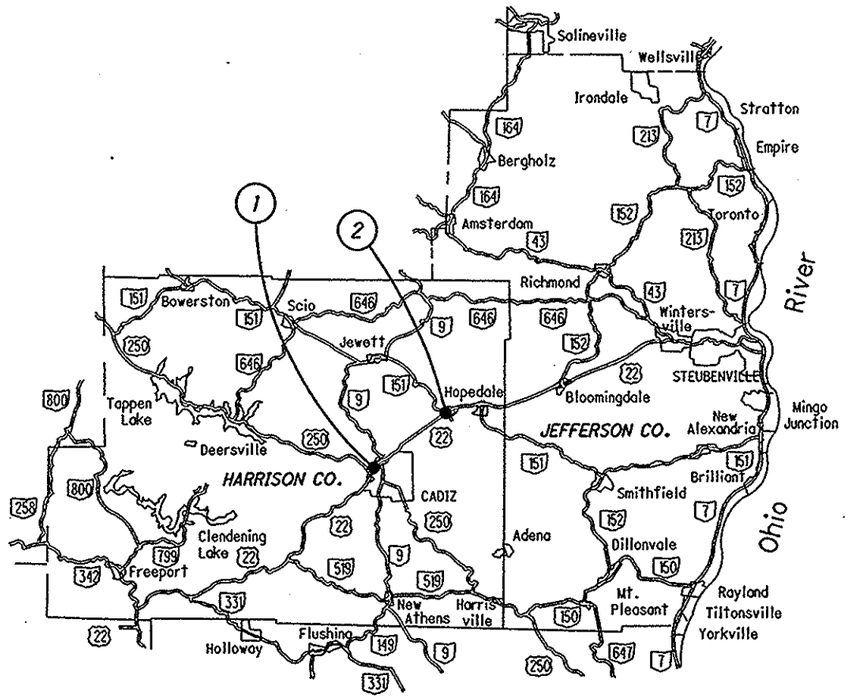
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAS-22-17.17
BRIDGE PAINTING

LOCATION MAP



		LATITUDE	LONGITUDE
● PART (1)	BRIDGE NO. HAS-22-1717 L&R	N 40° 16' 55"	W 81° 0' 20"
● PART (2)	BRIDGE NO. HAS-151-2310	N 40° 19' 25"	W 80° 56' 10"

PROJECT DESCRIPTION

CLEAN AND PAINT WITH SYSTEM OZEU THREE BRIDGES LOCATED ON U.S. 22.

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

THE 2005 STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

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

APPROVED DATE 2/29/08 — Richard A. Bibler P.E. — DISTRICT DEPUTY DIRECTOR

APPROVED DATE 3-10-08 — James G. Beasley — DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

PLAN PREPARED BY:
O.D.O.T.
DISTRICT 11
NEW PHILADELPHIA, OHIO

STANDARD CONSTRUCTION DRAWINGS

DM-4.3	7-19-02	MT-98.20	10-19-07	GSD-1-96	7-19-02	800	4-18-08
DM-4.4	7-19-02	MT-101.20	10-18-02	RB-1-55	2-2-59	832	4-25-06
		MT-101.60	9-5-06			885	7-20-07
MT-35.10	4-20-01	MT-101.70	10-18-02				
MT-95.30	7-5-06	MT-105.10	10-18-02				
MT-95.40	10-20-06	MT-105.11	10-18-02				
MT-96.10	4-19-02						
MT-96.11	4-19-02	TC-41.20	1-19-01				
MT-96.20	4-19-02	TC-52.10	1-19-07				
MT-96.25	4-20-01	TC-52.20	1-19-07				
MT-97.10	9-5-06						

SUPPLEMENTAL SPECIFICATIONS

ENGINEER'S SEAL:

STATE OF OHIO
JOHN P. BARNHOUSE
E-62295
REGISTERED PROFESSIONAL ENGINEER

SIGNED: John P. Barnhouse
DATE: 2-29-2008

INDEX OF SHEETS

FEDERAL PROJECT NO. E040 (389)
PID NO. 21709
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HAS-22-17.17
1/8

HAS - US-22-17.17
080371 PID - 21709
Dist 11 6/4/2008

1:\PROJECTS\21709\dgn\tot100.dgn 29-FEB-2008

UTILITIES

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

VERIZON
6223 NORWALK ROAD
MEDINA, OHIO 44256
330-364-0501
ATTN: JENNIFER LOFTON

COLUMBIA GAS OF OHIO, INC.
2429 LINDEN AVENUE
ZANESVILLE, OHIO 43701
740-450-1250
ATTN: JUSTIN GRAHAM

THE HONORABLE DON BETHEL
VILLAGE OF CADIZ
128 COURT STREET
CADIZ, OHIO 43907
740-942-3876
ATTN: WATER & SEWER DEPARTMENTS

UTILITY LINES AND LIGHT POLES

THE CONTRACTOR SHALL NOT ATTACH OR HANG ANY EQUIPMENT, OR SCREENING OF ANY KIND TO THE EXISTING UTILITY LINES AND/OR LIGHT POLES LOCATED ON THE STRUCTURES.

EXISTING PLANS

THE FOLLOWING EXISTING CONSTRUCTION PLANS ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 11 OFFICE:

HAS-22-15.09 (1959)
HAS-22-18.97/JEF-22-0.00 (1960)
HAS-22-(15.03-18.91) (1978)

EXISTING STRUCTURE VERIFICATION

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

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

WORK RESTRICTIONS

NO WORK SHALL BE PERMITTED ON SUNDAYS.

PAINTING QUANTITIES

PAINTING CALCULATIONS ON ALL PARTS OF THIS PLAN HAVE AN ADDITIONAL 20% FOR CROSS FRAMES, BEARING ASSEMBLIES, SCUPPERS, ETC.

PAINT COLOR

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

ITEM 201 - CLEARING AND GRUBBING

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

ALL TREES AND STUMPS BETWEEN THE STRUCTURES, UNDERNEATH THE STRUCTURES AND WITHIN 20 FEET OF THE STRUCTURES SHALL BE REMOVED ACCORDINGLY, AS DIRECTED BY THE ENGINEER.

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

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

PART 1 GENERAL

1.01 SUMMARY
A. THIS SECTION INCLUDES FURNISHING ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO PROPERLY INSTALL EMBEDDED GALVANIC ANODES.

B. EMBEDDED GALVANIC NODES ARE DESIGNED TO PROVIDE LOCALIZED CORROSION PROTECTION. WHEN PLACED AT THE APPROPRIATE SPACING ALONG THE PERIMETER OF CONCRETE PATCHES OR ALONG THE INTERFACE BETWEEN NEW/EXISTING CONCRETE, THE ANODES MITIGATE THE FORMATION OF NEW CORROSION SITES IN THE EXISTING CONCRETE.

1.02 REFERENCES
A. ACI/ICRI 1999 CONCRETE REPAIR MANUAL

B. ICRI GUIDELINE NO. 03730 GUIDE FOR SURFACE PREPARATION FOR THE REPAIR OF DETERIORATED CONCRETE RESULTING FROM REINFORCING STEEL CORROSION.

