

**ITEM 614 – MAINTAINING TRAFFIC (GENERAL)
(TEM 642-2)**

MAINTAIN ONE 10' (MIN.) LANE OF TRAFFIC AT ALL TIMES.

SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL.

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 2012 EDITION WITH THE LATEST REVISIONS. 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.

**ITEM 614 – MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)
(TEM 642-6)**

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS DAY	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THANKSGIVING	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$65 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

**ITEM 614 – MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED)
(TEM 642-7)**

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.

**FULLY-ACTUATED OPERATION OF WORK ZONE TRAFFIC SIGNAL
(TEM 642-37)**

THE WORK ZONE SIGNAL CONTROL REQUIRED FOR THIS PROJECT AND SHOWN ON SHEET 3 AND TRAFFIC SCDS MT- 96.11, 96.20 AND 96.26 SHALL BE FULLY TRAFFIC-ACTUATED AND OPERATE IN A MANNER SIMILAR TO THAT DESCRIBED IN SECTION 733.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE INITIAL CONTROLLER TIMING SHALL BE AS FOLLOWS:

	PHASE			
	1 (ALL RED) DUMMY PHASE	2 MAINLINE (NORTHBOUND)	3 (ALL RED) DUMMY PHASE	4 MAINLINE (SOUTHBOUND)
MIN. GREEN		10		10
EXTENSION		4		4
MAX. GREEN		28		23
YELLOW		3.5		3.5
ALL RED	16		16	
RECALL	ON	OFF	OFF	OFF

PROVIDE TIMING APPROPRIATE FOR THE SIGNAL LOCATION UNDER CONSIDERATION. TYPICAL FLOW RATES ARE DISPLAYED IN TABLE 697-2 IN THE ODOT TRAFFIC ENGINEERING MANUAL (TEM).

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH, INSTALL AND MAINTAIN A TRAFFIC DETECTOR ON EACH TRAFFIC APPROACH WHICH WILL RELIABLY DETECT ALL LEGAL TRAFFIC APPROACHING (BUT NOT LEAVING) THE SIGNAL AS IT PASSES OR WAITS IN THE DESIGNATED DETECTOR ZONE SHOWN IN THE PLANS. DETECTOR DESIGNS WHICH DO NOT PROVIDE RELIABLE DETECTION, FREE FROM FALSE CALLS, SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.

**ITEM 614 – LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS
(TEM 642-55)**

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 ODOT INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE ODOT, 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).

ANY TIME TRAFFIC CONTROL FOR CONSTRUCTION ACTIVITIES IS NEEDED THROUGH AN ACTIVE SIGNALIZED INTERSECTION.

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE ODOT, 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).

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 WHICH 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
20 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 AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**NOTIFICATION OF TRAFFIC RESTRICTIONS
(TEM 642-58)**

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 TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS AND PIO*
RAMP AND/OR ROAD CLOSURES	2 WEEKS OR GREATER	21 CALENDAR DAYS
	12 HOURS TO 2 WEEKS	14 CALENDAR DAYS
	12 HOURS OR LESS	4 BUSINESS DAYS
LANE CLOSURES AND RESTRICTIONS	2 WEEKS OR GREATER	14 CALENDAR DAYS
	LESS THAN 2 WEEKS	5 BUSINESS DAYS
START OF CONSTRUCTION AND TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS

* - PRIOR TO CLOSURE DATE, UNLESS NOTED OTHERWISE

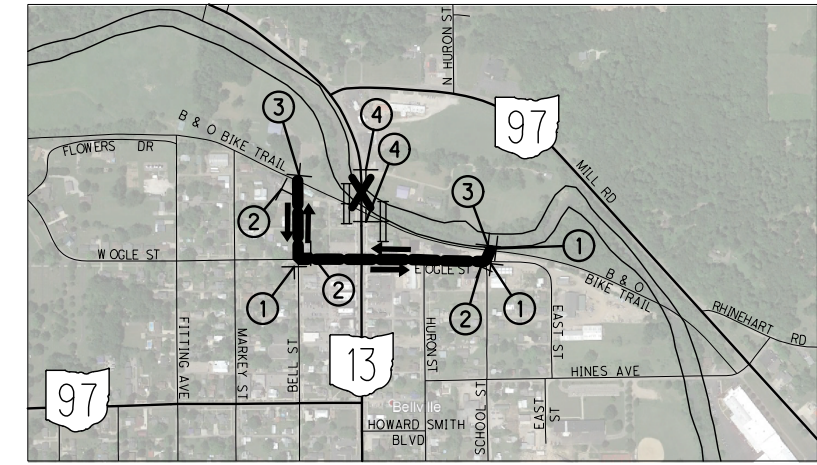
ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

B&O TRAIL DETOUR

DETOUR THE B&O BIKE TRAIL FOR THE DURATION OF WORK ZONE SETUP AS DETAILED BELOW.

FOR ADDITIONAL DETAILS NOT SHOWN, SEE SCD MT-110.10. ALSO REFERENCE THE CONSTRUCTION COORDINATION REQUIREMENTS ON SHEET 6.

PAYMENT FOR LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO ESTABLISH AND MAINTAIN THIS DETOUR SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, DETOUR SIGNING.

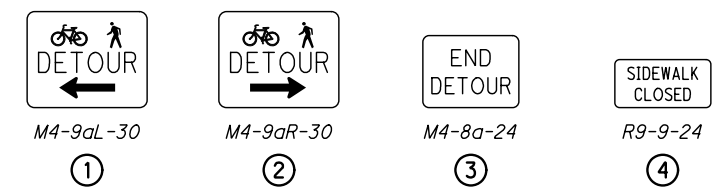


BICYCLE AND PEDESTRIAN DETOUR

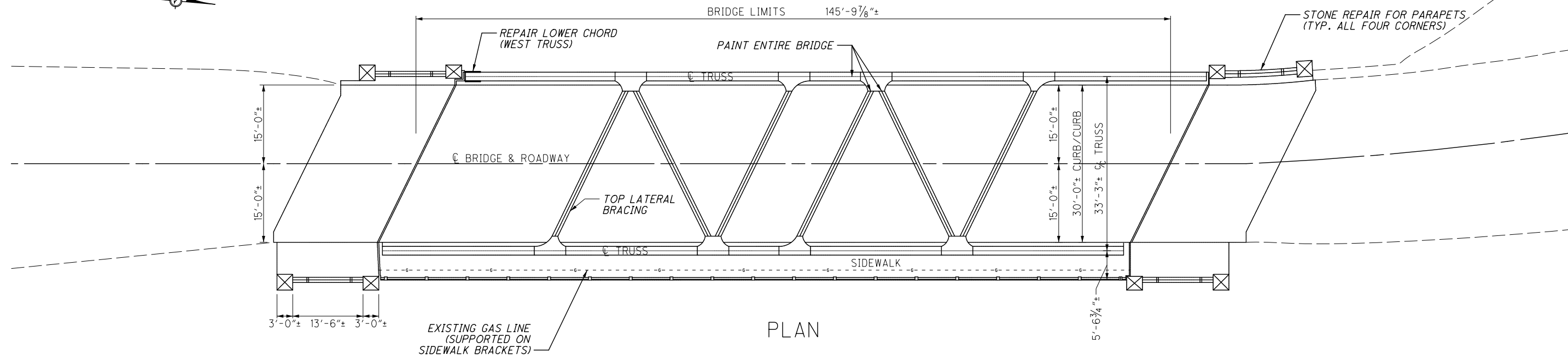


MAP LEGEND

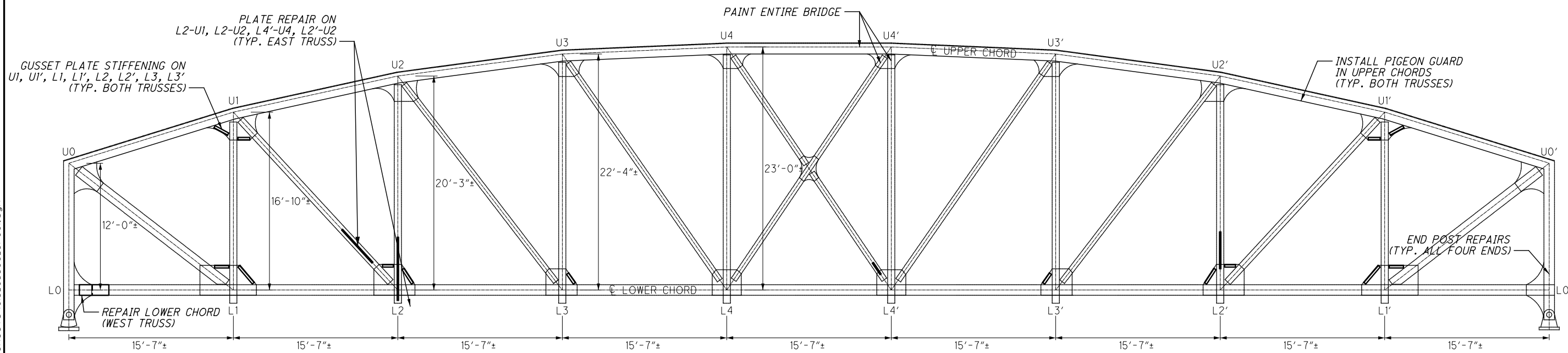
- X - PROJECT LOCATION
- T - TEMPORARY SIGNS
- H - TYPE III BARRICADES
- - DETOUR ROUTE
- ↔ - DIRECTION OF DETOURED BICYCLE AND PEDESTRIAN TRAFFIC



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PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	16	EACH	REMOVAL MISC.: RIVET
513	475	LB	STRUCTURAL STEEL, MISC.: LOWER CHORD REPAIR
513	220	LB	STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR
513	400	LB	STRUCTURAL STEEL, MISC.: PLATE REPAIR
513	2	EACH	STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT
514	LS		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
514	LS		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
514	LS		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
514	LS		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
514	60	MH	GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL
514	20	EACH	FINAL INSPECTION REPAIR
530	530	SF	SPECIAL - STRUCTURES, GALVANIZED WELDED WIRE MESH
602	564	SF	MASONRY, MISC.: STONE REPAIR FOR PARAPETS

FOR TRUSS GUSSET REPAIR DETAILS, SEE SHEET 7 / 12
 FOR PLATE REPAIR DETAILS, SEE SHEETS 8 / 12 9 / 12 10 / 12
 FOR LOWER CHORD REPAIR DETAILS, SEE SHEETS 11 / 12 12 / 12

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UTILITIES

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

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

CITY	GAS
VILLAGE OF BELLVILLE	TRANSCANADA
142 PARK PLACE	P.O. BOX 85
BELLVILLE, OH 44813	LAKEVILLE, OH 44638
419.886.2245	419.827.2620

ELECTRIC	COMMUNICATION
AEP OHIO	CENTURYLINK
2552 QUAKER ROAD	175 ASHLAND ROAD, P.O. BOX 3555
BUCYRUS, OH 44820	MANSFIELD, OH 44907
419.563.1509	419.755.7956

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

ADDITIONAL UTILITY CONSIDERATIONS

THE CONTRACTOR IS DIRECTED TO TAKE EXTREME CARE NOT TO DISTURB OR DAMAGE THE GAS LINE RUNNING UNDER THE SIDEWALK ON THE EAST SIDE OF THE STRUCTURE. PROVIDE MEASURES THAT WILL PREVENT ACCIDENTAL BLASTING OR OTHER DAMAGE DURING BRIDGE PAINTING AND OTHER WORK. ANY DAMAGE, LEAKS, OR OTHER CONCERNS SHALL BE IMMEDIATELY REPORTED TO THE UTILITY PROVIDER AS LISTED IN THE UTILITY COORDINATION NOTE.

THE CONTRACTOR IS INSTRUCTED TO LEAVE IN PLACE THE ELECTRICAL CONDUIT INSTALLED BY THE VILLAGE THROUGH THE UPPER CHORD OF THE EAST TRUSS. THE VILLAGE WILL REMOVE CORDS/WIRING IN CONDUIT PRIOR TO THE BEGINNING OF CONSTRUCTION.

WORK LIMITS

THE WORK LIMITS 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.

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.

ESTIMATED QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING THE COMPLETION OF THIS PROJECT.

EXISTING STRUCTURE PLANS

EXISTING PLANS ENTITLED AS SHOWN BELOW MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND.

TITLE	DATE
RIC-13-5.31	1937
RIC-13-5.08	1977
RIC-97-3.60	2007
RIC-13-4.60	2015

DESIGN SPECIFICATIONS

THE PROPOSED REPAIRS TO THIS STRUCTURE AS SPECIFIED IN THESE PLANS CONFORM TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN DATA

STRUCTURAL STEEL - ASTM A 709 GRADE 50 - YIELD STRENGTH 50 KSI

ENVIRONMENTAL CONSIDERATIONS

1) THE CONTRACTOR SHALL UTILIZE APPROPRIATE APRONS TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT, WELDING SLAG AND/OR SEALANT OVER SPRAY AND OTHER DEBRIS. APRONS, APPROPRIATE FALSE WORK, OR OTHER BARRIERS SHALL BE UTILIZED TO PREVENT THE DISCHARGE OF DEBRIS TO THE CLEAR FORK CREEK. ALL DEBRIS COLLECTED SHALL BE DISPOSED OF AT AN APPROVED UPLAND SITE OR LAND FILL ABOVE THE FEMA 100-YEAR FLOOD ELEVATIONS.

2) THE CONTRACTOR SHALL FOLLOW TEM 642-58 (E.G.; CONSTRUCTION SCHEDULE COORDINATION, DETOURS, ROADWAY CLOSURES, ETC.) FOR THE SINGLE LANE CLOSURE ON SR 13 AND PEDESTRIAN TRAFFIC DETOURS. THE ODOT CONSTRUCTION ENGINEER WILL ENSURE THAT THE CONTRACTOR FOLLOWS TEM 642-58.

IN ADDITION TO THE COMMITMENTS STATED ABOVE, THE CONTRACTOR SHALL MONITOR STREAM CONDITIONS; TAKE ALL PRECAUTIONS TO ENSURE THAT DEBRIS, CONSTRUCTION MATERIAL, AND EQUIPMENT ARE NOT PERMITTED TO ENTER THE STREAM DURING HIGH WATER EVENTS.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICE (PIO) BY EMAIL AT D03.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION BY FAX AT (614) 887-4318 OR EMAIL AT LOUIS.TUMBLIN@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

CONSTRUCTION COORDINATION

THE CONTRACTOR SHALL ADVISE THE FOLLOWING A MINIMUM OF THIRTY (30) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES:

COORDINATE WITH JASON LARSON WITH RICHLAND COUNTY PARKS AT 419-884-3764 REGARDING THE PEDESTRIAN DETOUR FOR THE RICHLAND B&O TRAIL.

