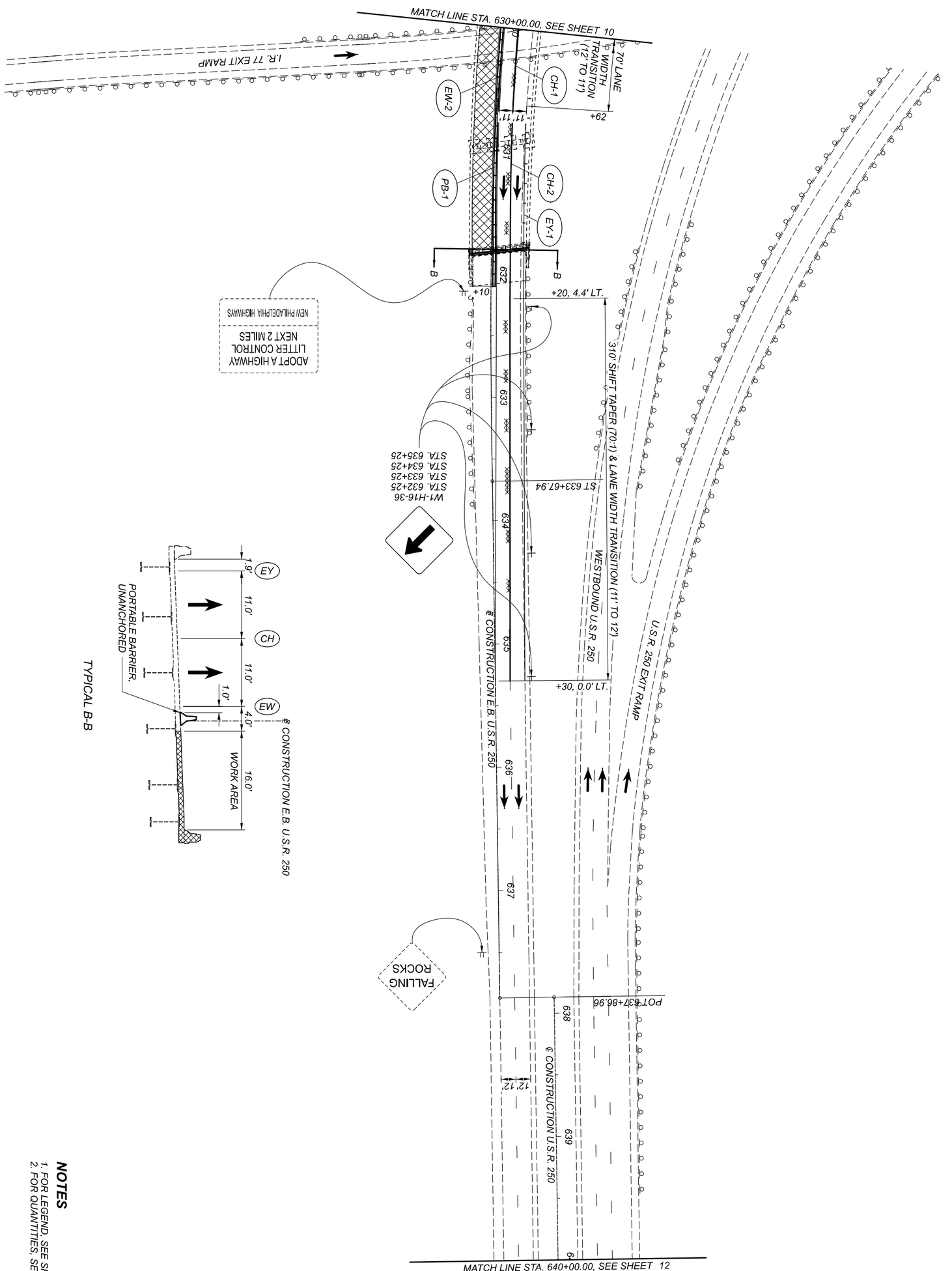

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

SHEET	TOTAL
11	47

PROJECT ID: 113790

REVIEWER: TWG 06-28-21

DESIGNER: KDW

DESIGN AGENCY: CARPENTER MARTY transportation

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 630+00.00 TO STA. 640+00.00

HORIZONTAL SCALE IN FEET

0 40

20 80

MODEL: II3790_MPI05 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:18 AM USER: CMT008
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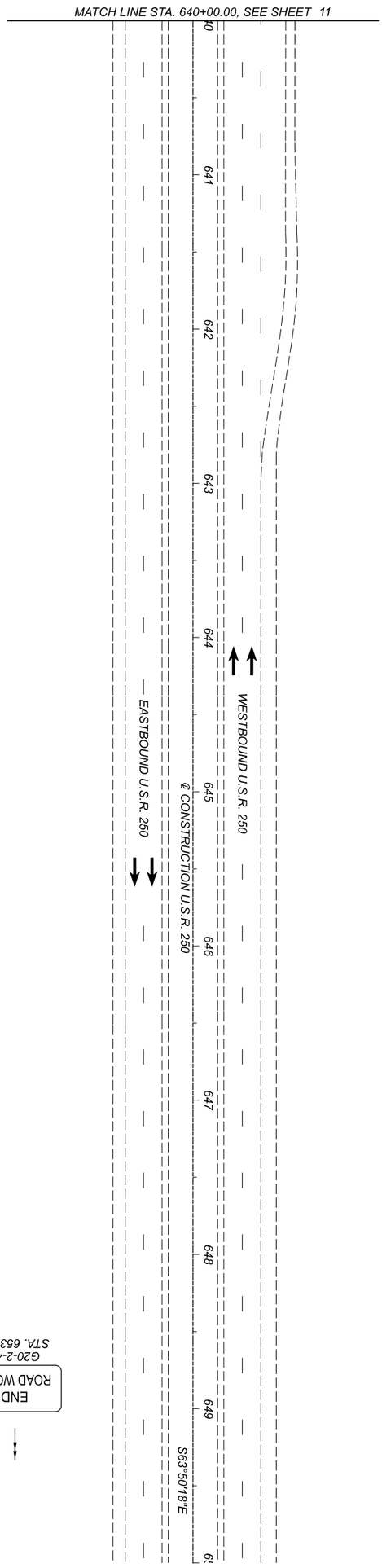

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

DESIGNER KDW
REVIEWER TWG 06-28-21
DESIGN AGENCY CARPENTER MARTY transportation
PROJECT ID 113790
SHEET 12 TOTAL 47

MAINTENANCE OF TRAFFIC - PHASE 1
STA. 640+00.00 TO STA. 650+00.00

HORIZONTAL SCALE IN FEET
0 40
20 80

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 600+00.00 TO STA. 610+00.00

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER
KDW

REVIEWER
TWG 06-28-21

PROJECT ID
113790

SHEET 13 | TOTAL 47

TUS-250-12.32R

MODEL: 113790_MP201 PAPERSIZE: 17x11(in.) DATE: 9/15/2021 TIME: 6:53:19 AM USER: CMT008
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MODEL: II3790_MP202 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:19 AM USER: CMT008
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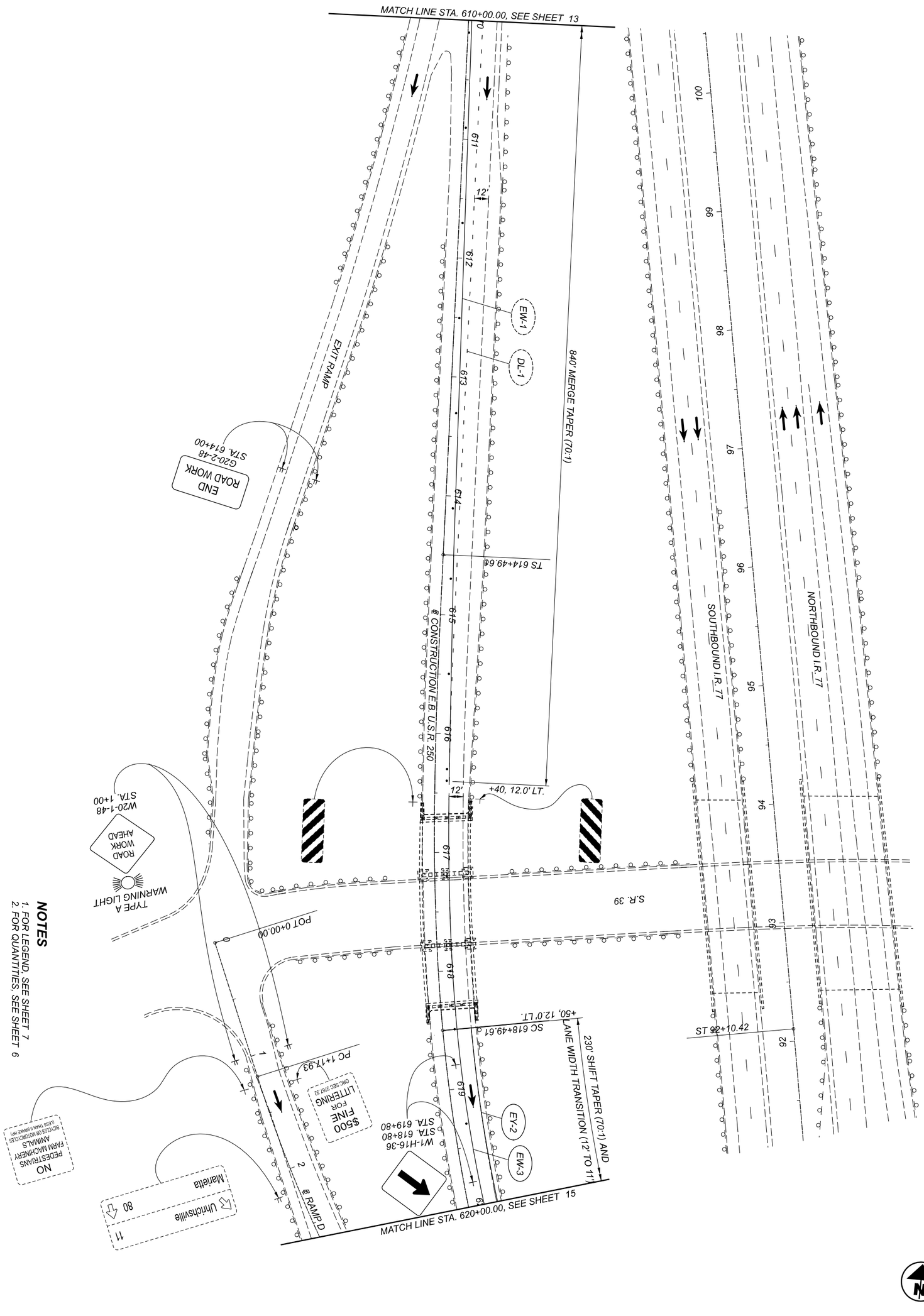

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 610+00.00 TO STA. 620+00.00

DESIGNER	KDW
REVIEWER	TWG 06-28-21
PROJECT ID	113790
SHEET	14
TOTAL	47
DESIGN AGENCY	CARPENTER MARTY transportation

HORIZONTAL SCALE IN FEET
0 40
20 80

MODEL: II3790_MP203 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:19 AM USER: CMT008
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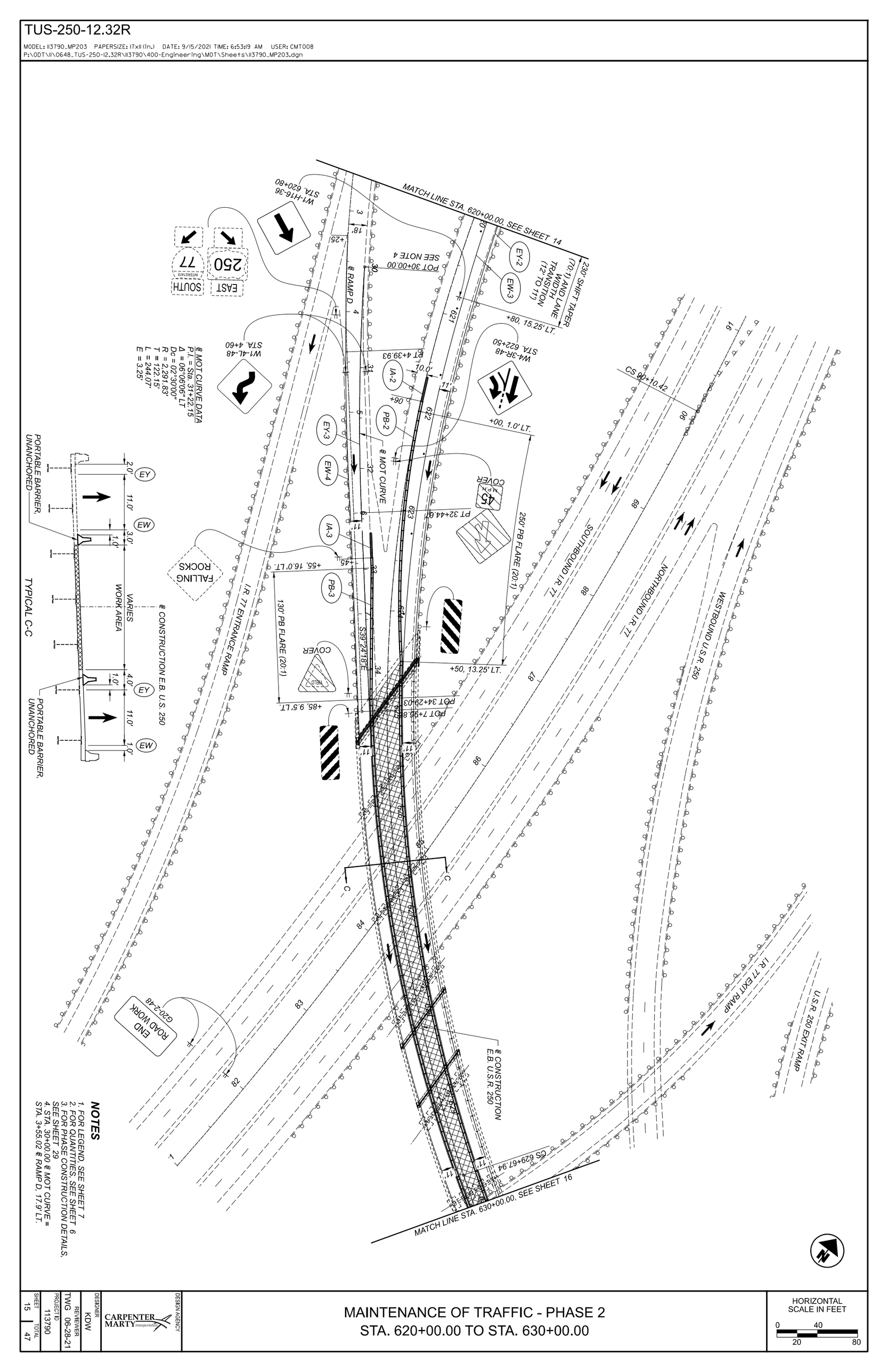


NOTES

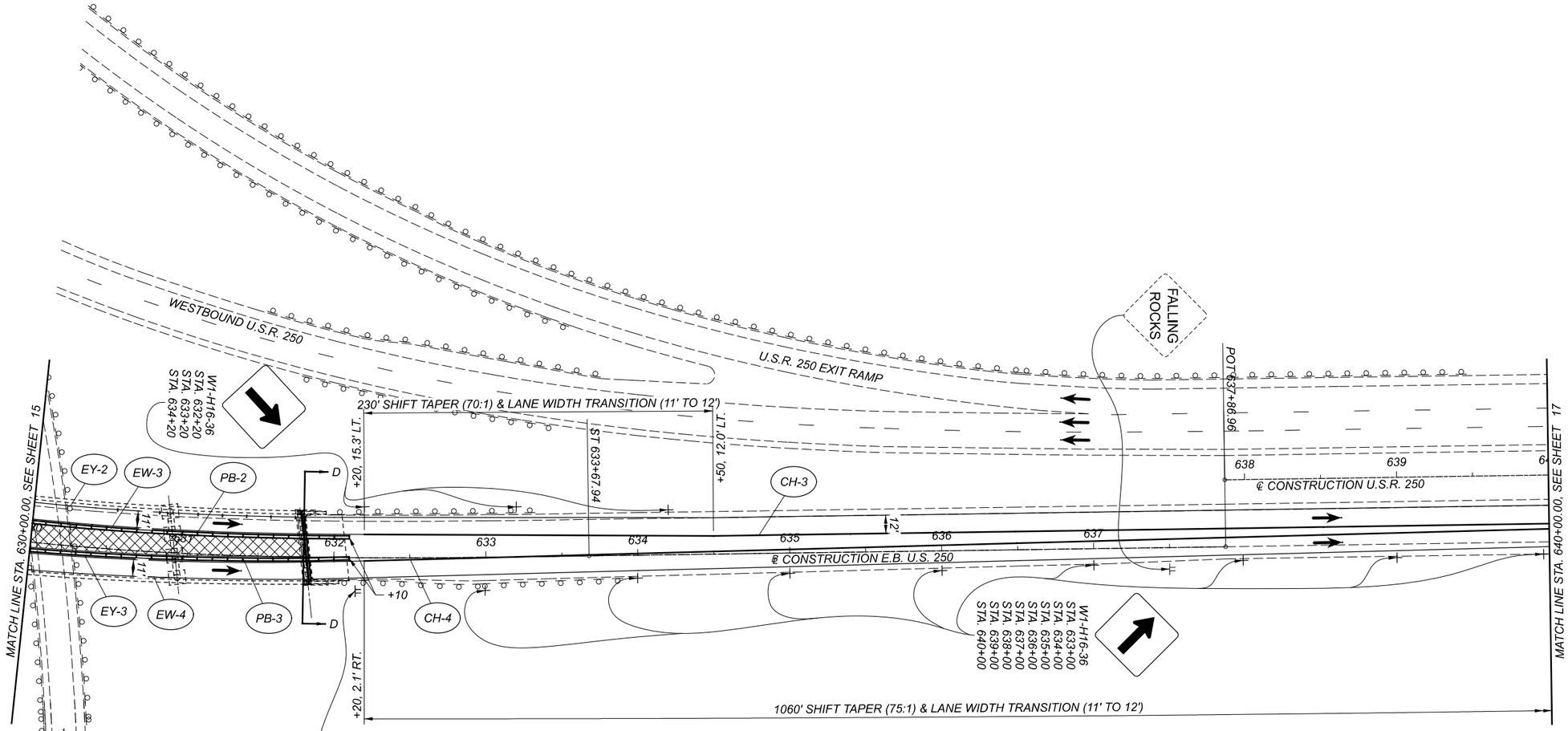
1. FOR LEGEND, SEE SHEET 7.
2. FOR QUANTITIES, SEE SHEET 6.
3. FOR PHASE CONSTRUCTION DETAILS, SEE SHEET 29.
4. STA. 30+00.00 ℄ MOT CURVE = STA. 3+55.02 ℄ RAMP D, 17.9' LT.

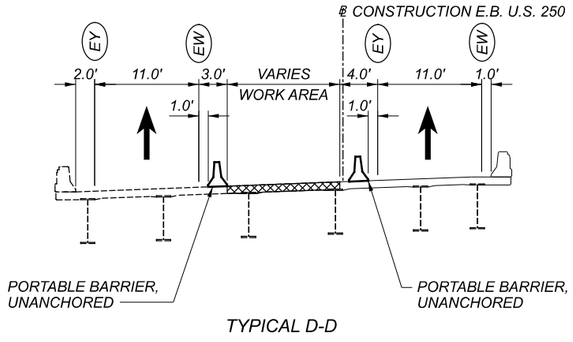
MAINTENANCE OF TRAFFIC - PHASE 2
STA. 620+00.00 TO STA. 630+00.00

DESIGNER	KDW
REVIEWER	TWG 06-28-21
PROJECT ID	113790
SHEET	15
TOTAL	47

DESIGN AGENCY: CARPENTER MARTY transportation

HORIZONTAL SCALE IN FEET
0 40
20 80





TYPICAL D-D

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

HORIZONTAL SCALE IN FEET
0 20 40 80

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 630+00.00 TO STA. 640+00.00

TUS-250-12.32R

MODEL: 113790_MP204 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:20 AM USER: CMTOOB
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DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	KDW
REVIEWER	TWG 06-28-21
PROJECT ID	113790
SHEET	16
TOTAL	47

MODEL: 113790_MP205 PAPERSIZE: 17x11(in.) DATE: 9/15/2021 TIME: 6:53:20 AM USER: CMT008
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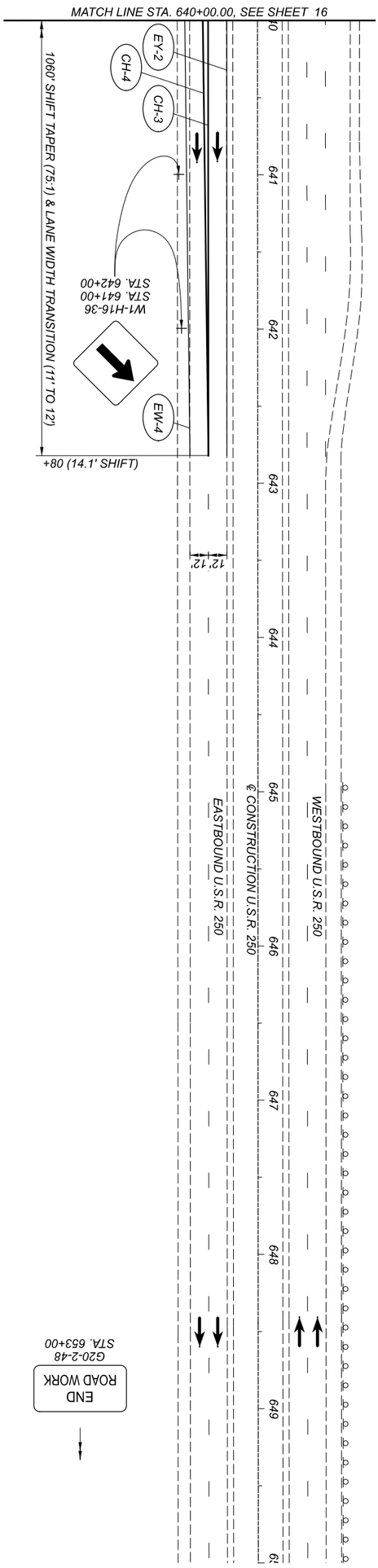

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

DESIGNER	REVIEWER	DESIGN AGENCY
KDW	TWG 06-28-21	CARPENTER MARTY transportation

PROJECT ID 113790

SHEET 17 TOTAL 47

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 640+00.00 TO STA. 650+00.00

HORIZONTAL SCALE IN FEET

0 40
20 80

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

HORIZONTAL SCALE IN FEET
0 20 40 80

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 600+00.00 TO STA. 610+00.00

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	KDW
REVIEWER	TWG 06-28-21
PROJECT ID	113790
SHEET	18
TOTAL	47

TUS-250-12.32R

MODEL: 113790_MP301 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:21 AM USER: CMTOOB
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MODEL: II3790_MP302 PAPERSIZE: 17x11 (In.) DATE: 9/15/2021 TIME: 6:53:21 AM USER: CMT008
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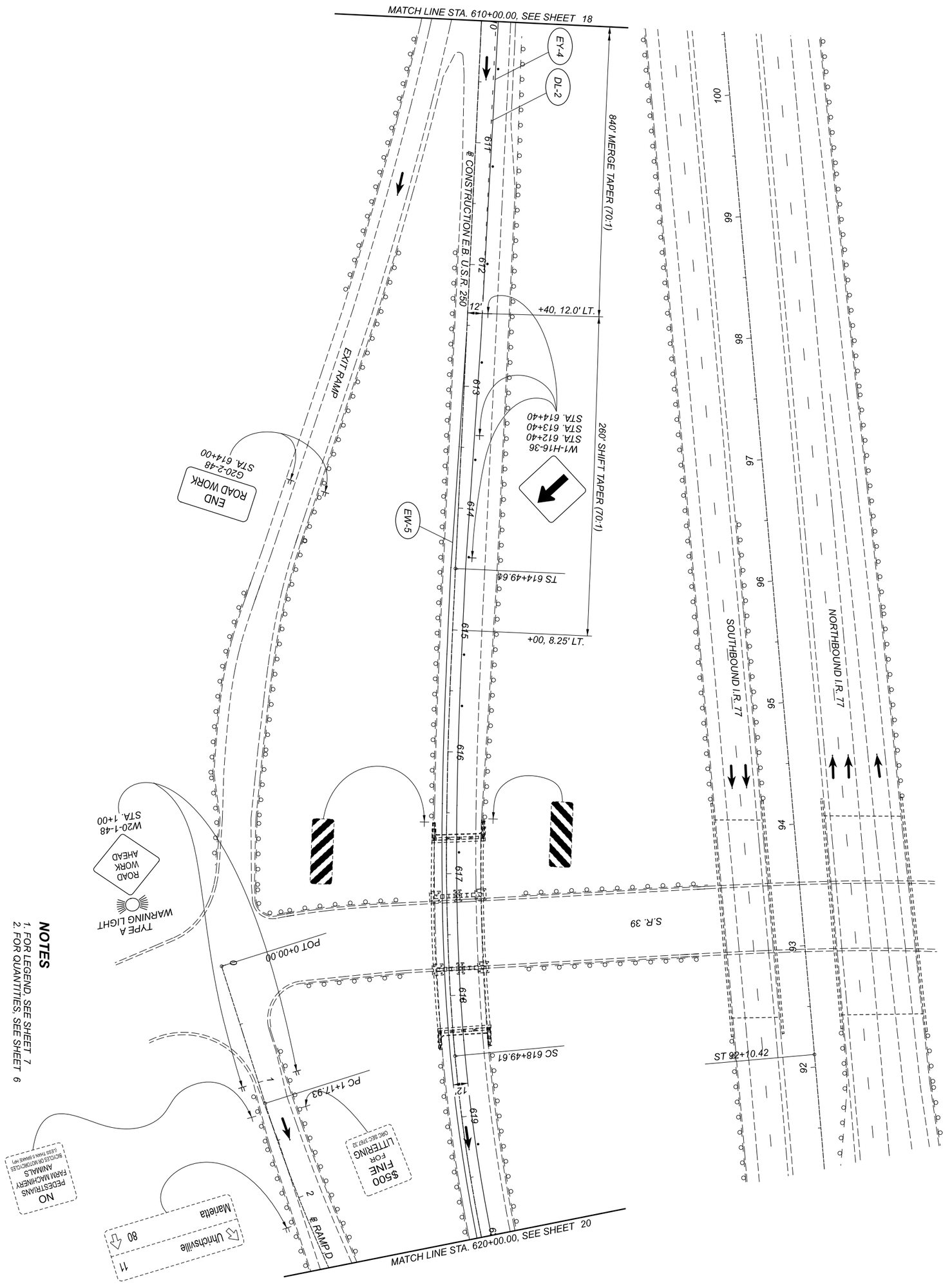