C. ASTM A615/A615M-00 STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BAR FOR CONCRETE REINFORCEMENT.

D. ASTM B418-95A (2000) STANDARD SPECIFICATION FOR CAST AND WROUGHT GALVANIC ZINC ANODES.

PART 2 PRODUCTS

2.01 MATERIALS
A. EMBEDDED GALVANIC ANODES SHALL BE PUCK-SHAPED. APPROXIMATELY 2½ INCHES IN DIAMETER BY 1 INCH HIGH, PRE-MANUFACTURED, AND CONSIST OF ELECTROLYTIC HIGH GRADE ZINC IN COMPLIANCE WITH ASTM B418 CAST AROUND A PAIR OF STEEL TIE WIRES AND ENCASED IN A HIGHLY ALKALINE CEMENTITIOUS SHELL WITH A PH OF 14 OR GREATER.

B. EMBEDDED GALVANIC ANODES (EGAs) SHALL BE GALVASHIELD XP AVAILABLE FROM VECTOR CORROSION TECHNOLOGIES (330) 723-1177 OR APPROVED EQUAL.

C. REPAIR MORTARS, CONCRETE AND BONDING AGENTS SHALL BE PORTLAND CEMENT-BASED MATERIALS WITH SUITABLE ELECTRICAL CONDUCTIVITY. NON-CONDUCTIVE REPAIR MATERIALS SUCH AS EPOXY, URETHANE, OR MAGNESIUM PHOSPHATE SHALL NOT BE PERMITTED.

PART 3 EXECUTION

3.01 CLEANING AND REPAIR OF REINFORCING STEEL
A. CLEAN EXPOSED REINFORCING STEEL OF RUST, MORTAR, ETC. TO PROVIDE SUFFICIENT ELECTRICAL CONNECTION AND MECHANICAL BOND.

B. IF SIGNIFICANT REDUCTION IN THE CROSS SECTION OF THE REINFORCING STEEL HAS OCCURRED, REPLACE OR INSTALL SUPPLEMENTAL REINFORCEMENT AS DIRECTED BY THE ENGINEER.

C. SECURE LOOSE REINFORCING STEEL BY TYING TIGHTLY TO OTHER BARS WITH STEEL TIE WIRES.

3.02 GALVANIC ANODE INSTALLATION
A. GALVANIC ANODES SHALL BE INSTALLED ALONG THE PERIMETER OF THE REPAIR AT SPACING AS SPECIFIED ON THE DRAWINGS. IN NO CASE SHALL THE DISTANCE BETWEEN ANODES EXCEED 30 INCHES.

B. PROVIDE SUFFICIENT CLEARANCE BETWEEN ANODES AND SUBSTRATE TO ALLOW REPAIR MATERIAL TO ENCASE ANODE.

C. SECURE THE GALVANIC ANODES AS CLOSE AS POSSIBLE TO THE PATCH EDGE USING THE ANODE TIE WIRES. THE TIE WIRES SHOULD BE TIGHTENED TO ALLOW LITTLE OR NO FREE MOVEMENT.

1. IF THE ANODE IS TO BE TIED ONTO A SINGLE BAR. OR IF LESS THAN 1 INCH OF CONCRETE COVER IS EXPECTED, PLACE ANODE BENEATH THE BAR AND SECURE TO CLEAN REINFORCING STEEL.

2. IF SUFFICIENT CONCRETE COVER EXISTS, THE ANODE MAY BE PLACED AT THE INTERSECTION BETWEEN TWO BARS AND SECURED TO EACH CLEAN BAR.

PART 3 EXECUTION (CONTINUED)

D. ELECTRICAL CONTINUITY

1. CONFIRM ELECTRICAL CONNECTION BETWEEN ANODE TIE WIRE AND REINFORCING STEEL WITH A MULTI-METER.

2. CONFIRM ELECTRICAL CONTINUITY OF THE EXPOSED REINFORCING STEEL WITHIN THE REPAIR AREA. IF NECESSARY, ELECTRICAL CONTINUITY SHALL BE ESTABLISHED WITH STEEL TIE WIRE.

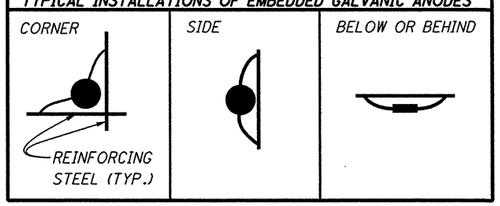
3.03 CONCRETE REPLACEMENT
A. COMPLETE THE REPAIR FOLLOWING NORMAL CONCRETE REPAIR PROCEDURES, TAKING CARE NOT TO CREATE ANY AIR VOIDS AROUND EMBEDDED GALVANIC ANODE.

PART 4 LOCATION OF ANODES

A. ALL PATCHING AREAS LOCATED ON THE BACKWALLS AND SEATS OF STRUCTURES IN THIS PLAN.

EACH EGA PROVIDED AND INSTALLED, WITH ALL INCIDENTALS INCLUDED, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 511E81300, CONCRETE MISC.: EMBEDDED GALVANIC ANODE (EGA), EACH.

TYPICAL INSTALLATIONS OF EMBEDDED GALVANIC ANODES



ITEM 202 - PORTIONS OF STRUCTURE REMOVED

THIS ITEM IS FOR THE REMOVAL AND DISPOSAL OF CORRODED END CROSSFRAME ASSEMBLIES AND BEARING MASONRY AND SHIM PLATES IDENTIFIED IN THE PLAN.

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

THE DEPARTMENT WILL MEASURE AND PAY FOR THE ACCEPTED QUANTITIES AT THE LUMP SUM CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED.

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

THE EPOXY-URETHANE CONCRETE SEALER SHALL BE APPLIED TO THE FACE OF THE BACKWALL AND ALL HORIZONTAL AND VERTICAL FACES OF THE BRIDGE SEATS TO THE GROUND LINE FOR ALL BRIDGES. DO NOT SEAL THE WINGWALLS.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

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

THE LOCATIONS FOR PATCHING CONCRETE STRUCTURES IS LIMITED TO THE ABUTMENTS AND SUSPECT AREAS HAVE BEEN MARKED WITH PAINT BY DISTRICT PERSONNEL. THE CONTRACTOR IS REQUIRED TO ONLY RESOUND THE ABUTMENTS PRIOR TO PATCHING.

FOR THE HAS-151-2310 BRIDGE, THE CONTRACTOR SHALL ENSURE THE EXISTING BEAM SEAT ELEVATIONS ARE MAINTAINED DURING AND AFTER COMPLETION OF THE PATCHING OPERATIONS.

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

ALL REQUIREMENTS OF 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 SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.06 OR SUPPLY THE ENGINEER WITH "AS-BUILT" DRAWINGS MEETING 513.06 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, ALONG WITH MICROFILM, TO THE OFFICE OF STRUCTURAL ENGINEERING FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS, AS DETAILED ON SHEET 8, ARE INCLUDED IN THIS ITEM:

END CROSSFRAME ASSEMBLY MEMBERS INCLUDING GUSSET PLATES

THE STRUCTURAL STEEL SHOULD BE A36, WITH A MIMIMUM YIELD STRENGTH OF 36 KSI.

