STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:
REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
849 DATED 01-18-2013

REFER TO THE FOLLOWING ARCHIVED STANDARD BRIDGE DRAWINGS:
GSD-1-96 DATED 07-19-2002
(SEE SHEET 4/19 TO 5/19).

BR-1 04-03-1990
(SEE SHEET 6/19)

VPF-1-90 07-21-2023
(SEE SHEET 7/19 TO 9/19)

DESIGN DATA:
STRUCTURAL STEEL, ASTM 709 GRADE 50 - MINIMUM YIELD STRENGTH 50 KSI

CONCRETE CLASS QC2, COMPRESSIVE STRENGTH 4.5 KSI

EPOXY COATED STEEL REINFORCEMENT, MINIMUM YIELD STRENGTH 60 KSI

EXISTING STRUCTURE VERIFICATION:
DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS, SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING PLANS:
EXISTING PLANS CAN BE INSPECTED IN THE LOCAL ODOT DISTRICT OFFICE, AND WILL BE PROVIDED ELECTRONICALLY UPON REQUEST.

STEEL RESTRAINT OR PRELOAD LIMITS:
EXISTING ASTM A709 GRADE 36 - DO NOT SUBJECT ANY PART OF THE STRUCTURE TO A JACKING, PULLING OR RESTRAINING UNIT STRESS EXCEEDING 18,000 PSI.

UTILITIES:
THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS, PARAPETS, AND STEEL MEMBERS FROM THE EXISTING STRUCTURE. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS TO INCLUDE PROTECTION OF TRAFFIC ACCORDING TO CMS 501.05.

REMOVAL OF CONCRETE OR STEEL MEMBERS IS NOT PERMITTED WITH LIVE TRAFFIC OF U.S. 33 UNDERNEATH OF WATKINS ROAD BRIDGE.

ALL CONCRETE REMOVED AS DETAILED IN THE PLANS MUST BE REMOVED BY MEANS OF CUTTING AND OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE WEIGHT OF THE HAMMER MUST NOT BE MORE THAN 35 POUNDS FOR REMOVAL AROUND REBAR TO BE PRESERVED IN THE DECK. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH THE REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

DECK REMOVALS – DECK EDGE REHABILITATION: IF THE CONTRACTOR'S MEANS AND METHODS REQUIRE DRILLING HOLES THROUGH THE BRIDGE DECK, ALL HOLES SHALL BE DRILLED FROM THE BOTTOM OF THE DECK UPWARD. DRILLING HOLES FROM THE TOP OF THE DECK IS NOT PERMITTED. FALSEWORK INTENDED TO FORM THE NEW DECK EDGE MAY BE USED AS A WORK PLATFORM TO AIDE IN THE DECK EDGE REMOVAL. IF FORMS BECOME DAMAGED DURING CONCRETE REMOVAL, THE DAMAGED PORTIONS SHALL BE REPAIRED OR REPLACED PRIOR TO POURING THE CONCRETE. PRIOR TO PLACING CONCRETE, THOROUGHLY CLEAN ALL SURFACES OF THE FORMS THAT CONTACT THE BOTTOM OF THE EXISTING BRIDGE DECK TO ENSURE A SNUG FIT BETWEEN THE FORMS AND EXISTING BRIDGE DECK. THE PORTION OF THE FORM TO BE IN CONTACT WITH THE FRESH CONCRETE SHALL BE FREE OF LAITANCE, SILT, DIRT, SHAVINGS, SAWDUST, LOOSE AND BUILT-UP RUST, AND OTHER DEBRIS. ALL HOLES DRILLED THOUGH THE BRIDGE DECK SHALL BE REPAIRED WITH TROWELABLE MORTAR IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 843.