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

SHEET 19 / TOTAL 47	PROJECT ID 113790	DESIGNER KDW / REVIEWER TWG 06-28-21	DESIGN AGENCY CARPENTER MARTY transportation	MAINTENANCE OF TRAFFIC - PHASE 3 STA. 610+00.00 TO STA. 620+00.00

HORIZONTAL SCALE IN FEET
0 40
20 80

MODEL: II3790_MP303 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:22 AM USER: CMTO08
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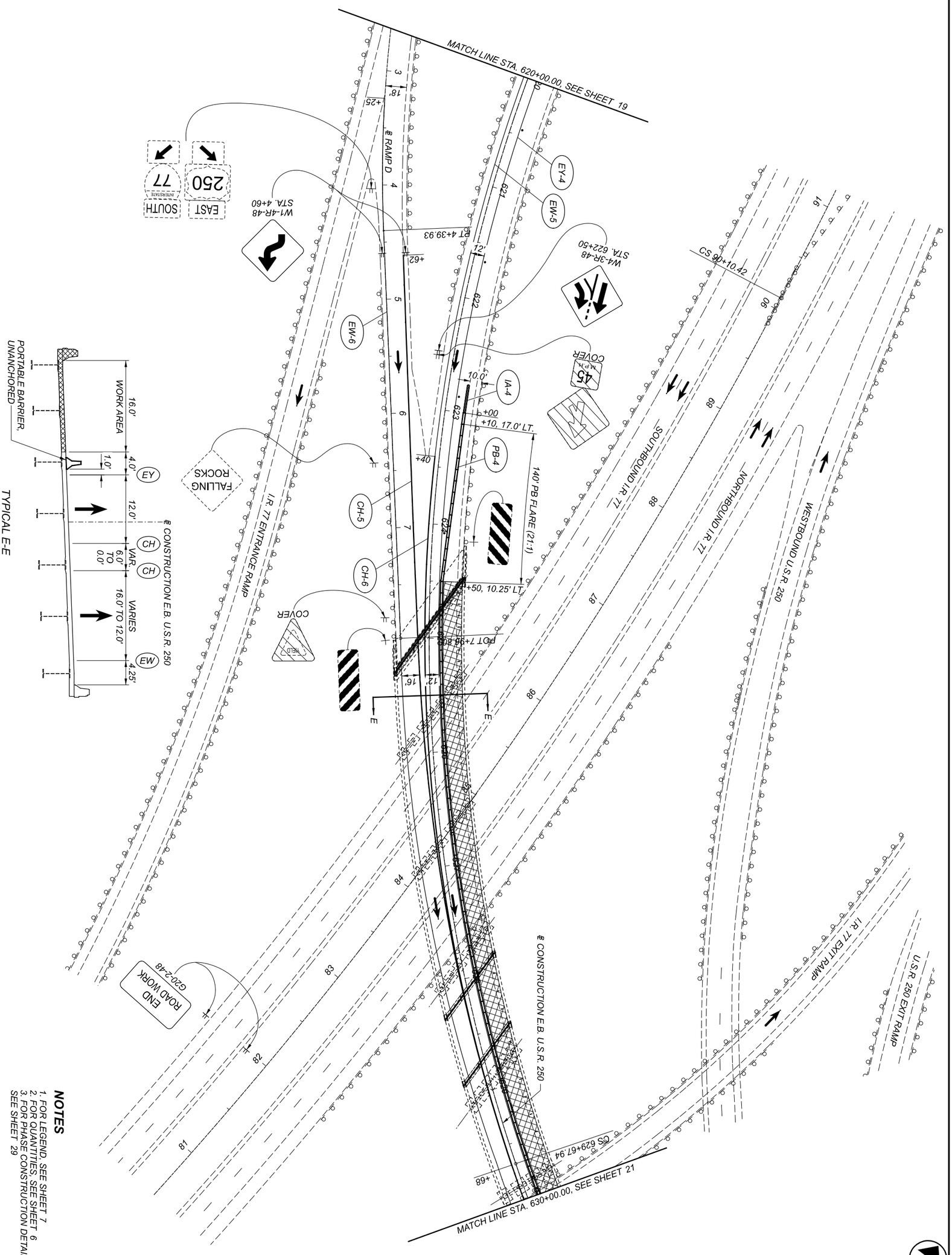

TYPICAL E-E

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6
3. FOR PHASE CONSTRUCTION DETAILS, SEE SHEET 29

DESIGNER	REVIEWER	DESIGN AGENCY
KDW	TWG 06-28-21	CARPENTER MARTY transportation

PROJECT ID 113790

SHEET 20 TOTAL 47

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 620+00.00 TO STA. 630+00.00

HORIZONTAL SCALE IN FEET
0 40
20 80

MODEL: II3790_MP304 PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:22 AM USER: CMTO08
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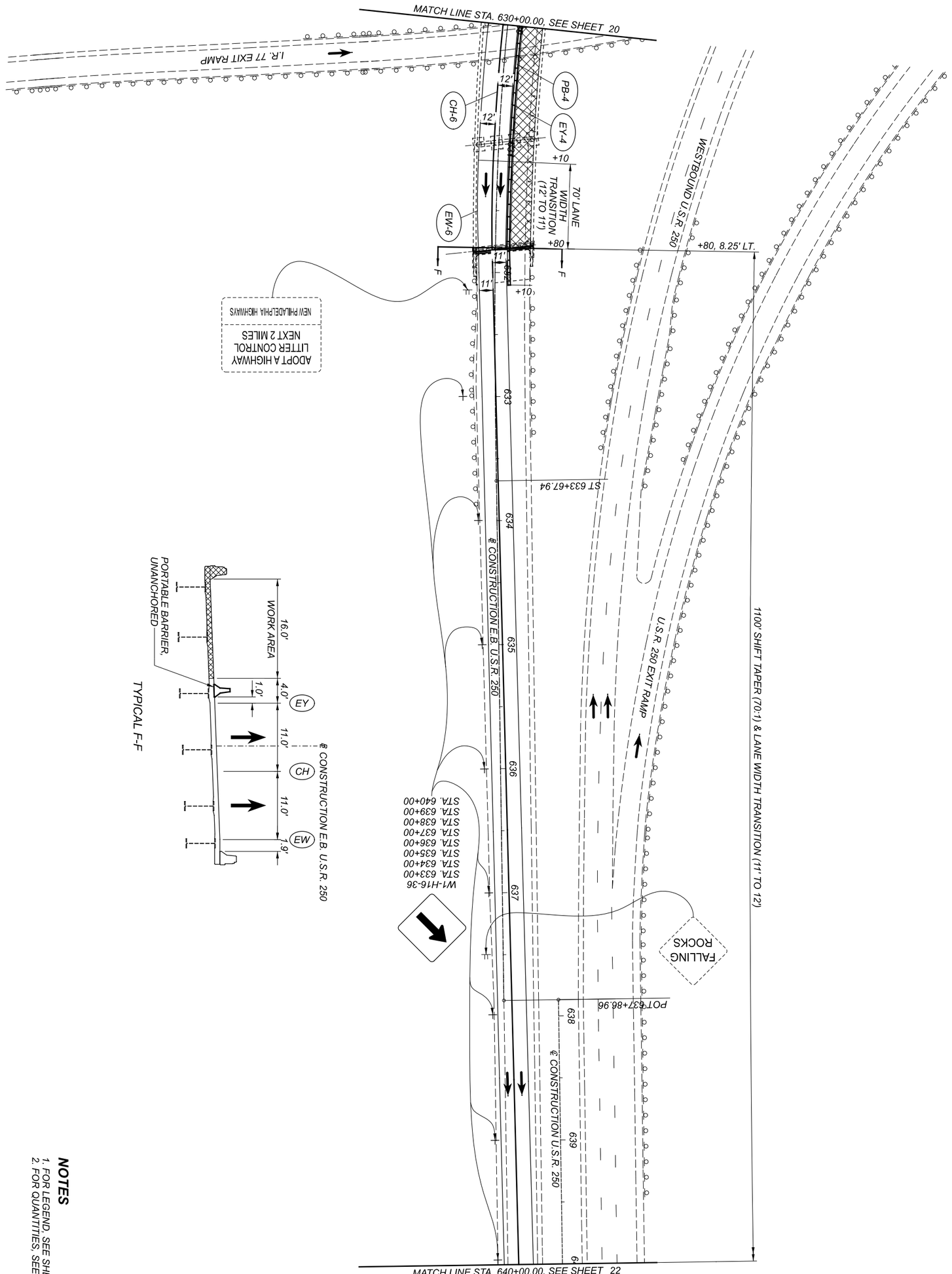

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

SHEET 21 TOTAL 47	PROJECT ID 113790	REVIEWER TWG 06-28-21	DESIGNER KDW

DESIGN AGENCY: CARPENTER MARTY transportation

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 630+00.00 TO STA. 640+00.00

HORIZONTAL SCALE IN FEET
0 40
20 80

MODEL: II3790_MP305 PAPERSIZE: 17x11(In.) DATE: 9/15/2021 TIME: 6:53:23 AM USER: CMTO08
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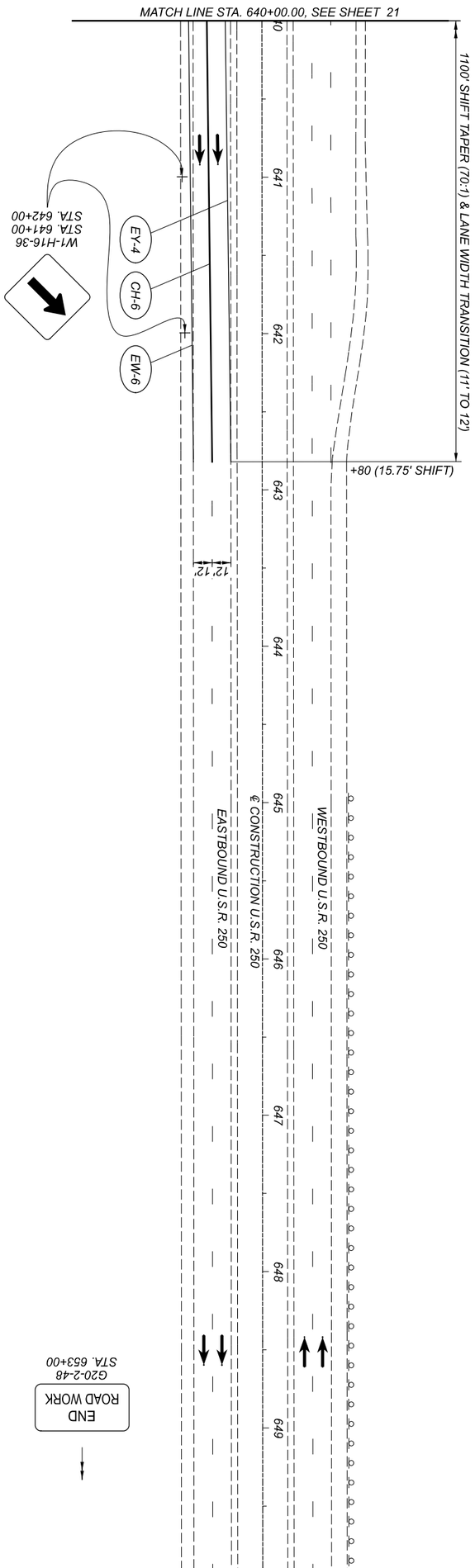

NOTES

1. FOR LEGEND, SEE SHEET 7
2. FOR QUANTITIES, SEE SHEET 6

DESIGNER KDW
REVIEWER TWG 06-28-21
PROJECT ID 113790
SHEET 22 TOTAL 47
DESIGN AGENCY CARPENTER MARTY transportation

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 640+00.00 TO STA. 650+00.00

HORIZONTAL SCALE IN FEET
0 40
20 80

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
							2	3	4	5	6		01/NHS/BR						
																		ROADWAY	
							LS						LS	201	11000	LS		CLEARING AND GRUBBING	
							LS						LS	SPECIAL	69098400	LS		MISC.: WORK INVOLVING ASBESTOS CONTAINING MATERIALS	2
																		EROSION CONTROL	
													1,000	832	30000	1,000	EACH	EROSION CONTROL	
																		TRAFFIC CONTROL	
							1.49						1.49	646	10010	1.49	MILE	EDGE LINE, 6"	
							0.73						0.73	646	10110	0.73	MILE	LANE LINE, 6"	
							770						770	646	10310	770	FT	CHANNELIZING LINE, 12"	
							1,100						1,100	646	20504	1,100	FT	DOTTED LINE, 6"	
																		STRUCTURE OVER 20 FOOT SPAN (TUS-00250-12.320R)	27
																		MAINTENANCE OF TRAFFIC	
										240			240	614	11110	240	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
											2,380		2,380	614	11630	2,380	FT	INCREASED BARRIER DELINEATION	
											4		4	614	12380	4	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
									2				2	614	12484	2	EACH	WORK ZONE INCREASED PENALTIES SIGN	
											1,244		1,244	614	12800	1,244	EACH	WORK ZONE RAISED PAVEMENT MARKER	
								10					10	614	13000	10	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
											76		76	614	13310	76	EACH	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	
									28				28	614	13312	28	EACH	BARRIER REFLECTOR, TYPE 2 (ONE WAY)	
									28		76		104	614	13350	104	EACH	OBJECT MARKER, ONE WAY	
									8				8	614	18601	8	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	4
											3.36		3.36	614	22326	3.36	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 873	
											6,956		6,956	614	23130	6,956	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 873	
											1,680		1,680	614	24122	1,680	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 873	
											3,660		3,660	622	41100	3,660	FT	PORTABLE BARRIER, UNANCHORED	
											12		12	630	80300	12	SF	SIGN, TEMPORARY OVERLAY	
										12			12	808	18700	12	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
																		INCIDENTALS	
								LS					LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER
KDW

REVIEWER
TWG 06-28-21

PROJECT ID
113790

SHEET 23 TOTAL 47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 10/28/2021 TIME: 9:21:12 AM USER: CMT008
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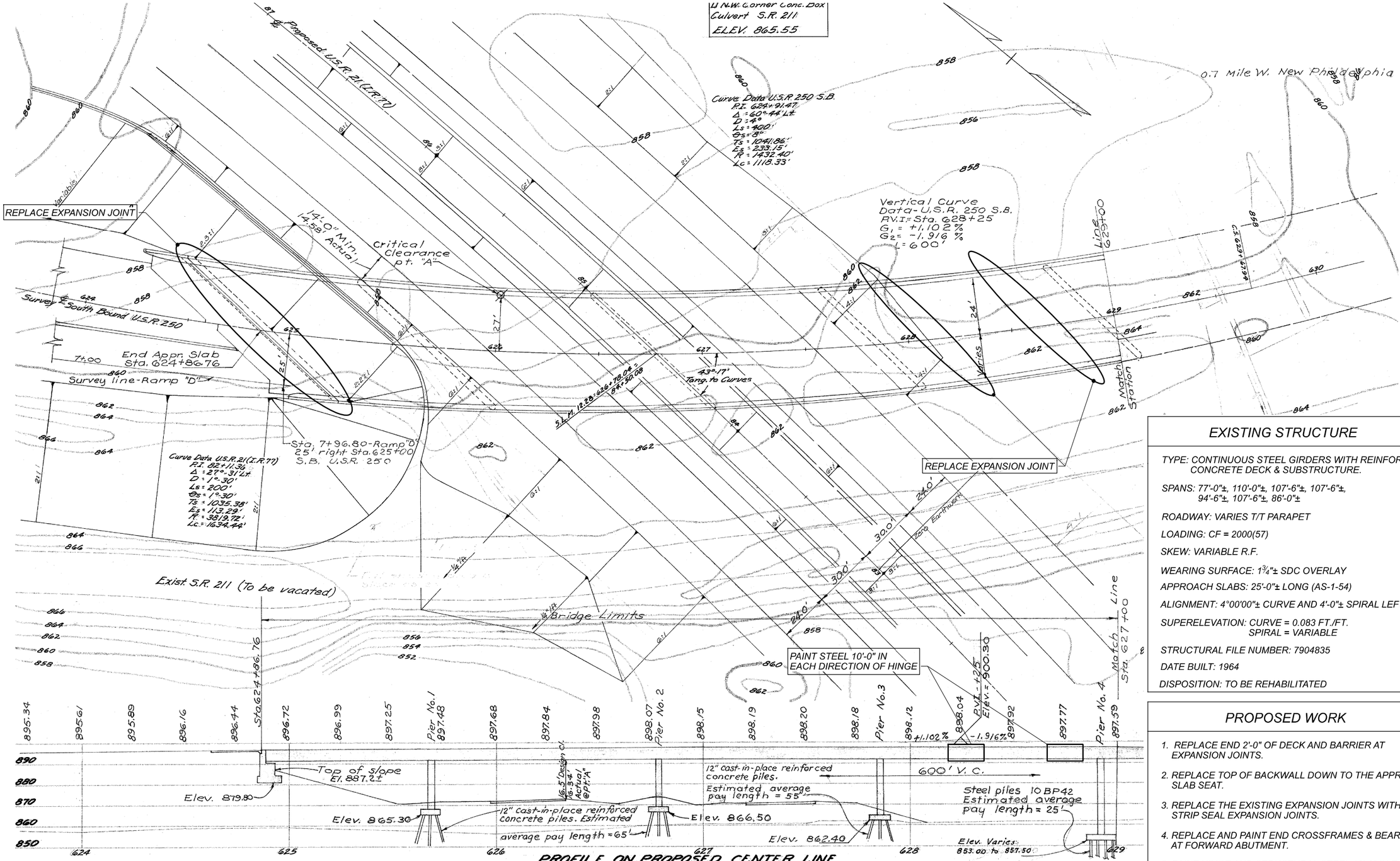

NOTE

DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE.

SPANS: 77'-0"±, 110'-0"±, 107'-6"±, 107'-6"±, 94'-6"±, 107'-6"±, 86'-0"±

ROADWAY: VARIES T/T PARAPET

LOADING: CF = 2000(57)

SKEW: VARIABLE R.F.

WEARING SURFACE: 1¾"± SDC OVERLAY

APPROACH SLABS: 25'-0"± LONG (AS-1-54)

ALIGNMENT: 4°00'00"± CURVE AND 4'-0"± SPIRAL LEFT

SUPERELEVATION: CURVE = 0.083 FT./FT.
SPIRAL = VARIABLE

STRUCTURAL FILE NUMBER: 7904835

DATE BUILT: 1964

DISPOSITION: TO BE REHABILITATED

PROPOSED WORK

1. *REPLACE END 2'-0" OF DECK AND BARRIER AT EXPANSION JOINTS.*
2. *REPLACE TOP OF BACKWALL DOWN TO THE APPROACH SLAB SEAT.*
3. *REPLACE THE EXISTING EXPANSION JOINTS WITH NEW STRIP SEAL EXPANSION JOINTS.*
4. *REPLACE AND PAINT END CROSSFRAMES & BEARINGS AT FORWARD ABUTMENT.*
5. *PAINT HINGE AND STRUCTURAL STEEL 10'-0" IN EACH DIRECTION OF INTERMEDIATE EXPANSION JOINT. PAINT FORWARD ABUTMENT BEARINGS.*
6. *REPLACE AND PAINT PORTION OF BAY 3 CROSSFRAME AT REAR HINGE.*

HORIZONTAL SCALE IN FEET
0 5 10 20

SITE PLAN
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	GDJ
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	1
TOTAL	24
SHEET	24
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:24 AM USER: CMT008
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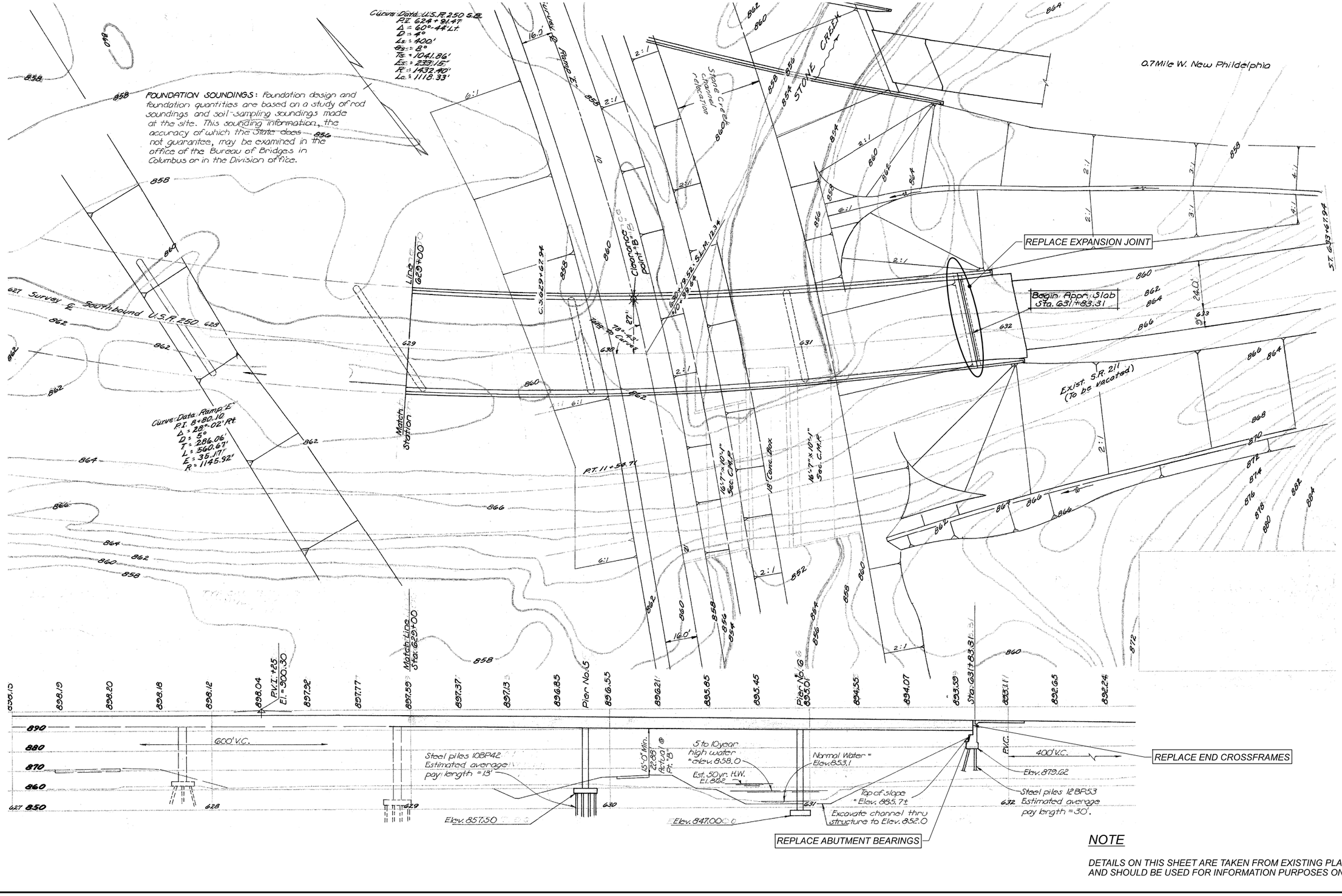
SITE PLAN

BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

HORIZONTAL SCALE IN FEET
0 5 10 20



NOTE

DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	GDJ
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	2
TOTAL	24
SHEET	25
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:31 AM USER: CMT008
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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

EXJ-4-87	REVISED	1-19-18
GSD-1-19	DATED	1-15-21
PCB-91	REVISED	7-17-20

DESIGN SPECIFICATIONS

WORK PERFORMED ON THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

OPERATIONAL IMPORTANCE

A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

VEHICULAR LIVE LOAD: HL-93 (PROPOSED WORK)

CF = 2000(57) (EXISTING STRUCTURE)

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

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING CONCRETE PARAPETS, BEARING PLATES, BEAM GUIDE DEVICES, DECKJOINTS, AND OTHER APPURTENANCES FROM STEEL SUPPORTINGSYSTEMS (BEAMS, CROSSFRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK 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 PLANS ACCORDING TO C&MS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVAL OVER STRUCTURAL MEMBERS (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

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 APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

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

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 C&MS 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 THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING BRIDGE PLANS

THE FOLLOWING EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 11 OFFICE AT 2201 REISER AVENUE, NEW PHILADELPHIA, OHIO, 44663:

TUS-77-20.73 (1962) - ORIGINAL CONSTRUCTION
BEL-148-1606 ET. AL. (1985) - OVERLAY
TUS-77-20.73 (2013) PID 81725 - PARAPET REPLACEMENT

THESE EXISTING PLANS CAN ALSO BE DOWNLOADED FROM THE FOLLOWING FTP SITE:

FTP://FTP.DOT.STATE.OH.US/PUB/CONTRACTS/ATTACH

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 REINFORCING STEEL OF THE SAME SIZE AND COATING AT NO COST TO THE DEPARTMENT.

ITEM 513 - TRIMMING OF BEAM ENDS

TRIM BEAM ENDS OF GIRDERS AT THE FORWARD ABUTMENT TO PROVIDE 3 INCHES FROM GIRDER END TO FACE OF BACKWALL.

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

ALL REQUIREMENTS OF C&MS 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN S1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH C&MS 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER "AS-BUILT" DRAWINGS ACCORDING TO C&MS 513.06, EXCEPT C&MS 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO S1002, TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: END CROSSFRAMES AND INTERMEDIATE CROSSFRAME AT HINGE.

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

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

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH C&MS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE 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. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH C&MS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER 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 ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HRS. 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 THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 530 SPECIAL STRUCTURES: CLEANING OF DRAINAGE SYSTEMS

THE WORK SHALL CONSIST OF THE REMOVAL OF DIRT, SAND, SOIL, PAPER, GLASS, CANS, AND OTHER DEBRIS FROM DRAINAGE SYSTEMS. EQUIPMENT MAY CONSIST OF HAND TOOLS, MANUAL BROOMS, POWER BOOMS, AIR COMPRESSORS, WATER TANKS, WATER PUMPS WITH ASSOCIATED DELIVERY HARDWARE TO CLEAN, FLUSH, AND REMOVE DIRT AND DEBRIS.