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

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO SUPPORT THE BEAMS FOR CONCRETE PATCHING AND/OR BEARING REFURBISHMENT.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 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 CMS 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 AND PAY FOR THE ACCEPTED QUANTITIES AT THE LUMP SUM CONTRACT PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

CALCULATED JAS
CHECKED JPB

GENERAL NOTES

HAS-22-17.17

ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN

BRIDGE NO. HAS-22-1717 L &R:

NO LANES FOR U.S. 22 WILL BE PERMITTED TO BE CLOSED OR RESTRICTED.

THE CONTRACTOR SHALL COMPLETE THE WORK IN PHASES CLOSING ALTERNATING LANES OF C.R. 11. THE LANE CLOSURES SHALL BE ACCOMPLISHED IN ONE OF THE FOLLOWING WAYS :

1. DAILY LANE CLOSURES USING DRUMS ONLY AND THE REQUIREMENTS OF SCD MT-96.10 OR FLAGGERS. THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT DAILY AND PLACE THE EQUIPMENT AT A STORAGE SITE. NO NIGHT LANE CLOSURES SHALL BE PERMITTED USING THIS METHOD.

2. NIGHTTIME OR CONTINUOUS LANE CLOSURES USING PORTABLE CONCRETE BARRIER AND THE REQUIREMENTS OF SCD MT-96.11. ALL REQUIREMENTS OF SCD MT-96.11 SHALL BE STRICTLY ADHERED TO AND ANY CHANGES TO MEET FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEER.

ALL EQUIPMENT AND SUPPLIES MUST REMAIN WITHIN THE RIGHT OF WAY AND AT LEAST 6 FT. BEHIND GUARDRAIL OR PORTABLE BARRIER.

BRIDGE NO. HAS-151-2310:

FOR S.R. 151, ONLY TEMPORARY LANE CLOSURES USING FLAGGERS WILL BE PERMITTED.

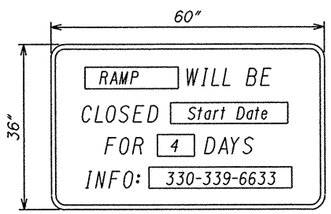
FOR U.S. 22, THE CONTRACTOR SHALL COMPLETE THE WORK IN PHASES, WHERE THE INSIDE LANES (PASSING LANES IN BOTH DIRECTIONS) ARE ONE PHASE AND THE OUTSIDE LANES ARE SEPERATE PHASES. A MINIMUM OF ONE 12' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND SHOULDERS. THE LANE CLOSURES SHALL BE ACCOMPLISHED IN ONE OF THE FOLLOWING WAYS :

1. DAILY LANE CLOSURES USING DRUMS ONLY AND THE REQUIREMENTS OF SCD MT-95.30. KEEP THE EASTBOUND RAMP L FROM U.S. 22 OPEN PER SCD MT-98.20. THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT DAILY AND PLACE THE EQUIPMENT AT A STORAGE SITE. NO NIGHT LANE CLOSURES SHALL BE PERMITTED USING THIS METHOD. RAMP K TRAFFIC TO WESTBOUND U.S. 22 SHALL BE DETOURED FOR A PERIOD NOT TO EXCEED 4 CALENDAR DAYS.

2. NIGHTTIME OR CONTINUOUS LANE CLOSURES USING PORTABLE CONCRETE BARRIER AND THE REQUIREMENTS OF SCD MT-95.40. ALL REQUIREMENTS OF SCD MT-95.40 SHALL BE STRICTLY ADHERED TO AND ANY CHANGES TO MEET FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEER. KEEP EASTBOUND RAMP L FROM EASTBOUND U.S. 22 OPEN PER SCD MT-98.20. RAMP K TRAFFIC TO WESTBOUND U.S. 22 SHALL BE DETOURED FOR A PERIOD NOT TO EXCEED 4 CALENDAR DAYS.

ALL EQUIPMENT AND SUPPLIES MUST REMAIN WITHIN THE RIGHT OF WAY AND AT LEAST 6 FT. BEHIND GUARDRAIL OR PORTABLE BARRIER.

NOTICE OF CLOSURE SIGNS, AS DETAILED BELOW, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST TWO WEEKS IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.



ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN (CONTINUED)

BRIDGE NO. HAS-151-2310 (CONTINUED) :

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE ALL SIGNS, GATES, BARRICADES, AND ADVANCE WARNING SIGNS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60. ODOT WILL FURNISH AND INSTALL THE DETOUR SIGNING.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES, GATES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

1. AT THE POINT OF CLOSURE FOR RAMP.

GENERAL TO ENTIRE PROJECT :

ALL LANES SHALL BE OPEN TO TRAFFIC BETWEEN OCTOBER 31 AND APRIL 1. OCTOBER 31 SHALL BE CONSIDERED AN INTERIM COMPLETION DATE, AND LIQUIDATED DAMAGES SHALL BE ASSESSED IN ACCORDANCE WITH CMS 108.07 FOR EACH CALENDAR DAY THAT ALL LANES ARE NOT OPEN AND AVAILABLE TO TRAFFIC.

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

MEMORIAL DAY FOURTH OF JULY LABOR DAY

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

DAY OF THE WEEK: TIME ALL LANES MUST BE OPEN TO TRAFFIC:

SUNDAY 12:00 NOON FRIDAY THROUGH 12:00 NOON MONDAY
MONDAY 12:00 NOON FRIDAY THROUGH 12:00 NOON TUESDAY
TUESDAY 12:00 NOON MONDAY THROUGH 12:00 NOON WEDNESDAY
WEDNESDAY 12:00 NOON TUESDAY THROUGH 12:00 NOON THURSDAY
THURSDAY 12:00 NOON WEDNESDAY THROUGH 12:00 NOON MONDAY
FRIDAY 12:00 NOON THURSDAY THROUGH 12:00 NOON MONDAY
SATURDAY 12:00 NOON FRIDAY THROUGH 12:00 NOON MONDAY