COORDINATE WITH TOM HARRIS WITH UNITED STATES GEOLOGICAL SURVEY (USGS) AT THARRIS@USGS.GOV OR 614-430-7727 REGARDING THE REMOVAL/ INSTALLATION OF THE STREAM FLOW GAUGE SYSTEM COMPONENTS THAT ARE ATTACHED TO THE EAST SIDE OF THE STRUCTURE AND SOUTHEAST STONE PARAPET. REMOVAL/ INSTALLATION OF THE GAUGE SYSTEM WILL BE PERFORMED BY USGS AT THEIR OWN COST, BUT MUST BE COORDINATED TO MINIMIZE BREAKS IN FLOOD THREAT MONITORING.

PROPOSED WORK

1. ADD STIFFENING ANGLES TO GUSSET PLATES AT THE LOCATIONS DETAILED IN THESE PLANS.
2. CONDUCT TRUSS PLATING REPAIRS AT THE LOCATIONS DETAILED IN THESE PLANS.
3. CONDUCT REPAIR OF CRACKED MEMBER AT L0, WEST TRUSS.
4. ADD PIGEON GUARD TO UPPER CHORDS.
5. CONDUCT MASONRY REPAIRS ON STONE PARAPETS.
6. PREPARE, PRIME AND PAINT STRUCTURAL STEEL SURFACES.

ITEM 202 - REMOVAL MISC.: RIVET

EXISTING RIVETS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING RIVETS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, EXISTING RIVETS TO BE REPLACED WITH NEW HIGH STRENGTH BOLTS AND RIVETS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH CMS SECTION 202.03.

NO MORE RIVETS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. RIVETS SHALL BE REMOVED FROM ONLY ONE SIDE OF A MEMBER AT A TIME. SEE GENERAL NOTE "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" FOR SPECIFIC REQUIREMENTS.

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

PAYMENT FOR RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET, PER EACH RIVET.

CONNECTION BOLTS:

CONNECTION BOLTS 5/8-INCH DIAMETER AND LARGER SHALL BE ASTM A325 HIGH STRENGTH STEEL BOLTS, TYPE 1, UNLESS OTHERWISE NOTED.

ASTM F3125 GRADE A490 TYPE 1 BOLTS SHALL BE USED FOR THE DOUBLE NUT CONNECTIONS DETAILED ON SHEET ~~V2712~~

NEW CONNECTION BOLTS SHALL BE INCLUDED FOR PAYMENT WITH THE PERTINENT NEW MATERIAL PAY ITEM.

BOLTED CONNECTION TO EXISTING STEEL:

AT LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER, NEW STRUCTURAL STEEL SHALL BE CONNECTED TO EXISTING STRUCTURAL STEEL USING EXISTING RIVET OR BOLT HOLES, FIELD DRILLED AND REAMED HOLES, AND NEW BOLTS. RIVET REMOVAL PROCEDURES ARE DESCRIBED IN THE GENERAL NOTES. SEE GENERAL NOTES "ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR" AND "ITEM 513 - STRUCTURAL STEEL.: LOWER CHORD REPAIR" FOR SPECIFIC REQUIREMENTS.

HOLES IN NEW MATERIAL SHALL BE MADE BY ANY OF THE FOLLOWING METHODS (TO BE SELECTED BY THE CONTRACTOR):

1. CAREFUL FIELD MEASUREMENT BY THE CONTRACTOR SHALL BE USED FOR LOCATING HOLES IN NEW MATERIAL TO BE SUBPUNCHED OR DRILLED UNDERSIZE IN THE SHOP. THE HOLE SHALL BE 3/16-INCH LESS IN DIAMETER THAN THE NOMINAL DIAMETER OF THE NEW BOLT. THE HOLES SHALL BE REAMED TO PROPER SIZE IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.
2. MAKE TEMPLATES IN THE FIELD OF HOLE PATTERNS AND LOCATIONS AFTER REMOVAL OF RIVETS OR BOLTS. USE THE FIELD TEMPLATES IN THE SHOP TO SUBPUNCH OR DRILL UNDERSIZE HOLES. THE HOLES SHALL BE REAMED IN THE FIELD AFTER FIT-UP TO THE EXISTING RIVET OR BOLT HOLES.
3. FURNISH NEW STRUCTURAL STEEL WITHOUT SHOP HOLES FOR RECONNECTION TO EXISTING RIVET OR BOLT HOLES. HOLES IN NEW MATERIAL TO BE FIELD DRILLED AND REAMED TO MATCH EXISTING RIVET OR BOLT LOCATION.

RIVET HOLES NOT USED FOR BOLTED CONNECTIONS OF NEW STRUCTURAL STEEL SHALL BE FILLED WITH A BOLT UNLESS OTHERWISE NOTED.

EXISTING MATERIAL WITHOUT HOLES FOR CONNECTION TO NEW MATERIAL SHALL BE FIELD DRILLED.

ALL HOLES THROUGH NEW AND EXISTING MATERIAL SHALL BE REAMED AFTER ASSEMBLY. THE FINAL HOLES SHALL BE STANDARD SIZE, 1/16-INCH LARGER IN DIAMETER THAN THE NOMINAL BOLT DIAMETER, UNLESS OTHERWISE NOTED.

ADDITIONAL REQUIREMENTS FOR HOLES SHALL BE PER CMS 513.19. SHOP FABRICATED HOLES THAT DO NOT MATCH EXISTING RIVET HOLE LOCATIONS SHALL BE FIELD DRILLED AT THE LOCATION TO MATCH THE EXISTING HOLES.

THE COST OF ALL LABOR, MATERIAL, AND EQUIPMENT FOR CONNECTING NEW MATERIAL TO EXISTING MATERIAL, INCLUDING REAMING NEW OR EXISTING HOLES, AND DRILLING NEW HOLES, SHALL BE INCLUDED AS INCIDENTAL TO THE PERTINENT NEW MATERIAL PAY ITEM.

ODOT DISTRICT 3 CAPITAL PROGRAMS ENGINEERING	
DATE 11/19	REVIEWED KAK
DRAWN NRF	STRUCTURE FILE NUMBER 7000243
DESIGNED NRF	CHECKED JNC
GENERAL NOTES - 1 BRIDGE NO. RIC-13-0530 OVER CLEARFORK CREEK	
RIC-13-5.30 PID No. 100057	
2 / 12	
6 16	

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PENCIL ABRASIVE BLASTING

THE PENCIL ABRASIVE BLASTING REFERRED TO IN THE VARIOUS NOTES AND REPAIR ITEMS IN THESE PLANS SHALL BE USED TO CLEAN AND PREPARE FAYING SURFACES BETWEEN NEW AND EXISTING STEEL, AND SHALL CONFORM TO THE FOLLOWING:

CLEAN THE DESIGNATED AREAS OF ALL PAINT, RUST, AND FOREIGN MATERIAL BY ABRASIVE BLASTING TO A SURFACE QUALITY EQUAL TO SSPC-SP10 PREPARATION GRADE SA 2 ACCORDING TO AND AS SHOWN IN SSPC-VIS 1-89. PERFORM THE ABRASIVE BLASTING USING A MAXIMUM COMPRESSED AIR PRESSURE OF 100 PSI, A HOSE NOZZLE DIAMETER OF 1/4-INCH (+/- 1/16-INCH), AND A GRADE 30/60 COAL SLAG ABRASIVE OR EQUIVALENT. DO NOT USE BLASTING ABRASIVES CONTAINING MORE THAN ONE-PERCENT FREE SILICA. BLASTERS USED FOR SURFACE PREPARATION FOR STRUCTURAL STEEL COATING CANNOT BE USED FOR PENCIL BLASTING. AFTER THE ABRASIVE BLASTING IS COMPLETE, AIR BLOW THE AREA CLEAN.

ALL ABRASIVES AND DEBRIS RELATED TO THIS WORK SHALL BE CONTAINED AND DISPOSED OF ACCORDING TO THE ENVIRONMENTAL CONSIDERATIONS DETAILED IN THESE PLANS.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT PENCIL ABRASIVE BLASTING CAN SATISFACTORILY BE PERFORMED ACCORDING TO THESE SPECIFICATIONS PRIOR TO THE START OF THE WORK. THE COST OF THE PENCIL ABRASIVE BLASTING SHALL BE INCLUDED FOR PAYMENT IN THE APPROPRIATE REPAIR ITEMS.

CAULKING

WORK UNDER THIS ITEM INCLUDES SURFACE PREPARATION AND CAULKING BUILT-UP SEAMS FOR REPAIRS AND STIFFENERS PLACED AT LOCATIONS SHOWN IN THE PLANS. CAULKING WILL BE PERFORMED IN ACCORDANCE WITH C&MS 514.19 AND THE FOLLOWING SPECIFICATIONS:

DESCRIPTION

THIS ITEM SHALL INCLUDE THE CAULKING OF JOINTS BETWEEN ADJACENT STEEL PIECES OF REPAIRS OR STIFFENERS, AND EXISTING STEEL AS DESCRIBED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE ENGINEER MAY ALSO DIRECT CAULKING IN AREAS OF PACK RUST OR OTHER DAMAGE IDENTIFIED IN THE FIELD.

ABRASIVE BLASTING OF THE MEMBER SHALL BE SUBSTANTIALLY COMPLETED BEFORE CAULKING IS PERFORMED. CAULKING SHALL TAKE PLACE AFTER THE PRIME AND INTERMEDIATE COATS HAVE CURED, BUT BEFORE THE FINISH COAT OF PAINT HAS BEEN APPLIED.

SURFACE PREPARATION

ANY PACK RUST SHALL BE REMOVED FROM THE JOINTS BY CHIPPING, HAMMERING, PUNCHING, CHISELING, OR BY OTHER SUITABLE MEANS TO A DEPTH AT LEAST EQUAL TO THE WIDTH OF THE GAP. WITH ANY METHOD USED, THE FINAL SURFACE SHALL BE GROUND IN THE DIRECTION OF THE STRESS. ALL JOINTS SHALL THEN BE VACUUMED WITH A COMMERCIAL VACUUM CLEANER HAVING A NOZZLE OPENING OF 1-INCH TO 1 1/2-INCH. SURFACES TO BE CAULKED SHALL BE CLEAN, DRY, SOUND AND ABOVE THE CAULKING MANUFACTURER'S TEMPERATURE RECOMMENDATION.

APPLICATION

THE CAULKING SHALL BE APPLIED EVENLY TO THE AREAS AS DEPICTED IN TYPICAL PLAN DETAILS. VOIDS SHALL BE COMPLETELY FILLED WITH CAULK WHICH SHALL BE APPLIED BY TROWEL OR CAULKING GUN AND SHALL BE SPREAD SMOOTHLY USING HEAVY PRESSURE TO DISPLACE AIR BUBBLES. EXCESS MATERIAL SHALL BE REMOVED IMMEDIATELY. ALL PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE CAULKING MANUFACTURER.

AREAS TO BE REPAIRED AND CAULKED UNDER THIS NOTE

SEAMS BETWEEN NEW PIECES OF STEEL USED FOR STIFFENING OR REPAIRS, AND BETWEEN EXISTING STEEL AND NEW PIECES OF STEEL USED FOR STIFFENING OR REPAIRS. THE INTENT OF CAULKING THESE SEAMS IS TO PREVENT WATER INFILTRATION.

OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. THESE LOCATIONS ARE INTENDED TO BE WITHIN THE LIMITS OF AREAS IN THE PLANS DESIGNATED FOR COMPLETE BLASTING AND PAINTING. IT IS NOT THE INTENT TO DIRECT THE CONTRACTOR TO MAKE ADDITIONAL PAINTING SET-UPS FOR CAULKING OUTSIDE OF THE LIMITS SHOWN IN THE PLANS.

PAYMENT FOR ALL LABOR, MATERIALS, AND EQUIPMENT FOR CAULKING SHALL BE INCIDENTAL TO ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL, INTERMEDIATE COAT.

ITEM 513 - STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT

THIS WORK CONSISTS OF DRILLING HOLES AT THE ENDS OF CRACKS, GRINDING TO SMOOTH HOLES AND NON -DESTRUCTIVE TESTING (NDT) IN THE LOWER TRUSS CHORD AS SHOWN ON SHEETS 11-12 AND AS DIRECTED BY THE ENGINEER.

DRILL HOLES AT THE APPARENT ENDS OF THE CRACKS REVEALED BY THE INITIAL NDT OR VISUAL INSPECTION AT LOCATIONS INDICATED IN THE PLANS. GRIND SMOOTH THE EXPOSED CIRCUMFERENCE OF EACH DRILLED HOLE AND CAREFULLY INSPECT FOR CRACKS AROUND THE PERIMETER OF THE HOLE USING MAGNETIC PARTICLE EXAMINATION AND/OR DYE PENETRATION. CONTINUE DRILLING, GRINDING, AND TESTING UNTIL ALL CRACK ENDS ARE REMOVED.

CRACK ENDS SHALL BE REMOVED BY A SINGLE HOLE WHEN PRACTICAL. ENDS OF CRACKS SHALL BE DRILLED WITH MINIMUM 1-INCH DIAMETER DRILL BIT.

THE LOCATION OF ALL HOLES SHALL BE DETERMINED BY AND DRILLED UNDER THE DIRECTION OF THE ENGINEER.

PAYMENT FOR ALL LABOR, MATERIALS, AND EQUIPMENT, INCLUDING DRILLING, GRINDING, AND TESTING SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH LOWER TRUSS CHORD LOCATION FOR ITEM 513 - STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT.

ITEM 513 - STRUCTURAL STEEL, MISC.:

ALL STEEL MEMBERS INCLUDED IN THESE ITEMS SHALL BE FABRICATED UNDER C&MS 513 UF LEVEL OF FABRICATION.

ITEM 513 - STRUCTURAL STEEL, MISC.: LOWER CHORD REPAIR

WORK UNDER THIS ITEM INCLUDES THE REPAIR OF A CRACKED LOWER CHORD CHANNEL MEMBER LOCATED AT THE THE LO WEST TRUSS LOCATION. THE REPAIR CONSISTS OF ADDING PLATES AND FILL PLATES AS DETAILED ON SHEETS 11-12.

NEW STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50 STEEL. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. NO SHOP CERTIFICATION IS REQUIRED. NEW MEMBER SHALL BE FIELD OR SHOP PAINTED PER ITEM 514.

STEEL SURFACE PREPARATION

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE "PENCIL ABRASIVE BLASTING" GENERAL NOTE PRIOR TO INSTALLATION OF NEW MATERIAL. NEW MATERIAL SHALL BE PRIME PAINTED.

DOUBLE NUT ANGLE INSTALLATION SEQUENCE

GENERAL: WHILE WORKING AT A PANEL POINT, LIMIT REMOVALS AND CONSTRUCTION TO ONE SIDE OF THE TRUSS LOWER CHORD AT ANY ONE TIME. THE INSTALLATION SEQUENCE FOR THE NEW MATERIAL TO BE ADDED ON THE EXTERIOR CHORD IS DETAILED BELOW. THE SEQUENCE SHALL BE COMPLETED ON ONE SIDE OF THE TRUSS LOWER CHORD PRIOR TO BEGINNING CONSTRUCTION ON THE OTHER SIDE OF THE TRUSS LOWER CHORD.