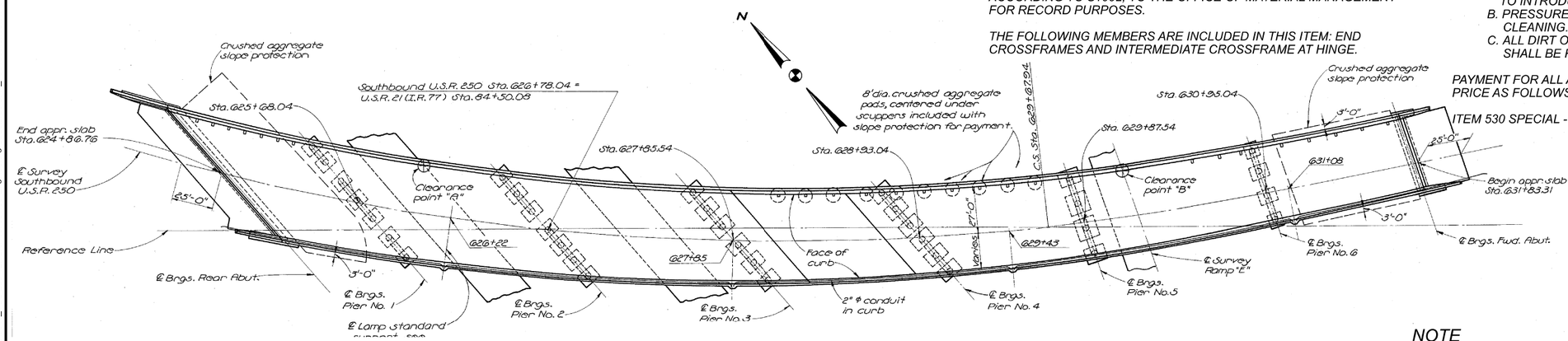
CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT, LABOR AND INCIDENTAL ITEMS NECESSARY TO PROPERLY REMOVE AND DISPOSE OF ALL DEBRIS AND OTHER FOREIGN MATERIAL BY POWER SWEEPING, SHOVELING, SCRAPING, ETC. FOLLOWED BY INSTALLING BMPs AS IDENTIFIED IN THE WORK PLAN FOR BRIDGE CLEANING, AND PRESSURE WASHING THE SCUPPERS.

THE FOLLOWING AREAS OF THE BRIDGE ARE TO BE CLEANED:

1. CLEANING SCUPPERS
   - A. USE SHOVEL, HAND SCRAPERS, AND OTHER HAND TOOLS TO BREAK UP DEBRIS IN SCUPPERS TO THE MAXIMUM EXTENT PRACTICABLE. COLLECT LOOSE AND LARGE DEBRIS FROM THE SCUPPERS PRIOR TO INTRODUCING WATER.
   - B. PRESSURE WASH THE SCUPPERS FOR FINAL CLEANING.
   - C. ALL DIRT OR DEBRIS FROM THE CLEANING OPERATION SHALL BE REMOVED, AND PROPERLY DISPOSED OF.

PAYMENT FOR ALL ABOVE WORK SHALL BE MADE AT CONTRACT BID PRICE AS FOLLOWS:

ITEM 530 SPECIAL - STRUCTURE: CLEANING OF DRAINAGE SYSTEMS



REFERENCE LINE DIAGRAM

NOTE

REFERENCE LINE DIAGRAM ON THIS SHEET IS TAKEN FROM EXISTING PLANS.

GENERAL NOTES & REFERENCE LINE DIAGRAM
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	ERK
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	3
TOTAL	24
SHEET	26
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:38 AM USER: CMT008
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ESTIMATED QUANTITIES					DESIGN: DATE:	AMR 6/21/2021	CHECK: DATE:	MTJ 6/21/2021
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	SHEET #
202	11203	LS	-	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LS	3
202	23500	7	SY	WEARING COURSE REMOVED	7			
509	10000	3602	LB	EPOXY COATED REINFORCING STEEL	1914	1688		
509	20001	2710	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	7	2703		3
510	10000	305	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	305			
511	34410	40	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	2	38		
511	44110	11	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	11			
512	10100	54	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	9	45		
512	10300	93	SY	SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN	2	91		
513	10201	3181	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN		3181		3
513	21000	6	EACH	TRIMMING OF BEAM END		6		3
514	00050	7300	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL		7300		
514	00056	7300	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT		7300		
514	00060	7550	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT		7550		
514	00066	7550	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT		7550		
514	00504	4	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL		4		
514	10000	4	EACH	FINAL INSPECTION REPAIR		4		
516	11211	288	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN		288		21-23
516	44201	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (12.5"X15"X3.124" WITH LOAD PLATE), AS PER PLAN		6		17
516	47001	LS	-	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS	3
519	11101	18	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	18			3
SPECIAL	53000400	25	EACH	STRUCTURE: CLEANING OF DRAINAGE SYSTEMS		25		3

TUS-250-12.32R

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ESTIMATED QUANTITIES
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY transportation

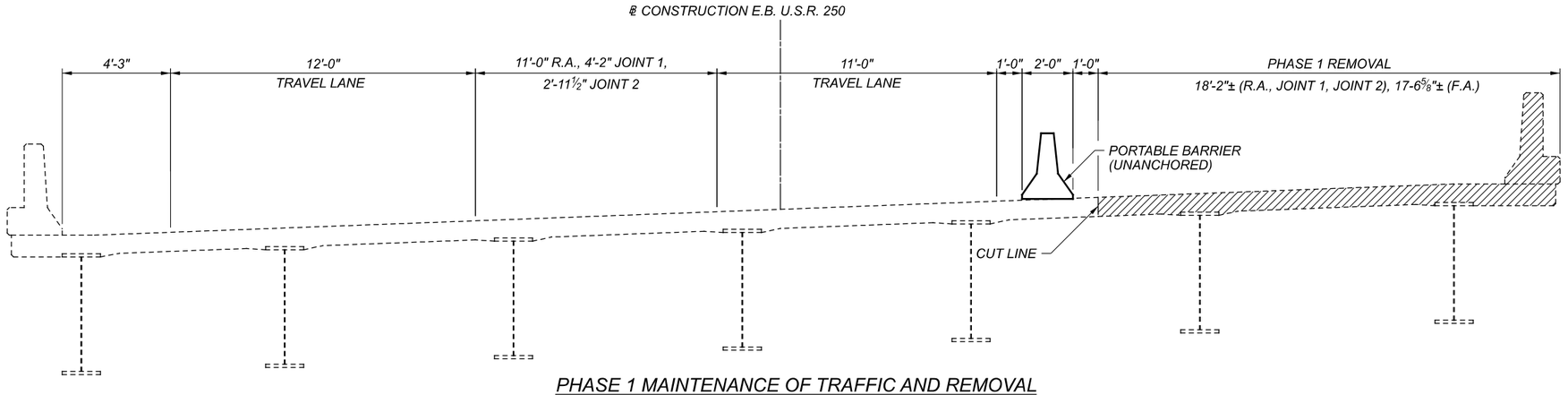
DESIGNER	CHECKER
MTJ	ERK

REVIEWER
STK 6-28-21

PROJECT ID
113790

SUBSET	TOTAL
4	24

SHEET	TOTAL
27	47



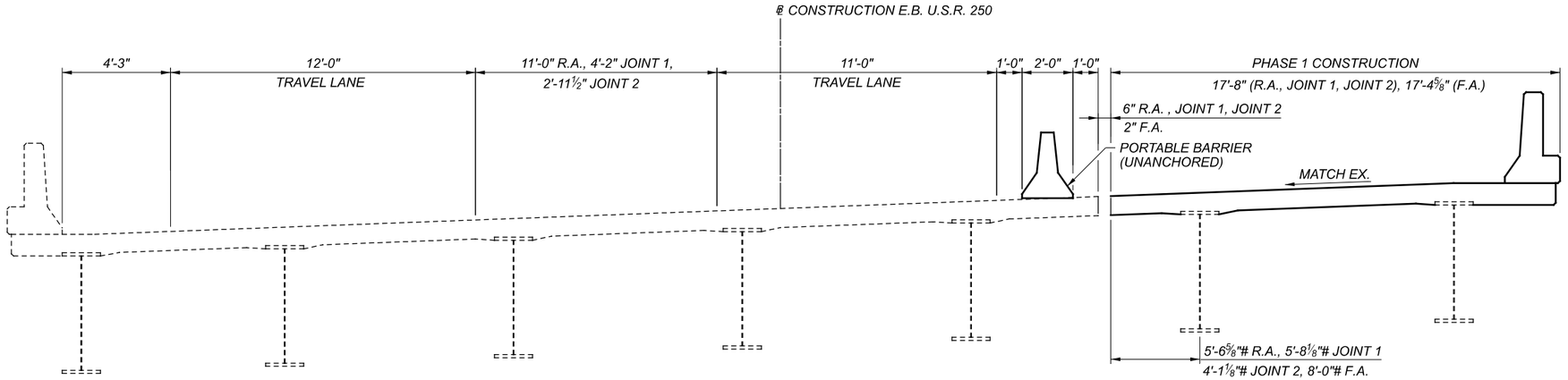
PHASE 1 MAINTENANCE OF TRAFFIC AND REMOVAL

PHASE 1 MAINTENANCE OF TRAFFIC AND REMOVAL

1. ERECT THE UNANCHORED PORTABLE BARRIERS ON THE EXISTING STRUCTURE TO PROVIDE TWO LANE, ONE WAY TRAFFIC. REFER TO STD. DWG. PCB-91 FOR ADDITIONAL DETAILS.
2. REMOVE PORTIONS OF THE EXISTING STRUCTURE NOT NEEDED TO MAINTAIN TRAFFIC AS NECESSARY TO ACCOMMODATE PHASE 1 CONSTRUCTION. REFER TO C&MS 202, THE GENERAL NOTES AND PLAN DETAILS.

PHASE 1 CONSTRUCTION

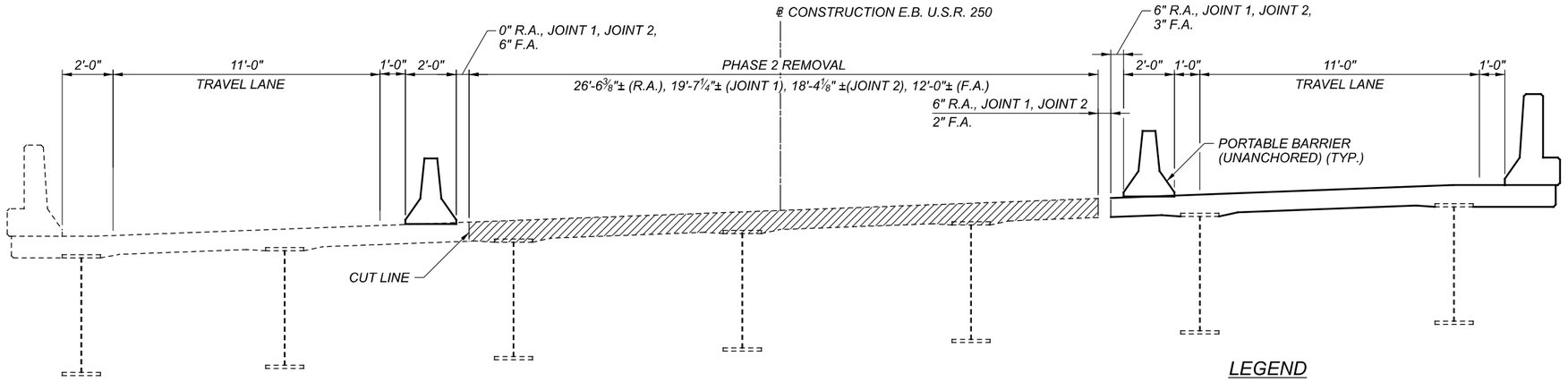
1. CONSTRUCT THE RIGHT PORTIONS OF THE ABUTMENTS, DECK, AND PARAPET AS SHOW IN THE PLANS.



PHASE 1 CONSTRUCTION

PHASE 2 MAINTENANCE OF TRAFFIC AND REMOVAL

1. ERECT THE UNANCHORED PORTABLE BARRIERS ON EXISTING STRUCTURE & STAGE 1 CONSTRUCTION AS SHOWN TO PROVIDE TWO LANE, ONE WAY TRAFFIC. REFER TO STD. DWG. PCB-1-91 FOR ADDITIONAL DETAILS.
2. REMOVE PORTIONS OF THE EXISTING STRUCTURE NOT NEEDED TO MAINTAIN TRAFFIC AS NECESSARY TO ACCOMMODATE PHASE 2 CONSTRUCTION. REFER TO C&MS 202, THE GENERAL NOTES AND PLAN DETAILS.



PHASE 2 MAINTENANCE OF TRAFFIC AND REMOVAL

NOTES:

1. SEE SHEET 7/24 FOR ADDITIONAL PHASE CONSTRUCTION DIMENSIONS.
2. SEE ROADWAY PLANS FOR PAYMENT OF PORTABLE BARRIER.

LEGEND

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

- MEASURED PERPENDICULAR TO BEAM CENTERLINE

PHASE CONSTRUCTION DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
MTJ	GDJ

REVIEWER
STK 6-28-21

PROJECT ID
113790

SUBSET	TOTAL
5	24

SHEET	TOTAL
28	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:42 AM USER: CMT008
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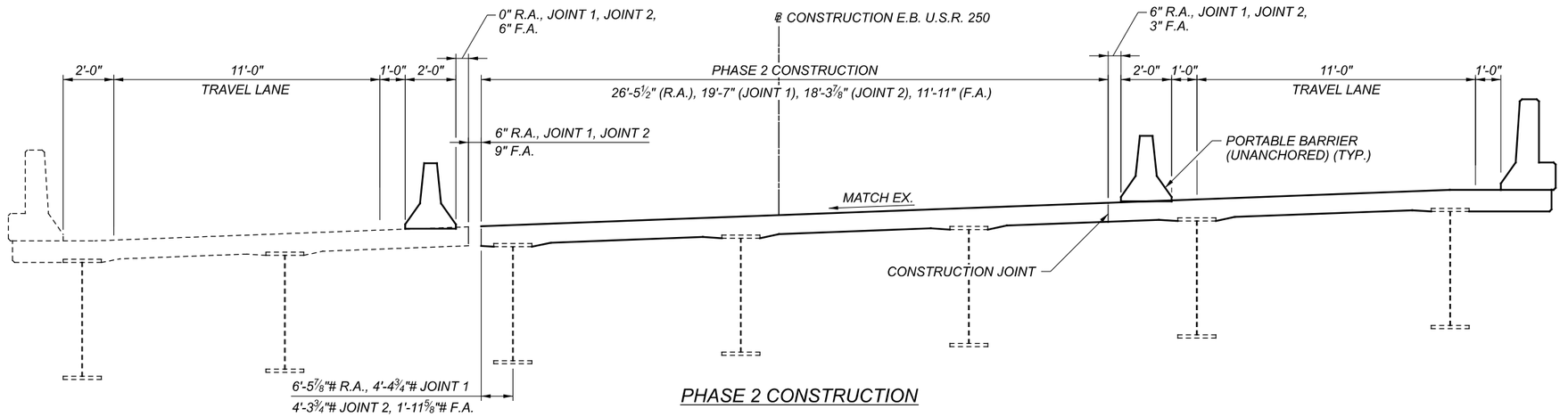
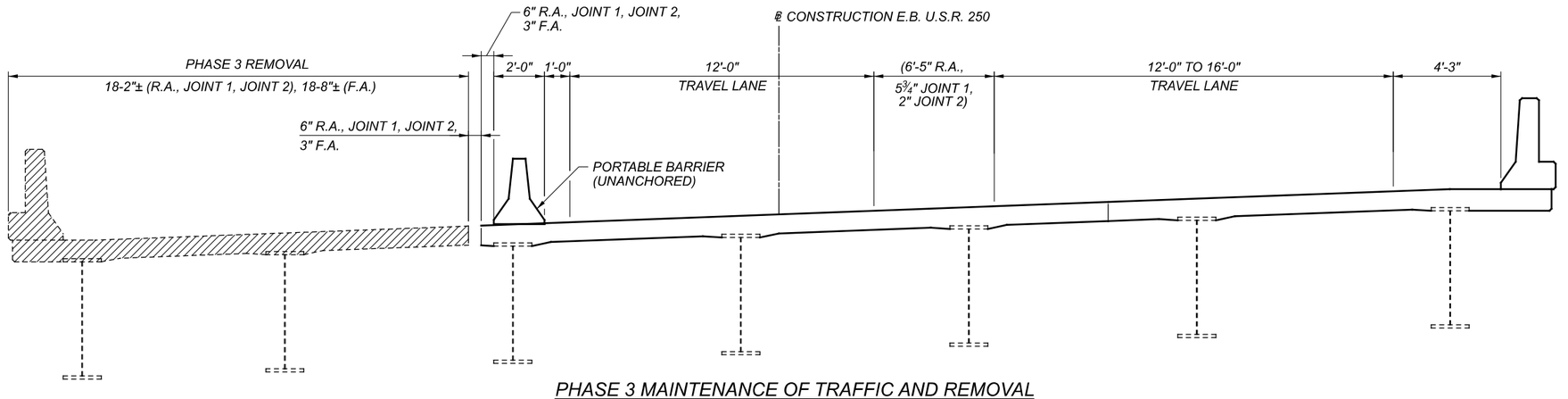


PHASE 2 CONSTRUCTION



PHASE 3 MAINTENANCE OF TRAFFIC AND REMOVAL

PHASE 2 CONSTRUCTION

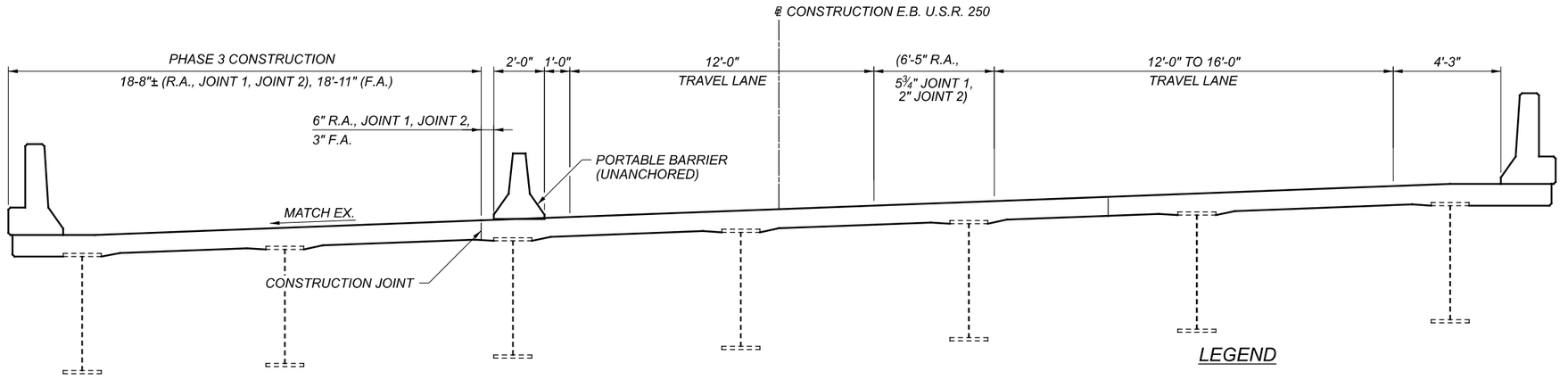
1. CONSTRUCT THE MIDDLE PORTIONS OF THE ABUTMENTS & DECK AS SHOWN IN THE PLANS.

PHASE 3 MAINTENANCE OF TRAFFIC AND REMOVAL

1. ERECT THE UNANCHORED PORTABLE BARRIERS ON STAGE 2 CONSTRUCTION AS SHOWN TO PROVIDE TWO LANE, ONE WAY TRAFFIC. REFER TO STD. DWG. PCB-1-91 FOR ADDITIONAL DETAILS.
2. REMOVE REMAINING PORTIONS OF THE EXISTING STRUCTURE PER C&MS 202, THE GENERAL NOTES, AND PLAN DETAILS.

PHASE 3 CONSTRUCTION

1. CONSTRUCT THE REMAINING PORTIONS OF THE ABUTMENTS, DECK, & PARAPETS AS SHOWN IN THE PLANS.
2. REMOVE THE PORTABLE BARRIERS AND OPEN COMPLETED BRIDGE TO TRAFFIC.
3. PERFORM REMAINING MISCELLANEOUS TASKS, SUCH AS SEALING CONCRETE SURFACES.



PHASE 3 CONSTRUCTION

NOTES:

1. SEE SHEET 7/24 FOR ADDITIONAL PHASE CONSTRUCTION DIMENSIONS.
2. SEE ROADWAY PLANS FOR PAYMENT OF PORTABLE BARRIER.

LEGEND

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

- MEASURED PERPENDICULAR TO BEAM CENTERLINE

PHASE CONSTRUCTION DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
MTJ	GDJ

REVIEWER
STK 6-28-21

PROJECT ID 113790

SUBSET	TOTAL
6	24

SHEET	TOTAL
29	47

TUS-250-12.32R

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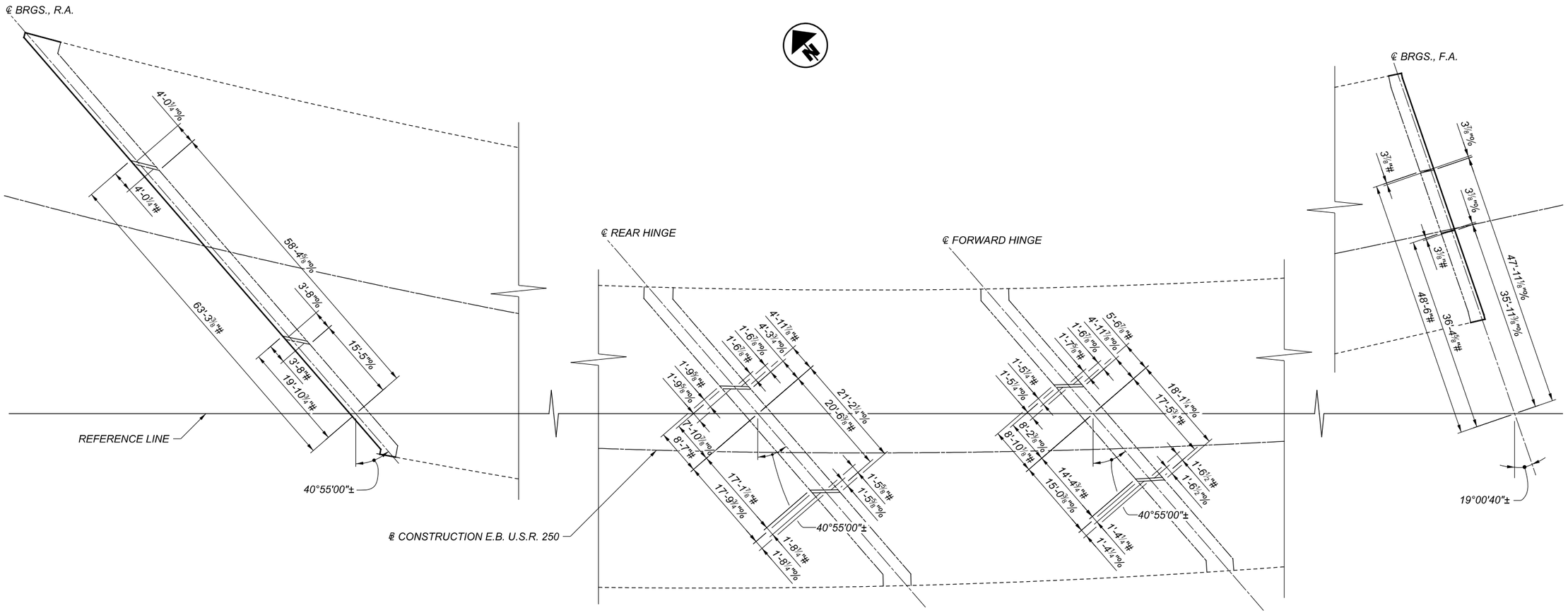

PLAN

LEGEND

 # - DIMENSIONED TO REMOVAL CUT LINE

% - DIMENSIONED TO CONSTRUCTION JOINT

NOTE

SEE SHEET 3/24 *FOR REFERENCE LINE DIAGRAM*

PHASE CONSTRUCTION JOINT PLAN
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
ERK	AMR

REVIEWER: STK 6-28-21

PROJECT ID: 113790

SUBSET	TOTAL
7	24

SHEET	TOTAL
30	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:43 AM USER: CMT008
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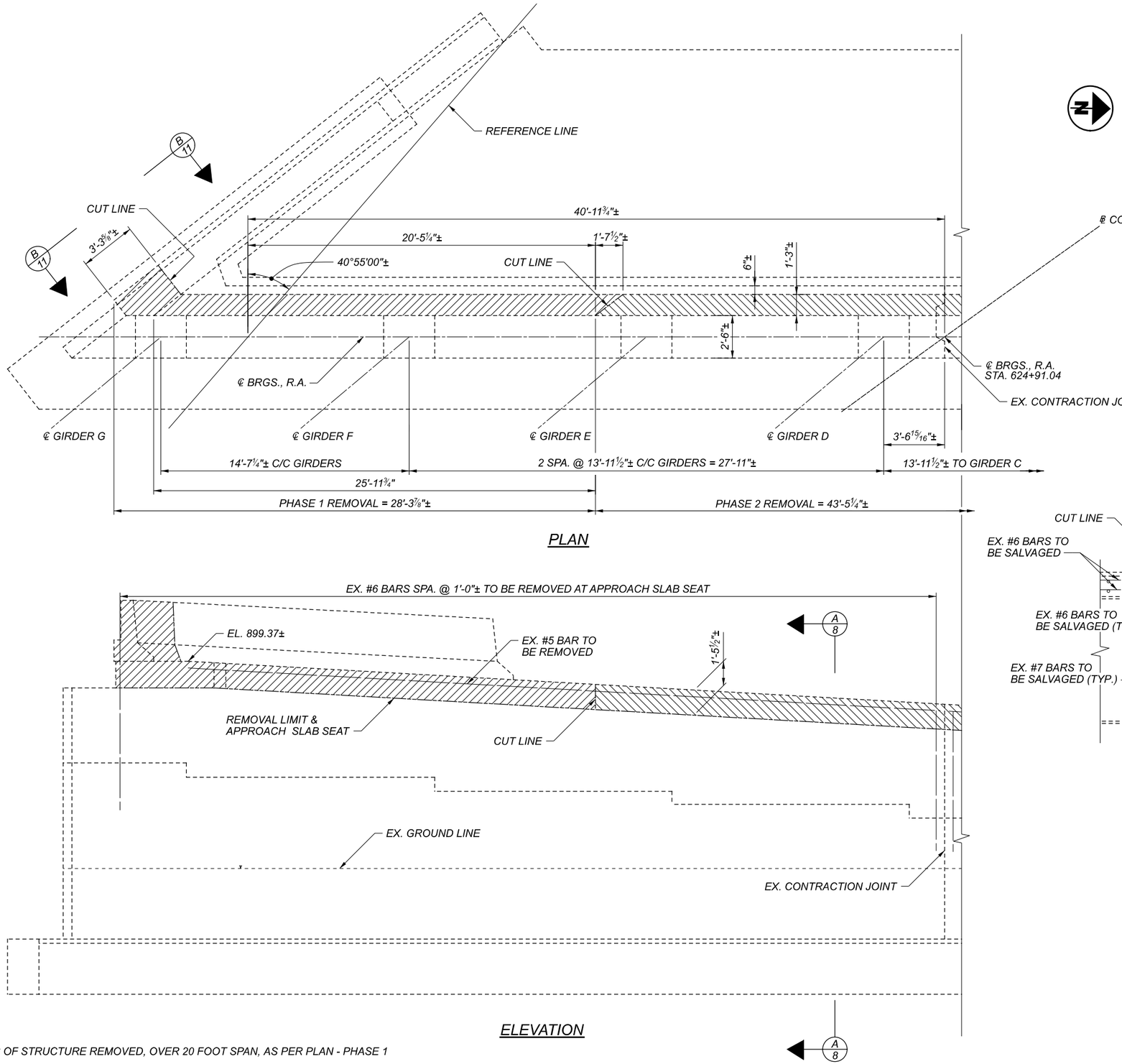
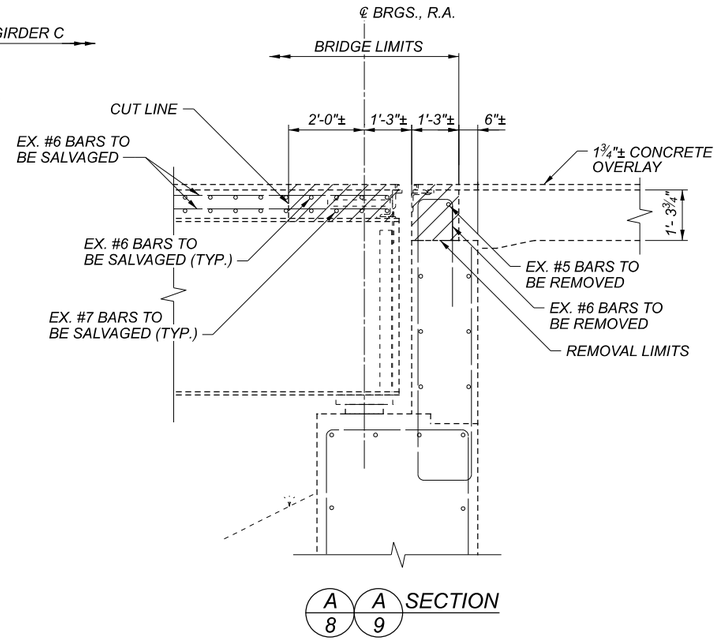


PLAN

ELEVATION



A/8 A/9 SECTION

LEGEND

PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 1

PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 2

NOTE

ELEVATIONS GIVEN ARE BASED ON EXISTING PLANS.
ELEVATIONS ASSUME ¼" SCARIFICATION AND 1¾" OVERLAY. CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS PRIOR TO REMOVAL AND ORDERING EXPANSION JOINT ARMOR.

REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY: CARPENTER MARTY Transportation

DESIGNER	CHECKER
MTJ	ERK

REVIEWER: STK 6-28-21

PROJECT ID: 113790

SUBSET	TOTAL
8	24

SHEET	TOTAL
31	47

TUS-250-12.32R

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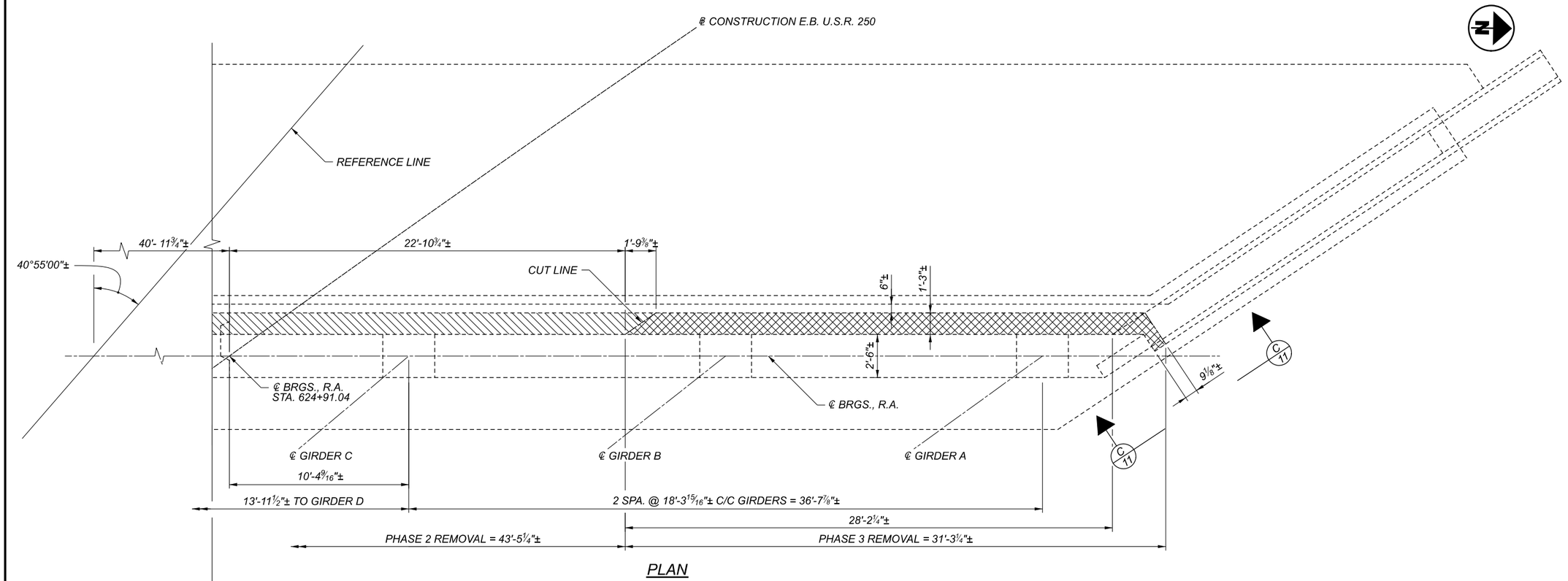

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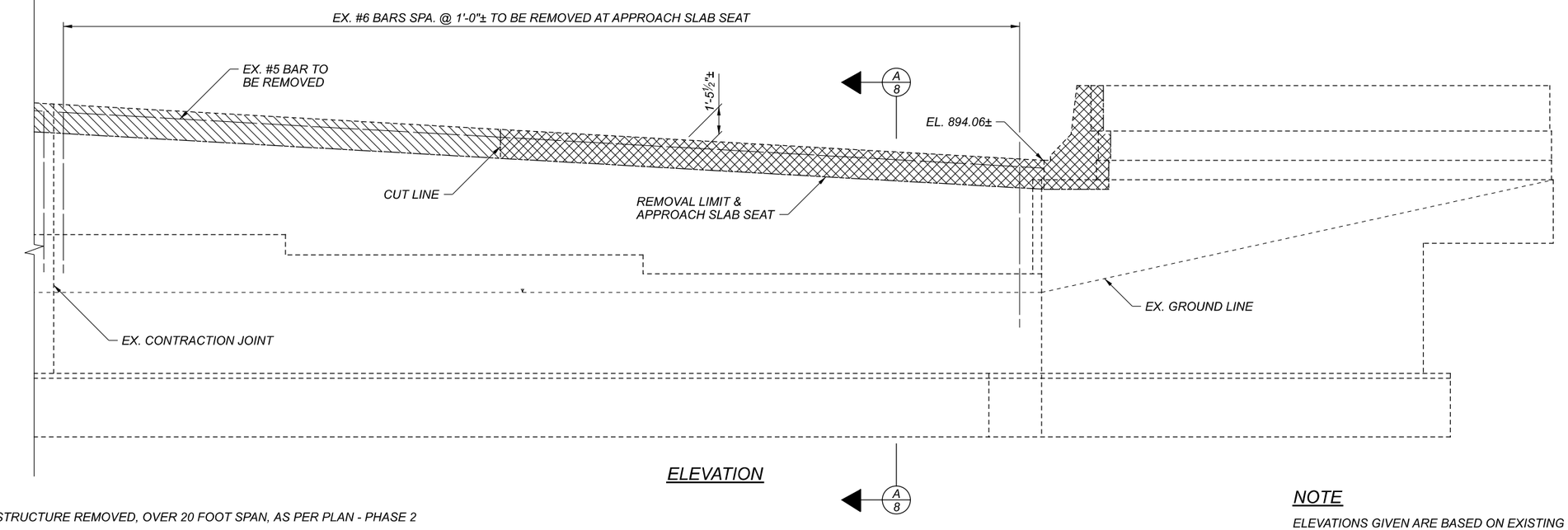

ELEVATION

LEGEND

PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 2

PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 3

NOTE

ELEVATIONS GIVEN ARE BASED ON EXISTING PLANS.
ELEVATIONS ASSUME ¼" SCARIFICATION AND 1¾" OVERLAY.
CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS PRIOR TO REMOVAL AND ORDERING EXPANSION JOINT ARMOR.

REAR ABUTMENT REMOVAL DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:44 AM USER: CMT008
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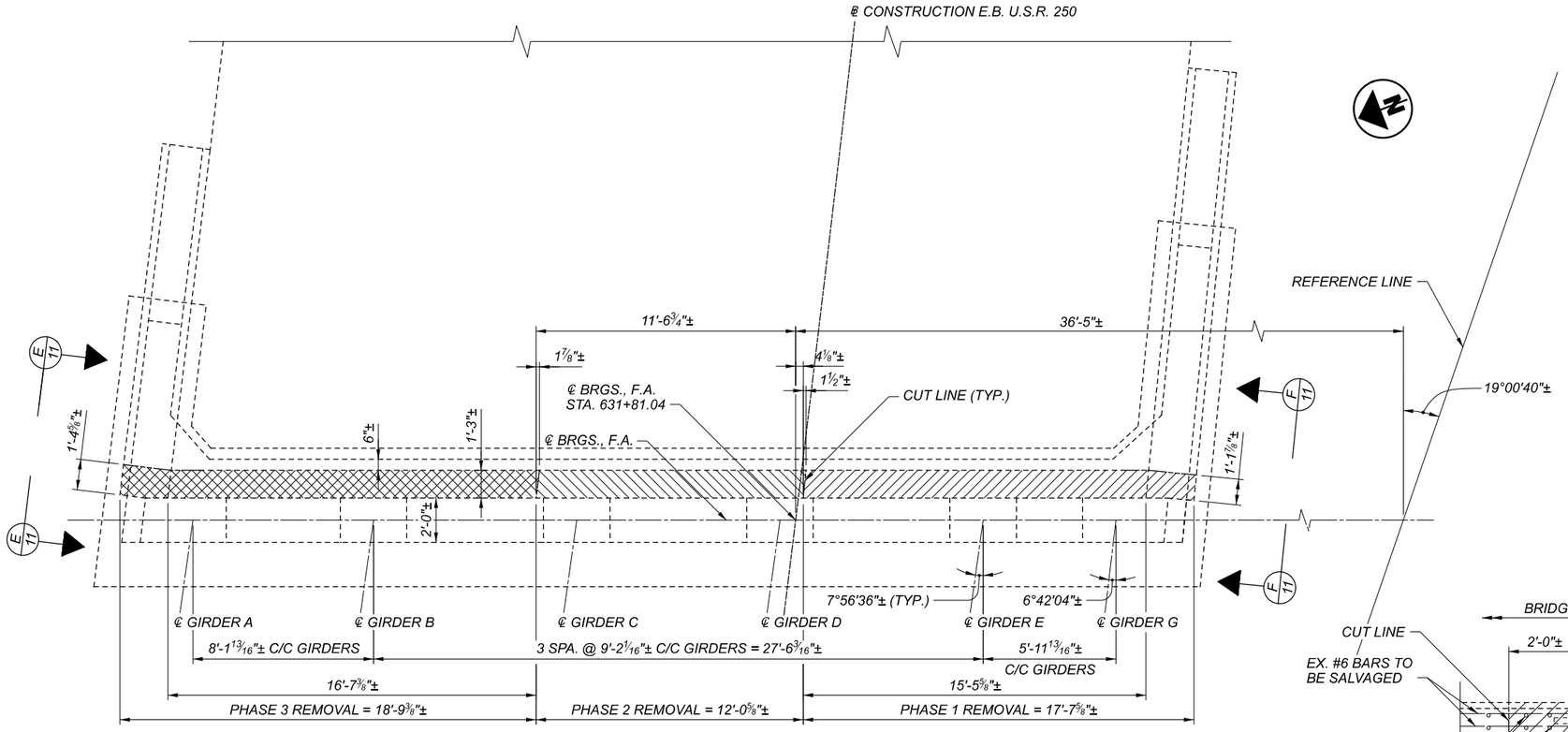
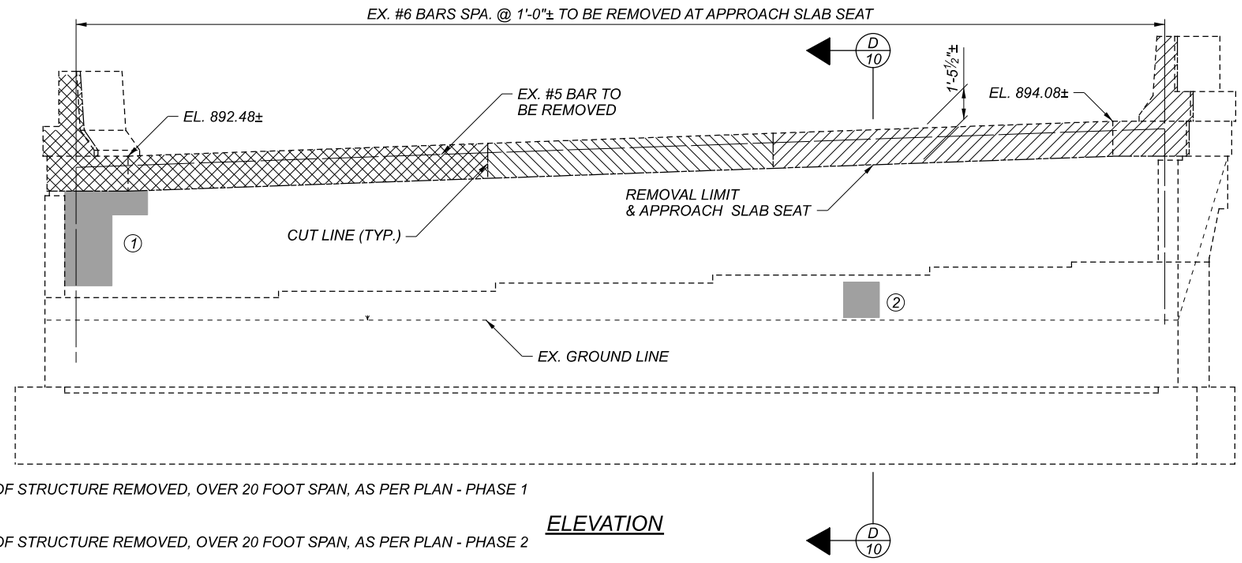
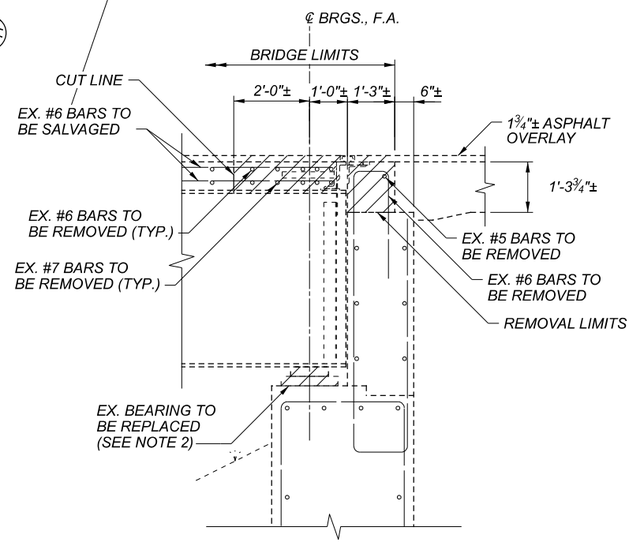
SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	ERK
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	9
TOTAL	24
SHEET	32
TOTAL	47



PLAN



ELEVATION



D 10 SECTION

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PHYSICAL INVENTORY OF MEASURED QUANTITIES OF DETERIORATION WAS PERFORMED IN FEBRUARY OF 2021.

EXACT DIMENSIONS AND LOCATIONS OF PATCHES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ESTIMATED PATCHING QUANTITIES (S.F.)

FORWARD ABUTMENT	MEASURED QUANTITIES	ESTIMATED QUANTITIES
①	9.5	14.25*
②	2.25	3.38*
TOTAL F.A.	11.75	17.63*

* - ESTIMATED QUANTITIES HAVE BEEN INCREASED BY 50% OVER MEASURED QUANTITIES TO ACCOUNT FOR ADDITIONAL DETERIORATION.

LEGEND

- PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 1
- PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 2
- PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN - PHASE 3
- PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES

1. ELEVATIONS GIVEN ARE BASED ON EXISTING PLANS. ELEVATIONS ASSUME ¼" SCARIFICATION AND 1¾" OVERLAY. CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS PRIOR TO REMOVAL AND ORDERING EXPANSION JOINT ARMOR.
2. EXISTING BEARING ANCHOR BOLTS TO BE TRIMMED FLUSH WITH EXISTING BEAM SEAT. COST TO BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

FORWARD ABUTMENT REMOVAL DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY Transportation
DESIGNER	MTJ
CHECKER	ERK
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	10
TOTAL	24
SHEET	33
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:44 AM USER: CMT008
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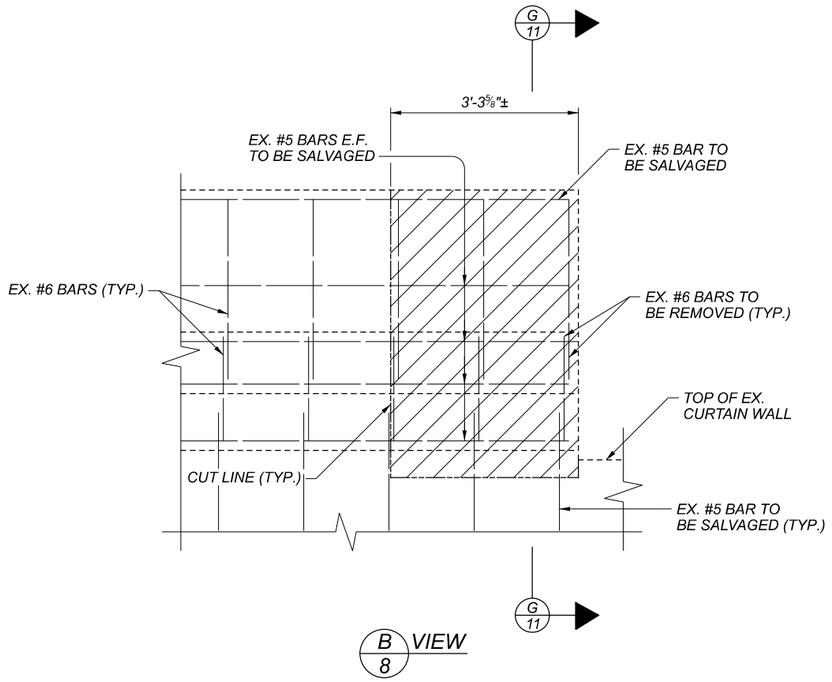
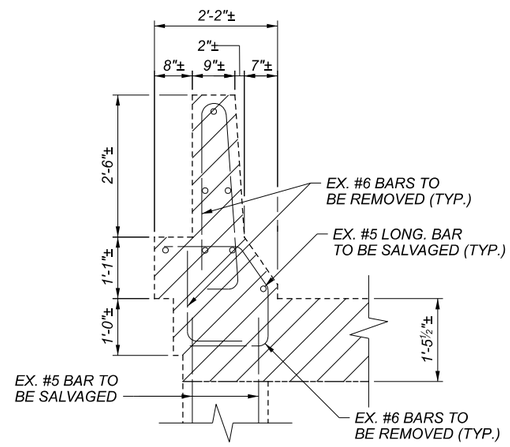


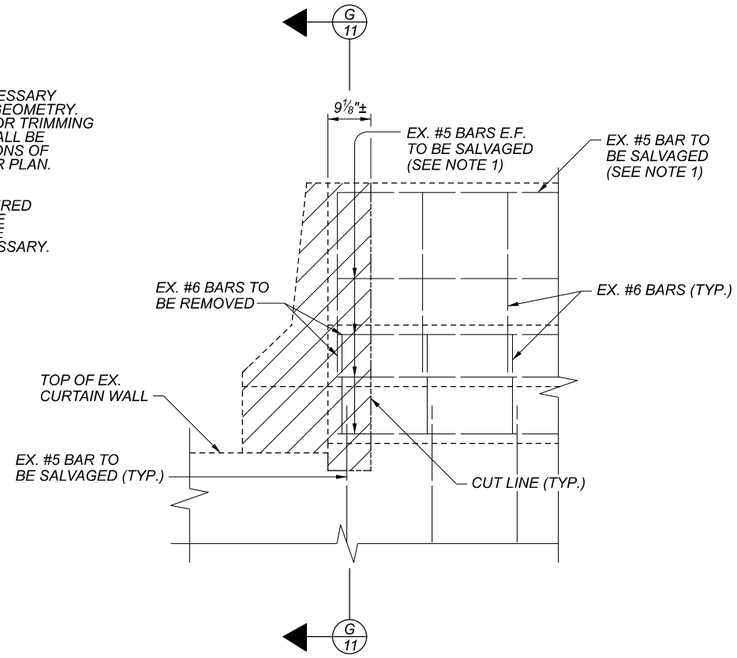
B / 8 VIEW

NOTES

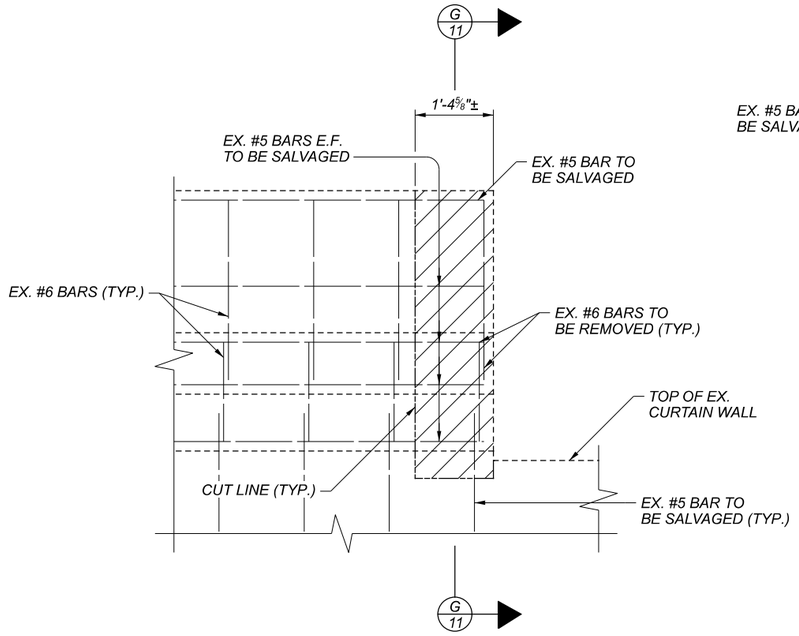
1. EXISTING REINFORCING SHALL BE TRIMMED AS NECESSARY TO PROVIDE 2" COVER IN RELATION TO PROPOSED GEOMETRY. COAT TRIMMED ENDS PER C&MS 509.09. PAYMENT FOR TRIMMING AND COATING OF EXISTING REINFORCING STEEL SHALL BE MADE AT THE LUMP SUM PRICE BID ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. EXISTING PLANS OF CONCRETE PARAPETS ARE NOT AVAILABLE AND PARAPET DIMENSIONS WERE MEASURED IN THE FIELD. REINFORCING STEEL SHOWN SHALL BE CONSIDERED APPROXIMATE. CONTRACTOR TO MAKE APPROPRIATE ADJUSTMENTS IN THE FIELD AS NECESSARY.