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

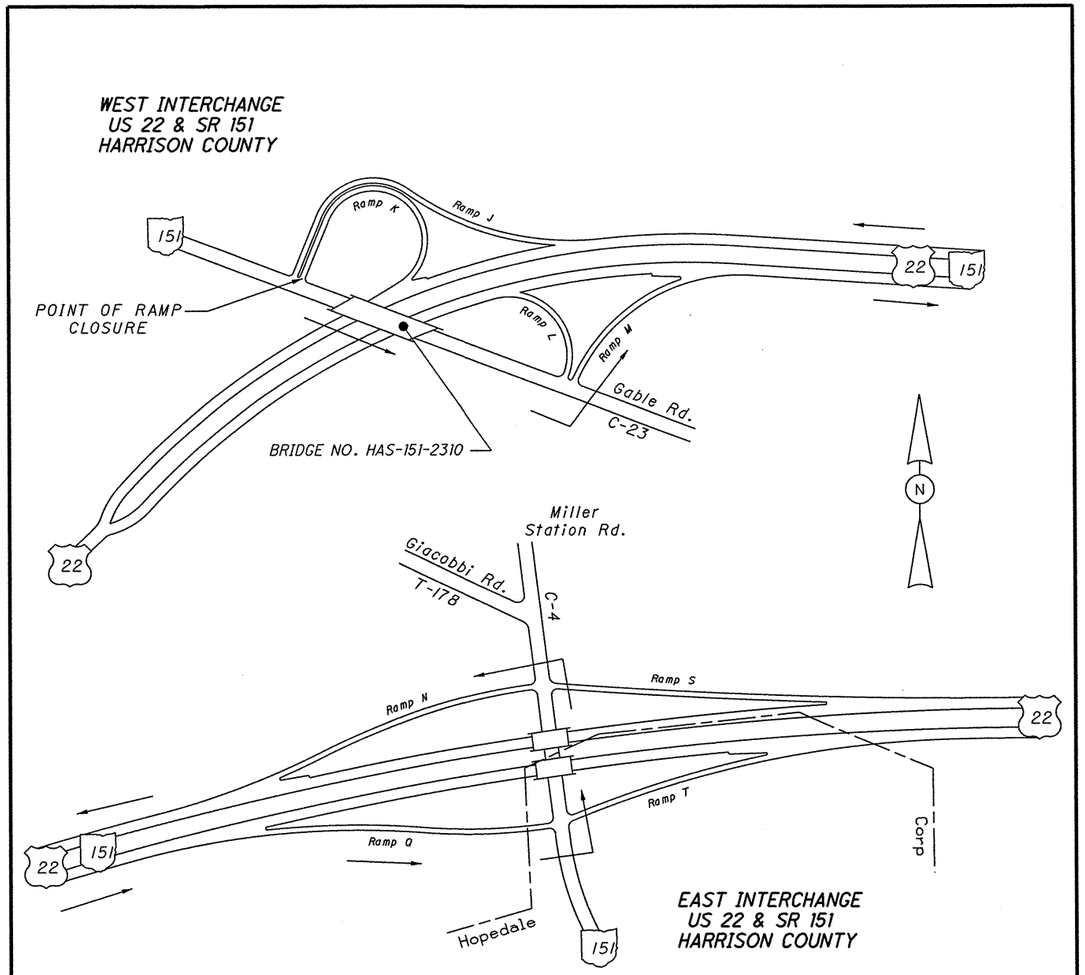
SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

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.

PRIOR TO RESTRICTING ANY LANES, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE ENGINEER A DETAILED SCHEMATIC OF THE MAINTENANCE OF TRAFFIC PHASING FOR EACH BRIDGE. THE SCHEMATIC, AS A MINIMUM FOR EACH PHASE, SHALL SHOW THE LOCATION OF ALL MAINTENANCE OF TRAFFIC SIGNING, DRUMS, PORTABLE CONCRETE BARRIER, WORK ZONE SIGNALS, AND WORK ZONE PAVEMENT MARKINGS. THE SCHEMATIC(S) SHALL BE SUBMITTED FOR APPROVAL, BY THE ENGINEER, A MINIMUM OF 7 CALENDAR DAYS PRIOR TO INSTALLATION.

PAYMENT :

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS, INCLUDING BUT NOT LIMITED TO IMPACT ATTENUATORS, PORTABLE CONCRETE BARRIER, WORK ZONE PAVEMENT MARKINGS, OBJECT MARKERS, AND BARRIER REFLECTORS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.



DETOUR MAP (FOR RAMP K)

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS 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.

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MAINTENANCE OF TRAFFIC

HAS-22-17.17

3
8

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: SCZCVR-T4
DRAWING NAME: QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES
REVISION DATE: 5/13/99 REV. J
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-10
DRAWING NAME: QUADGUARD SYSTEM CONCRETE PAD, CZ, QG
REVISION DATE: 11/19/97 REV. D
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-16
DRAWING NAME: QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG
REVISION DATE: 7/30/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 354051Z
DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36
REVISION DATE: 5/17/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-18
DRAWING NAME: TRANSITION ASSEMBLY, 4 OFFSET, QG
REVISION DATE: 6/25/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35400260
DRAWING NAME: QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY
REVISION DATE: 11/19/97 REV. C
ODOT APPROVAL DATE: 8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: SS450
DRAWING NAME: CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS
REVISION DATE: 3/12/99 REV. 1
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS455
DRAWING NAME: TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 2/18/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS461
DRAWING NAME: TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 6/30/99 REV. 1
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS462
DRAWING NAME: TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS
REVISION DATE: 6/30/99
ODOT APPROVAL DATE: 8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291)

   THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIEDIN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: A040416
DRAWING NAME: UNIVERSAL TAU-II PARTS LIST
REVISION DATE: 4/22/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040420
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP
REVISION DATE: 4/28/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040105
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)
REVISION DATE: 1/07/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: B040239
DRAWING NAME: APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)
REVISION DATE: 4/21/04
ODOT APPROVAL DATE: 10/16/04

4. THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC.

   THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007 IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND IS IN THE CONTRACTOR'S INVENTORY.

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED UNITS REQUIRE TWO SPARE PARTS PACKAGES.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. 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, MAINTAIN, REPAIR, REPLACE OR RELOCATE 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.

614, BARRIER REFLECTORS AND OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

NOTIFICATION OF WORK ZONE RESTRICTIONS

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

THE ENGINEER SHALL IMMEDIATELY NOTIFY THE DISTRICT ROADWAY SERVICES MANAGER TO ADVISE THE OFFICE OF HIGHWAY MANAGEMENT OF THE RESTRICTION.

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, AS PER PLAN.

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 IN THIS NOTE WILL NOT GENERALLY BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

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.

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

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 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. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LIST OF THE APPROPRIATE LAW ENFORCEMENT AGENCY(S), INCLUDING ADDRESS AND TELEPHONE NUMBER.

THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF THE SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHOULD 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 THE SHIFT.

LAW ENFORCEMENT OFFICERS 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. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 64 HOURS

THE HOURS PAID SHALL INCLUDE 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.

CALCULATIONS

ITEM 885, SYSTEM OZEU PAINT

HAS-22-1717 LEFT 36WF230 [2.99'(2) + 1.37'(3)] x 236' x 6 BEAMS x 1.20 = 17,145 SQ. FT.
HAS-22-1717 RIGHT 36WF170 [3.01'(2) + 1.00'(3)] x 61' x 6 BEAMS x 1.20 = 3962 SQ. FT.
HAS-22-1717 RIGHT 36WF194 [3.04'(2) + 1.01'(3)] x 75' x 6 BEAMS x 1.20 = 4919 SQ. FT.
HAS-22-1717 RIGHT 36WF150 [2.99'(2) + 1.00'(3)] x 46' x 6 BEAMS x 1.20 = 2974 SQ. FT.

(PART 1) QUANTITY FOR HAS-22-1717 L&R 29,000 SQ. FT.