PERFORM THE INSTALLATION ON ONE TRUSS LOWER CHORD AS FOLLOWS: (SEE DOUBLE NUT CONNECTION DETAIL)

- A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
- B. REMOVE A SINGLE RIVET. REAM HOLE IF EXISTING MATERIAL IS MISALIGNED WITHIN EXISTING RIVET HOLE. HOLE DIAMETER SHALL NOT EXCEED STANDARD SIZED CONNECTION HOLE.
- C. IN THE OPEN RIVET HOLE, INSTALL A NEW PROPERLY TENSIONED BOLT WITH GRIP SUFFICIENT TO ACCOMMODATE THE EXISTING GUSSET, CHORD MEMBER, NEW FILL PLATE AND PLATE. THE THREAD LENGTH MUST BE SUFFICIENT TO ALLOW FOR THE DOUBLE NUT CONNECTION METHOD. BOLTS SHALL BE ASTM A490.
- D. REPEAT "A" AND "B" FOR ALL EXISTING RIVETS TO BE REMOVED TO CONNECT THE NEW PLATE AND FILL PLATE.
- E. FABRICATE NEW FILL PLATE WITH HOLES AS DETAILED TO FIT AROUND THE NEW NUTS AND WASHERS. ERECT NEW FILL PLATES.
- F. ERECT NEW PLATE WITH OVERSIZE BOLT HOLES TO FIT THE NEWLY INSTALLED BOLTS.
- G. SECURE NEW PLATE AND FILLS WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
- H. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW ASTM A325 BOLT THROUGH THE NEW PLATE, NEW FILL PLATES, AND CHORD MEMBER.
- I. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION.
- J. REPEAT "H" AND "I" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

PAYMENT

PAYMENT FOR CAREFUL RIVET REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL, MISC.: RIVET - PER EACH.

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW LOWER CHORD REPAIRS INCLUDING NEW PLATES, FILL PLATES, AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL; CAULKING; AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: LOWER CHORD REPAIR - PER LB.

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR

WORK UNDER THIS ITEM INCLUDES INSTALLATION OF NEW STEEL ANGLES ON EXISTING GUSSET PLATES TO STIFFEN UNSUPPORTED EDGES.

MATERIAL

- 1. NEW MATERIAL SHALL BE ASTM A709, GRADE 50.
- 2. NEW BOLTS FOR THE SINGLE BOLT METHOD SHALL BE ASTM A325, TYPE 1.
- 3. NEW MATERIALS SHALL BE CERTIFIED PER CMS 501.06.

STEEL SURFACE PREPARATION

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE "PENCIL ABRASIVE BLASTING" GENERAL NOTE PRIOR TO INSTALLATION OF NEW MATERIAL. NEW MATERIAL SHALL BE PRIME PAINTED.

SHOP DRAWINGS

STRUCTURAL STEEL ANGLES WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE THE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, AND TABLES. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE OFFICE OF STRUCTURAL ENGINEERING. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING THE STEEL ITEMS INTO THE WORK, AS REQUIRED BY CMS 501.06. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. THE FABRICATOR SHALL FURNISH THE DIRECTOR A DIGITAL MEDIA COPY OF EACH APPROVED SHOP DRAWING. THE DIGITAL MEDIA SHALL BE AS SPECIFIED IN CMS 501.04.

FABRICATION

- 1. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. NO SHOP CERTIFICATION IS REQUIRED.
- 2. FABRICATE NEW STIFFENING ANGLES AS SHOWN ON SHEET 7.
- 3. EDGE DISTANCE FROM THE CENTER OF A FASTENER TO THE FIELD CUT EDGE OF THE NEW MATERIAL SHALL BE AS SHOWN ON SHEET 7. MINIMUM EDGE DISTANCE SHALL BE 1 INCH.

CONSTRUCTION

DRILL HOLES FOR ONLY ONE NEW ANGLE STIFFENER PER GUSSET PLATE AT ANY TIME. INSTALL AND FULLY TIGHTEN ALL NEW BOLTS IN A NEW STIFFENER ANGLE PRIOR TO WORK ON ADDITIONAL INSTALLATIONS. LIMIT WORK TO ONE GUSSET PLATE AT A TIME.

BOLT INSTALLATION

WHERE PRACTICABLE, INSTALL THE HEAD OF THE NEW BOLT TO OUTSIDE OF THE GUSSET PLATE. THE OUTSIDE FACES OF THE GUSSET PLATES ARE CONSIDERED AWAY FROM THE CENTERLINE OF THE EAST TRUSS WHEN WORKING ON THE EAST TRUSS AND AWAY FROM THE WEST TRUSS CENTERLINE WHEN WORKING ON THE WEST TRUSS.

SINGLE NUT ANGLE INSTALLATION SEQUENCE

PERFORM THE INSTALLATION ON ONE TRUSS AS FOLLOWS. INSTALL NEW EDGE ANGLE ON GUSSET PLATES PER THE FOLLOWING INSTRUCTIONS:

- A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
- B. FABRICATE NEW STIFFENING ANGLE.
- C. ERECT NEW STIFFENING ANGLE.
- D. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH THE NEW ANGLE AND EXISTING GUSSETS.
- E. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION. SECURE NEW ANGLE WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
- F. REPEAT "D" AND "E" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

PAYMENT

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW TRUSS GUSSET PLATE REPAIRS INCLUDING NEW ANGLES, AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL; CAULKING; AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR - PER LB.

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ITEM 513 - STRUCTURAL STEEL, MISC.: PLATE REPAIR

WORK UNDER THIS ITEM INCLUDES INSTALLATION OF NEW STEEL PLATES ON THE WEBS OF TRUSS MEMBERS AS DETAILED ON SHEETS 8-10, IN ORDER TO MITIGATE SECTION LOSS DUE TO CORROSION.

MATERIAL

1. NEW MATERIAL SHALL BE ASTM A709, GRADE 50.
2. NEW BOLTS FOR THE SINGLE BOLT METHOD SHALL BE ASTM A325, TYPE 1.
3. NEW MATERIALS SHALL BE CERTIFIED PER CMS 501.06.

STEEL SURFACE PREPARATION

FAYING SURFACES BETWEEN EXISTING STEEL AND NEW STEEL SHALL BE PREPARED IN ACCORDANCE WITH THE "PENCIL ABRASIVE BLASTING" GENERAL NOTE PRIOR TO INSTALLATION OF NEW MATERIAL. NEW MATERIAL SHALL BE PRIME PAINTED.

SHOP DRAWINGS

STRUCTURAL STEEL PLATES WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE THE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, AND TABLES. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE OFFICE OF STRUCTURAL ENGINEERING. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING THE STEEL ITEMS INTO THE WORK, AS REQUIRED BY CMS 501.06. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. THE FABRICATOR SHALL FURNISH THE DIRECTOR A DIGITAL MEDIA COPY OF EACH APPROVED SHOP DRAWING. THE DIGITAL MEDIA SHALL BE AS SPECIFIED IN CMS 501.04.

FABRICATION

1. NEW MATERIAL MAY BE SHOP FABRICATED OR FIELD FABRICATED AT A FACILITY APPROVED BY THE ENGINEER. NO SHOP CERTIFICATION IS REQUIRED.
2. FABRICATE NEW REPAIR PLATES AS SHOWN ON SHEETS 8-10 IN THE DESIGN DRAWINGS.
3. EDGE DISTANCE FROM THE CENTER OF A FASTENER TO THE FIELD CUT EDGE OF THE NEW MATERIAL SHALL BE AS SHOWN ON SHEETS 8-10.

CONSTRUCTION

LIMIT WORK TO ONE TRUSS MEMBER AT A TIME. DRILL ONE NEW HOLE IN THE EXISTING MEMBER WEB AT A TIME. INSTALL AND FULLY TIGHTEN NEW THE NEW BOLT PRIOR TO DRILLING HOLES FOR ADDITIONAL BOLTS. THIS RESTRICTION DOES NOT APPLY TO EXISTING BOLT HOLES BEING REAMED OUT FOR USE IN THE REPAIR.

SINGLE NUT PLATE INSTALLATION SEQUENCE

PERFORM THE INSTALLATION AS FOLLOWS. INSTALL PLATE REPAIRS TRUSS MEMBER WEBS AS FOLLOWS:

- A. PREPARE FAYING SURFACES IN ACCORDANCE WITH "PENCIL ABRASIVE BLASTING" REQUIREMENTS.
- B. FABRICATE NEW REPAIR PLATES.
- C. ERECT NEW REPAIR PLATES.
- D. FIELD DRILL ONE NEW STANDARD SIZE BOLT HOLE FOR NEW BOLT THROUGH THE NEW PLATE AND EXISTING MEMBER (WHERE EXISTING BOLT HOLES ARE BEING USED, REAM THE EXISTING HOLE AS SHOWN ON SHEETS 8-10).
- E. INSTALL PROPERLY TENSIONED BOLT AT THE NEW HOLE LOCATION. SECURE NEW ANGLE WITH PROPERLY TENSIONED NUTS WITH WASHERS ON THE NEW BOLTS.
- F. REPEAT "D" AND "E" AS NEEDED FOR EACH OF THE NEW BOLT HOLES TO BE FIELD DRILLED IN EXISTING MATERIAL.

PAYMENT

PAYMENT FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO INSTALL NEW TRUSS GUSSET PLATE REPAIRS INCLUDING NEW PLATES, AND CONNECTION BOLTS; SURFACE PREPARATION OF EXISTING STEEL; CAULKING; AND FABRICATION SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR:

ITEM 513 - STRUCTURAL STEEL, MISC.: PLATE REPAIR - PER LB.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

ESTIMATED QUANTITIES SHALL BE PAID PER LUMP SUM FOR THESE ITEMS AND ARE BASED ON THE FOLLOWING PAINTING AREAS:

1. MAIN TRUSS MEMBERS
2. OVERHEAD STRUTS
3. BOTTOM CHORD DIAPHRAGMS
4. FLOORING MEMBERS
5. LACING
6. SIDEWALK RAILING AND SUPPORTS
7. GUSSET PLATES
8. COVER PLATES
9. DRAIN PIPES
10. BEARING ASSEMBLIES

REMOVAL AND REINSTALLATION OF ROADWAY BRIDGE RAILING AND SIDEWALK COVER PLATES TO ALLOW ACCESS FOR PAINTING SHALL BE CONSIDERED INCIDENTAL TO ITEM 514 - SURFACE PAINTING OF EXISTING STRUCTURAL STEEL. ROADWAY BRIDGE RAILING SHALL BE REINSTALLED ACCORDING TO C&MS 606.05.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

THE COLOR OF THE FINISH COAT ON THE STEELWORK SHALL BE BLUE TO MATCH THE FEDERAL COLOR 15065 FROM THE 1989 595B EDITION.

THE CONTRACTOR SHALL SUBMIT DRIED PAINT SAMPLES OF THE PROPOSED FINAL BLUE PAINT COLOR AND SHALL RECEIVE APPROVAL FROM THE ENGINEER PRIOR TO THE START OF PAINTING. THE PROPOSED BLUE SHALL CLOSELY MATCH THE CURRENT COLOR OF THE BRIDGE ON THE STEELWORK.

ITEM 530 - SPECIAL - STRUCTURES, GALVANIZED WELDED WIRE MESH

INSTALL WELDED WIRE MESH TO DENY ENTRY OF PIGEONS AND OTHER BIRDS TO THE INTERIOR OF THE UPPER CHORDS OF EACH TRUSS. PLACE MESH ABOVE LACING COMPONENTS IN SUCH A MANNER AS TO COMPLETELY COVER ALL BIRD ACCESS TO THE INTERIOR OF THE UPPER CHORDS. EXTEND THE MESH VERTICALLY A MINIMUM OF 4" UP THE VERTICAL INSIDE FACES OF THE ADJACENT MEMBERS.

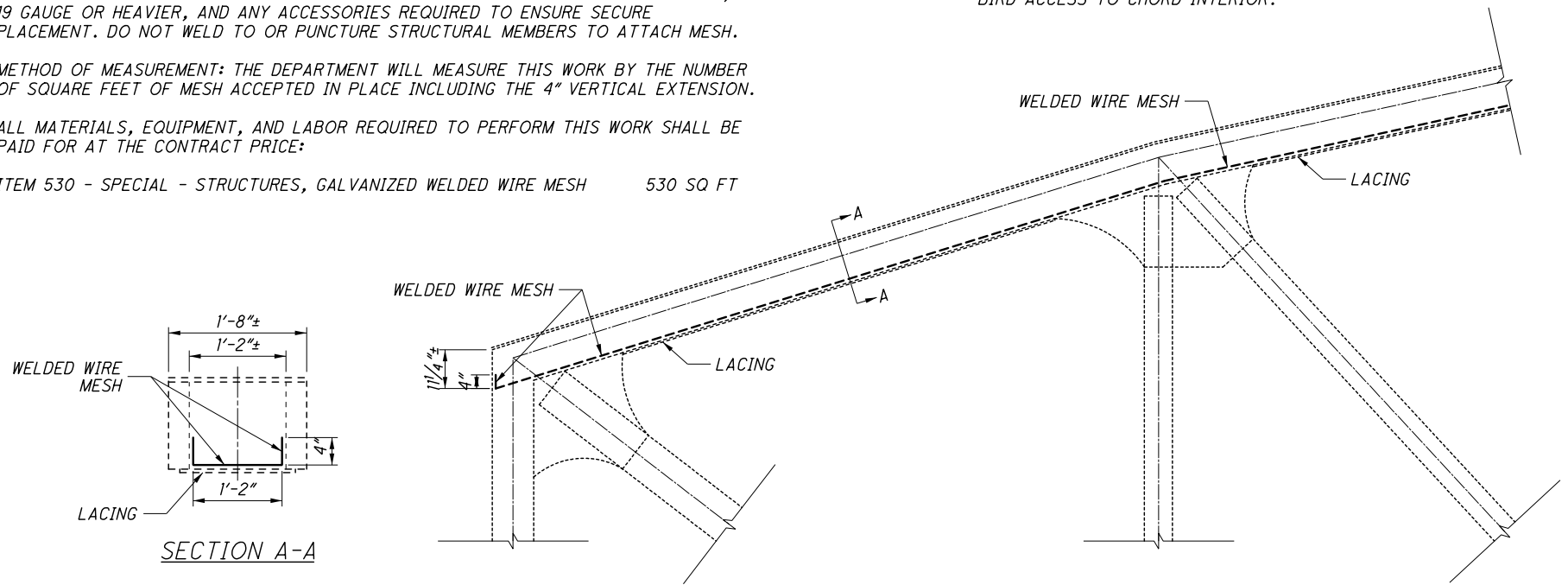
FURNISH GALVANIZED WELDED WIRE MESH WITH OPENINGS NOT GREATER THAN 2" x 2", 19 GAUGE OR HEAVIER, AND ANY ACCESSORIES REQUIRED TO ENSURE SECURE PLACEMENT. DO NOT WELD TO OR PUNCTURE STRUCTURAL MEMBERS TO ATTACH MESH.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK BY THE NUMBER OF SQUARE FEET OF MESH ACCEPTED IN PLACE INCLUDING THE 4" VERTICAL EXTENSION.

ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO PERFORM THIS WORK SHALL BE PAID FOR AT THE CONTRACT PRICE:

ITEM 530 - SPECIAL - STRUCTURES, GALVANIZED WELDED WIRE MESH 530 SQ FT

DETAIL NOTE: GAPS BETWEEN MESH AND EXISTING MEMBERS ARE EXAGGERATED FOR CLARITY. GAPS BETWEEN MESH AND MEMBERS SHOULD BE MINIMIZED OR ELIMINATED TO PREVENT BIRD ACCESS TO CHORD INTERIOR.



MESH INSTALLATION DETAIL (ELEVATION VIEW FROM OUTSIDE OF TRUSS)

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ITEM 602 - MASONRY MISC.: STONE REPAIR FOR PARAPETS

A. GENERAL:

THE WORK UNDER THIS SECTION INCLUDES FURNISHING ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO REMOVE DETERIORATED MORTAR, REPOINT MORTAR JOINTS, REPLACE DAMAGED OR MISSING STONE ELEMENTS, AND REPAIR CRACKS IN STONE ELEMENTS VIA INJECTION METHODS TO RESTORE THE INTEGRITY OF STONE MASONRY CONSTRUCTION ON PARAPETS.

WORK SHALL BE PERFORMED ON FOUR (4) STONE PARAPETS, ABUTTING THE ENDS OF BOTH TRUSSES ON BOTH THE FORWARD AND REAR SIDES OF THE BRIDGE.

WORK SHALL BE SUPERVISED BY A LEAD MASON WITH A MINIMUM OF FIVE YEARS MASONRY RESTORATION EXPERIENCE. GENERALLY, THE MASON WILL NEED ONE OR MORE LABORERS TO ASSIST WITH TASKS SUCH AS TRANSPORTING STONES, MIXING MORTAR, AND LAYING THE STONES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH DOCUMENTATION OF THE LEAD MASON'S EXPERIENCE.

IN GENERAL, ALL REPAIRS SHOULD BE UNDERTAKEN USING THE LEAST OBTRUSIVE MEANS POSSIBLE, WITH A PLAN TO DISTURB THE LEAST AMOUNT OF ORIGINAL MATERIAL; UNNECESSARY REPAIRS AND REPLACEMENTS SHOULD BE AVOIDED. THE PARAPET SHOULD BE STUDIED AND DOCUMENTED THROUGH PHOTOGRAPHS AND (IF NECESSARY) ENGINEERING DRAWINGS PRIOR TO BEGINNING TREATMENT TO DISCERN AND CREATE A VISUAL RECORD OF WORKMANSHIP AND THE CONDITIONS TO BE ADDRESSED. THE ORIGINAL PATTERN SHOULD BE REPLICATED AS MUCH AS POSSIBLE IN THE COURSE OF THE REPAIRS.

WHERE REPAIR OR REHABILITATION IS NECESSARY, THE WORK SHOULD USE ORIGINAL MATERIAL WHEREVER POSSIBLE. IF IT IS NOT POSSIBLE TO USE ORIGINAL MATERIAL, IN-KIND MATERIAL SHOULD BE USED; IF REPLACEMENT OF A MISSING ELEMENT IS REQUIRED, THE REPLACEMENT SHOULD ALSO BE IN-KIND. STONES USED SHOULD MATCH EXISTING STONES IN TYPE, SIZE, TEXTURE/FINISH, AND COLOR.

ALL STONES SHOULD BE CLEAN, DURABLE, PROPERLY QUARRIED, AND FREE FROM STRUCTURAL DEFECTS.

STONES SHOULD BE THOROUGHLY SATURATED WITH CLEAN WATER PRIOR TO BEGINNING WORK, BUT NO STANDING WATER SHOULD BE PRESENT. DRY STONES DRAW MOISTURE FROM THE MORTAR, CAUSING IT TO DRY OUT AND CRACK.

STONES SHOULD BE WELL-BEDDED IN THE MORTAR AND PLACED WITHOUT HAMMERING OR JARRING ANY STONE ALREADY IN PLACE.

DOCUMENT ALL REPAIR/REHABILITATION WORK, INCLUDING DATE, LIMITS OF WORK, AND A DESCRIPTION OF THE WORK UNDERTAKEN.

B. GUIDELINES FOR INJECTION REPAIR

SUMMARY OF WORK:

FURNISH ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT AS NECESSARY TO STABILIZE OR REPAIR CRACKS AND VOIDS IN MASONRY CONSTRUCTION, USING INJECTION GROUTS AS SPECIFIED HEREIN.

COMPLY WITH MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS FOR MIXING, APPLICATION, AND CURING OF MATERIALS.

HANDLE ALL PRODUCTS WITH APPROPRIATE PRECAUTIONS AS OUTLINED IN THE MANUFACTURERS PRODUCT LITERATURE AND MATERIAL SAFETY DATA SHEETS (MSDS).

PROJECT/SITE CONDITIONS:

COLD WEATHER REQUIREMENTS- DO NOT PERFORM SPECIFIED WORK IN AIR TEMPERATURES BELOW 40°F, IF SUBSTRATE TEMPERATURE IS BELOW 40°F, OR IF CONDITIONS ARE TO BE SUCH WITHIN A 24-HOUR PERIOD.

HOT WEATHER REQUIREMENTS- DO NOT INSTALL MATERIAL IN TEMPERATURES EXCEEDING 90°F. IF, NECESSARY, PROTECT WORK AREA FROM DIRECT SUNLIGHT, TO PREVENT REPAIR FROM DRYING OUT.

INJECTION ADHESIVE/GROUT:

MINERAL-BASED PUMPABLE INJECTION GROUTS & FILLERS SHALL PREPACKAGED, ULTRA-FINE PREMIXED NON-POLYMER, NATURAL CEMENT BASED, EXPANDING OR POZZOLAN-LIME MODIFIED NON-EXPANDING PRODUCTS DESIGNED FOR HISTORIC MASONRY RESTORATION WORK. CEMENT GROUT SHALL BE SUITABLE FOR WET OR DRY CRACKS, DEVELOP DIRECT TENSILE BOND STRENGTH OF 200 PSI MINIMUM AND EXHIBIT LESS THAN 0.06% DRYING SHRINKAGE WITH LIMITED THERMAL EXPANSION. MODERATE STRENGTH, HIGH FLOW, LOW-MODULUS, EARLY FREEZE RESISTANCE AND HIGH PERMEABILITY ARE CONSIDERED TO CONFORM TO THE REQUIREMENTS OF THIS SPECIFICATION.

MICRO INJECTION ADHESIVE (FOR HAIRLINE CRACKS UP TO 3/16 INCH WIDTH): PREMIXED CEMENTITIOUS INJECTION GROUT THAT CONTAINS NO CORROSIVE CONSTITUENTS. THE ADHESIVE ACHIEVES EXTRAORDINARY FLOW CAPACITY, HIGH PENETRATION, AND STRONG ADHESION. REFER TO PRODUCT LITERATURE AND TECHNICAL DATA FOR MATERIAL SPECIFICATIONS.

CRACK AND VOID INJECTION GROUT (FOR CRACKS APPROXIMATELY 3/16 INCH TO 3/8 INCH WIDTH): PREMIXED CEMENTITIOUS INJECTION GROUT THAT DOES NOT CONTAIN ANY ACRYLIC, LATEX, OR OTHER SYNTHETIC POLYMER BONDING AGENTS OR ADDITIVES.

ALL GROUT MUST BE VAPOR PERMEABLE, FROST AND SALT RESISTANT, SHRINK RESISTANT, AND PHYSICALLY COMPATIBLE WITH THE SUBSTRATE. REFER TO PRODUCT LITERATURE AND TECHNICAL DATA FOR MATERIAL SPECIFICATIONS.

SUBSTITUTIONS: IF PROPOSED EQUAL IS SUBMITTED, LABORATORY TESTING SHALL BE REQUIRED TO ESTABLISH EQUIVALENT PERFORMANCE LEVELS. AN INDEPENDENT TESTING LABORATORY SHALL BE UTILIZED AS DETERMINED BY THE ENGINEER AND PAID FOR BY THE SUBMITTING PARTY.

PREPARATION:

ALL AREAS INVOLVED IN THE WORK SHALL BE INSPECTED BY THE CONTRACTOR TO ESTABLISH EXTENT OF WORK. IF CONDITIONS ARE NOT AS EXPECTED, NOTIFY THE ENGINEER IMMEDIATELY FOR DIRECTION. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED.

GROUT WORKMANSHIP SHOULD COMPLY WITH ALL APPLICABLE RECOMMENDATIONS OF THE MANUFACTURERS WRITTEN SPECIFICATIONS AND REQUIREMENTS.

DO NOT ADD ANY BONDING AGENTS, ACCELERATORS, OR RETARDERS TO THE GROUT.

DISCARD ALL GROUT THAT HAS HARDENED OR EXCEEDED ITS ALLOWABLE POT LIFE AFTER MIXING. PROVIDE SEPARATE CLEARLY LABELED CONTAINERS FOR DISCARDED GROUT AND REMOVE MATERIAL FROM THE STAGING AREA AS SOON AS PRACTICAL.

DRILL A SERIES OF INJECTION PORTS IN THE CENTER OF THE CRACK TO ENABLE DELIVERY OF GROUT TO THE FULL LENGTH AND DEPTH OF THE CAVITY TO BE FILLED, SIZED FOR THE SMALLEST USABLE APPLICATOR. PORTS SHOULD BE DRILLED IN A DOWNWARD DIRECTION A MINIMUM OF HALF THE MASONRY THICKNESS. BETWEEN THE PORTS, THE CRACK SHOULD BE SEALED WITH REMOVABLE, NON-STAINING CLAY OR REPAIRED WITH THE APPROPRIATE MORTAR.

WASH THE OPEN SURFACE AND INTERIOR OF THE CRACK USING CLEAN WATER TO REMOVE ALL DUST, LOOSE OR DELETERIOUS MATERIAL, WHICH COULD PREVENT PROPER FLOW AND/OR ADHESION, COMPROMISING THE INTEGRITY OF THE CURED INJECTION GROUT.

ALL CRACK AND VOID CAVITIES MUST BE THOROUGHLY FLUSHED WITH CLEAN WATER TO REMOVE AS MUCH DIRT, DEBRIS AND CONTAMINANTS AS POSSIBLE AND TO PRE-SATURATE THE AREAS TO BE GROUTED. CONTINUE FLUSHING UNTIL CLEAN WATER RUNS FROM THE LOWEST PORT. A MINIMUM OF 20 MINUTES OF PRE-WETTING SHOULD BE PERFORMED PRIOR TO GROUTING. REPEAT PRE-WETTING IF EITHER DRYING OCCURS PRIOR TO INJECTION OR IF MORE THAN TWO HOURS ELAPSE FROM THE TIME OF PRE-WETTING.

DO NOT MIX MORE MATERIAL THAN CAN BE USED WITHIN APPROXIMATELY 30 MINUTES. DISCARD ANY MIXED MATERIAL THAT HAS BEEN UNUSED FOR 30 MINUTES OR MORE.

FOLLOW MANUFACTURERS WRITTEN MIXING INSTRUCTIONS, MIXING RATIO AND WATER PROPORTIONING BY VOLUME TO ACHIEVE APPLICATION CONSISTENCY FOR AMBIENT TEMPERATURES.

INJECTION PROCEDURE:

INJECT GROUT INTO LOWEST PORT AND CONTINUE UNTIL IT FLOWS FREELY FROM THIS PORT AND OTHER PORTS AT THE SAME LEVEL. SEAL PORTS USING NON-STAINING CLAY, SEALANT, OR CAULK AND PROCEED IN IDENTICAL FASHION UNTIL THE CRACK IS FILLED. CLEAN UP OVERFLOW IMMEDIATELY.

FOLLOW MANUFACTURERS WRITTEN CURING PROCEDURES FOR THE DURATION OF THE CURING PERIOD. THIS GENERALLY REQUIRES WET CURING FOR A PERIOD OF 1 TO 7 DAYS DEPENDING ON FORMULATION AND ATMOSPHERIC CONDITIONS.

REMOVE PLUGS AFTER 24 TO 48 HOURS AND REPAIR INJECTION PORTS AND THE CRACK SURFACE IF NOT PREVIOUSLY POINTED USING POINTING MORTAR AND POINTING PROCEDURES. CRACKS IN THE SURFACE OF THE MASONRY SHALL MATCH MORTAR OF ADJOINING MASONRY.

CLEAN UP:

REMOVE UNCURED MORTAR AND GROUT FROM THE SUBSTRATE BEFORE IT DRIES USING CLEAN WATER AND A RUBBER SPONGE. CURED MORTAR AND GROUT MAY ONLY BE REMOVED CHEMICALLY OR MECHANICALLY.

DISPOSE OF MASONRY REPAIR PRODUCTS, SPOILED BATCHES AND OTHER MASONRY WASTE PRODUCTS IN AN APPROVED AND LEGAL MANNER ON A DAILY BASIS. HOSE DOWN AREAS SHALL BE ONLY THOSE APPROVED BY THE ENGINEER AND SHALL BE CONTAINED ON PLASTIC GROUND COVERS. ALL LIQUID WASTE SHALL BE COLLECTED BY THE CONTRACTOR ON A CONTINUOUS BASIS AND TRANSPORTED FOR OFF-SITE DISPOSAL.

C. GENERAL GUIDELINES FOR USING MORTAR

A VARIETY OF BINDERS MAY BE PRESENT IN THE EXISTING MORTAR, INCLUDING EARTH AND CLAYS; LIME; NATURAL CEMENTS; HYDRAULIC CEMENTS; OTHER MANUFACTURED CEMENTS; PORTLAND CEMENT; AND MASONRY CEMENTS. THE TYPE OF BINDER USED SIGNIFICANTLY AFFECTS THE CHARACTERISTICS AND PERFORMANCE ATTRIBUTES OF THE MORTAR.

MORTAR CHARACTERISTICS, SUCH AS COMPRESSIVE STRENGTH, PERMEABILITY, AND DURABILITY ARE RELATED TO ITS COMPONENT ELEMENTS AND THEIR PROPORTIONS. WHEN CREATING A REPAIR MORTAR, THE EXACT PHYSICAL AND CHEMICAL PROPERTIES OF THE HISTORIC MORTAR ARE NOT OF MAJOR SIGNIFICANCE AS LONG AS THE REPAIR MORTAR CAN COEXIST WITH THE HISTORIC MORTAR IN A SYMPATHETIC AND SUPPORTIVE CAPACITY AND IT IS COMPATIBLE WITH THE TYPE OF STONE USED TO CONSTRUCT THE BRIDGE. IT MUST HAVE A LOWER COMPRESSIVE STRENGTH AND GREATER VAPOR PERMEABILITY THAN THE MASONRY UNITS OF THE BRIDGES. VAPOR PERMEABILITY IS DEFINED AS THE ABILITY TO MOVE MOISTURE FROM THE INTERIOR OF THE STRUCTURE BACK OUT INTO THE ATMOSPHERE.

