SUPERSTRUCTURE UNIT NOTES – CON'D

(38) IDENTITY OF MAIN MATERIALS: SEE SECTION 602 OF THE STANDARD SPECIFICATIONS.

(39) STRUCTURAL STEEL: SHALL CONFORM TO ASTM A709 GRADE 50W UNLESS OTHERWISE NOTED. ALL STRUCTURAL STEEL FOR GIRDERS SHALL MEET THE SUPPLEMENTAL REQUIREMENTS FOR LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN THE ASTM SPECIFICATIONS. ZONE 2 OF NON-FRACTURE CRITICAL CRITERIA SHALL APPLY.

(40) WEATHERING STEEL: ALL WEATHERING STEEL SHALL HAVE ATMOSPHERIC CORROSION RESISTANCE EQUAL TO OR BETTER THAN TWO TIMES THAT OF CARBON STRUCTURAL STEEL WITH COPPER.

(41) WELDING: CURRENT EDITION ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AND SECTION 602 OF THE STANDARD SPECIFICATIONS.

(42) FIELD CONNECTIONS: SHALL BE 7/8 " DIAMETER HIGH TENSILE STRENGTH BOLTS ASTM-A325 UNLESS OTHERWISE SHOWN. SEE AASHTO SPECIFICATIONS ART. 11.3.2 DIVISION II AND SECTION 602 OF THE STANDARD SPECIFICATIONS.

(43) WEATHERING BOLTS: ALL BOLTS SHALL BE ASTM A-325, TYPE 3. ALL BOLTS, NUTS, AND WASHERS SHALL HAVE THE SAME WEATHERING CHARACTERISTICS AS THE STRUCTURAL STEEL USED. IN LIEU OF USING DIRECT TENSION INDICATORS (DTI'S), ALL BOLTS SHALL BE INSTALLED BY EITHER TURN-OF-NUT TIGHTENING OR CALIBRATED WRENCH TIGHTENING IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, CURRENT EDITION.

(44) BLAST CLEANING: THE FASCIA GIRDERS AND ALL FAYING SURFACES OF BOLTED CONNECTIONS OF ALL GIRDERS SHALL BE BLAST CLEANED IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS "NO. 6 COMMERCIAL BLAST CLEANING" SSPC-SP 6 PRIOR TO BOLTING, ANY LOOSE RUST ON THE FAYING SURFACES SHALL BE REMOVED.

(45) PAINTING OF STEEL: ALL STRUCTURAL STEEL BEAM ENDS AND ATTACHED PLATES EMBEDDED IN CONCRETE SHALL BE BLAST CLEANED AND PAINTED FOR THREE (3) FEET FROM EACH END OF BEAM. BLAST CLEANING SHALL BE IN ACCORDANCE WITH TENNESSEE STANDARD SPECIFICATION 603.05 (B). PAINT SHALL BE SYSTEM "A", INORGANIC ZINC PAINT SYSTEM, AS STATED IN STANDARD SPECIFICATION 603.06 (A). COLOR OF THE URETHANE FINISH COAT SHALL COMPLY WITH FEDERAL STANDARD NO. 595A, 30059, BROWN. SEE SECTIONS 603 AND 910 OF THE STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION.

(46) FINAL APPEARANCE: PRIOR TO FINAL ACCEPTANCE, ALL STRUCTURAL STEEL SHALL BE FREE OF GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPATTER AND SIMILAR SOILAGE. DEPENDING ON THE LOCATION, WITH RESPECT TO VIEW, AND SEVERITY OF THE FORE-GOING SOILAGE, THE STRUCTURAL STEEL SHALL BE CLEANED UNDER THE PROVISIONS OF ONE OF THE FOLLOWING STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS; "NO. 1 SOLVENT CLEANING" SSPC-SP 1, "NO. 2 HAND CLEANING" SSPC-SP2, "NO. 3 POWER TOOL CLEANING" SSPC-SP-3 OR "NO. 7 BRUSH-OFF BLAST CLEANING" SSPC-SP7.