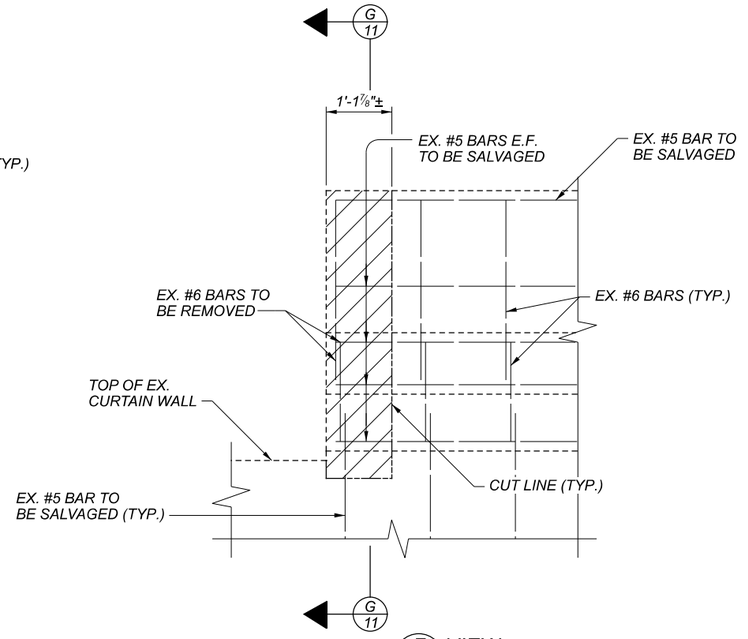
G / 11 SECTION



C / 9 VIEW



E / 10 VIEW



F / 10 VIEW

LEGEND

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

TUS-250-12.32R

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REMOVAL DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY Transportation

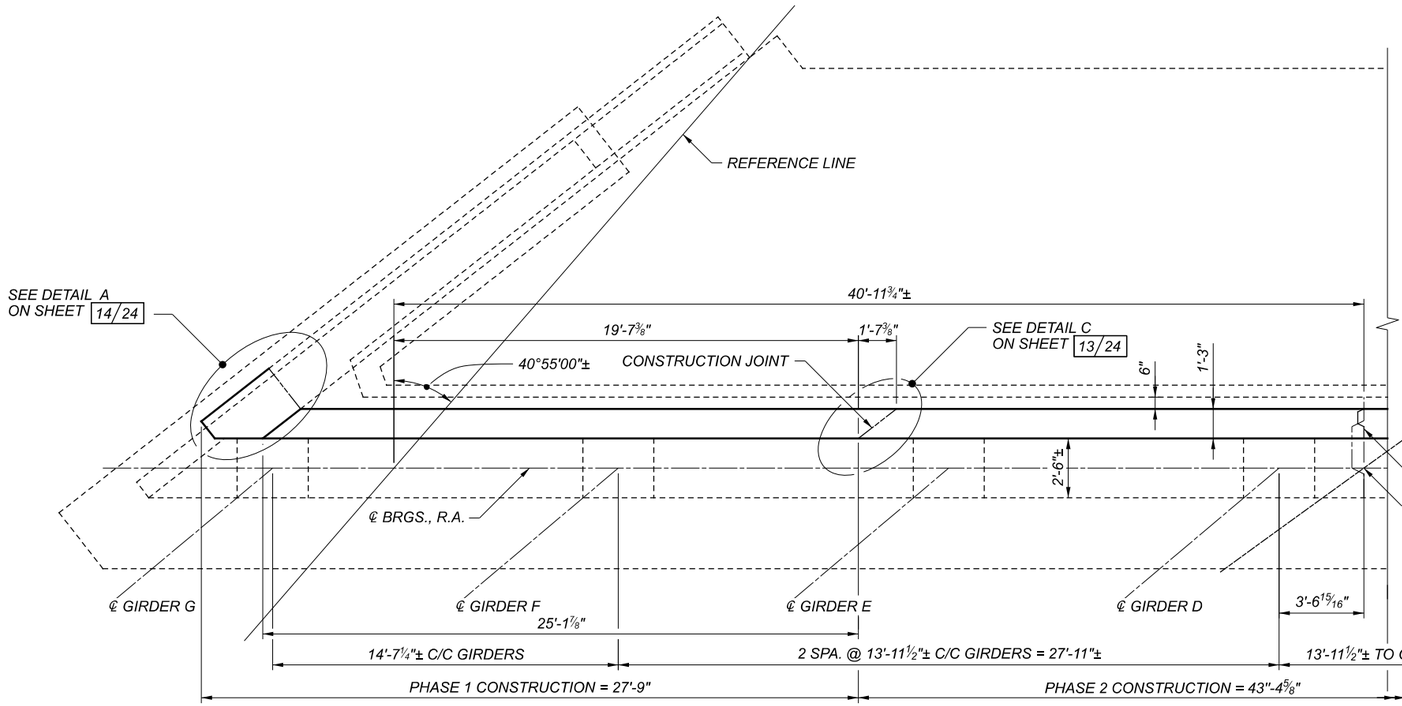
DESIGNER	CHECKER
MTJ	ERK

REVIEWER
STK 6-28-21

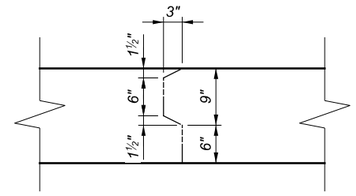
PROJECT ID
113790

SUBSET	TOTAL
11	24

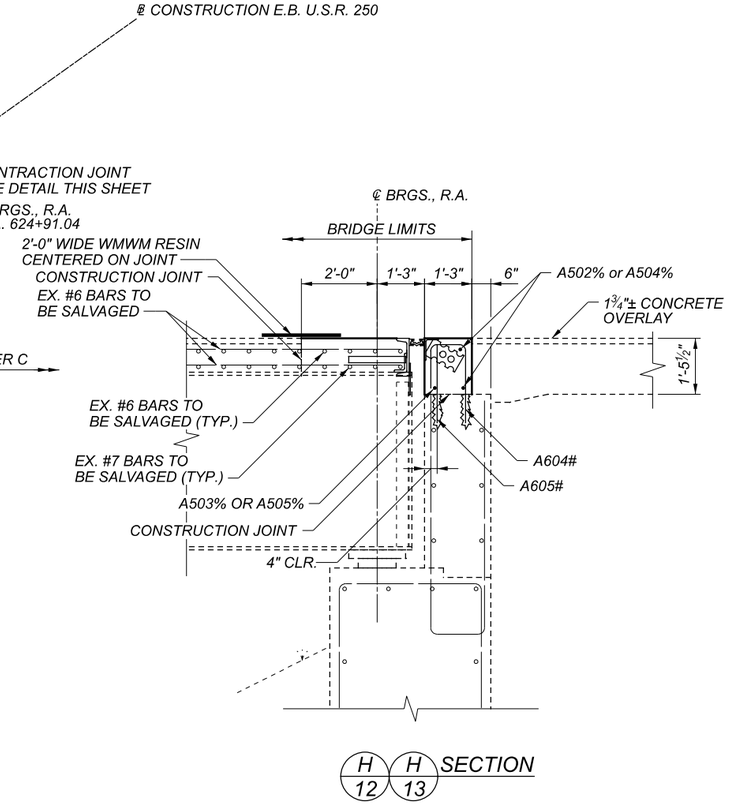
SHEET	TOTAL
34	47



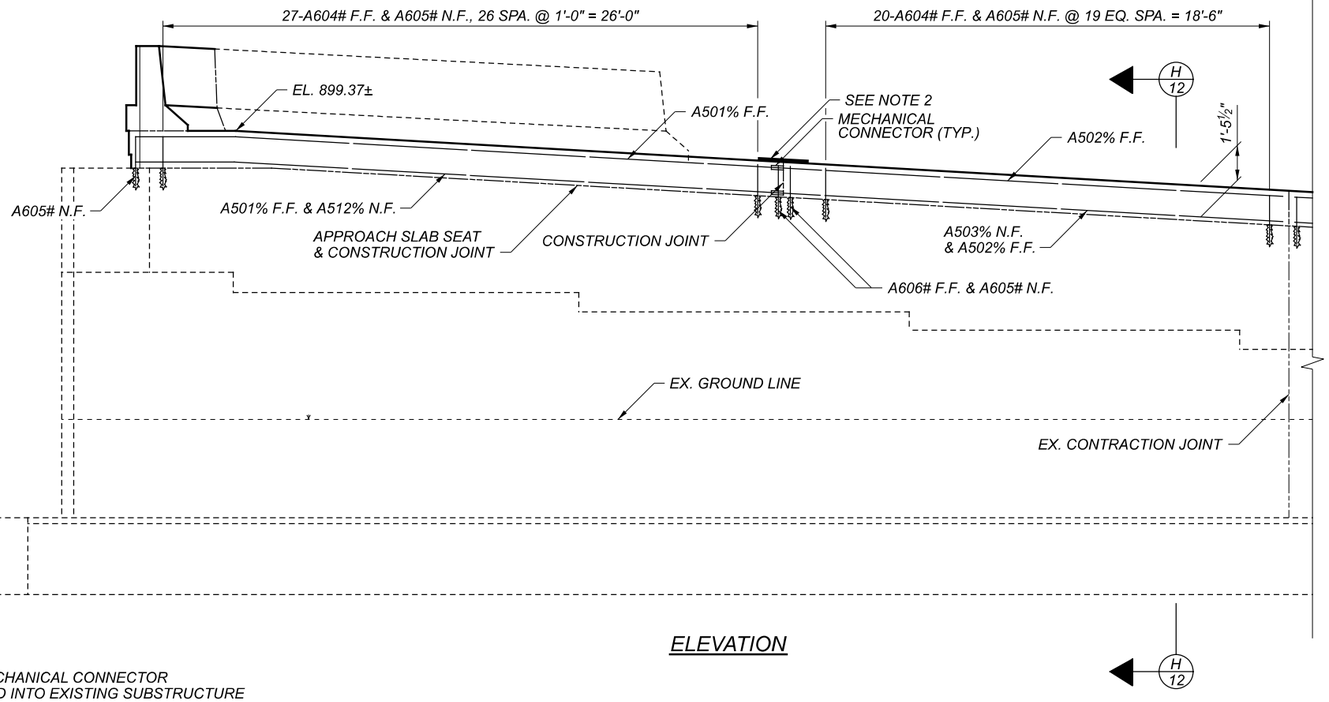
PLAN



CONTRACTION JOINT DETAIL



H 12 H 13 SECTION



ELEVATION

LEGEND

F.F. - FAR FACE
E.F. - EACH FACE
N.F. - NEAR FACE
% - BAR TO UTILIZE MECHANICAL CONNECTOR
# - BAR TO BE DOWELED INTO EXISTING SUBSTRUCTURE

NOTES

1. ELEVATIONS GIVEN ARE BASED ON EXISTING PLANS. ELEVATIONS ASSUME ¼" SCARIFICATION AND 1¾" OVERLAY. CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS PRIOR TO REMOVAL AND ORDERING EXPANSION JOINT ARMOR.
2. 2'-0" WIDE HMWM RESIN CENTERED ON TOP OF BACKWALL CONSTRUCTION JOINT. INCLUDE FOR PAYMENT WITH ITEM 512, SEALING CONCRETE DECKS WITH HMWM RESIN.
3. MINIMUM EMBEDMENT DEPTH FOR DOWEL BARS: #6 BAR = 9 INCHES

REAR ABUTMENT DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	ERK
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	12
TOTAL	24
SHEET	35
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17X11 (In.) DATE: 9/15/2021 TIME: 6:53:45 AM USER: CMT008
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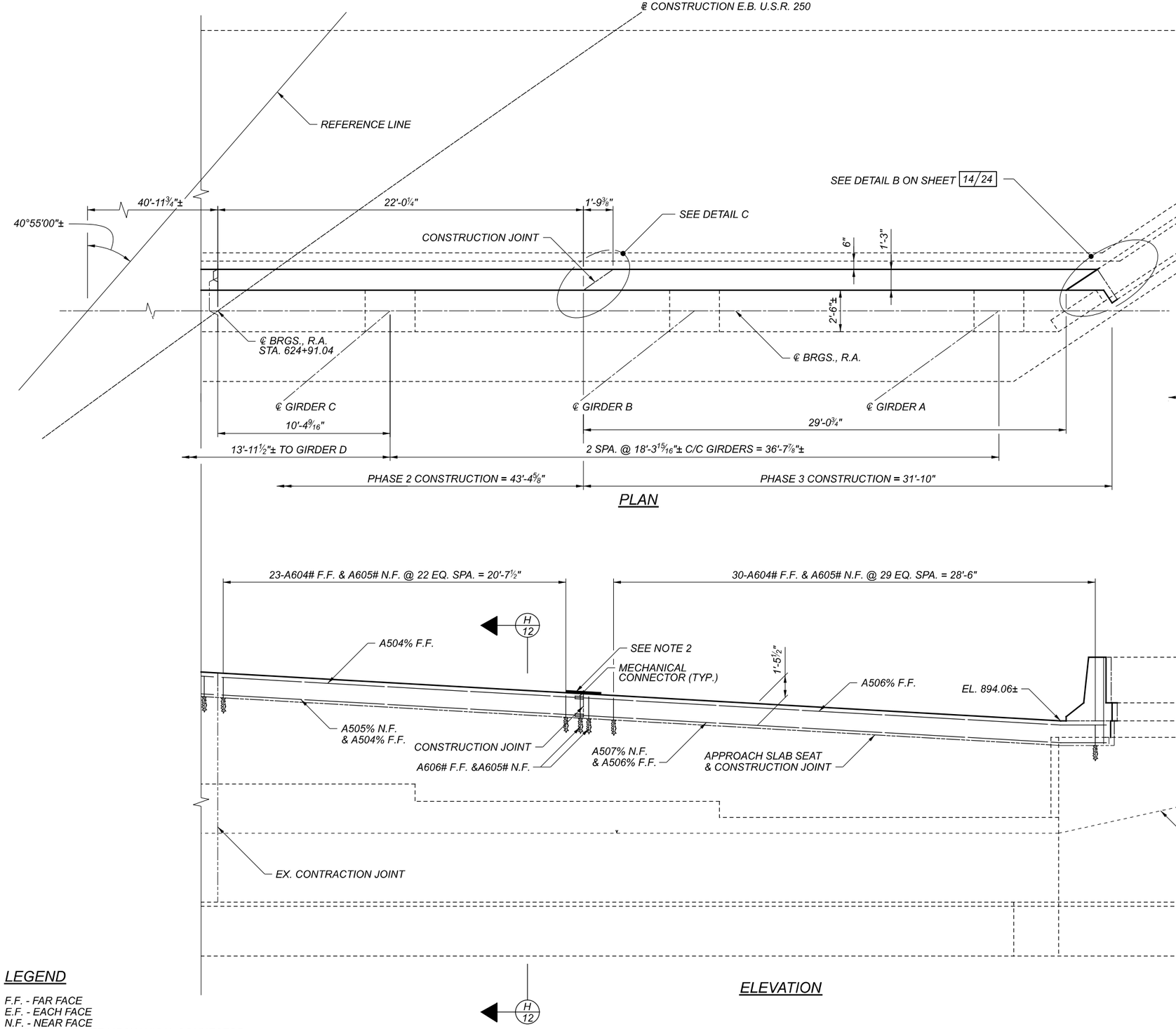

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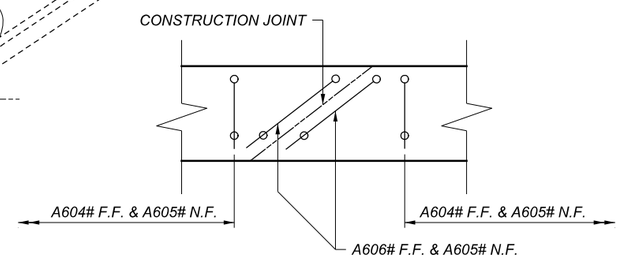
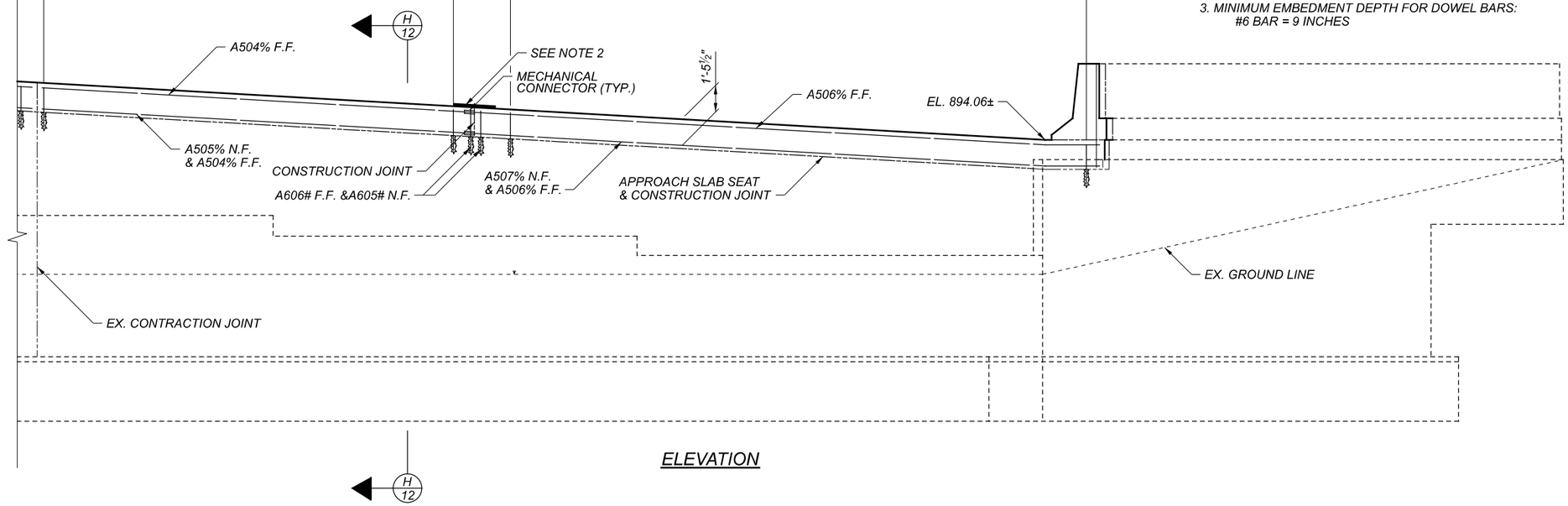


DETAIL C

NOTES

1. ELEVATIONS GIVEN ARE BASED ON EXISTING PLANS. ELEVATIONS ASSUME ¼" SCARIFICATION AND 1¾" OVERLAY. CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS PRIOR TO REMOVAL AND ORDERING EXPANSION JOINT ARMOR.
2. 2'-0" WIDE HMWM RESIN CENTERED ON TOP OF BACKWALL CONSTRUCTION JOINT. INCLUDE FOR PAYMENT WITH ITEM 512, SEALING CONCRETE DECKS WITH HMWM RESIN.
3. MINIMUM EMBEDMENT DEPTH FOR DOWEL BARS: #6 BAR = 9 INCHES



ELEVATION

LEGEND

F.F. - FAR FACE
E.F. - EACH FACE
N.F. - NEAR FACE
% - BAR TO UTILIZE MECHANICAL CONNECTOR
# - BAR TO BE DOWELED INTO EXISTING SUBSTRUCTURE

REAR ABUTMENT DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835
DESIGN AGENCY: CARPENTER MARTY transportation
DESIGNER MTJ | CHECKER ERK
REVIEWER STK 6-28-21
PROJECT ID 113790
SUBSET 13 | TOTAL 24
SHEET 36 | TOTAL 47

TUS-250-12.32R

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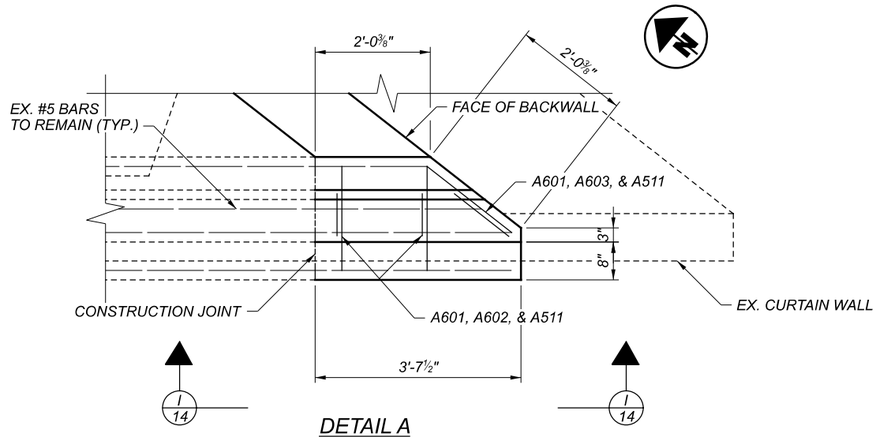
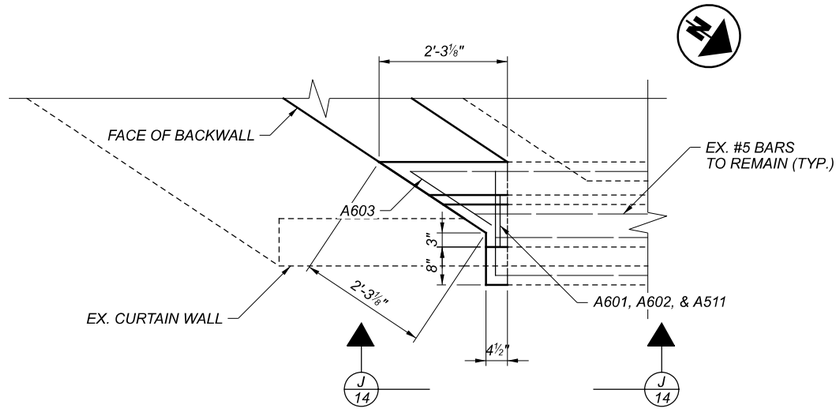
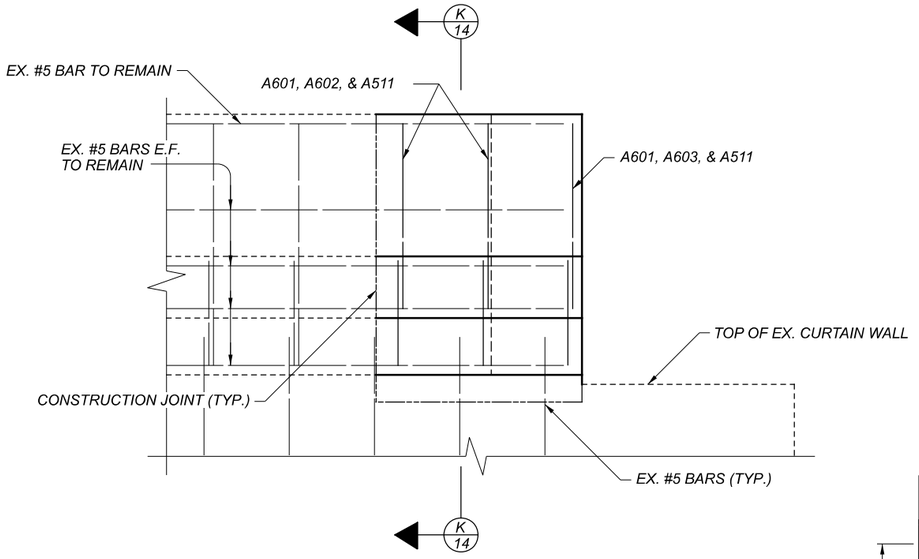


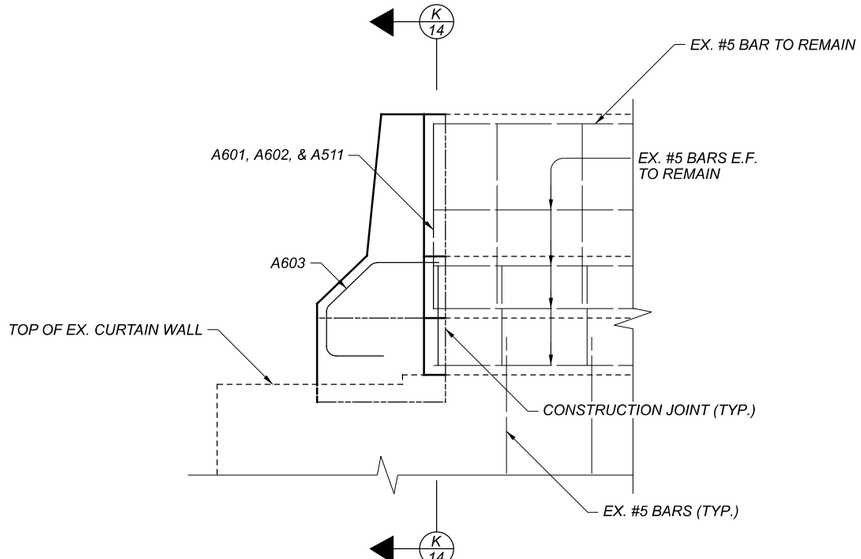
DETAIL A



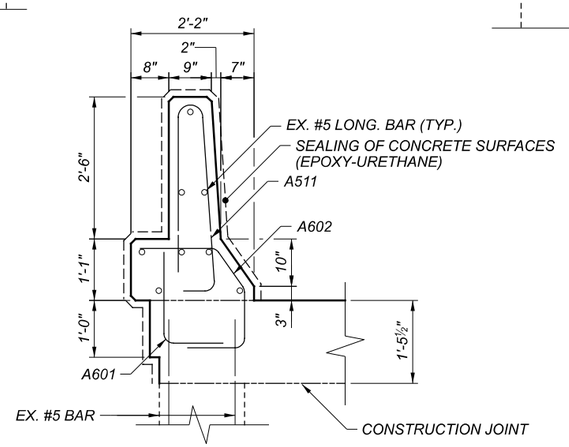
DETAIL B



I 14 VIEW



J 14 VIEW



K 14 K 16 SECTION

LEGEND

E.F. - EACH FACE

TUS-250-12.32R

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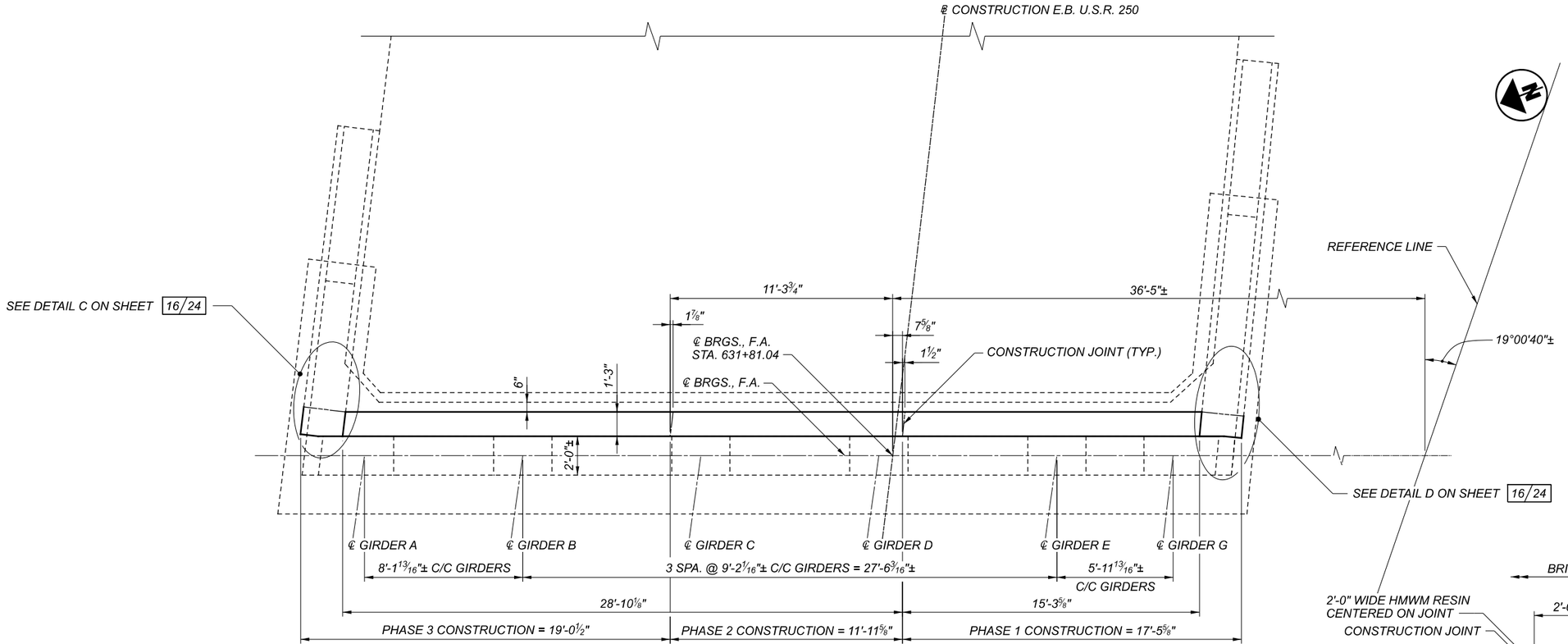
REAR ABUTMENT PARAPET DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	ERK
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	14
TOTAL	24
SHEET	37
TOTAL	47