HAS-151-2310 36WF150 [2.99'(2) + 1.00'(3)] x 57' x 5 BEAMS x 1.20 = 3071 SQ. FT.
HAS-151-2310 36WF230 [2.99'(2) + 1.37'(3)] x 93' x 5 BEAMS x 1.20 = 5630 SQ. FT.
HAS-151-2310 36WF170 [3.01'(2) + 1.00'(3)] x 80' x 5 BEAMS x 1.20 = 4330 SQ. FT.
HAS-151-2310 36WF150 [2.99'(2) + 1.00'(3)] x 49' x 5 BEAMS x 1.20 = 2640 SQ. FT.

(PART 2) QUANTITY FOR HAS-151-2310 15,671 SQ. FT.

TOTAL 44,671 SQ. FT.

ITEM 885, GRINDING FINS, TEARS, SLIVERS ON EXISTING STEEL

HAS-22-1717 LEFT (1 MIN. PER 1 FT.) x 236' x 6 BEAMS x (1 HR./60 MIN.) = 24 MAN HR.
HAS-22-1717 RIGHT (1 MIN. PER 1 FT.) x 182' x 6 BEAMS x (1 HR./60 MIN.) = 18 MAN HR.
HAS-151-2310 (1 MIN. PER 1 FT.) x 279' x 5 BEAMS x (1 HR./60 MIN.) = 24 MAN HR.

TOTAL 66 MAN HOUR

ITEM 885, FINAL INSPECTION REPAIR

HAS-22-1717 LEFT 236' BEAM LINE x (1 INSPECTION ÷ 150') = 1.57 USE 2
2 INSPECTIONS PER BEAM LINE x 6 BEAMS = 12 EACH
103 X-FRAMES & BEARING ETC. x 0.05 = 5 EACH
12 + 5 = 17 INSPECTIONS

HAS-22-1717 RIGHT 182' BEAM LINE x (1 INSPECTION ÷ 150') = 1.21 USE 1
1 INSPECTIONS PER BEAM LINE x 6 BEAMS = 6 EACH
78 X-FRAMES & BEARING ETC. x 0.05 = 4 EACH
6 + 4 = 10 INSPECTIONS

HAS-151-2310 279' BEAM LINE x (1 INSPECTION ÷ 150') = 1.86 USE 2
2 INSPECTION PER BEAM LINE x 5 BEAMS = 10 EACH
88 X-FRAMES & BEARING ETC. x 0.05 = 4 EACH USE 4
10 + 4 = 14 INSPECTIONS

TOTAL 41 EACH

BR. NO. HAS-22-1717 L&R (PART 1)	BR. NO. HAS-151-2310 (PART 2)		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
							ROADWAY	
LUMP	LUMP		201	11000	LUMP		CLEARING AND GRUBBING	
							EROSION CONTROL	
			832	30000	1000	EACH	EROSION CONTROL	
							STRUCTURES	
LUMP	LUMP		202	11200	LUMP		PORTIONS OF STRUCTURE REMOVED	2
74	80		511	81300	154	EACH	CONCRETE MISC.: EMBEDDED GALVANIC ANODE (EGA)	2
195	80		512	10100	275	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
1060	543		513	10201	1603	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	2
24	10		516	45305	34	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	8
LUMP	LUMP		516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2
270	220		519	11101	490	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2
29,000	15,671		885	00050	44,671	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, WITH WARRANTY	
29,000	15,671		885	00056	44,671	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, WITH WARRANTY	
29,000	15,671		885	00060	44,671	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, WITH WARRANTY	
29,000	15,671		885	00066	44,671	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, WITH WARRANTY	
42	24		885	00504	66	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
27	14		885	10000	41	EACH	FINAL INSPECTION REPAIR	
							MAINTENANCE OF TRAFFIC	
			614	11100	64	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
			614	13000	10	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN	3
			619	16000	2	MONTH	FIELD OFFICE, TYPE A	
			624	10000	LUMP		MOBILIZATION	

CALCULATED JAS
CHECKED JPB

GENERAL SUMMARY & CALCULATIONS

HAS-22-17.17

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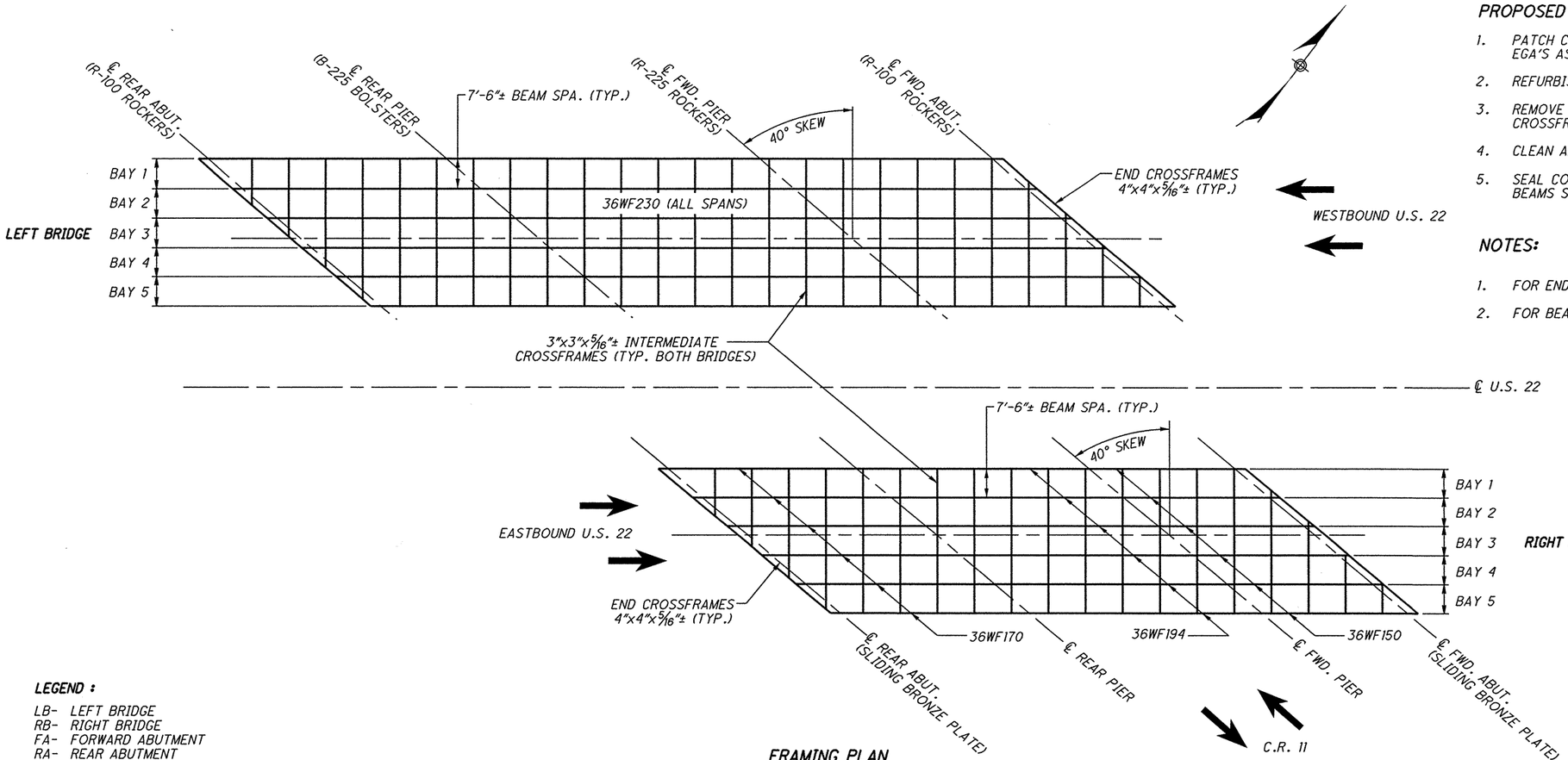