(47) MATERIALS, CONSTRUCTION, AND WORKMANSHIP WILL BE IN ACCORDANCE WITH STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS (CURRENT EDITION).

(48) CHAMFER ALL EXPOSED CORNERS ONE (1) INCH, CORNERS OF SUPERSTRUCTURE UNITS ADJACENT TO CLOSURE POURS ARE NOT CONSIDERED EXPOSED CORNERS.

(49) BEARING DEVICES SHALL BE IN ACCORDANCE WITH THE DETAILS AND DIMENSIONS SHOWN ON DRAWING BR-119-XX.

(50) SUBMIT SHOP DRAWING IN ACCORDANCE WITH TDOT SECTION 918.29 AND 15.02. IN ADDITION, SHOW
- ALL LIFTING HARDWARE OR DEVICES AND LOCATION ON THE SHOP DRAWINGS;
- LIFTING HARDWARE MAY BE CONNECTED TO GIRDERS THROUGH BLOCKOUTS IN THE SLAB. BLOCKOUTS SHALL BE FILLED WITH THE STRUCTURAL CLOSURE POUR MATERIAL.

(51) SURFACES OF SUPERSTRUCTURE UNITS THAT ABUT CLOSURE POURS SHALL BE PREPARED BY REMOVING ALL CONTAMINANTS THAT COULD INTERFERE WITH ADHESION AND TO DEVELOP A SURFACE ROUGHNESS TO PROMOTE MECHANICAL BOND BETWEEN STRUCTURAL CLOSURE POUR MATERIAL AND DECK CONCRETE. AFTER REMOVAL OF ALL LOOSE MATERIAL THE SURFACE SHALL BE DRY, CLEAN AND SOUND. EPOXY COATING ON REINFORCEMENT SHALL NOT BE DAMAGED DURING CLEANING OPERATION.

(52) MEMBERS THAT SUSTAIN DAMAGE OR SURFACE DEFECTS DURING FABRICATION, HANDLING, STORAGE, HAULING, OR ERECTION ARE SUBJECT TO REVIEW AND REJECTION. SUBMIT PROPOSED WRITTEN REPAIR PROCEDURES AND OBTAIN APPROVAL BEFORE PREFORMING REPAIRS. REPAIR WORK MUST REESTABLISH THE MEMBER'S STRUCTURAL INTEGRITY, DURABILITY, AND AESTHETICS TO SATISFACTION OF THE ENGINEER.

(53) THERE SHALL BE A MINIMUM OF 4 LIFTING DEVICES/LOCATIONS PER SUPERSTRUCTURE UNIT.

(54) THE DESIGN OF THE LIFTING DEVICES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR WILL SUBMIT PLANS AND HANDLING STRESS CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO THE CONSTRUCTION OF THE SUPERSTRUCTURE UNITS.

(55) CONTRACTOR WILL BE RESPONSIBLE FOR THE HANDLING AND STORAGE OF THE SUPERSTRUCTURE UNITS IN SUCH A MANNER THAT DOES NOT CAUSE UNDUE STRESS ON THE SUPERSTRUCTURE UNITS. CONTRACTOR WILL SUBMIT A HANDLING AND STORAGE PLAN TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

(56) ENGINEER WILL INSPECT SUPERSTRUCTURE UNITS AT THE CONTRACTOR'S EXPENSE. SUPERSTRUCTURE UNITS SHOULD BE REJECTED DUE TO BUT NOT LIMITED TO THE FOLLOWING:
- FULL DEPTH CRACKING
- SIGNIFICANT DIMENSIONAL DEFORMITIES.

(57) USE QUICK-SETTING, CEMENTITIOUS PATCHING MATERIALS FOR SPALL REPAIRS ONLY.

(58) USE QUICK-SETTING RAPID STRENGTH GAIN STRUCTURAL CLOSURE POUR MATERIAL FOR CLOSURE POURS ON SUPERSTRUCTURE UNITS ONLY.