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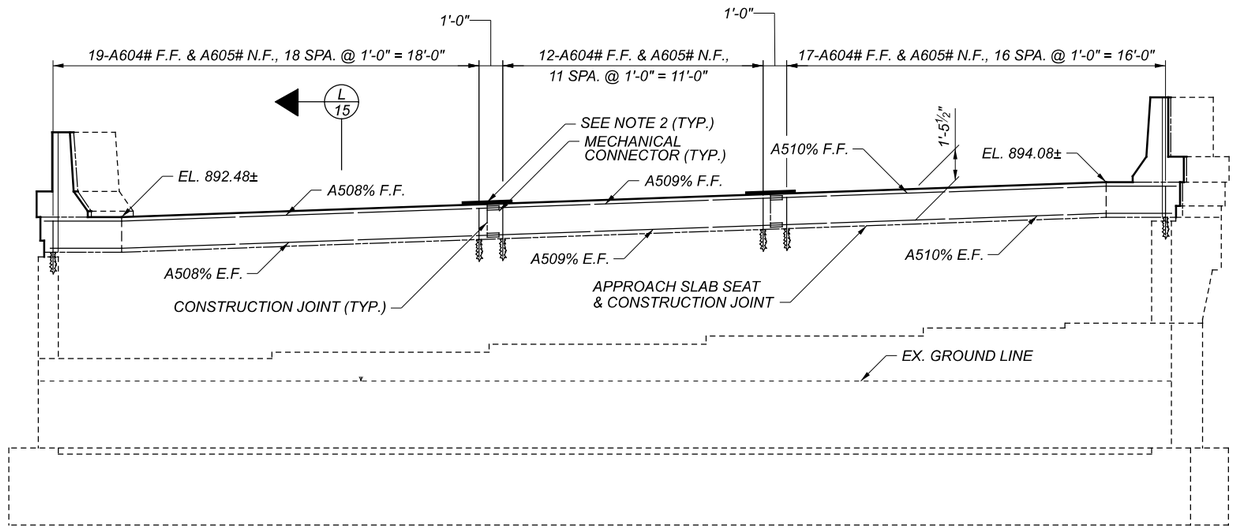
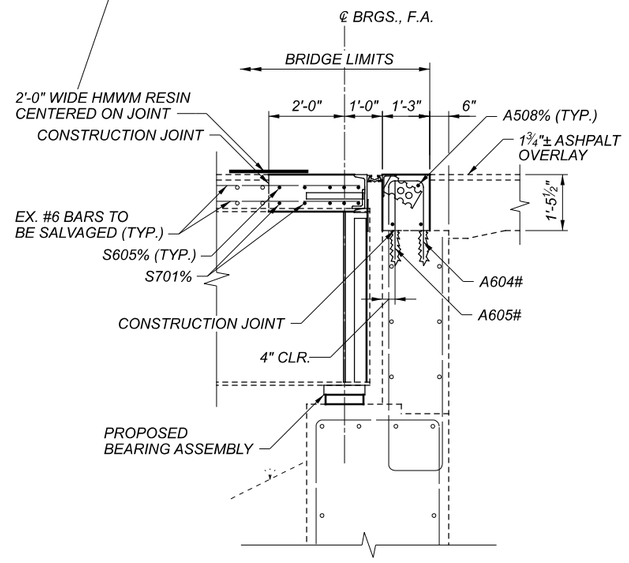


ELEVATION



L 15 SECTION

LEGEND

F.F. - FAR FACE
E.F. - EACH FACE
% - BAR TO UTILIZE MECHANICAL CONNECTOR
# - BAR TO BE DOWELED INTO EXISTING SUBSTRUCTURE

NOTES

1. ELEVATIONS GIVEN ARE BASED ON EXISTING PLANS. ELEVATIONS ASSUME ¼" SCARIFICATION AND 1¾" OVERLAY. CONTRACTOR TO VERIFY ALL EXISTING ELEVATIONS PRIOR TO REMOVAL AND ORDERING EXPANSION JOINT ARMOR.
2. 2'-0" WIDE HMWM RESIN CENTERED ON TOP OF BACKWALL CONSTRUCTION JOINT. INCLUDE FOR PAYMENT WITH ITEM 512, SEALING CONCRETE DECKS WITH HMWM RESIN.
3. MINIMUM EMBEDMENT DEPTH FOR DOWEL BARS: #6 BAR = 9 INCHES

FORWARD ABUTMENT DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:46 AM USER: CMT008
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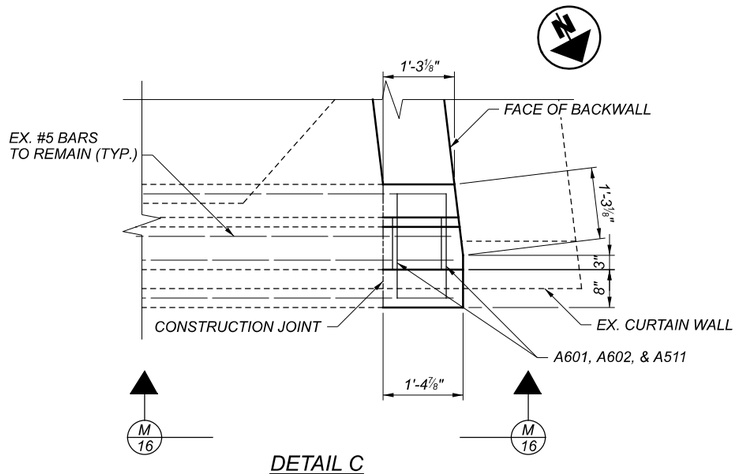
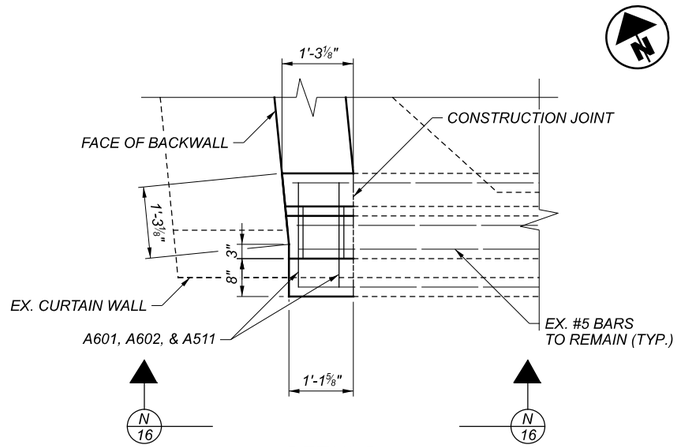
SFN 7904835
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER MTJ | CHECKER ERK
REVIEWER STK 6-28-21
PROJECT ID 113790
SUBSET 15 | TOTAL 24
SHEET 38 | TOTAL 47



DETAIL C



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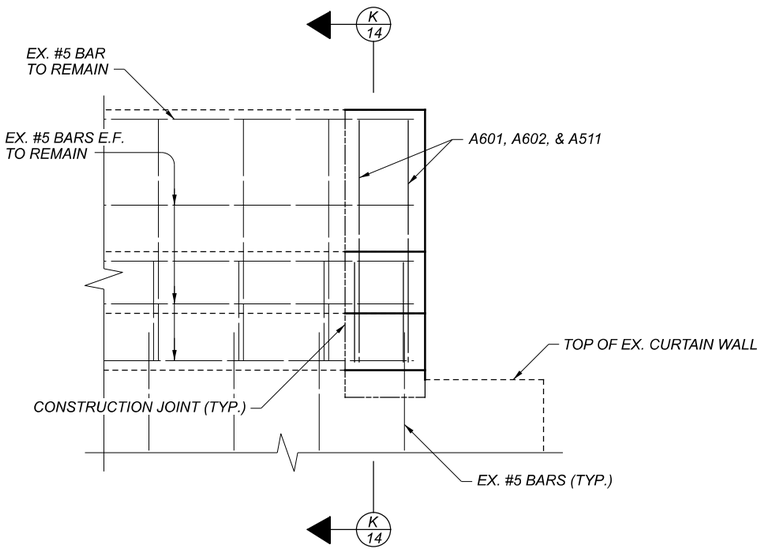
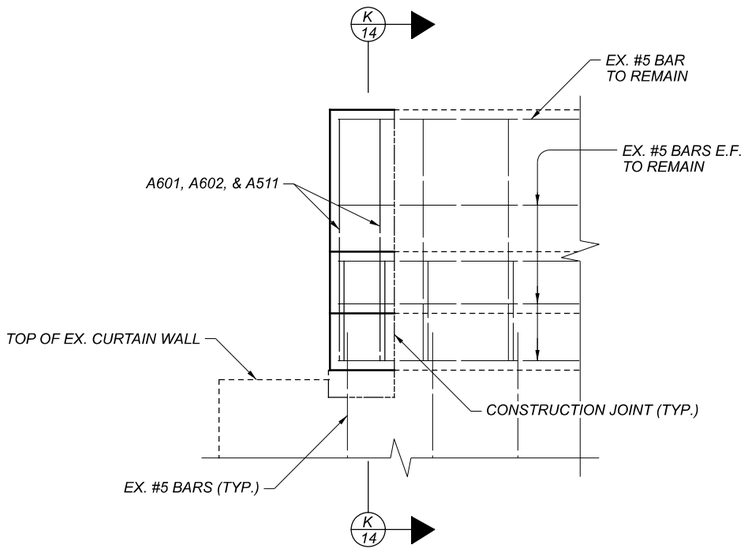


M 16 VIEW



N 16 VIEW

LEGEND

E.F. - EACH FACE

FORWARD ABUTMENT PARAPET DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY engineering
DESIGNER	MTJ
CHECKER	ERK
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	16
TOTAL	24
SHEET	39
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:47 AM USER: CMT008
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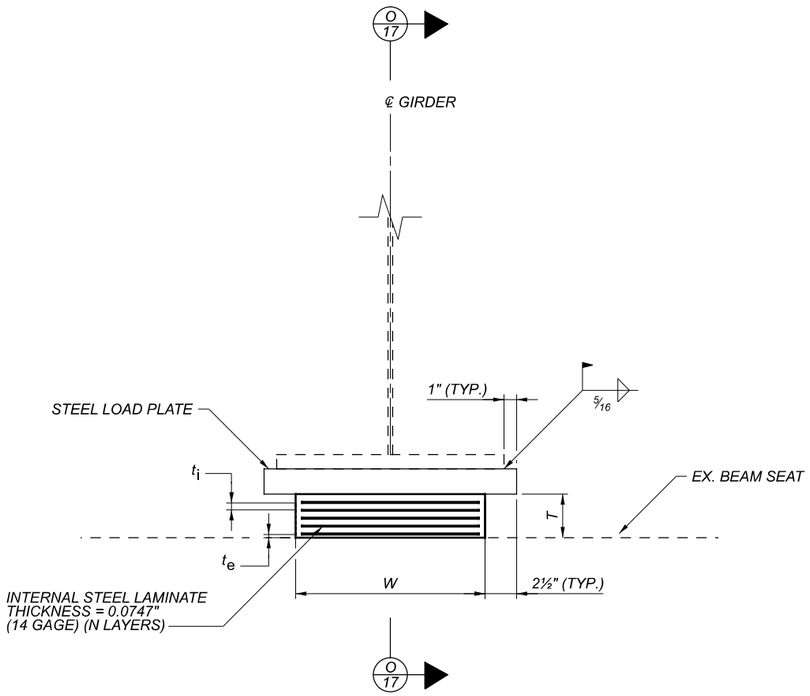
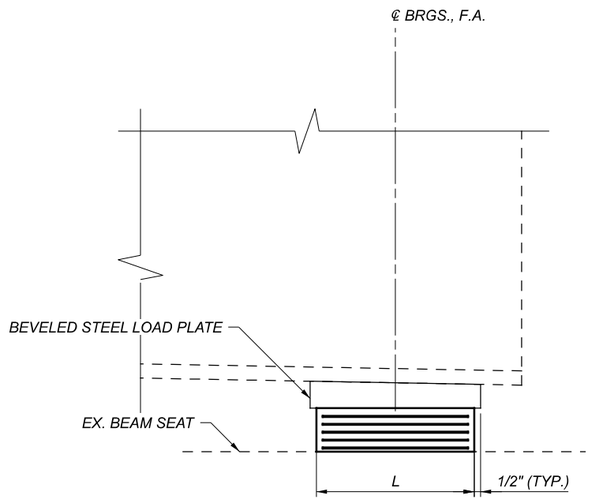
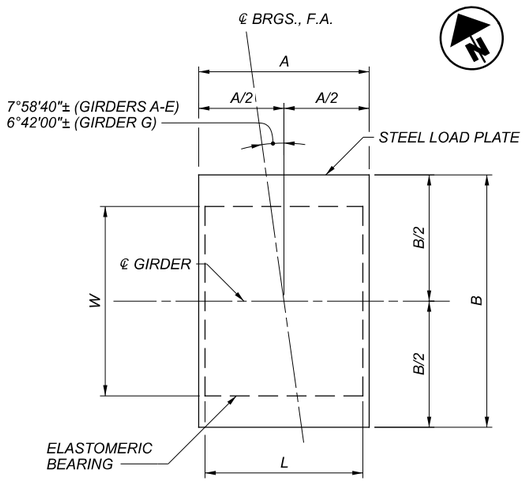


LAMINATED ELASTOMERIC EXPANSION BEARING



O/17 SECTION

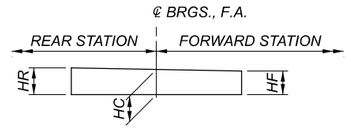


ELASTOMERIC BEARING PAD
AND STEEL LOAD PLATE PLAN

NOTES

1. ELASTOMERIC BEARING: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. STEEL LOAD PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. THE STEEL PLATES SHALL BE ASTM A709 GRADE 50 AND BE COATED WITH A SHOP APPLIED, INORGANIC ZINC PRIME COAT ACCORDING TO C&MS 514.17. REPAIR COATING DAMAGED BY WELDING ACCORDING TO C&MS 514.22. FIELD PAINTING OF INTERMEDIATE AND FINISH COATS IS REQUIRED. PAINTING AND REPAIRS SHALL BE INCLUDED FOR PAYMENT WITH ITEM 514.
3. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM AND BEAM SEAT ELEVATIONS PRIOR TO ORDERING MATERIALS.
4. BASIS OF PAYMENT: PAYMENT FOR ALL MATERIALS, LABOR, TESTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE ELASTOMERIC BEARINGS FOR THE GIRDERS WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), EACH.
5. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

LOAD PLATE THICKNESS			
LOCATION	HR	HC	HF
GIRDER A	1⅝"	1½"	1⅜"
GIRDERS B-G	2⅛"	2"	1⅞"



BEVELED LOAD PLATE DETAIL

LEGEND

ti - THICKNESS OF INTERNAL LAYERS

te - THICKNESS OF EXTERNAL LAYERS

T - TOTAL THICKNESS OF ELASTOMERIC BEARINGS

N - NUMBER OF STEEL LAMINATES AND INTERNAL LAYERS
INTERNAL STEEL LAMINATE THICKNESS = .0747" (14 GAGE)

ELASTOMERIC BEARINGS											
LOCATION	BEARING DIMENSIONS						STEEL LOAD PLATE		REACTIONS *		MAXIMUM DESIGN LOAD
	L	W	ti	te	T	N	A	B	DL	LL	
FORWARD ABUTMENT	12.5"	15"	0.5"	0.25"	3.124"	5	13.5"	20"	67.5 k	76.7 k	144.2 k

* REACTIONS ARE UNFACTORED

BEARING DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835
DESIGN AGENCY CARPENTER MARTY transportation
DESIGNER MTJ | CHECKER AMR
REVIEWER STK 6-28-21
PROJECT ID 113790
SUBSET 17 | TOTAL 24
SHEET 40 | TOTAL 47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:47 AM USER: CMT008
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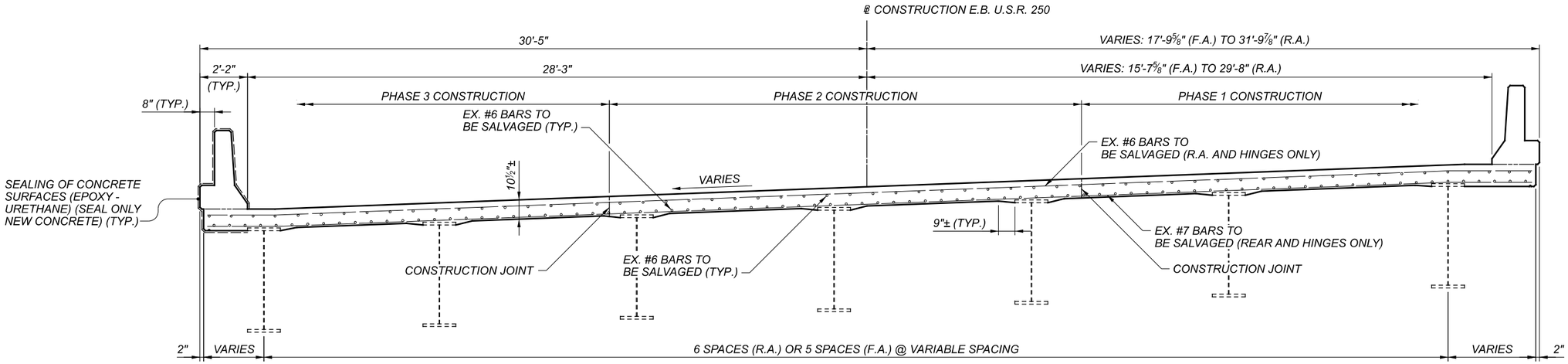
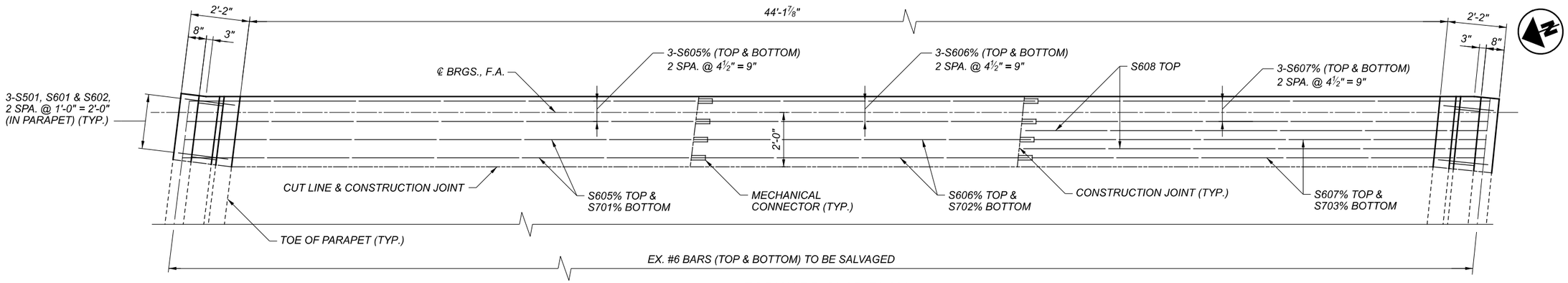
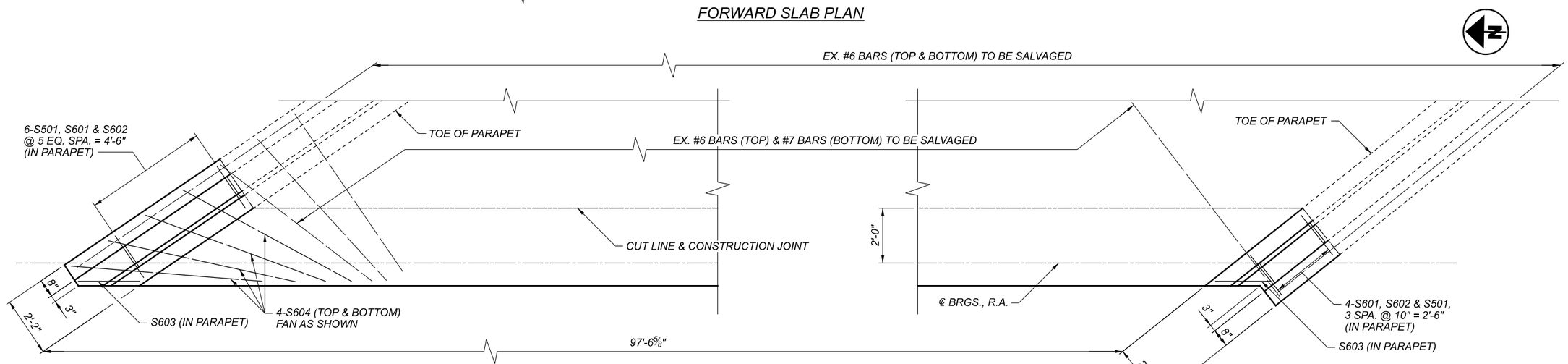


TRANSVERSE SECTION

DIMENSIONS TAKEN PERPENDICULAR TO ℄ CONSTRUCTION @ ℄ BRGS.



FORWARD SLAB PLAN



REAR PARTIAL SLAB PLAN

NOTE

PROPOSED DECK THICKNESS AT BRIDGE ENDS ASSUMES AN EQUIVALENT OF A 9" EXISTING DECK WITH ¼" SCARIFICATION AND A 1¾" OVERLAY.

LEGEND

% - BAR TO UTILIZE A MECHANICAL CONNECTOR

TRANSVERSE SECTION & SLAB DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY: CARPENTER MARTY transportation

DESIGNER	CHECKER
MTJ	AMR

REVIEWER: STK 6-28-21

PROJECT ID: 113790

SUBSET	TOTAL
18	24

SHEET	TOTAL
41	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:48 AM USER: CMT008
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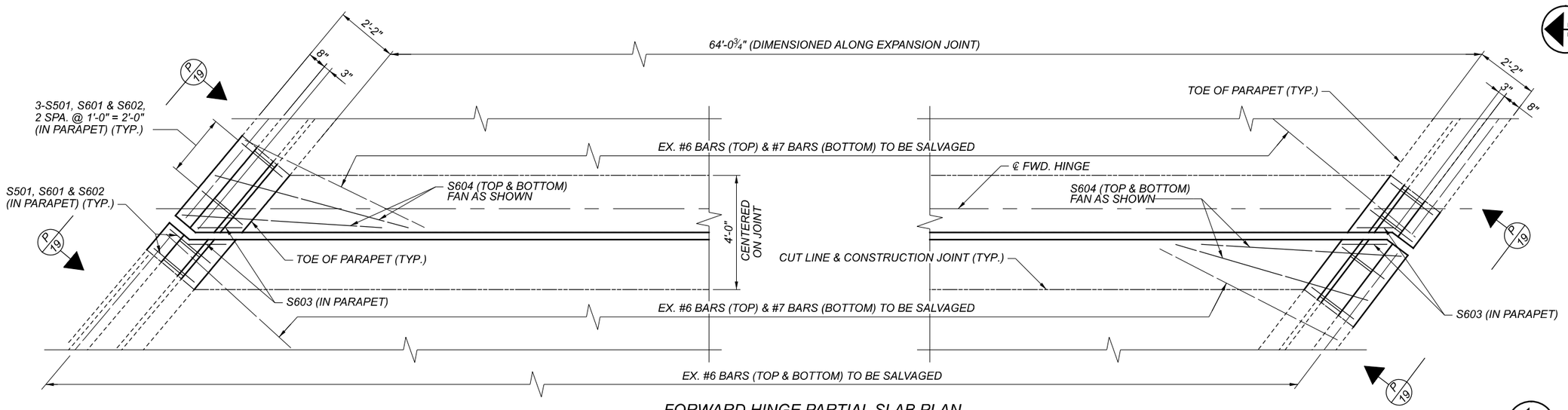
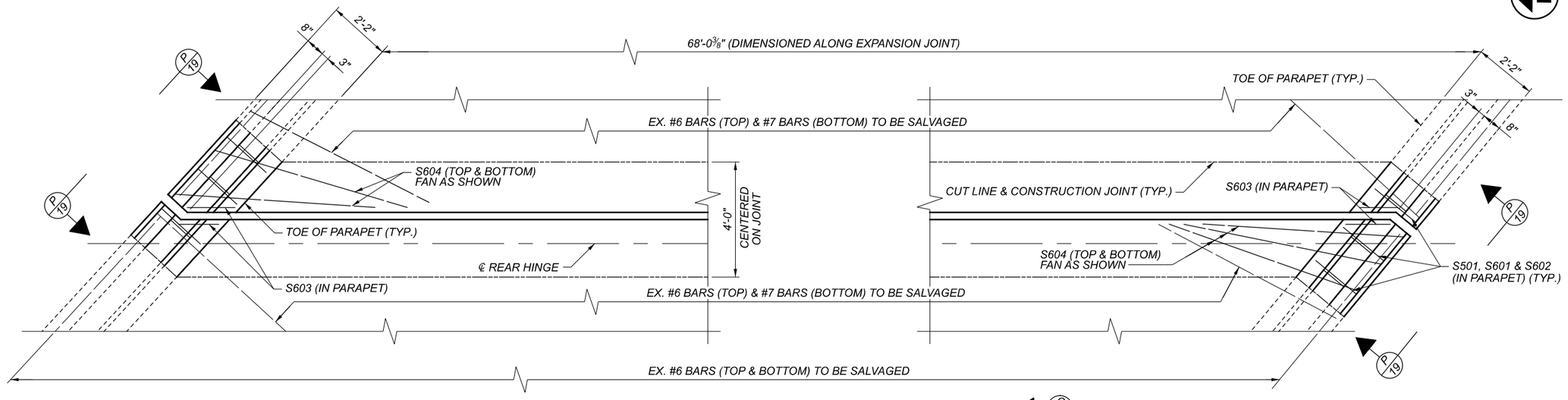


FORWARD HINGE PARTIAL SLAB PLAN



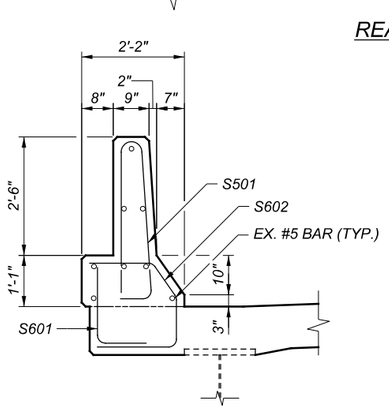
REAR HINGE PARTIAL SLAB PLAN

LEGEND

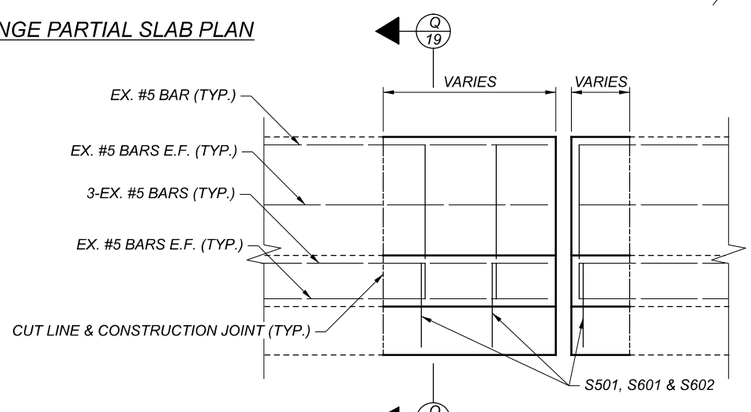
E.F. - EACH FACE

NOTES

1. EXISTING REINFORCING SHALL BE TRIMMED AS NECESSARY TO PROVIDE 2" COVER IN RELATION TO PROPOSED GEOMETRY. COAT TRIMMED ENDS PER C&MS 509.09. PAYMENT FOR TRIMMING AND COATING OF EXISTING REINFORCING STEEL SHALL BE MADE AT THE LUMP SUM PRICE BID ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. EXISTING PLANS OF CONCRETE PARAPETS ARE NOT AVAILABLE AND PARAPET DIMENSIONS WERE MEASURED IN THE FIELD. REINFORCING STEEL SHOWN SHALL BE CONSIDERED APPROXIMATE. CONTRACTOR TO MAKE APPROPRIATE ADJUSTMENTS IN THE FIELD AS NECESSARY.