FRAMING PLAN
(SHOWING BOTH STRUCTURES)

PROPOSED WORK:

1. PATCH CONCRETE AREAS MARKED ON THE ABUTMENTS. PLACE EGA'S AS PER THE PLAN NOTE.
2. REFURBISH BEARINGS FOR EACH BEAM AT THE ABUTMENTS.
3. REMOVE AND REPLACE PORTIONS OF CORRODED END CROSSFRAME ASSEMBLIES.
4. CLEAN AND PAINT STRUCTURAL STEEL.
5. SEAL CONCRETE SURFACES OF ABUTMENT BACKWALLS, BEAMS SEATS AND BREASTWALLS.

NOTES:

1. FOR ENDFRAME DETAILS, SEE SHEET NO. 8.
2. FOR BEARING DETAILS, SEE SHEET NO. 8.

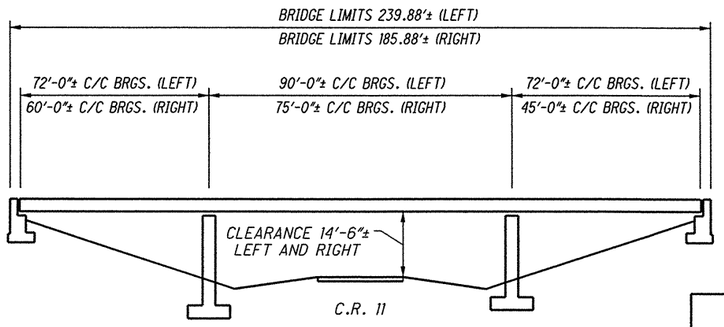
LEGEND :

LB- LEFT BRIDGE
RB- RIGHT BRIDGE
FA- FORWARD ABUTMENT
RA- REAR ABUTMENT
4- BAY NUMBER

EXAMPLE: LB RA 4 = LEFT BRIDGE, REAR ABUTMENT, BAY 4

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	
LOCATION	MEMBER(S) TO REPLACE
LB RA 4	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
LB FA 3	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
LB FA 4	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 1	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 2	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 3	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 4	REPLACE HORIZONTAL ANGLE & GUSSET PLATE WITH NEW 4" x 4" x 5/16" ANGLE & GUSSET PLATE
RB RA 5	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB FA 1	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB FA 2	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 3	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 4	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
RB RA 5	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN :
12 BEAMS x 2 = 24 EACH TOTAL



ELEVATION

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL BEAM BRIDGE W/REINFORCED CONCRETE DECK AND SUBSTRUCTURE (LEFT) AND (RIGHT)

LENGTH: 239.88'± (LEFT) AND 185.88'± (RIGHT)

WIDTH: 40'-0"± F/F SAFETY SHAPE CONCRETE PARAPET (LEFT) AND 40'-0"± F/F SAFETY SHAPE CONCRETE PARAPET (RIGHT)

RAILING: SAFETY SHAPE CONCRETE PARAPET (LEFT) AND SAFETY SHAPE CONCRETE PARAPET (RIGHT)

MINIMUM VERTICAL CLEARANCE: 14'-6"± (LEFT) AND 14'-6"± (RIGHT)

DESIGN AGENCY
O.D.O.T. DISTRICT 11
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
JAS	JAS	SAL	
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JPB		3400875 & 3400905	

FRAMING PLAN
BRIDGE NO. HAS-22-1717 L&R
OVER C.R. 11

HAS-22-17.17

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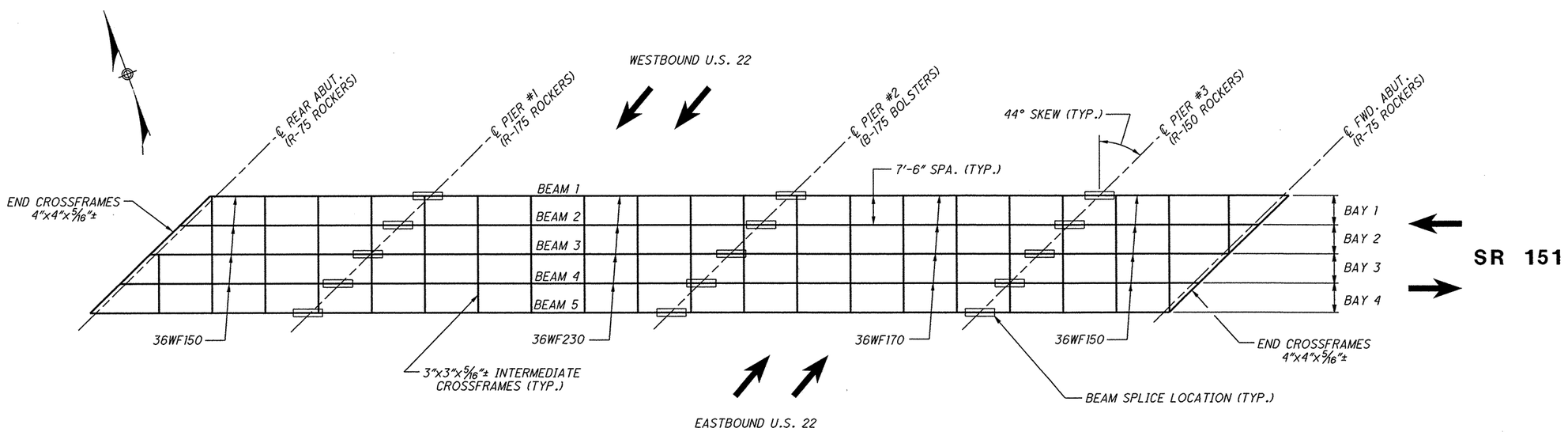
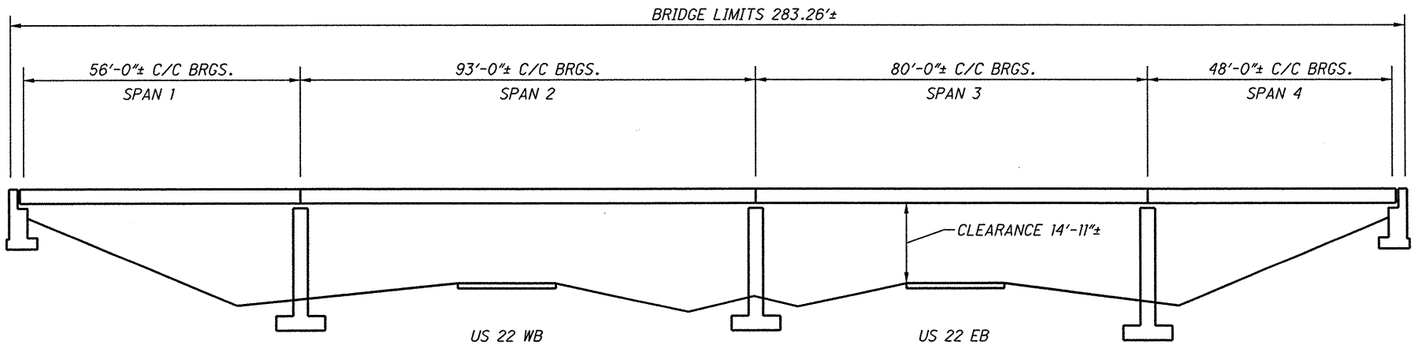