CUT LINE CONSTRUCTION JOINT PREPARATION: PRIOR TO REMOVING THE DECK EDGE, PLACE A 1-IN (+0-IN,-1/4-IN) DEEP SAW CUT AT THE BOUNDARIES OF PROPOSED CONCRETE REMOVALS. IF THERE ARE INTEGRAL CONCRETE PIER CAPS WITHIN THE PROPOSED REMOVAL LIMITS, ALSO SAWCUT THE DECK CONCRETE ALONG THE INTERFACE OF THE DECK AND PIER CAP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

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. 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, SEALED, AND DATED, ACCORDING TO SUPPLEMENT 1002, TO THE STRUCTURAL WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES. THE MEMBERS INCLUDED IN THIS ITEM ARE PROVIDED IN TABLE 2 AND 3 AND SHEETS 12/19 THROUGH 14/19. THIS WORK INCLUDES SECONDARY MEMBERS (CROSSFRAMES AND DIAPHRAGMS). THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MEMBERS LEVEL UF AS PER PLAN: POUND.

ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MEMBERS, DRILLING:
THIS ITEM INCLUDES FIELD DRILLED HOLES REQUIRED TO PERFORM BOLTED SPLICING AT THE BEAM 1 REPAIRS DETAILED ON SHEET 37/42 AND ESTIMATED QUANTITY FOR FIELD DRILLED HOLES PROVIDED IN TABLE 3,
FOR DRILLING MAIN OR SECONDARY MEMBERS AS DETERMINED BY FIELD INSPECTION ACCORDING TO ITEM 849, DAMAGE ASSESSMENT OR AS DIRECTED BY THE ENGINEER. FOR HOLES DETAILED IN TABLE 3, DRILL 2 INCH DIAMETER HOLES AT BOTH ENDS OF EACH IDENTIFIED CRACK AS DIRECTED BY THE ENGINEER. GRIND THE HOLES SMOOTH ACCORDING TO C&MS 513.19. THE DEPARTMENTWILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MEMBERS, DRILLING: EACH.

ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MEMBERS, COPE HOLES:
AN ESTIMATED QUANTITY FOR EACH LOCATION IS PROVIDED IN TABLE 3, FOR COPING MAIN MEMBERS AS DETERMINED BY FIELD INSPECTION ACCORDING TO ITEM 849, DAMAGE ASSESSMENT OR AS DIRECTED BY THE ENGINEER. PROVIDE A 2 INCH DIAMETER X 4 INCH LONG COPE ACCORDING TO PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. GRIND THE HOLES SMOOTH ACCORDING TO C&MS 513.19. THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 -STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MEMBERS, COPE HOLES: EACH.

ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MAIN MEMBER, COMPLETE PENETRATION WELDING:
AFTER DAMAGED AREAS HAVE BEEN INSPECTED ACCORDING TO ITEM 849 DAMAGE ASSESSMENT. PREPARE THE DAMAGED MATERIAL FOR WELDING, PROVIDE RUNOFF TABS FOR ALL COMPLETE PENETRATION WELDS. PERFORMING COMPLETE PENETRATION WELDS ACCORDING TO C&MS 513 USING APPROVED ELECTRODES, PROCEDURES AND WELDERS. REMOVE RUNOFF TABS AND GRIND THE COMPLETED EDGES SMOOTH. GRIND THE COMPLETED WELDS SMOOTH AND FLUSH WITH THE ADJACENT SURFACES TO PROVIDE A SURFACE FINISH ACCORDING TO ANSI B46.1 OF 250 MIL. DO NOT OVER GRIND AS TO REDUCE THE MATERIAL THICKNESS OR WIDTH OF THE NEW OR EXISTING MATERIALS. PREPARE ALL REENTRANT CORNERS WITH A ONE INCH RADIUS. REMOVE WELDING, START AND STOP DISCONTINUITIES. RADIOGRAPHIC TEST THE FINISHED WELDS ACCORDING TO C&MS 513.25A AND SUBMIT COPIES OF THE REPORTS TO THE ENGINEER. THE ENGINEER MAY OBTAIN TECHNICAL ASSISTANCE FROM THE OFFICE OF MATERIALS MANAGEMENT. THE DEPARTMENT WILL INCLUDE ALL MATERIALS; TOOLS; LABOR; EQUIPMENT; AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MAIN MEMBERS, COMPLETE PENETRATION WELDING: FOOT.

ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MAIN OR SECONDARY MEMBERS, FILLET WELDING:
AFTER DAMAGED AREAS HAVE BEEN INSPECTED ACCORDING TO ITEM 849 DAMAGE ASSESSMENT. PREPARE THE DAMAGED MATERIAL FOR WELDING, PERFORMING $^{5}/_{16}$ INCH FILLET WELDS ACCORDING TO ITEM 513 USING APPROVED ELECTRODES, PROCEDURES AND WELDERS. WELD EACH SECONDARY MEMBER ACCORDING TO PLAN DETAILS. MAGNETIC PARTICLE INSPECT ALL FILLET WELDS ACCORDING TO C&MS 513.25B. THE ENGINEER MAY OBTAIN TECHNICAL ASSISTANCE FROM THE OFFICE OF MATERIALS MANAGEMENT. THE DEPARTMENT WILL INCLUDE ALL MATERIALS; TOOLS; LABOR; EQUIPMENT; AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MISC.: REPAIR OF DAMAGED MAIN OR SECONDARY MEMBERS, FILLET WELDING: FOOT.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN (TWO COAT):
1.0 DESCRIPTION
THIS ITEM CONSISTS OF FIELD PAINTING STRUCTURAL STEEL ON FRA-33-2456, PREVIOUSLY COATED WITH AN OLDER EXISTING OZEU OR IZEU PAINT SYSTEM OR UNPAINTED WEATHERING STEEL TO CORRECT DAMAGE BY COLLISION OR CORROSION. THIS WORK CONSISTS OF PERFORMING SURFACE PREPARATION AND APPLYING A TWO-COAT PAINT SYSTEM TO THE PREPARED STEEL AND FEATHERED REMOVAL AREAS OF EXISTING OZEU OR IZEU PAINT SYSTEMS OR UNPAINTED WEATHERING STEEL. REFER TO TABLE 4 FOR QUANTITIES.

2.0 GENERAL
C&MS 514.05 THROUGH 514.10 AND 514.13.D APPLY UNLESS MODIFIED BY THESE NOTES.

3.0 WASHING EXISTING SURFACES
WASHING EXISTING OZEU OR IZEU PAINTED SURFACES OR UNPAINTED WEATHERING STEEL CLEAN SURFACES TO BE COATED WITH LOW PRESSURE WATER CLEANING TO REMOVE ALL DIRT, DEBRIS, ANIMAL EXCREMENT, SALT CONTAMINANTS AND OTHER ACCUMULATED FOREIGN MATERIAL IN ACCORDANCE WITH SSPC-SP12 (LP WC), LOW PRESSURE WATER CLEANING. THE PRESSURE WASHER SHALL BE CAPABLE OF ACHIEVING AT LEAST 2000 POUNDS PER SQUARE INCH AT THE NOZZLE. WHEN USING THE POWER WASHING EQUIPMENT, THE NOZZLE SHALL BE MAINTAINED NO MORE THAN 10 INCHES FROM THE SURFACE. SUPPLY AND USE POTABLE WATER. PROVIDE TO THE ENGINEER A LETTER OF WRITTEN ACCEPTANCE FOR ANY BIODEGRADABLE DETERGENTS OR CLEANERS USED IN CONJUNCTION WITH THIS METHOD. COLLECT AND CONTAIN WATER AND DEBRIS REMOVED DURING WASHING OPERATIONS ABOVE WATER FEATURES IN CONFORMANCE WITH C&MS 514.08 AND C&MS 514.13.D FOR ANY DEBRIS. CREATE SETTLEMENT COLLECTION BASINS AND STRAIN ALL WASH WATER ABOVE LAND FEATURES AS NECESSARY TO PRODUCE VISIBLY CLEAR WATER AND COMPLY WITH C&MS 514.08 AND C&MS 514.13.D FOR ANY DEBRIS.