Q 19 SECTION
DECK REINFORCING NOT SHOWN



P 19 VIEW

TUS-250-12.32R

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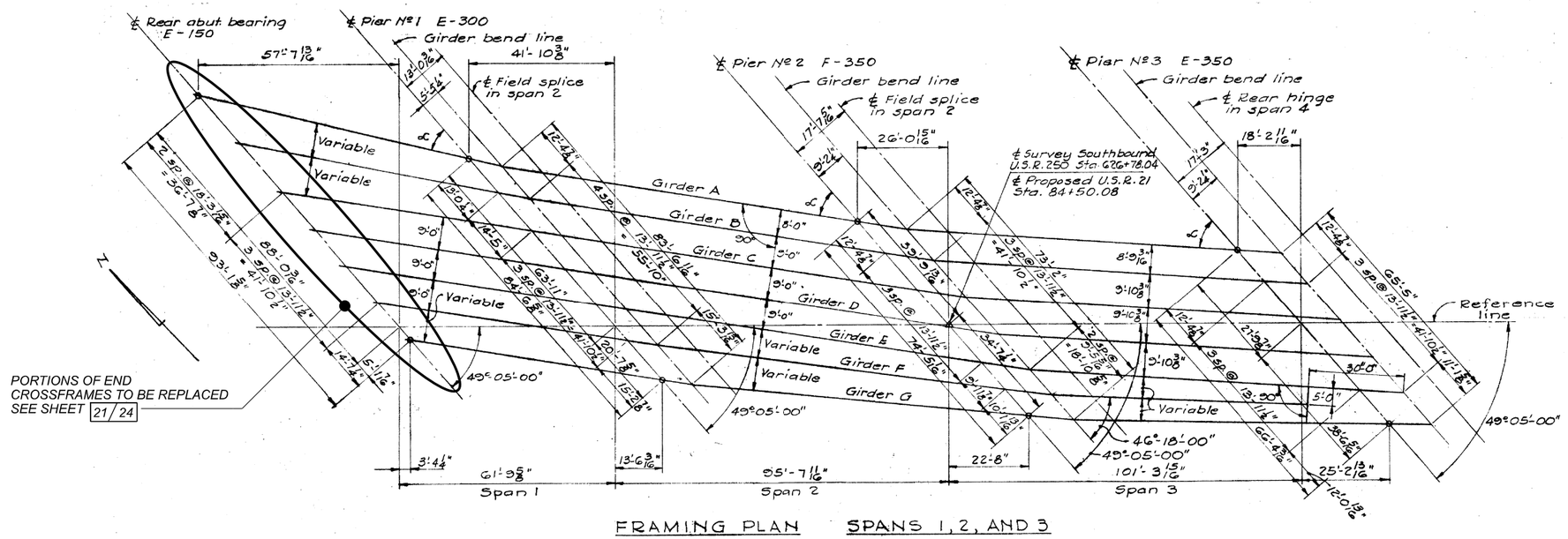
SLAB DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	AMR
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	19
TOTAL	24
SHEET	42
TOTAL	47

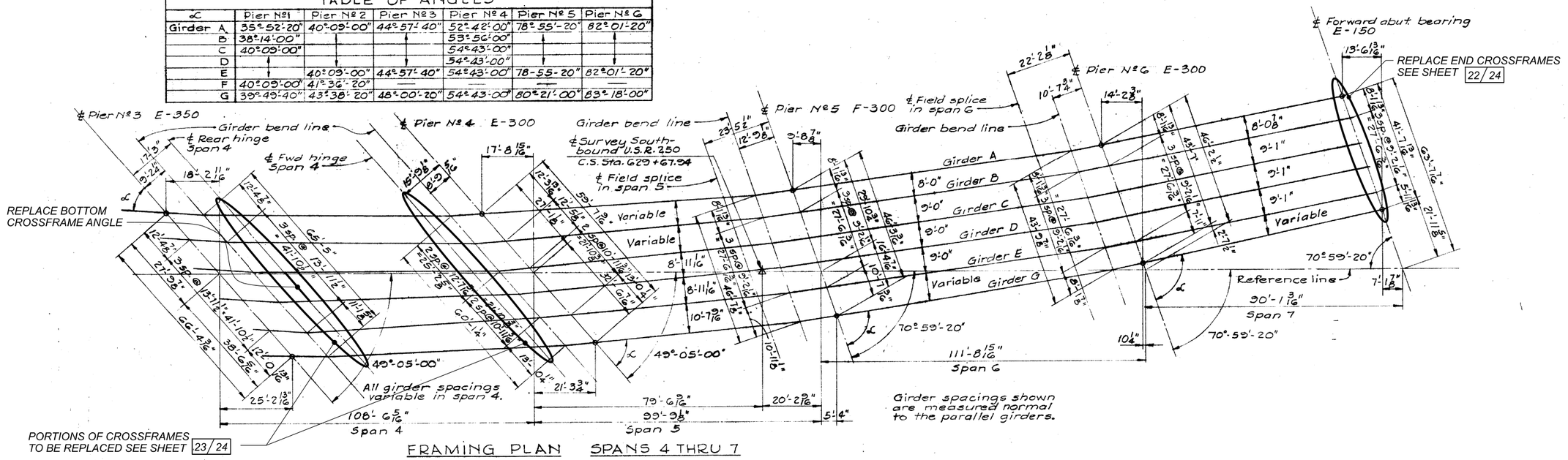


FRAMING PLAN SPANS 1, 2, AND 3

FIELD LOCATION
The reference line is defined as a straight line extending thru the intersection of the centerline of survey of the southbound U.S.R. 250 (Sta. 626+78.04) and the centerline of proposed U.S.R. 21 (Sta. 84+50.08) as the first control point and thru the C.S. point on the centerline of survey of the southbound U.S.R. 250 (Sta. 629+67.94) as the second control point.
The distance along the base line between these control points is 289'-4 7/8" (289.406').

TABLE OF ANGLES

∝	Pier Nº1	Pier Nº2	Pier Nº3	Pier Nº4	Pier Nº5	Pier Nº6
Girder A	35°-52'-20"	40°-09'-00"	44°-57'-40"	52°-42'-00"	78°-55'-20"	82°-01'-20"
B	38°-14'-00"	↕	↕	53°-56'-00"	↕	↕
C	40°-09'-00"	↕	↕	54°-43'-00"	↕	↕
D	↕	↕	↕	54°-43'-00"	↕	↕
E	↕	40°-09'-00"	44°-57'-40"	54°-43'-00"	78-55-20"	82°-01'-20"
F	40°-09'-00"	41°-36'-20"	—	—	—	—
G	39°-49'-40"	43°-38'-20"	48°-00'-20"	54°-43'-00"	80°-21'-00"	83°-18'-00"



FRAMING PLAN SPANS 4 THRU 7

Girder spacings shown are measured normal to the parallel girders.

NOTES

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. PAINT HINGES AND 10 FEET OF BEAMS AND CROSSFRAMES IN EACH DIRECTION OF HINGE.

FRAMING PLAN
BRIDGE NO. 00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835
DESIGN AGENCY CARPENTER MARTY Transportation
DESIGNER MTJ | CHECKER AMR
REVIEWER STK 6-28-21
PROJECT ID 113790
SUBSET 20 | TOTAL 24
SHEET 43 | TOTAL 47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17X11 (in.) DATE: 9/15/2021 TIME: 6:53:49 AM USER: CMT008
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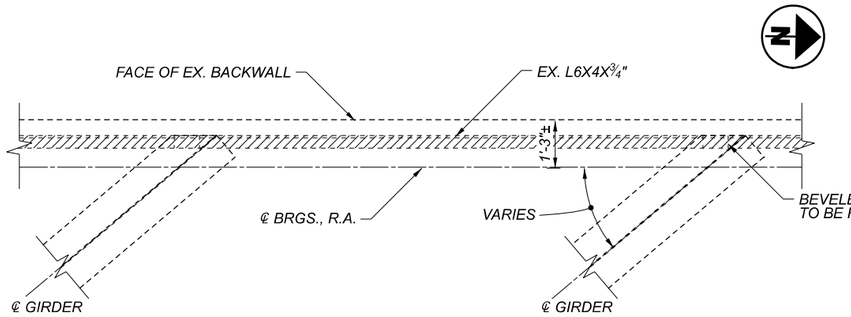
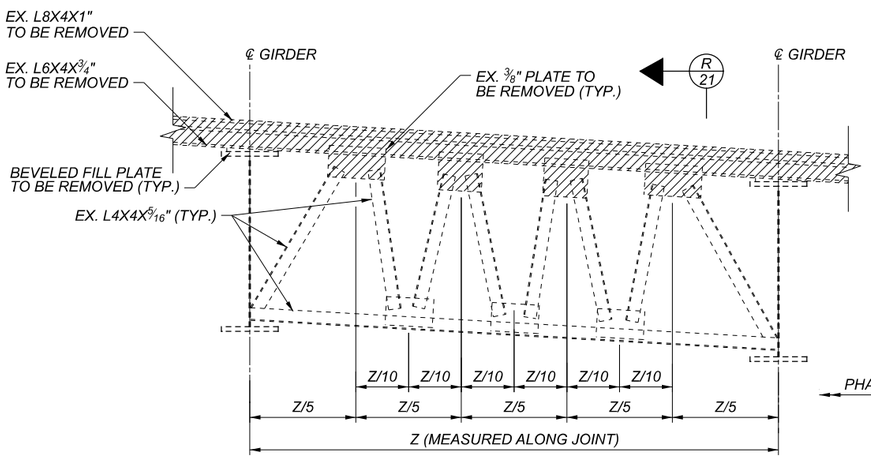


REMOVAL PLAN

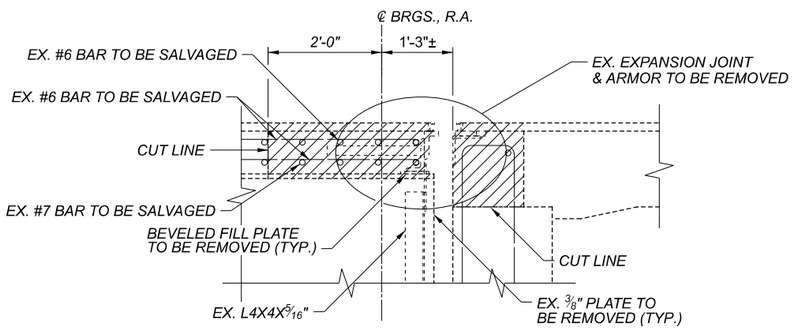


REMOVAL ELEVATION

R 21

LEGEND

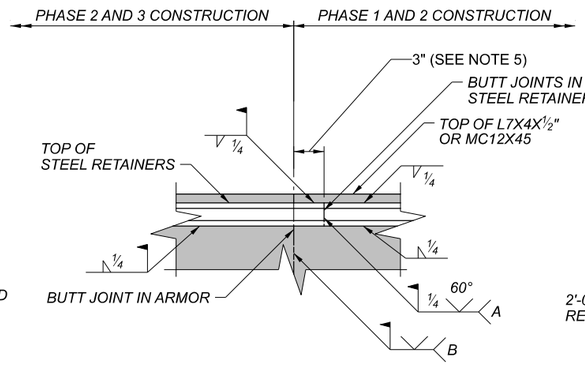
PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN



R 21 SECTION

NOTES

1. THE ENDS OF EXISTING END CROSSFRAME ANGLES WILL REQUIRE TRIMMING WHERE THEY MEET NEW CONNECTION PLATES. ANGLES SHALL BE TRIMMED TO PROVIDE A MINIMUM CLEARANCE OF 1" BETWEEN THE END OF THE ANGLE AND THE NEW MC12X45, PER THE DETAILS SHOWN ON STD. DWG. EXJ-4-87. TRIMMING OF EXISTING CROSSFRAME ANGLES SHALL BE MADE AT THE LUMP SUM PRICE BID OF ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. SHIM ½" PLATE AS NECESSARY TO MAINTAIN DIMENSION A IN TABLE. ALL WORK SHALL MEET THE APPROVAL OF THE ENGINEER. PAYMENT FOR SHIMS SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.
3. SEE SHEET 22/24 FOR ADDITIONAL NOTES.
4. SEE SHEET 20/24 FOR GIRDER SPACING.
5. MOVE PORTABLE BARRIER AT FORWARD ABUTMENT TO PROVIDE CLEARANCE TO WELD JOINT ARMOR AND RETAINER WELDS OF ADJOINING PHASES. PORTABLE BARRIER CAN BE RESET TO ITS ORIGINAL POSITION AFTER WELDS ARE COMPLETED. REFER TO MAINTENANCE OF TRAFFIC PLANS FOR PAYMENT.

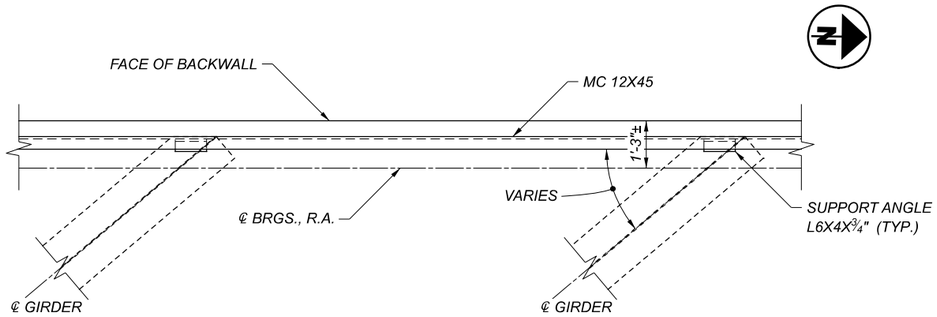


TYPICAL ELEVATION AT PHASE CONSTRUCTION JOINTS

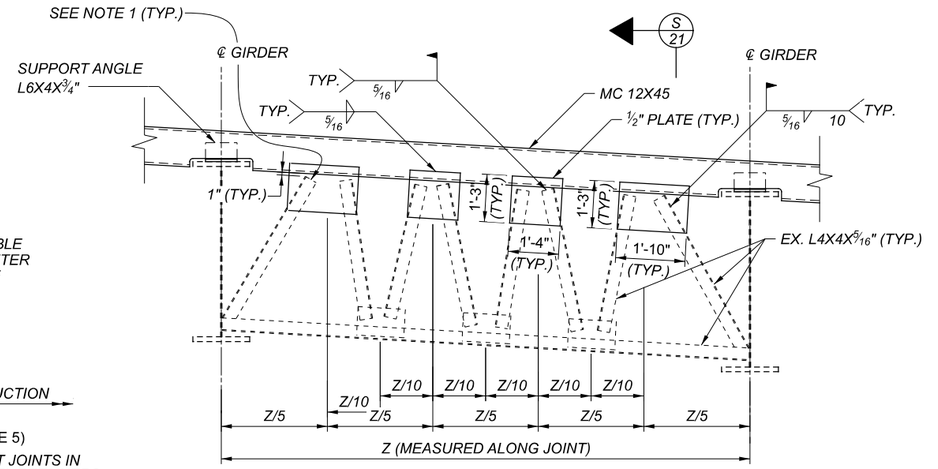
WELD NOTES

A. JOINTS IN STEEL RETAINERS SHALL HAVE WATERTIGHT, PARTIAL PENETRATION BUTT WELDS AROUND THE OUTER PERIPHERY OF THE ABUTTING SURFACES. WELDS THAT WILL BE IN CONTACT WITH THE STRIP SEAL GLAND AND JOINT ARMOR SHALL BE GROUND FLUSH.

B. TRANSVERSE JOINTS IN END DAM ARMOR SHALL HAVE COMPLETE PENETRATION BUTT WELDS.

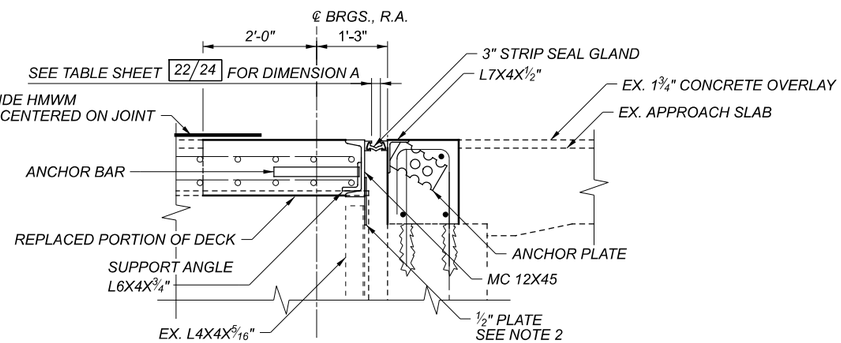


PLAN



ELEVATION

S 21



S 21 SECTION

REAR ABUTMENT EXPANSION JOINT DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	AMR
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	21
TOTAL	24
SHEET	44
TOTAL	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:56 AM USER: CMT008
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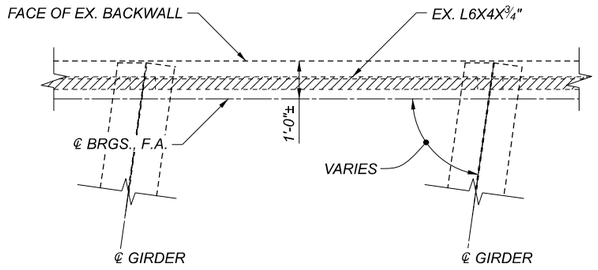
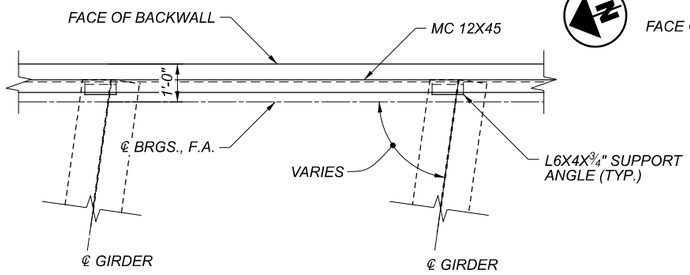
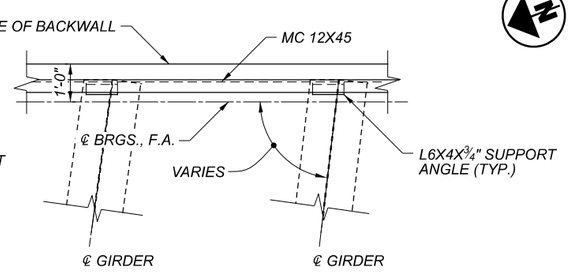


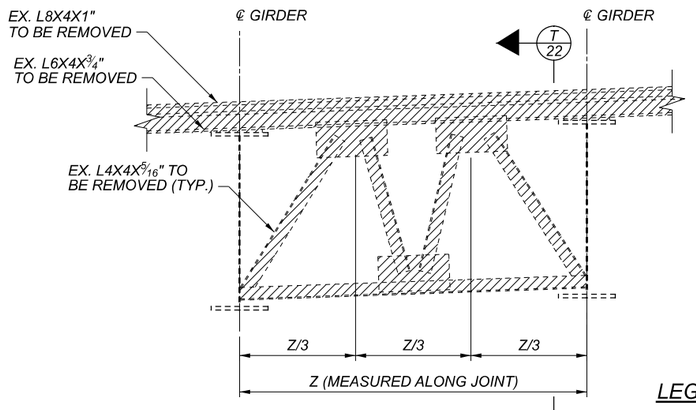
REMOVAL PLAN



PLAN



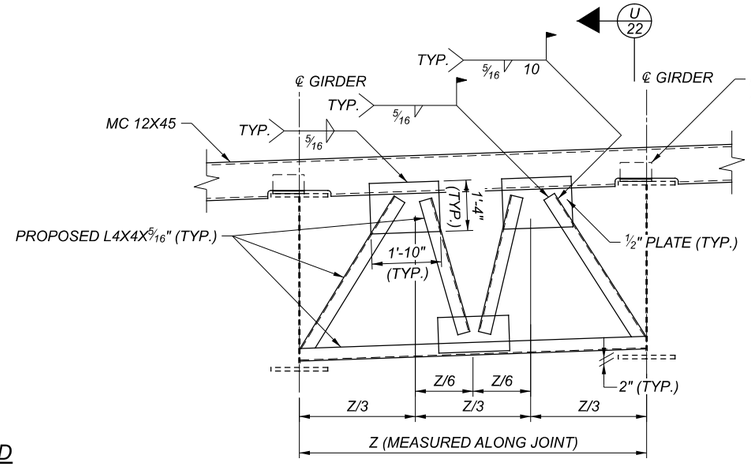
PLAN



REMOVAL ELEVATION

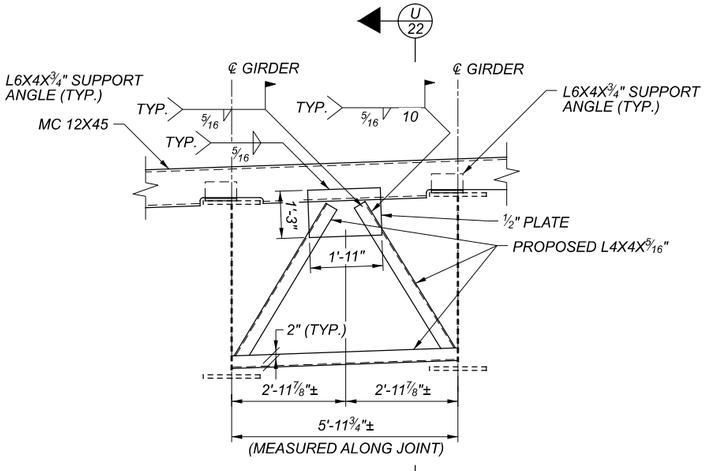
TYPICAL BETWEEN GIRDERS A-E

REMOVAL BETWEEN GIRDERS E & G SIMILAR



ELEVATION

TYPICAL BETWEEN GIRDERS A-E



ELEVATION

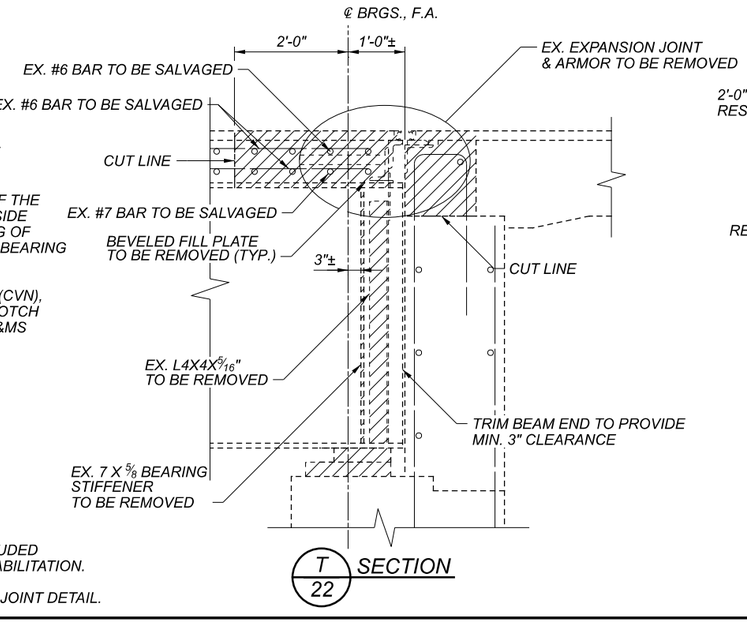
TYPICAL BETWEEN GIRDERS E & G

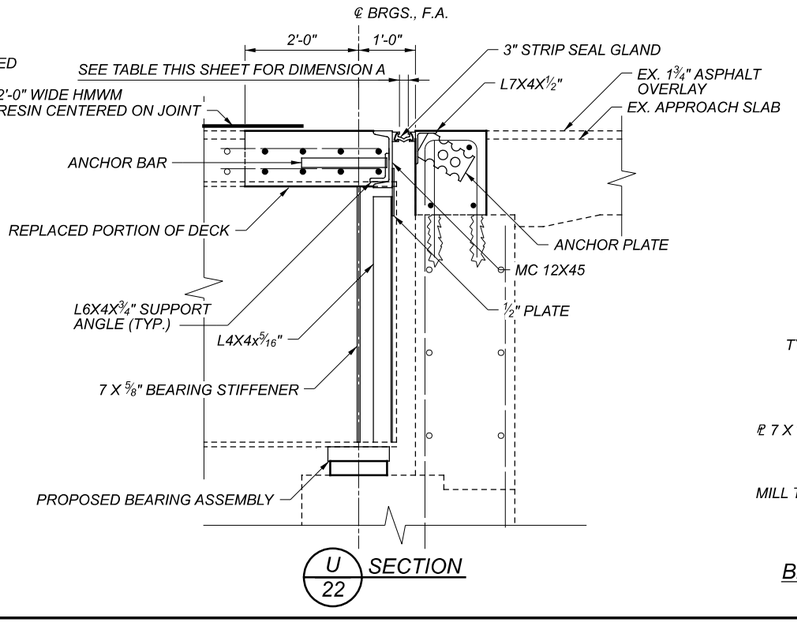
LEGEND

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

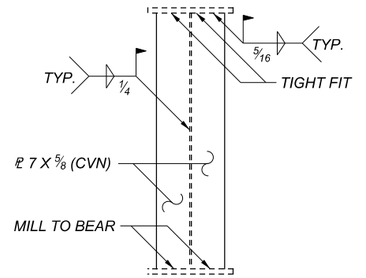
NOTES

1. REFER TO STD. DWG. EXJ-4-87 AND GSD-1-19 FOR ADDITIONAL NOTES AND DETAILS.
2. STRIP SEAL GLAND SHALL BE INSTALLED AS A CONTINUOUS PIECE.
3. ANCHOR PLATES AND BARS SHALL BE WELDED IN THE FIELD TO AVOID CONFLICTS WITH EXISTING REINFORCING STEEL IN THE ABUTMENT AND DECK.
4. INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT, OBSERVE THE SEATING OF BEAMS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.
5. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN C&MS 711.01.
6. CONSTRUCTION SEQUENCE (F.A.):
   a. JACK AND REPLACE BEARINGS
   b. REMOVE EXISTING CROSSFRAMES AND ORIGINAL BEARING STIFFENERS
   c. INSTALL NEW BEARING STIFFENERS
   d. TRIM BEAM ENDS
   e. CONSTRUCT NEW CROSSFRAMES
   f. REPLACE EXPANSION JOINT
7. SEE SHEET 20/24 FOR GIRDER SPACING.
8. PAYMENT FOR BEARING STIFFENERS TO BE INCLUDED UNDER ITEM 513 - STRUCTURAL STEEL FOR REHABILITATION.
9. SEE SHEET 21/24 FOR PHASE CONSTRUCTION JOINT DETAIL.