FRAMING PLAN



ELEVATION

LEGEND :

FA- FORWARD ABUTMENT
RA- REAR ABUTMENT
4- BAY NUMBER

EXAMPLE: RA 4 = REAR ABUTMENT, BAY 4

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	
LOCATION	MEMBER(S) TO REPLACE
RA 2	REPLACE HORIZONTAL ANGLE & GUSSET PLATE WITH NEW 4" x 4" x 5/16" ANGLE & GUSSET PLATE
RA 3	REPLACE HORIZONTAL ANGLE & GUSSET PLATE WITH NEW 4" x 4" x 5/16" ANGLE & GUSSET PLATE
FA 1	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
FA 2	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
FA 3	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE
FA 4	REPLACE HORIZONTAL ANGLE WITH NEW 4" x 4" x 5/16" ANGLE

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN :
5 EACH FOR FORWARD & REAR ABUTMENT = 10 EACH TOTAL

NOTES:

1. FOR ENDFRAME DETAILS, SEE SHEET NO. 8.
2. FOR BEARING DETAILS, SEE SHEET NO. 8.

PROPOSED WORK:

1. JACK AND SUPPORT BEAMS AT REAR ABUTMENT FOR CONCRETE PATCHING REPAIRS FOR THE BEAM SEAT AND BREASTWALL. PLACE EGA'S AS PER THE PLAN NOTE.
2. REFURBISH BEARINGS FOR THE REAR AND FORWARD ABUTMENTS.
3. REMOVE AND REPLACE PORTIONS OF CORRODED END CROSSFRAME ASSEMBLIES.
4. CLEAN AND PAINT STRUCTURAL STEEL.
5. SEAL CONCRETE SURFACES OF ABUTMENT BACKWALLS, BEAMS SEATS AND BREASTWALLS.

EXISTING STRUCTURE

TYPE: 4 SPAN CONTINUOUS STEEL BEAM BRIDGE W/REINFORCED CONCRETE DECK AND SUBSTRUCTURE

LENGTH: 283.26'±

WIDTH: 34'-6"± F/F SAFETY SHAPE CONCRETE PARAPET

RAILING: SAFETY SHAPE CONCRETE PARAPET

MINIMUM VERTICAL CLEARANCE: 14'-11"± OVER U.S. 22

DESIGN AGENCY: O.D.O.T. DISTRICT 11 PRODUCTION DEPARTMENT
DESIGNED: JAS | DRAWN: JAS | REVIEWED: SAL | DATE:
CHECKED: JPB | REVISED: | STRUCTURE FILE NUMBER: 3402312

FRAMING PLAN
BRIDGE NO. HAS-151-2310
OVER U.S. 22

HAS-22-17.17

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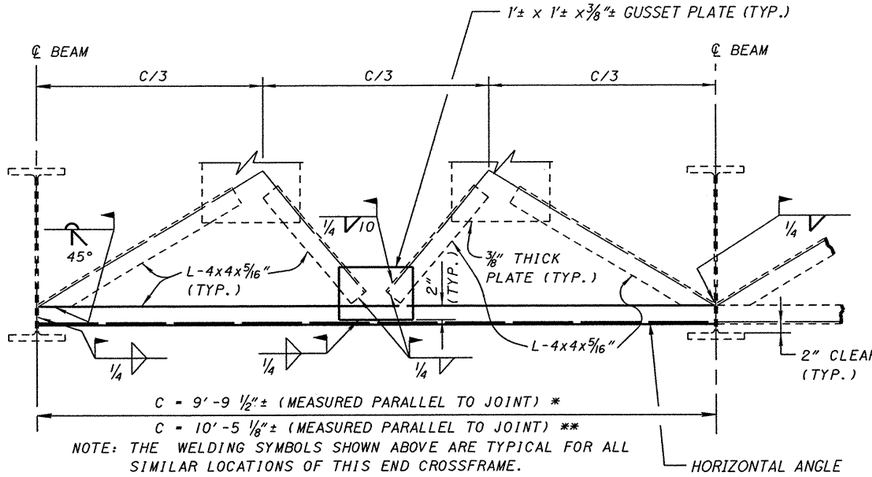
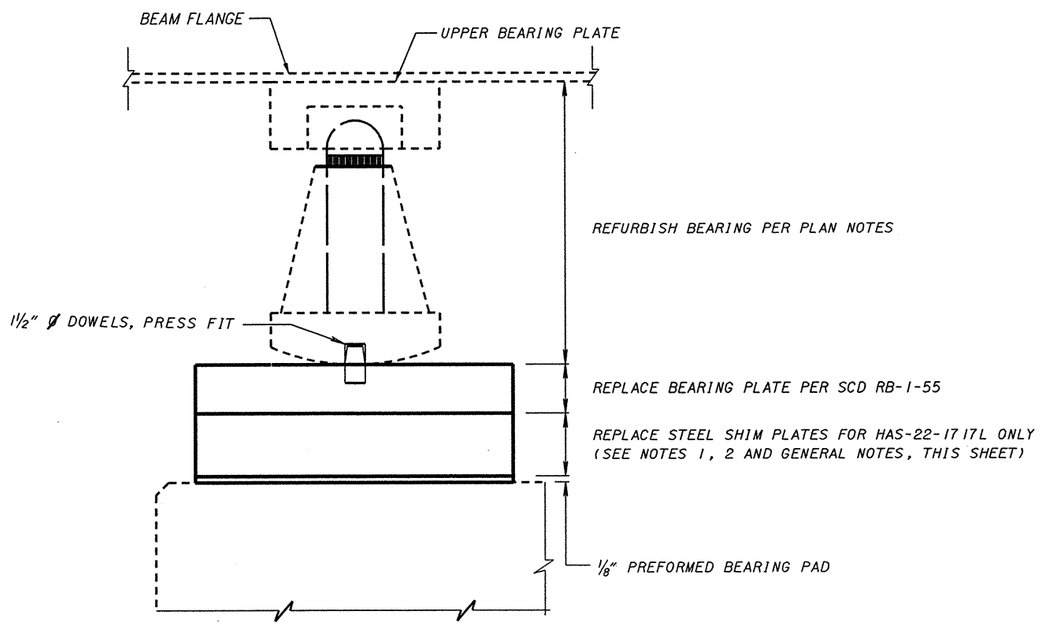


NOTE: THE WELDING SYMBOLS SHOWN ABOVE ARE TYPICAL FOR ALL SIMILAR LOCATIONS OF THIS END CROSSFRAME.