(59) STRUCTURAL CLOSURE POUR MATERIAL: F'c = 6,000 PSI (MIN.) (LEAN) AND 3,000 PSI (MIN.) (EXTENDED) IN < 8 HOURS.

(60) EXTEND STRUCTURAL CLOSURE POUR MATERIAL PER MANUFACTURER'S RECOMMENDATIONS.

(61) ALL CLOSURE POUR GROUT AND MORTAR WILL HAVE A CORROSION INHIBITOR ADMIXTURE. CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDATION FOR DOSAGE OF CORROSION INHIBITOR ADMIXTURE.

(62) MIX, PLACE AND CURE STRUCTURAL CLOSURE POUR MATERIAL JUST PRIOR TO USE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

(63) CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR ADVICE ON HOW TO REDUCE HEAT SUCH AS WET CURING OR ADDING RETARDING ADMIXTURE IF THE HEAT OF HYDRATION IS EXCESSIVE.

(64) FINISH GROUT FLUSH WITH ADJACENT SUPERSTRUCTURE UNIT.

(65) SUBMIT A CERTIFICATE OF COMPLIANCE FOR STRUCTURAL CLOSURE POUR MATERIAL TO ENGINEER FOR APPROVAL.

(66) USE STRUCTURAL CLOSURE POUR MATERIAL GRAY IN COLOR AND CONTAINING NO CALCIUM CHLORIDE OR ADMIXTURE CONTAINING CALCIUM CHLORIDE OR OTHER INGREDIENT IN SUFFICIENT QUANTITY TO CAUSE CORROSION TO STEEL REINFORCEMENT.

(67) REPAIR AT THE DEPARTMENT'S OPTION ANY BONDING FAILURES THAT OCCUR AT THE CONTRACTOR'S EXPENSE.

(68) REFER TO STRUCTURAL CLOSURE POUR MATERIAL PERFORMANCE CRITERIA TABLE ON THIS SHEET FOR GROUT AND MORTAR REQUIREMENTS.

STRUCTURAL CLOSURE POUR PERFORMANCE CRITERIA TABLE

PERFORMANCE CHARACTERISTIC	TEST METHOD	PERFORMANCE CRITERIA		
COMPRESSIVE STRENGTH (CS) KSI	ASTM C39 (MODIFIED)	6.0 ≤ CS @ 8 HOURS (OVERNIGHT CURE) @ 7 DAYS (7 DAY CURE)		
SHRINKAGE (S) (CRACK AGE, DAYS)	AASHTO PP34 (MODIFIED)	20 < S		
BOND STRENGTH (BS), PSI	ASTM C882 (MODIFIED)	300 < BS		
CHLORIDE PENETRATION (ChP) (DEPTH FOR PERCENT CHLORIDE OF 0.2% BY MASS OF CEMENT AFTER 90 DAY PONDING), (IN)	ASTM C1543 (MODIFIED)	ChP < 1.5		
FREEZING AND THAWING DURIBILITY (F/T). (RELATIVE MODULUS AFTER 300 CYCLES)	ASTM C666 PROCEDURE A (MODIFIED)	GRADE 1	GRADE 2	GRADE 3
		70% ≤ F/T	80% ≤ F/T	90% ≤ F/T

CONST. NO. 19005-3161-44

PROJECT NO.	YEAR	SHEET NO.
BH-I-40-4(86)	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

TED A. KNIAZEWYCZ REGISTERED ENGINEER NO. 220751 STATE OF TENNESSEE

BRIDGE NO. 5
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES
SHEET 1 OF 2
I-40
OVER
CHARLOTTE AVE.
BR. NO. 19-I0040-17.09
DAVIDSON COUNTY
2015

BR-119-179

DESIGNED BY GRESHAM SMITH & PARTNERS DATE 2/09/2015
DRAWN BY G.YOUNG DATE 1/2015
SUPERVISED BY T. KNIAZEWYCZ DATE 1/2015
CHECKED BY T. KNIAZEWYCZ DATE 2/2015

GS&P GRESHAM SMITH AND PARTNERS

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2/12/2015
PRF