AMBIENT TEMPERATURE	R.A. DIMENSION A	F.A. DIMENSION A
30° F	1⅞"	2"
40° F	1¾"	1⅞"
50° F	1¾"	1⅝"
60° F	1⅝"	1½"
70° F	1½"	1½"
80° F	1½"	1½"
90° F	1½"	1½"



BEARING STIFFENER DETAIL

FORWARD ABUTMENT EXPANSION JOINT DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
MTJ	AMR

REVIEWER
STK 6-28-21

PROJECT ID
113790

SUBSET	TOTAL
22	24

SHEET	TOTAL
45	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:56 AM USER: CMT008
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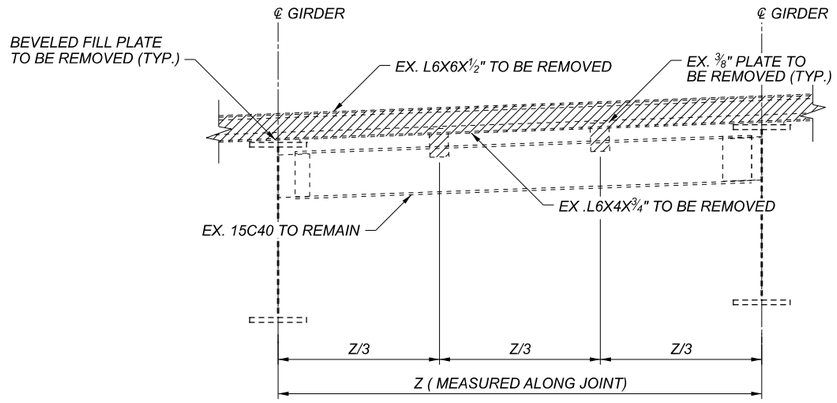
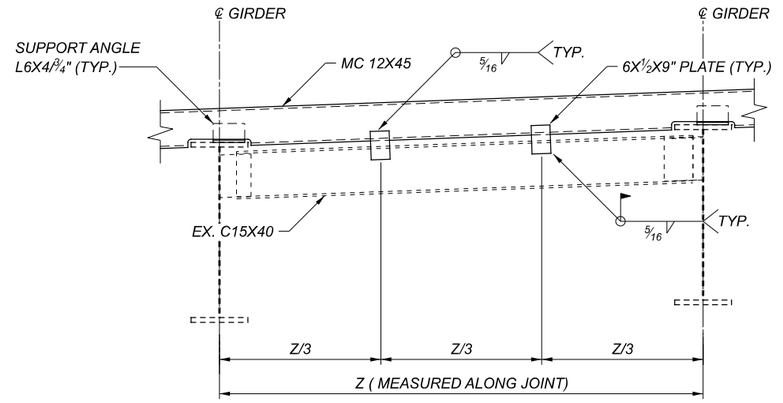
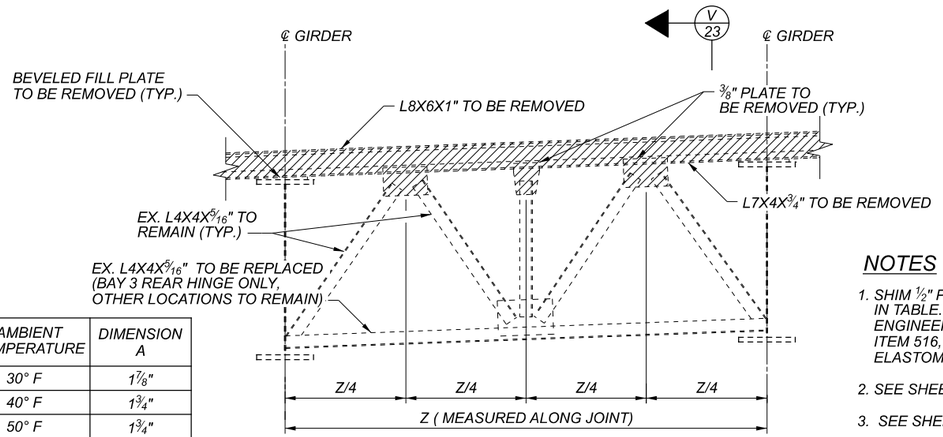


REMOVAL ELEVATION - END DAM SUPPORT

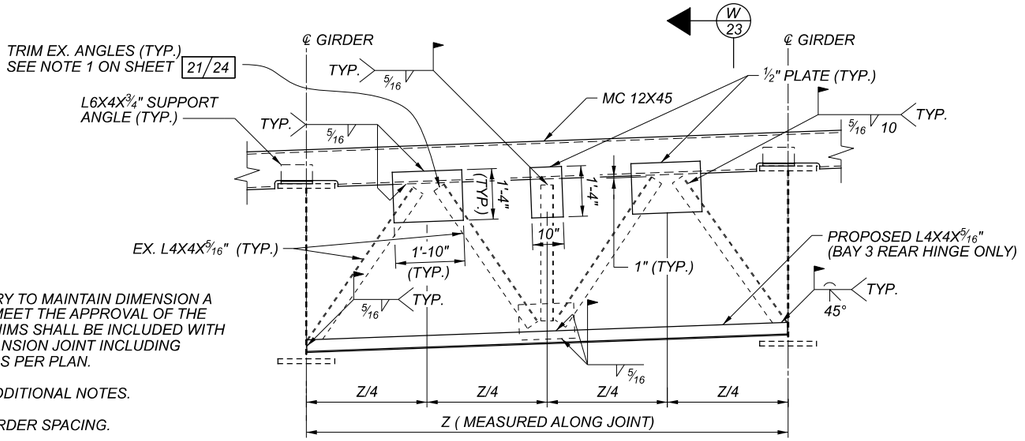


ELEVATION - END DAM SUPPORT



REMOVAL ELEVATION - CROSSFRAME SIDE

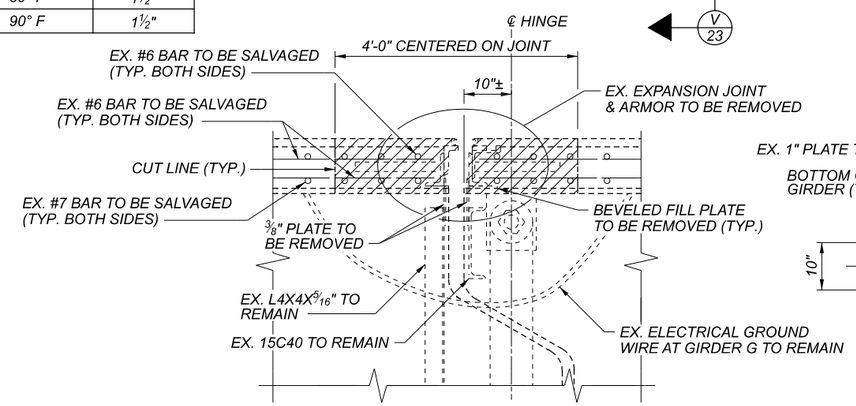
AMBIENT TEMPERATURE	DIMENSION A
30° F	1⅞"
40° F	1¾"
50° F	1¾"
60° F	1⅝"
70° F	1½"
80° F	1½"
90° F	1½"



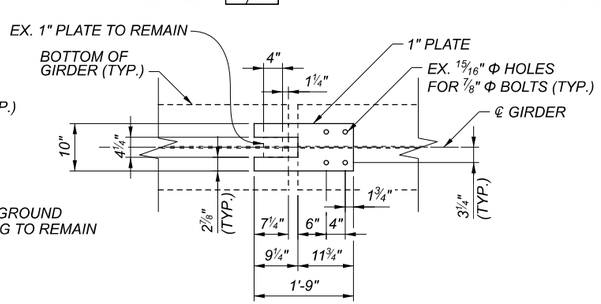
ELEVATION - CROSSFRAME SIDE

NOTES

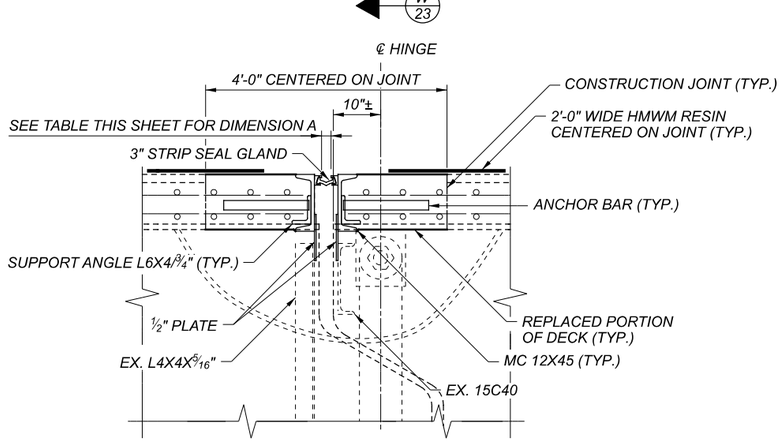
1. SHIM ½" PLATE AS NECESSARY TO MAINTAIN DIMENSION A IN TABLE. ALL WORK SHALL MEET THE APPROVAL OF THE ENGINEER. PAYMENT FOR SHIMS SHALL BE INCLUDED WITH ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.
2. SEE SHEET 22/24 FOR ADDITIONAL NOTES.
3. SEE SHEET 20/24 FOR GIRDER SPACING.
4. BEAM GUIDE DEVICES SHALL BE REPLACED AT ALL LOCATIONS. PAYMENT FOR REMOVAL OF EXISTING BEAM GUIDES TO BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN. PAYMENT FOR NEW BEAM GUIDES TO BE INCLUDED WITH ITEM 513, STRUCTURAL STEEL FOR REHABILITATION.
5. HIGH STRENGTH BOLTS SHALL BE ⅞" DIAMETER ASTM F3125, GRADE A325 TYPE 1 UNLESS OTHERWISE NOTED.
6. SEE SHEET 21/24 FOR PHASE CONSTRUCTION JOINT DETAIL.



V 23 SECTION



BEAM GUIDE DEVICE DETAIL



W 23 SECTION

LEGEND

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

INTERMEDIATE EXPANSION JOINT DETAILS
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN	7904835
DESIGN AGENCY	CARPENTER MARTY transportation
DESIGNER	MTJ
CHECKER	AMR
REVIEWER	STK 6-28-21
PROJECT ID	113790
SUBSET	23
TOTAL	24
SHEET	46
TOTAL	47

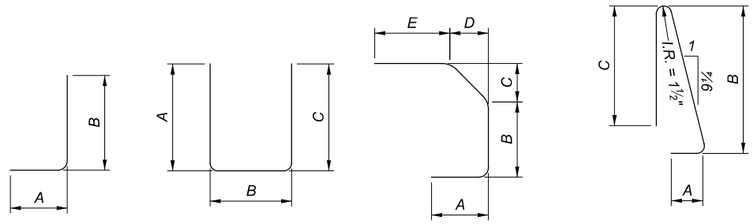
TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:57 AM USER: CMT008
P:\ODT\111\0648_TUS-250-12.32R\113790\400-Engineering\Structures\SFN_7904835\Sheets\113790_SFN_7904835_SX003.dgn

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS				
	REAR	FWD	TOTAL				A	B	C	D	E
ABUTMENTS											
A501%	2		2	27'-10"	59	STR					
A502%	2		2	19'-8"	42	STR					
A503%	1		1	20'-10"	22	STR					
A504%	2		2	23'-6"	50	STR					
A505%	1		1	22'-1"	24	STR					
A506%	2		2	29'-6"	62	STR					
A507%	1		1	31'-0"	33	STR					
A508%		3	3	18'-6"	58	STR					
A509%		3	3	12'-0"	38	STR					
A510%		3	3	17'-0"	54	STR					
A511	4	4	8	6'-11"	58	22	8"	3'-3	3'-0"		
A512%	1		1	27'-3"	29	STR					
A601	4	4	8	2'-5"	30	1	1'-0"	1'-7"			
A602	3	4	7	3'-10"	41	14	1'-0"	11"	8"	6"	1'-4"
A603	2		2	3'-8"	12	14	1'-0"	11"	8"	10"	11"
A604#	100	48	148	3'-8"	816	2	2'-0"	11"	1'-1"		
A605#	105	48	153	2'-0"	460	STR					
A606#	4		4	4'-2"	26	2	2'-0"	1'-3"	1'-1"		
				SUB-TOTAL	1914						

MECHANICAL CONNECTORS		
LOCATION	BAR SIZE	TOTAL
ABUTMENTS	5	12
SUPERSTRUCTURE	6	16
	7	4

BENDING DIAGRAM



MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS				
					A	B	C	D	E
SUPERSTRUCTURE									
S501	32	6'-11"	231	22	8"	3'-3"	3'-0"		
S601	32	2'-5"	117	1	1'-0"	1'-7"			
S602	32	3'-10"	185	14	1'-0"	11"	8"	6"	1'-4"
S603	10	3'-8"	56	14	1'-0"	11"	8"	10"	11"
S604	26	7'-0"	274	STR					
S605%	8	18'-9"	226	STR					
S606%	8	12'-0"	145	STR					
S607%	8	17'-1"	206	STR					
S608	2	16'-11"	51	STR					
S701%	2	18'-9"	77	STR					
S702%	2	12'-0"	50	STR					
S703%	2	17'-1"	70	STR					
		SUB-TOTAL	1688						

NOTES

1. THE BAR NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS ARE OUT TO OUT UNLESS OTHERWISE INDICATED.
2. ALL REINFORCING STEEL TO BE EPOXY COATED.
3. PAYMENT FOR MECHANICAL CONNECTORS SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL.

LEGEND

% - BAR TO UTILIZE A MECHANICAL CONNECTOR

- BAR TO BE DOWELED INTO EXISTING SUBSTRUCTURE

REINFORCING STEEL LIST
BRIDGE NO. TUS-00250-12.320R
OVER I.R. 77, RAMP E & STONE CREEK

SFN 7904835

DESIGN AGENCY
CARPENTER MARTY transportation

DESIGNER	CHECKER
MTJ	AMR

REVIEWER
STK 6-28-21

PROJECT ID 113790

SUBSET	TOTAL
24	24

SHEET	TOTAL
47	47

TUS-250-12.32R

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 9/15/2021 TIME: 6:53:57 AM USER: CMT008
P:\ODT\110648_TUS-250-12.32R\113790\400-Engineering\Structures\SFN_7904835\Sheets\113790_SFN_7904835_SL001.dgn

October 23, 2012

Mr. Robert Miller, AICP
CH2M Hill
1103 Schrock Road, Suite 400
Columbus, Ohio 43229

Re: Bridge Rehabilitation Asbestos Inspection
Bridge Location SLM: TUS-250-12.32R, Structure File Number: 7904835

Dear Mr. Miller:

Per our contract with CH2M Hill, ASC Group, Inc., completed an asbestos inspection for the SR 250 ramp bridge over I-77 and East Stone Creek (TUS-250-12.32R) in Tuscarawas County, Ohio (SFN 7904835). The project is located in Ohio Department of Transportation (ODOT) District 11, headquartered at 2201 Reiser Avenue, New Philadelphia, Ohio 44663 (330.339.6633).

As specified in the scope of work, the inspection included a review of available plan sheets, a visual inspection of the bridge, and collection of samples of suspected asbestos-containing material (ACM). Samples were identified and collected in a random manner.

On October 4, 2012, Ian Chavez visited the site and performed a survey for ACM. Mr. Chavez is certified by the Ohio Department of Health (ODH) as an Asbestos Hazard Evaluation Specialist (ES#3025). During the survey three bulk samples were collected to be analyzed for asbestos content. The collected suspect ACM, associated sample number, and material quantities are included in the following table.

Sampled Suspect ACM

Concrete Barrier Caulk, 11 sq ft (Sample 1232R-01)	Reflector Glue, 3 sq ft (Sample 1232R-02)
Light Pole Conduit Insulation, 16 sq ft (Sample 1232R-03)	

Bulk asbestos sample analysis was performed in accordance with the U.S. Environmental Protection Agency's recommended test method: Interim Method 600/M4-82-020, "Determination of Asbestos in the Bulk Insulation Samples" using Polarized Light Microscopy and Dispersion Staining (PLM/DS). The samples did not contain asbestos.

Enclosed are photographs, sample results, a schematic of the bridge showing photograph and sample locations, and an Ohio EPA Notification of Demolition and Renovation form. Applicable sections of the form were completed.

ASC Group, Inc., appreciates the opportunity to assist you with this project. Please call me at 614.268.2514, ext. 3446 if you have any questions or require additional information.
Sincerely
ASC GROUP, INC.

Ian Chavez
Senior Environmental Specialist

Enclosures

Pace Analytical Services, Inc.
1233 Dublin Road
Columbus, OH 43215
(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)875-5894

October 11, 2012

Ian Chavez
ASc Group
800 Freeway Drive North
Suite 101
Columbus, OH 43229

RE: Project: TUS-250-12.32R
Pace Project No.: 5070523

Dear Ian Chavez:
Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

John Rigo

john.rigo@pacelabs.com
Project Manager

Enclosures

LABORATORY RESULTS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1233 Dublin Road
Columbus, OH 43215
(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)875-5894

CERTIFICATIONS

Project: TUS-250-12.32R
Pace Project No.: 5070523

Ohio Certification IDs
1233 Dublin Road, Columbus, OH 43215
Indiana Drinking Water Certification #: C-OH-11
NVLAP Certification #: 90132
Ohio Microbiology Certification #: 943
Ohio Drinking Water Certification #: 1030

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ANALYTICAL RESULTS

Project: TUS-250-12.32R
Pace Project No.: 5070523

Sample: 1232R-01 **Lab ID: 5070523001** Collected: 10/04/12 00:00 Received: 10/09/12 13:20 Matrix: Bulk

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Asbestos PLM	Analytical Method: EPA 600/M4-82-020							
Asbestos	**0**	%		1		10/10/12 13:11		3d
Number of Layers	**1**			1		10/10/12 13:11		
Homogeneous	**Yes**			1		10/10/12 13:11		

Sample: 1232R-02 **Lab ID: 5070523002** Collected: 10/04/12 00:00 Received: 10/09/12 13:20 Matrix: Bulk

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Asbestos PLM	Analytical Method: EPA 600/M4-82-020							
Asbestos	**0**	%		1		10/10/12 13:11		2d
Number of Layers	**1**			1		10/10/12 13:11		
Homogeneous	**Yes**			1		10/10/12 13:11		

Sample: 1232R-03 **Lab ID: 5070523003** Collected: 10/04/12 00:00 Received: 10/09/12 13:20 Matrix: Bulk

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Asbestos PLM	Analytical Method: EPA 600/M4-82-020							
Asbestos	**0**	%		1		10/10/12 13:11		1d
Number of Layers	**1**			1		10/10/12 13:11		
Homogeneous	**Yes**			1		10/10/12 13:11		

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QUALIFIERS

Project: TUS-250-12.32R
Pace Project No.: 5070523

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1d	10% TAR 90% BROWN WOODY PRESSED LAYERS-CELLULOSE
2d	100% BALCK, DENSE SPONGY MASS NO FIBERS
3d	100% LIGHT GREY DENSE SPONGY MASS NO FIBERS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TUS-250-12.32R
Pace Project No.: 5070523

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5070523001	**1232R-01**	EPA 600/M4-82-020	OHIO/4568		
5070523002	**1232R-02**	EPA 600/M4-82-020	OHIO/4568		
5070523003	**1232R-03**	EPA 600/M4-82-020	OHIO/4568		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PHOTOGRAPHS

Photograph 1. SR 250 ramp bridge over I-77 and East Stone Creek, bridge deck.

Photograph 2. SR 250 ramp bridge over I-77 and East Stone Creek, concrete barrier caulk (Sample 1232R-01).

Photograph 3. SR 250 ramp bridge over I-77 and East Stone Creek, reflector glue (Sample 1232R-02).

Photograph 4. SR 250 ramp bridge over I-77 and East Stone Creek, light pole conduit insulation (Sample 1232-03).

Photograph 5. SR 250 ramp bridge over I-77 and East Stone Creek, under bridge deck.

EPA 10-DAY NOTIFICATION FORM

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #

I. Type of Notification (check one): ☒ Original ☐ Revised ☐ Canceled

II. Facility Description (include building name, number, and floor or room number)
Building Name: SR 250 ramp bridge over I-77 and East Stone Creek (TUS-250-12.32R) ODOT Structure File Number: 7904835
Address:
City: State: Ohio Zip Code: County: Tuscarawas
Site Location (specific): SR 250 ramp bridge over I-77 and East Stone Creek (TUS-250-12.32R) ODOT Structure File Number: 7904835

Building Size (square feet): N/A # of Floors: N/A Age in Years: 50
Present Use: Bridge Prior Use: N/A

III. Type of Operation (check one): ☐ Demo ☐ Ordered Demo ☐ Renovation ☐ Emergency Renovation ☐ Fire Training

IV. Is Asbestos Present? (check one): ☐ Yes ☒ No

V. Facility Information
Owner Name: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Contact: _____ Telephone: _(___)_____ Fax: _(___)_____
Removal Contractor Name: _____ License # _____
Address: _____
City: _____ State: _____ Zip Code: _____
Contact: _____ Telephone: _(___)_____ Fax: _(___)_____
Other Operator (demolition/general): _____ License # _____
Address: _____
City: _____ State: _____ Zip Code: _____
Contact: _____ Telephone: _(___)_____ Fax: _(___)_____

VI. and Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of RACM Category I and Category II nonfriable ACM: Prior to conducting the visual inspection of the bridge, copies of the original construction drawings of the bridge were reviewed. All accessible components of the bridge were visually inspected. This included the bridge deck, abutments, and railings. The survey was performed following NESHAPs regulations

Ohio Asbestos Hazard Evaluation Specialist: Ian Chavez (Name) AHES-3025 (Certification #)

VII. Approximate Amount of Asbestos Materials: N/A

	RACM to be Removed	Nonfriable Asbestos Material to be Removed		Nonfriable Asbestos Material NOT to be Removed	
		Category I	Category II	Category I	Category II
Pipes (linear feet)					
Surface Area (square feet)					
Facility Components (cubic feet)					

VIII. Scheduled Dates Demolition or Renovation: Start: _____ Complete: _____

IX. Dates for Asbestos Removal (MM/DD/YY) Start: N/A Complete: N/A

Days of the Week:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hours of Operation:							

Complete all unshaded spaces, except demolitions which involve less than 260 linear feet, 160 square feet, or 35 cubic feet of RACM, need not complete spaces VII, XI, XII, XIII, XIV, and XV. Notifications for Emergency Demolition or Emergency Renovation must supply attachments.

OHIO ENVIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF DEMOLITION AND RENOVATION

X. Description of planned Demolition or Renovation work to be performed and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components:

XI. Description of work practices and engineering controls to be used to comply with the requirements, including asbestos removal and waste handling emission control procedures:

XII. Waste Transporter #1

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact: _____ Telephone: _(___)_____ Fax: _(___)_____

Waste Transporter #2

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact: _____ Telephone: _(___)_____ Fax: _(___)_____

XIII. Waste Disposal

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact: _____ Telephone: _(___)_____ Fax: _(___)_____

XIV. Emergency Demolition (complete Item XIV and all other sections, only if this project is an Emergency Demo.)

1. Attach a copy of the Order to this notice.
2. Name of Authority Issuing Order: _____ Title: _____
3. Authority of Order (Citation of Code): _____
4. Date of Order (MM/DD/YY): _____Date Order to Begin: _____

XV. Emergency Renovation (Attach separate sheet with the following information of project is Emergency Reno.)

1. Date and Hour of the Emergency
2. Description of the Sudden, Unexpected Event
3. Explanation of how the event caused unsafe conditions or equipment damage or an unreasonable financial burden.

XVI. Description of procedures to be followed in the event that unexpected RACM is found or nonfriable ACM becomes crumbled, pulverized or reduced to powder. Stop work, wet material, contact owner.

XVII. I certify that an individual trained in the provisions of NESHAPS (40 CFR PART 61, SUBPART M) will be on-site during the Demolition or Renovation and evidence that the required training has been accomplished by this person will be available during normal business hours.

_____ _____ _____

Signature of Owner/Operator | Date | Type or Print Name and Title

XVIII. I acknowledge the existence of laws prohibiting the submission of false or misleading statements and I certify that facts contained in this notification are true, accurate, and complete.

_____ _____ _____

Signature of Owner/Operator | Date | Type or Print Name and Title

Original Notification must be mailed or hand delivered at least ten working days (Monday-Friday excluding weekends) Before demolitions or renovation begins, except emergency demolitions and emergency renovations (see regulation) Which must be submitted as soon as possible before operations begin. (Form revised 11/12/97)

BRIDGE DRAWING