TYPICAL ENDFRAME DETAIL

*BRIDGE NO. HAS-22-1717 L&R
**BRIDGE NO. HAS-151-2310



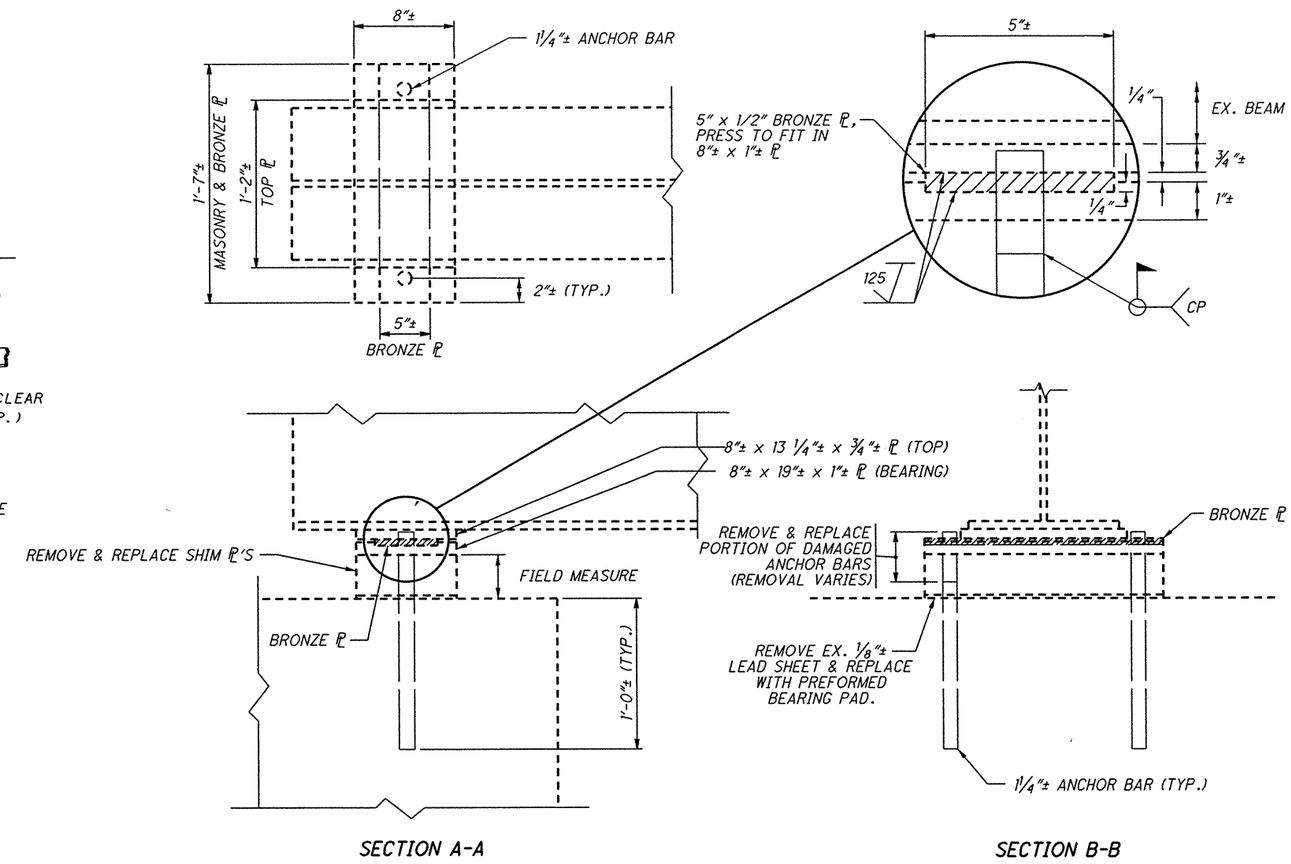
STRUCTURAL STEEL ROCKER

BRIDGE NO. HAS-22-1717L R-100 BEARING AT ABUTMENTS
BRIDGE NO. HAS-151-2310 R-75 BEARING AT ABUTMENTS

NOTES : (FOR HAS-22-1717L BRIDGE ONLY)

1. BEARING SHIM PLATES SHALL BE REPLACED ON NEW PREFORMED BEARING PADS. STEEL FOR THE NEW PLATES SHALL BE A36 STEEL, MINIMUM.

2. SHIM PLATES SHALL BE WELDED TO THE BEARING PLATE AND TO EACH OTHER. PLATES SHALL BE WELDED A MINIMUM OF THREE SIDES WITH A MINIMUM LENGTH OF WELD OF 4 INCHES ON EACH SIDE. TYPE WELD TO BE MADE SHALL BE A 1/4" GROOVE WELD.



SECTION A-A SECTION B-B

SLIDING BRONZE PLATE BEARING

BRIDGE NO. HAS-22-1717 R

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING. PAINTING OF THE BEARINGS IS INCLUDED WITH THE 885 ITEMS.

FOR THE STRUCTURAL STEEL ROCKERS:

REFURBISHING SHALL INCLUDE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), REPLACEMENT OF ALL SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER.

FOR THE SLIDING BRONZE PLATE:

REFURBISHING SHALL INCLUDE THE DISASSEMBLY OF THE BEARINGS, REPLACEMENT OF ALL SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REPLACEMENT AND REALIGNMENT OF THE TOP PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES F, REPLACEMENT OF THE BRONZE PLATES, REPAIRING ANY DAMAGED ANCHOR BARS (3 BARS ARE KNOWN TO NEED REPAIRED), LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. THE BRONZE PLATES SHALL MEET THE REQUIREMENTS OF ASTM B22, ALLOY B OR EQUIVALENT. ALL STEEL COMPONENTS MUST BE AT LEAST A36 STEEL. CONTRACTOR SHALL FIELD MEASURE ALL COMPONENTS PRIOR TO ORDERING MATERIAL. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER.

BEARING/SHIM PLATE REPLACEMENT FOR BOTH BEARING TYPES:

THE CONTRACTOR SHALL REPLACE THE BEARING/SHIM PLATE(S) FOR EACH BEARING DESIGNATED IN THE PLAN TO BE REFURBISHED. THE HAS-22-1717 L&R BRIDGES HAVE MULTIPLE SHIM PLATES OF VARYING THICKNESSES. THE CONTRACTOR SHALL PREMEASURE EACH LOCATION AND PROVIDE NEW PLATES TO MEET THE PREMEASURED THICKNESSES. PLATES SHALL HAVE A THICKNESS BETWEEN 1/2" MIN. AND 1" MAX. THE PLATES SHALL BE A36 STEEL AT A MINIMUM.

ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING".

PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

CALCULATED JAS CHECKED JPB

BRIDGE DETAILS

HAS-22-17.17

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