THE FOLLOWING GENERAL GUIDELINES APPLY TO MORTAR:

- REPAIR MORTAR (REPOINT) ONLY WHEN THERE IS EVIDENCE OF DETERIORATION. EVIDENCE INCLUDES DISINTEGRATING MORTAR, CRACKS IN THE MORTAR JOINTS, AND GAPS AT THE MORTAR/STONE INTERFACE, LOOSE STONES, OR DAMP WALLS.

- THE REPAIR SHOULD ADDRESS ONLY THOSE AREAS OF THE PARAPET WHERE DETERIORATION IS PRESENT; SOUND MORTAR THAT IS WELL-BONDED TO THE ADJACENT MASONRY SHOULD NOT BE REMOVED EXCEPT TO REPLACE DEFICIENT STONE ELEMENTS.

- REPOINT USING A MORTAR THAT IS COMPATIBLE WITH THE HISTORIC MORTAR AND WHICH MATCHES IT IN COLOR, TEXTURE, AND FINISH.

- MORTAR SHOULD BE STIFF. STIFF MORTAR SHRINKS LESS AND ALLOWS THE STONE TO SET UP WITHOUT SQUEEZING THE MORTAR OUT. MORTAR IS A GOOD CONSISTENCY WHEN, IF THE MIXTURE IS SQUEEZED BY HAND, IT DOES NOT RUN OUT.

- MORTAR SHOULD NOT BE ALLOWED TO DRY OUT DURING USE AND SHOULD BE REWORKED AT INTERVALS BEFORE BEING PLACED IN JOINTS. RETEMPERING, OR ADDING MORE WATER, SHOULD NOT BE PERMITTED.

- MORTAR SHOULD NOT HAVE HIGH PORTLAND CEMENT RATIOS SINCE IT CAN CAUSE SANDSTONES TO DECAY.

D. REPOINTING

REPOINTING IS THE PROCESS OF REPLACING DETERIORATED EXTERIOR MORTAR WITH NEW. KEEPING MORTAR IN GOOD REPAIR IS AN ESSENTIAL PART OF EXTENDING THE LIFE OF A STONE STRUCTURE. MORTAR KEEPS MOISTURE FROM PENETRATING BETWEEN STONES, ALLOWS MOISTURE ENTERING THE MASONRY TO ESCAPE, AND STOPS SEEDLINGS AND ROOTS, WHICH CAN CRACK A WALL AS THEY GROW, FROM INFILTRATING THE STRUCTURE. REPOINTING SHOULD BE UNDERTAKEN ONLY WHEN THERE IS EVIDENCE OF DETERIORATION, SUCH AS DISINTEGRATING MORTAR, CRACKS IN THE MORTAR JOINTS, GAPS BETWEEN THE MORTAR JOINTS AND STONE, LOOSE STONES, OR DAMP SURFACES.

- REMOVE ALL DETERIORATED AND LOOSE MORTAR TO A MINIMUM DEPTH OF 2 TO 2 1/2 TIMES THE WIDTH OF THE JOINT TO ENSURE AN ADEQUATE BOND. REMOVAL TO A GREATER DEPTH MAY BE REQUIRED TO REACH SOUND MORTAR.

- CLEAN MORTAR JOINTS USING HAND TOOLS SUCH AS A TROWEL, HAND CHISEL, AND HAMMER OR A SMALL PNEUMATIC CHISEL; THE USE OF POWER SAWS AND GRINDERS IS NOT RECOMMENDED BECAUSE OF THE POTENTIAL TO DAMAGE THE SURROUNDING STONE. REMOVE MORTAR CLEANLY, LEAVING SQUARE CUTS AT THE REAR OF THE JOINT, IF POSSIBLE.

- RAKE OUT LOOSE MATERIAL USING A NATURAL BRISTLE OR NYLON BRUSH OR LOW-PRESSURE COMPRESSED AIR (40-60 PSI). LOW PRESSURE WATER (MAXIMUM PRESSURE 400 PSI) MAY ALSO BE USED, ALTHOUGH CARE SHOULD BE TAKEN NOT TO SCOUR ADDITIONAL BEDDING MORTAR OUT OF THE JOINTS.

- ANY LOOSE STONES ENCOUNTERED SHOULD BE CAREFULLY REMOVED, CLEANED, AND RESET IN THEIR ORIGINAL POSITIONS.

- REPOINT ONLY WHEN THE AMBIENT TEMPERATURE IS BETWEEN 41 AND 86 DEGREES FAHRENHEIT AND IS EXPECTED TO REMAIN ABOVE 41 DEGREES FOR SEVERAL DAYS FOLLOWING REPOINTING; THE STONE SHOULD BE FREE OF FROST.

- REPOINT USING A MORTAR THAT IS COMPATIBLE WITH THE HISTORIC MORTAR AND WHICH MATCHES THE HISTORIC MORTAR IN COLOR, TEXTURE, AND FINISH.

- MEASURE AND MIX MORTAR COMPONENTS CAREFULLY TO ASSURE UNIFORMITY OF VISUAL AND PHYSICAL CHARACTERISTICS. MEASURE DRY INGREDIENTS BY VOLUME AND THOROUGHLY MIX THEM BEFORE ADDING WATER. AFTER DRY MIXING, ADD HALF THE NEEDED WATER AND MIX FOR APPROXIMATELY FIVE MINUTES. THEN ADD THE REMAINING WATER IN SMALL PORTIONS UNTIL THE DESIRED CONSISTENCY IS REACHED.

- BEFORE PLACING THE REPOINTING MORTAR, DAMPEN MASONRY SURFACES AND JOINTS WITH SPRAY BOTTLE TO CONTROL SUCTION AND EVAPORATION. JOINTS SHOULD BE DAMP, BUT WITH NO STANDING WATER PRESENT.

- PLACE NEW MORTAR TO WITHIN 1 1/2 INCHES OF THE FACE OF THE STONE. MORTAR SHOULD BE COMPACTED IN SUCCESSIVE LAYERS, WITH EACH LAYER PERMITTED TO REACH THUMB-PRINT HARDNESS BEFORE THE NEXT LAYER IS APPLIED. HAND POINTING IS THE PREFERRED METHOD; A PRESSURE GUN MAY BE USED BY EXPERIENCED OPERATORS.

- FINISH POINT THE REMAINING 1 1/2 INCHES: FINISH POINTING SHOULD BE DONE BY HAND, USING A POINTING TOOL. FOR THE OUTER 1 1/2 INCHES, INSTALL MORTAR IN 1/4 INCH LIFTS, COMPACTING EACH LATER. PERMIT EACH LAYER TO REACH THUMBPRINT HARDNESS BEFORE THE NEXT LAYER IS APPLIED.



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UPON COMPLETION, THE NEW POINTING SHOULD MATCH THE HISTORIC FINISH AND TOOLING; THE FINISH SHOULD MATCH THE STONE FACE OR BE SLIGHTLY CONCAVE, TO CHANNEL WATER OUT OF THE WALL AND TO AVOID WATER POOLING.

- THE REPOINTED MORTAR JOINTS SHOULD MATCH THE WIDTH OF THE HISTORIC MORTAR JOINTS.
- IMMEDIATELY AFTER REPOINTING, CLEAN EXCESS MORTAR FROM ADJACENT MASONRY, TAKING CARE NOT TO DAMAGE NEWLY POINTED JOINTS. USE ONLY NATURAL BRISTLE OR NYLON BRUSHES AND WOOD OR PLASTIC TOOLS TO REMOVE EXCESS MORTAR.
- AFTER MORTAR HAS BEGUN HARDENING (ABOUT 12 HOURS), TAMP BACK WITH A STIFF BRUSH TO FURTHER COMPACT THE MATERIAL.
- PROTECT THE FINISHED WORK FROM DIRECT SUN AND RAIN UNTIL THE FACE HAS CURED AND HARDENED, APPROXIMATELY 48 HOURS.
- AFTER MORTAR HAS BEEN ALLOWED TO CURE FOR 7 TO 14 DAYS, CLEAN EXPOSED MASONRY SURFACES USING STIFF NYLON OR NATURAL BRISTLE BRUSHES AND CLEAN WATER SPRAYED AT LOW PRESSURE (MAXIMUM PRESSURE 400 PSD).

E. REPLACING MISSING OR LOOSE STONES

THIS TREATMENT REFERS TO REPLACING AN INDIVIDUAL STONE OR SMALL NUMBER OF STONES. IT DOES NOT CONTEMPLATE MAJOR REPAIRS, REHABILITATION, OR RESTORATION OF STONE WORK. MISSING STONES CAN RESULT IN WATER INFILTRATION.

REPLACING MISSING STONES - TREATMENT RECOMMENDED:

- REPLACE MISSING STONES WITH THE ORIGINAL STONES, IF POSSIBLE.
- IF IT IS NOT POSSIBLE TO REUSE THE ORIGINAL STONES, THE STONES SHOULD BE REPLACED IN-KIND, MATCHING THE EXISTING STONES IN TYPE, SIZE, TEXTURE/FINISH, AND COLOR.
- THOROUGHLY CLEAN THE STONES AND THE RECEIVING SURFACE USING LOW PRESSURE WATER (MAXIMUM PRESSURE 400 PSI).
- APPLY A LINING OF BEDDING MORTAR TO THE SURFACE OF THE HOLE TO BE FILLED.
- CAREFULLY RESET THE STONES, ENSURING THAT THEY ARE WELL-BEDDED; DO NOT JAR THE MASONRY ALREADY IN PLACE.
- PLACE THE STONES SO THAT THE NATURAL STRATIFICATION IS PARALLEL TO THE BEDDING PLANE.
- AFTER THE MORTAR HAS CURED, REPOINT USING THE PROCEDURES OUTLINED ABOVE AND A MORTAR THAT IS COMPATIBLE WITH THE HISTORIC MORTAR AND WHICH MATCHES THE HISTORIC MORTAR IN COLOR, TEXTURE, AND FINISH.

REPLACING LOOSE/UNSUITABLE STONES - TREATMENT RECOMMENDED:

- CAREFULLY WITHDRAW THE STONES TO BE RESET TO AVOID DAMAGE TO THE ADJOINING MASONRY.
- CLEAN LOOSE MORTAR OFF.
- FOLLOW THE REMAINING STEPS OUTLINED IN SECTION ABOVE.

F. ESTIMATED QUANTITIES

THE FOLLOWING QUANTITIES ARE APPROXIMATE AND PROVIDED FOR ESTIMATION PURPOSES ONLY; THE CONTRACTOR IS RESPONSIBLE CONDUCT PREBID EXAMINATION OF THE LOCATIONS TO BE TREATED.

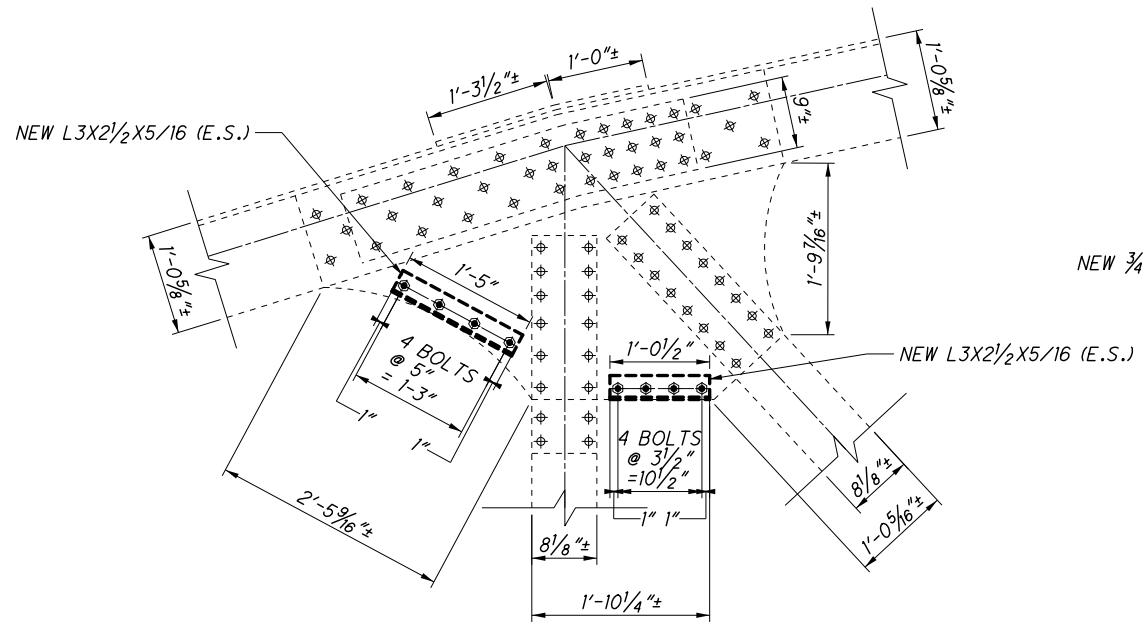
REPOINTING:	1728 LINEAR FT
CRACK REPAIR:	432 LINEAR FT
REPLACEMENT OF MISSING/UNSUITABLE STONE:	5 EACH

G. BASIS OF PAYMENT

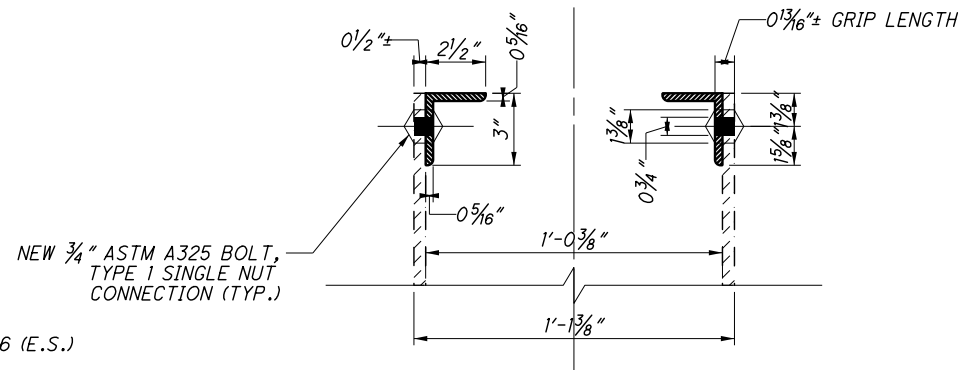
METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK BY THE NUMBER OF SQUARE FEET OF PARAPET FACE WHERE REPAIRS OUTLINED ABOVE ARE PERFORMED.