4.0 SURFACE PREPARATION
AFTER THE PRESSURE WASHED SURFACE HAS DRIED, REMOVE EXISTING PAINT COATING TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER ACCORDING TO: SSPC-SP 11, POWER TOOL CLEANING TO BARE METAL, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 3; SSPC SP6, COMMERCIAL BLAST CLEANING, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 1; OR SSPC SP12 UHP WJ-4, ULTRAHIGH-PRESSURE WATER JETTING, AS SHOWN ON THE PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 4. SUPPLY BLAST WATER CONTAINING A COMMERCIALLY AVAILABLE RUST INHIBITOR AT A DOSAGE THAT PREVENTS FLASH RUSTING FOR 12 HOURS AND DOCUMENTED AS ACCEPTABLE TO THE COATING'S MANUFACTURER. THE ENGINEER WILL USE THE SSPC-VIS 1, SSPC-VIS 3 OR SSPC-VIS 4 TO DETERMINE THE ACCEPTANCE OF THE SURFACE PREPARATION. FEATHER THE EXISTING PAINT TO EXPOSE A MINIMUM OF $^{1}/_{2}$ INCH OF EACH COAT. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO C&MS 514.13.D.

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

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN (TWO COAT) (CONTINUED...):
5.0 FIELD PAINTING
APPLY THE PRIME AND INTERMEDIATE COATS OF THE THREE-COAT PAINT SYSTEM SPECIFIED IN C&MS 708.02, ACCORDING TO C&MS 514.15, 514.16, 514.17, 514.19 AND 514.20 TO CONTRACT LIMITS OR AS DIRECTED BY THE ENGINEER. TINT THE INTERMEDIATE COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR, UNPAINTED WEATHERING STEEL OR AS DESIGNATED IN THE CONTRACT. MATCH THE COLOR TO THE ENGINEERS SATISFACTION. THE ENGINEER WILL DETERMINE THE PRIME AND INTERMEDIATE COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. DO NOT APPLY THE FINISH COAT. THE PRIME AND INTERMEDIATE COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF C&MS 514.20. APPLY PAINT AS FOLLOWS:

A. *APPLY THE PRIME COAT ONLY TO THE PREPARED SURFACE OF THE BARE STEEL AND THE EXISTING PRIME COAT EXPOSED BY FEATHERING. DO NOT APPLY THE PRIME COAT TO THE ADJACENT INTERMEDIATE COAT.*

B. *APPLY CAULK AFTER PRIMING*

C. *APPLY THE INTERMEDIATE COAT TO THE NEW PRIME COAT AND TO THE EXISTING INTERMEDIATE AND FINISH COAT THAT ARE EXPOSED BY FEATHERING.*

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

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

6.0 MEASUREMENT
THE DEPARTMENT WILL MEASURE FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN BY THE NUMBER OF SQUARE FEET OF STRUCTURAL STEEL PAINTED.

THE DEPARTMENT WILL DETERMINE THE SURFACE AREA BY TAKING EXACT FIELD MEASUREMENTS OF ALL PAINTED SURFACES AND CALCULATIONS.

STRUCTURE REPAIR NOTES
BRIDGE NO. FRA-33-2456
WATKINS ROAD OVER US 33

SFN 2501899
DESIGN AGENCY EMH&T
DESIGNER CAD | CHECKER TDA
REVIEWER CAS 08/20/26
PROJECT ID 125600
SUBSET 2 | TOTAL 19
SHEET P.25 | TOTAL 42

FRA-33-2456 BRIDGE HIT REPAIR

MODEL: Structure Notes Sheet 1 PAPERSIZE: 34x22 (in.) DATE: 11/23/2026 TIME: 3:44:32 PM USER: cschrader
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