PAYMENT FOR ALL WORK OUTLINED ABOVE SHALL MADE AT THE CONTRACT PRICE:

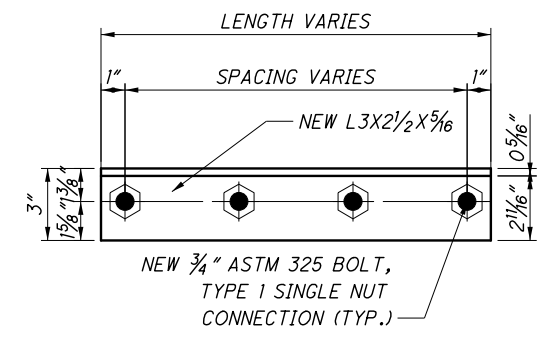
ITEM 602 MASONRY MISC.: STONE REPAIR FOR PARAPETS	
LEFT REAR PARAPET:	141 SQ FT
RIGHT REAR PARAPET:	141 SQ FT
LEFT FORWARD PARAPET:	141 SQ FT
RIGHT FORWARD PARAPET:	141 SQ FT
TOTAL:	564 SQ FT



GUSSET STIFFENING DETAIL AT U1 & U1'
(TYP. BOTH TRUSSES)



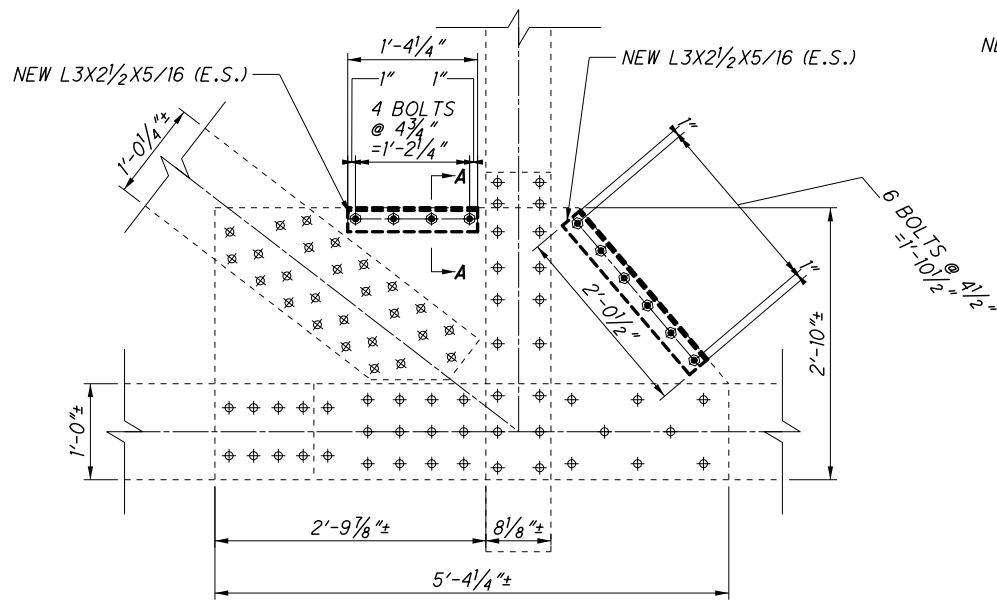
SECTION A-A
(TYP. ALL STIFFENERS)



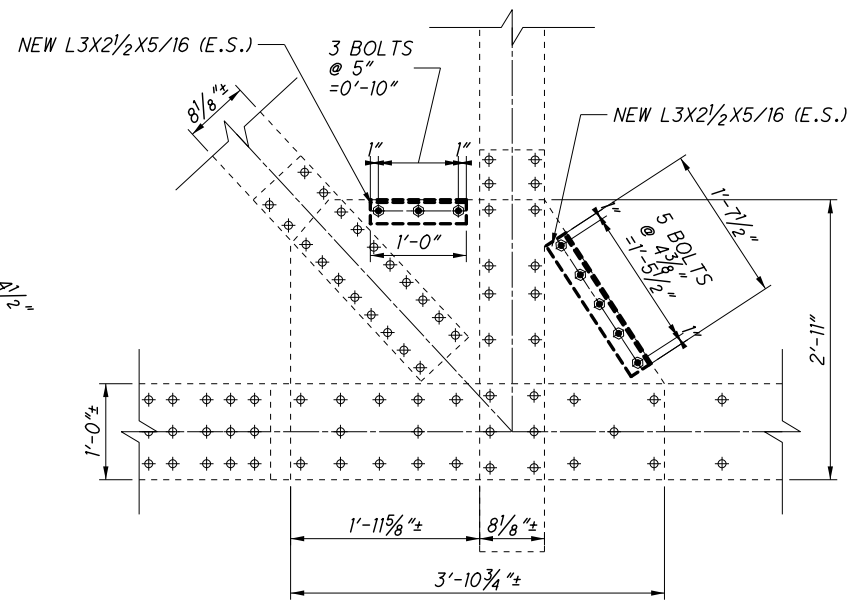
TYPICAL STIFFENER LAYOUT

NOTES
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
NEW BOLTS SHALL BE 3/4" DIA. ASTM A325.
NOTATION: E.S. - EACH SIDE, N.S. - NEAR SIDE, F.S. - FAR SIDE
CAULK ALL SEAMS BETWEEN NEW ANGLES AND EXISTING WEB PER C&MS 514.19. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE TRUSS PAINTING.
LOCATE STIFFENING ANGLES ALONG THE EDGES OF THE GUSSET PLATES AS DETAILED, WITH THE ENDS OF THE ANGLES APPROXIMATELY EQUAL DISTANCES FROM THE ADJACENT TRUSS MEMBERS.
ELEVATION VIEWS ARE LOOKING FROM THE OUTSIDE IN TOWARD THE OUTSIDE FACE OF THE TRUSS. PRIME MEMBERS ARE OPPOSITE HAND OF THOSE DEPICTED.

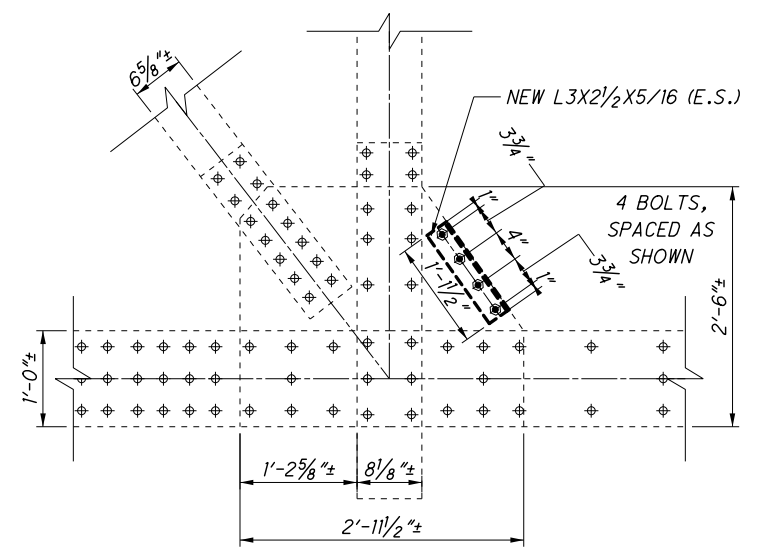
- RIVET AND BOLT LEGEND**
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
 - NEW BOLT TO FILL EXISTING OPEN HOLE.
 - FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW OR EXISTING MATERIAL TO EXISTING MATERIAL.
 - REMOVE EXISTING RIVET OR BOLT FOR NEW BOLTED MATERIAL. NEW OR EXISTING MATERIAL TO EXISTING MATERIAL.



GUSSET STIFFENING DETAIL AT L1 & L1'
(TYP. BOTH TRUSSES)



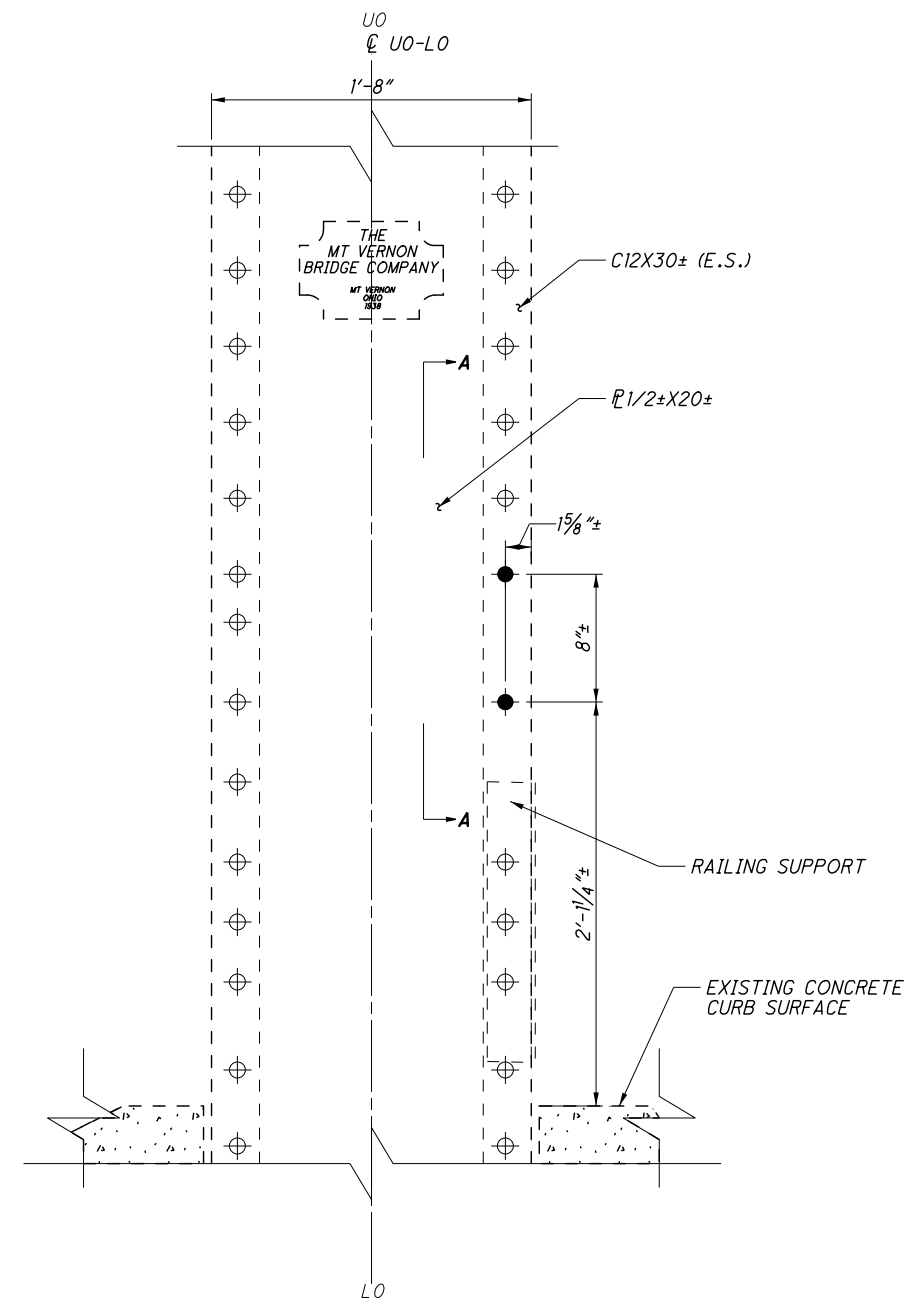
GUSSET STIFFENING DETAIL AT L2 & L2'
(TYP. BOTH TRUSSES)



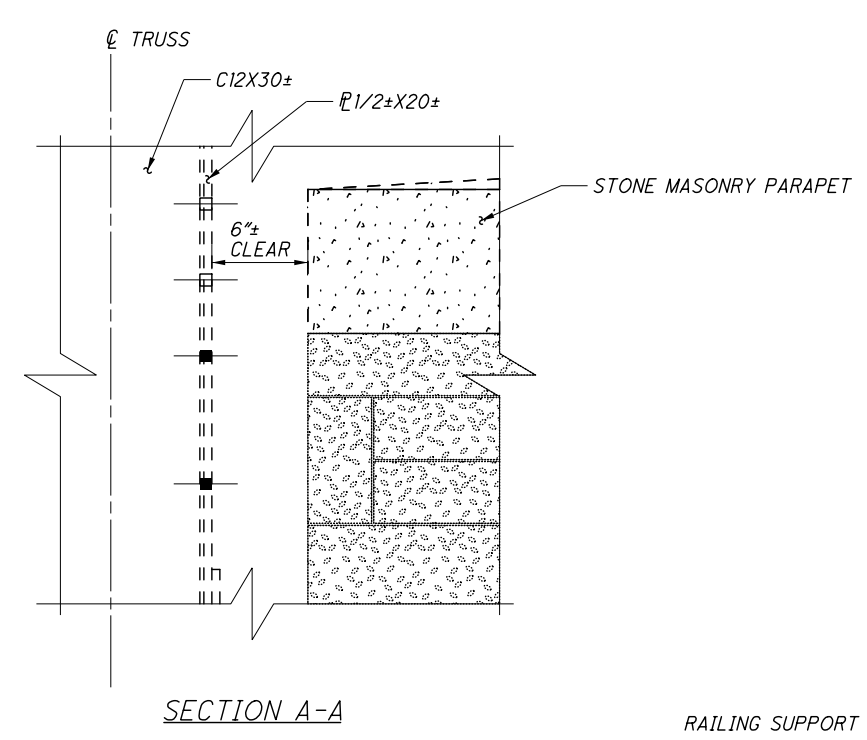
GUSSET STIFFENING DETAIL AT L3 & L3'
(TYP. BOTH TRUSSES)

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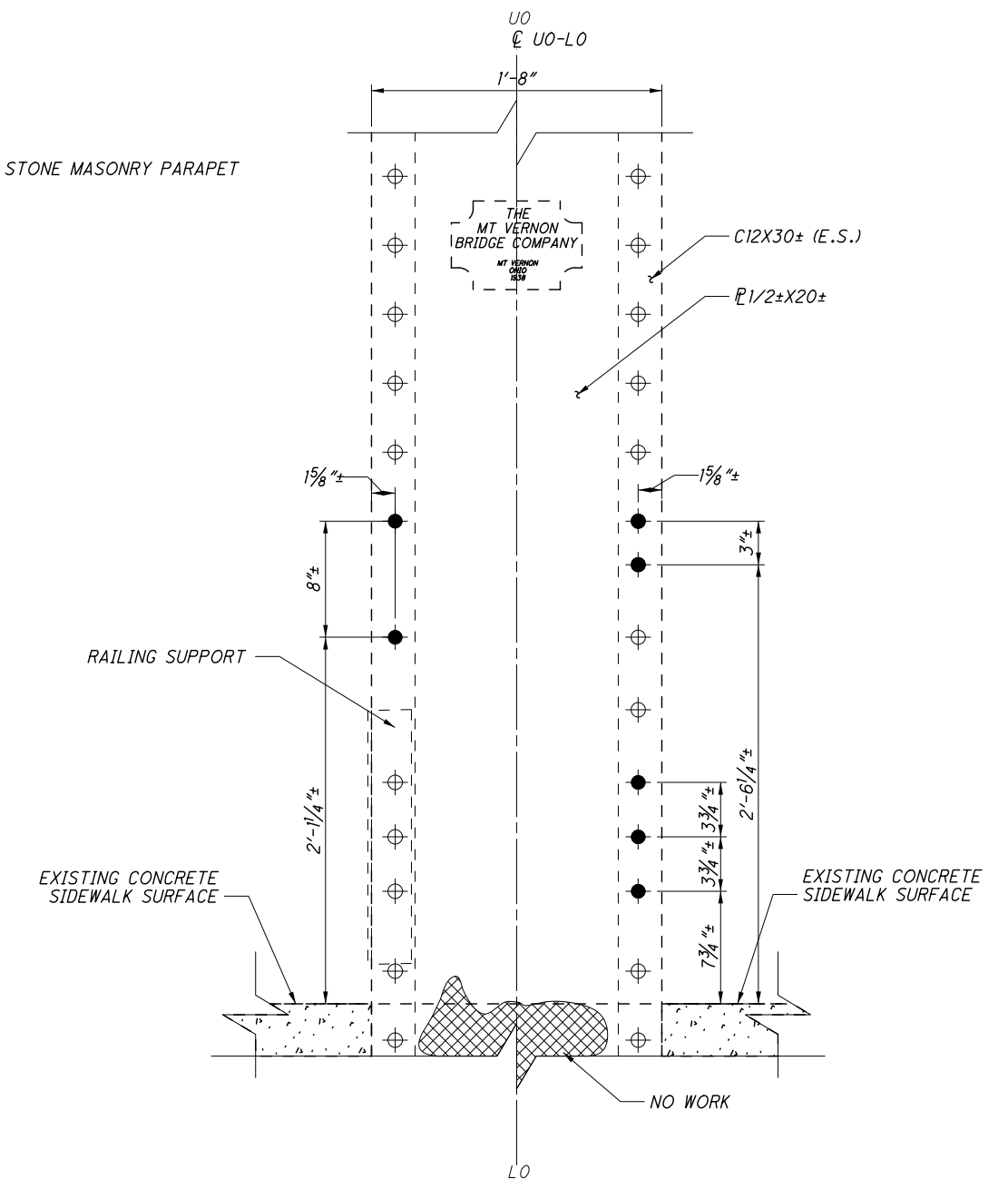
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REPAIR DETAIL UO-LO WEST
(LOOKING NORTH)
(UO'-LO' WEST SIMILAR)



SECTION A-A



REPAIR DETAIL UO-LO EAST
(LOOKING NORTH)
(UO'-LO' EAST SIMILAR)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

NEW BOLTS SHALL BE ASTM A325, AND MATCH EXISTING OPEN HOLES LESS 1/16". EXISTING PLANS INDICATE 7/8" DIAMETER RIVETS WERE USED IN THE ORIGINAL CONSTRUCTION.

NOTATION: E.S. - EACH SIDE, N.S. - NEAR SIDE, F.S - FAR SIDE

PAYMENT FOR THE WORK DETAILED ON THIS SHEET SHALL BE INCLUDED IN THE LUMP SUM CONTRACT BID PRICE FOR ITEM 513, STRUCTURAL STEEL, MISC.: PLATE REPAIR.

RIVET AND BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- NEW BOLT TO FILL EXISTING OPEN HOLE.

- EXISTING HOLES/HOLE CLUSTERS

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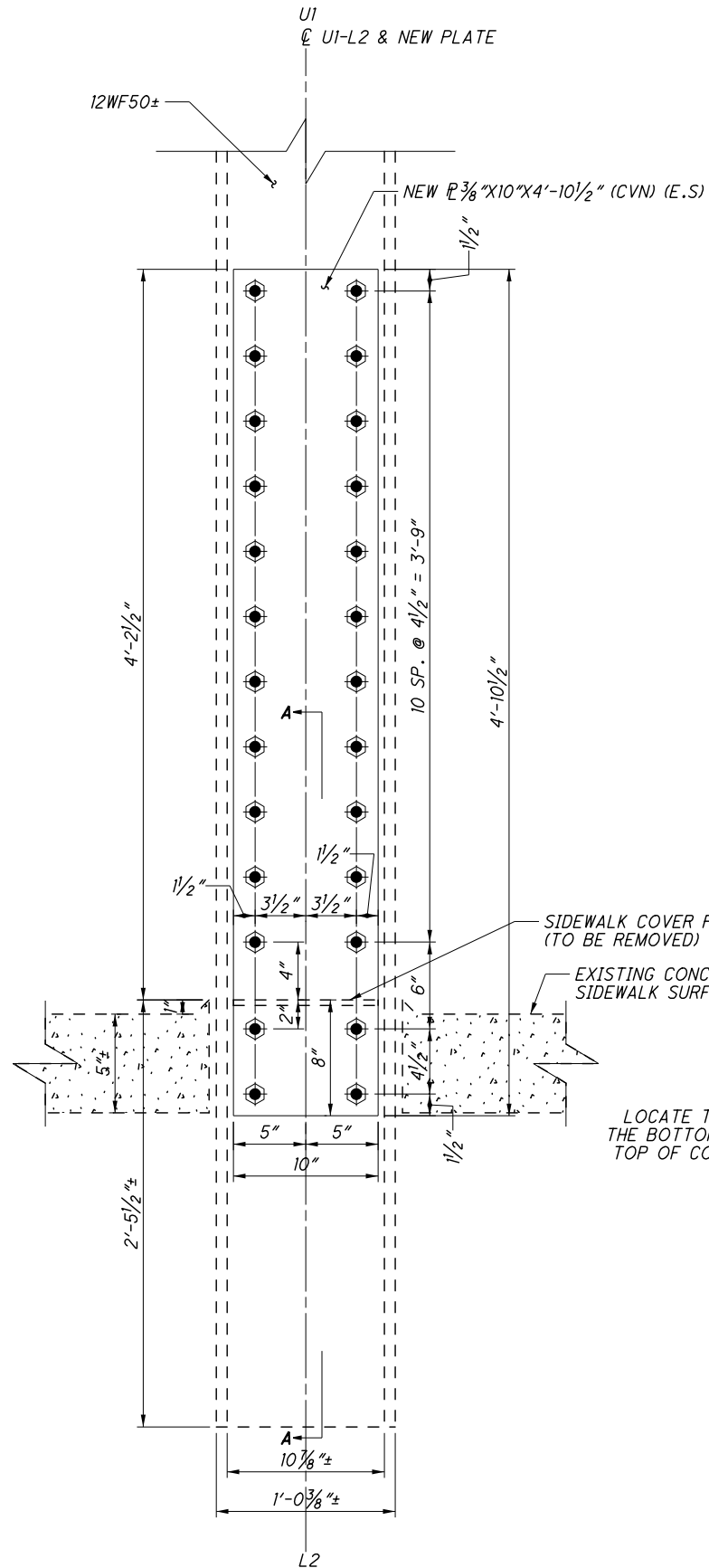


PLATE REPAIR DETAIL UI-L2 EAST
(LOOKING NORTH, NORMAL TO WEB)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

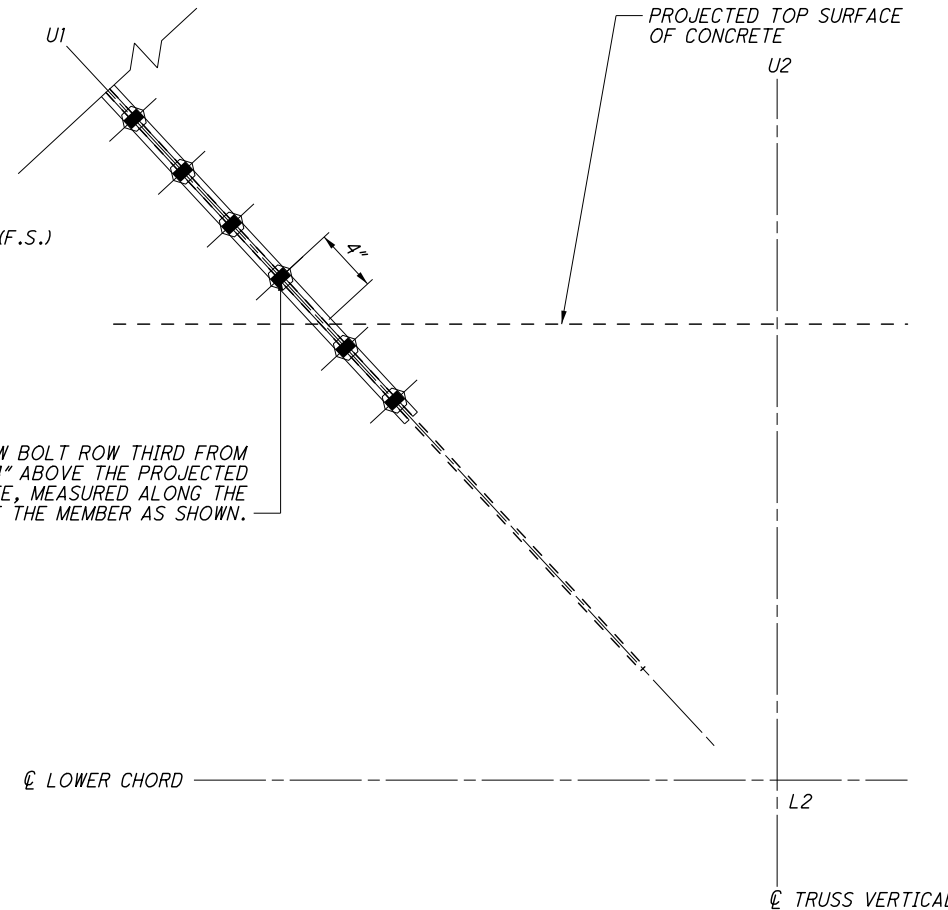
NEW BOLTS SHALL BE 3/4" DIA. ASTM A325 UNLESS OTHERWISE NOTED.

NOTATION: E.S. - EACH SIDE, N.S. - NEAR SIDE, F.S. - FAR SIDE

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.

CAULK ALL SEAMS BETWEEN NEW PLATES AND EXISTING WEB PER C&MS 514.19. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE TRUSS PAINTING.

SIDEWALK COVER PLATES SHALL BE MODIFIED AS REQUIRED TO FIT THE SPACE MODIFIED BY THE PRESENCE OF REPAIR PLATING. THE CONTRACTOR MAY MEASURE AND CUT THE EXISTING PLATE IN THE FIELD, OR FABRICATE A REPLACEMENT PLATE AS APPROVED BY THE ENGINEER. ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE ABOVE SHALL BE CONSIDERED INCIDENTAL TO ITEM 513, STRUCTURAL STEEL, MISC.: PLATE REPAIR.



SECTION A-A

RIVET AND BOLT LEGEND

- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
- NEW BOLT TO FILL EXISTING OPEN HOLE.
- FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW OR EXISTING MATERIAL TO EXISTING MATERIAL.
- REMOVE EXISTING RIVET OR BOLT FOR NEW BOLTED MATERIAL. NEW OR EXISTING MATERIAL TO EXISTING MATERIAL.

- EXISTING HOLES/HOLE CLUSTERS
- AREA OF SIGNIFICANT PITTING

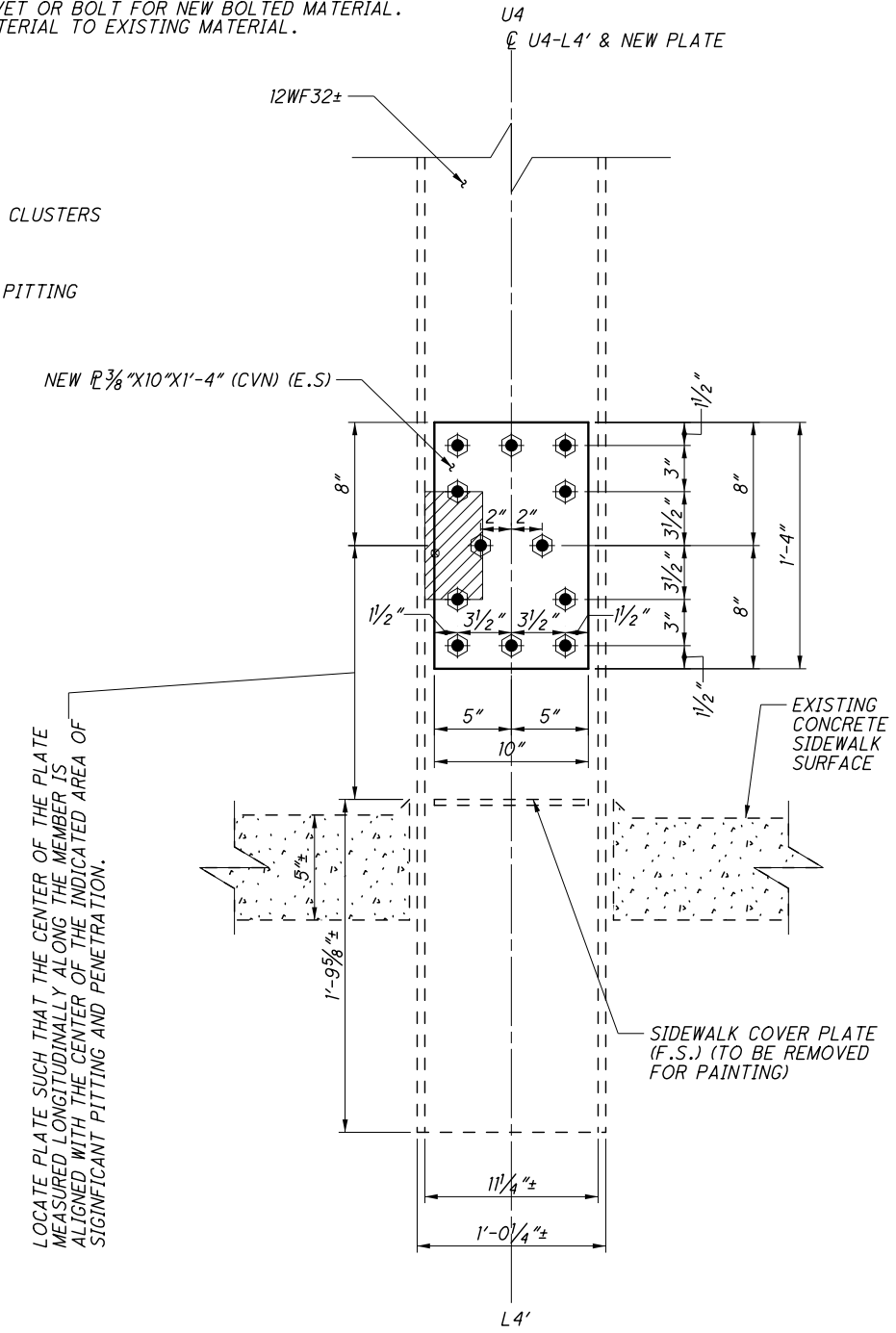
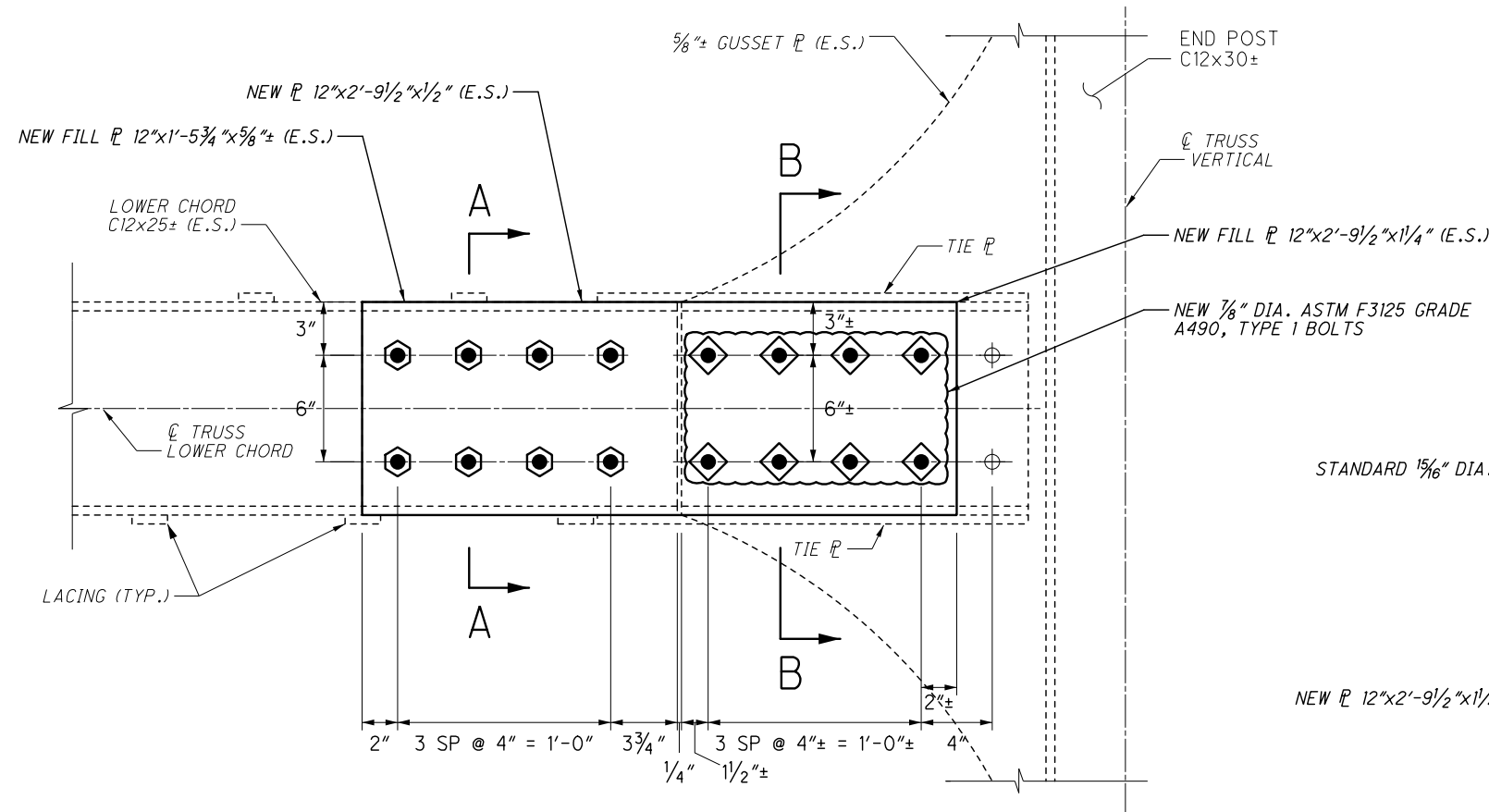


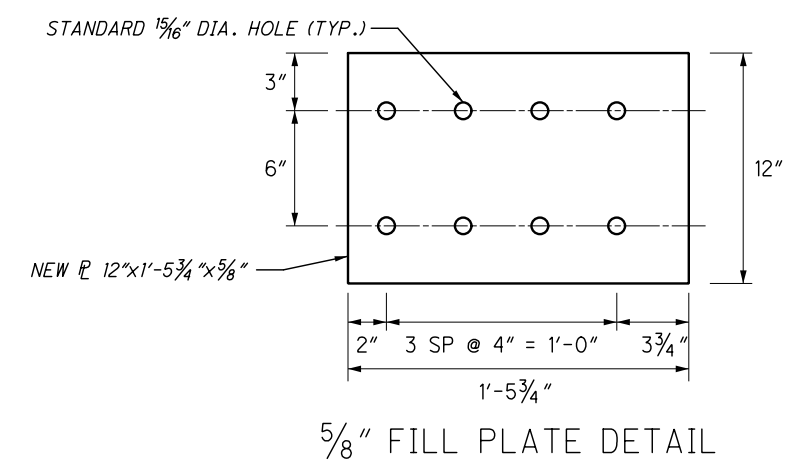
PLATE REPAIR DETAIL U4-L4' EAST
(LOOKING NORTH, NORMAL TO WEB)

DESIGN AGENCY	ODOT DISTRICT 3 CAPITAL PROGRAMS ENGINEERING
DATE	11/19
REVIEWED	KAK
DRAWN	JNC
DESIGNED	JNC
CHECKED	NRF
STRUCTURE FILE NUMBER	7000243
<p>PLATE REPAIR DETAILS - 3</p> <p>BRIDGE NO. RIC-13-0530 OVER CLEARFORK CREEK</p>	
<p>RIC-13-5.30</p> <p>PID No. 100057</p>	<p>10 / 12</p> <p>14 16</p>

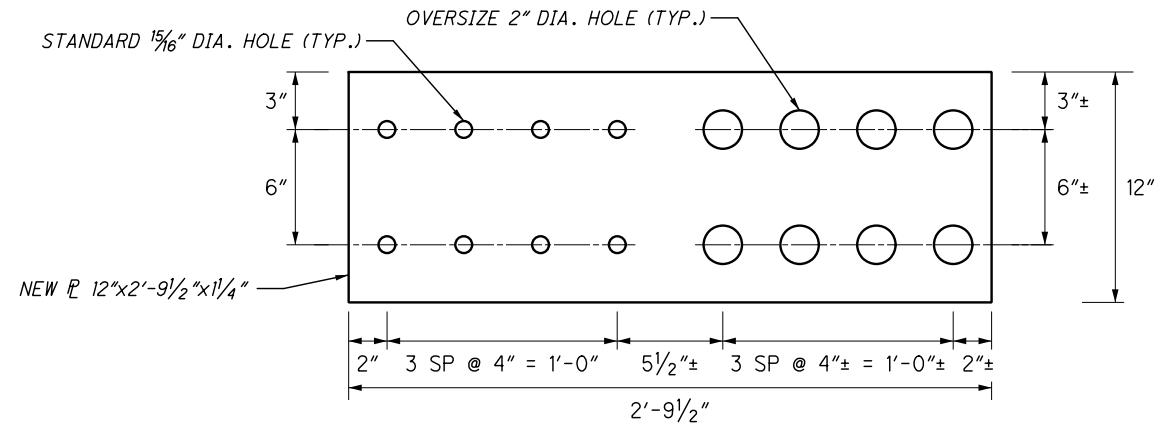
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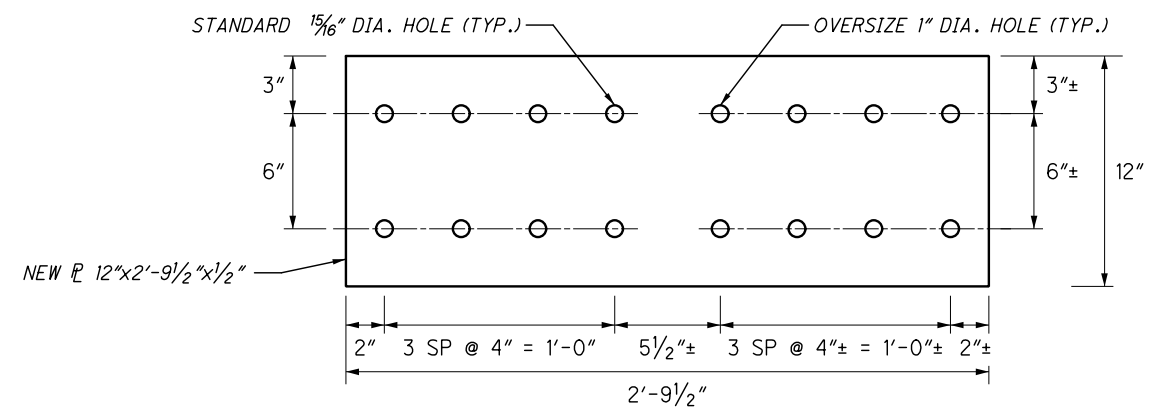
ELEVATION LO
WEST TRUSS LOOKING EAST



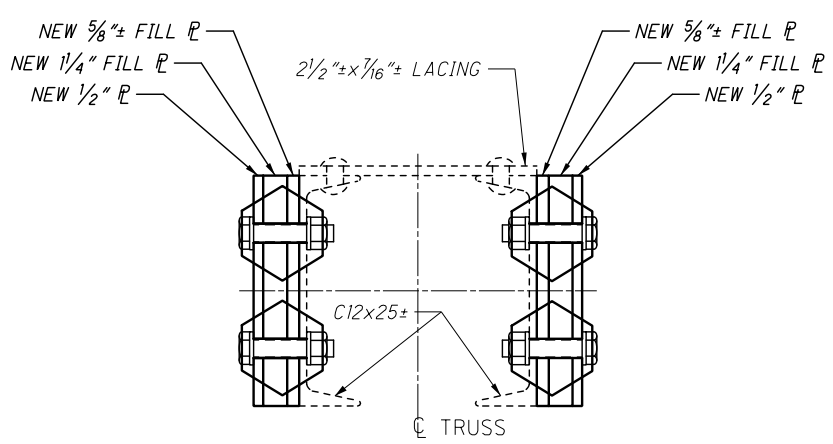
5/8" FILL PLATE DETAIL



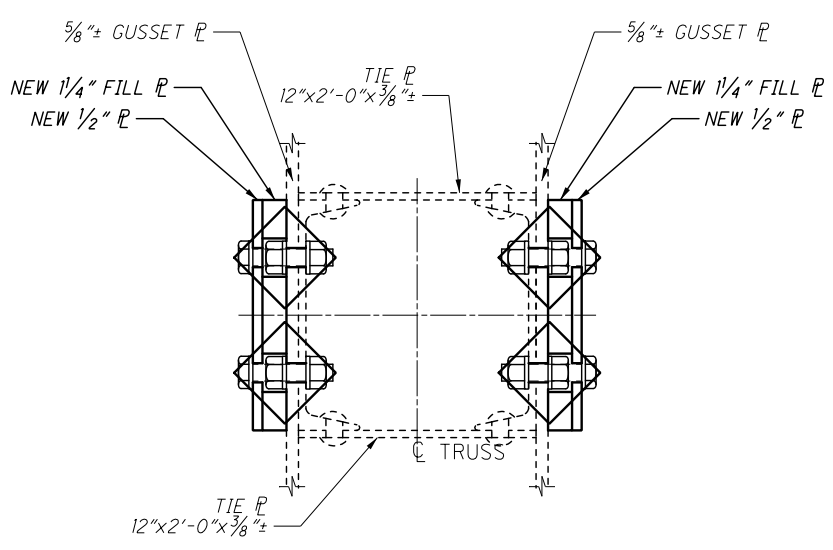
1/4" FILL PLATE DETAIL



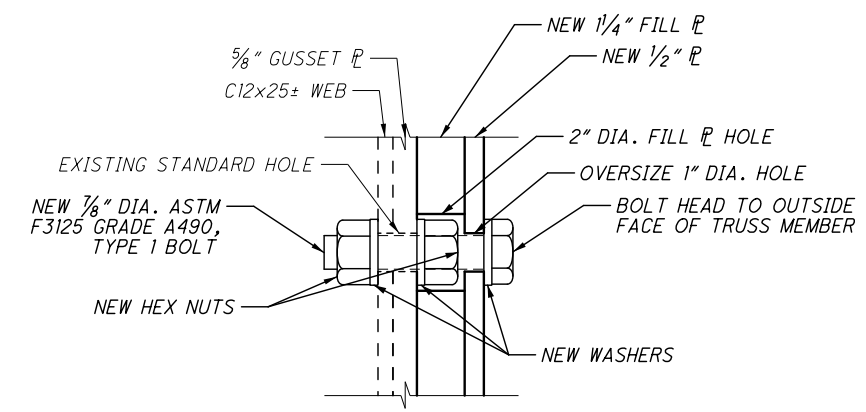
1/2" PLATE DETAIL



SECTION A-A



SECTION B-B



DOUBLE NUT CONNECTION DETAIL

LEGEND
 DIA. - DIAMETER
 E.S. - EACH SIDE
 PL - PLATE
 SP - SPACES
 TYP. - TYPICAL

- RIVET AND BOLT LEGEND**
- EXISTING RIVET OR BOLT TO REMAIN IN PLACE.
 - NEW BOLT TO FILL EXISTING OPEN HOLE.
 - FIELD DRILL EXISTING MATERIAL FOR NEW CONNECTION BOLT. NEW OR EXISTING MATERIAL TO EXISTING MATERIAL.
 - REMOVE EXISTING RIVET OR BOLT FOR NEW BOLTED MATERIAL. NEW OR EXISTING MATERIAL TO EXISTING MATERIAL.

- NOTES**
- MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.
 - NEW BOLTS SHALL BE 7/8" DIA. ASTM A325 UNLESS NOTED OTHERWISE.
 - FOR DOUBLE NUT CONSTRUCTION SEQUENCE, SEE GENERAL NOTE SHEET 3/12

DESIGN AGENCY ODOT DISTRICT 3 CAPITAL PROGRAMS ENGINEERING
DATE: 11/19 REVIEWED: RLF DRAWN: NRF DESIGNED: NRF CHECKED: KAK STRUCTURE FILE NUMBER: 7000243 REVISED:
LOWER CHORD REPAIR DETAILS - 2 BRIDGE NO. RIC-13-0530 OVER CLEARFORK CREEK
RIC-13-5-30 PID No. 100057
12 / 12