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SEE SHEET 1A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

DAVIDSON COUNTY

INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE

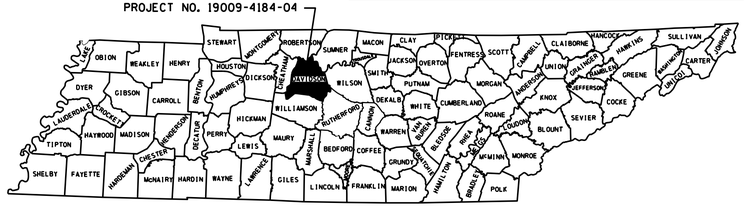
STRUCTURE NO. 162 (BRIDGE NO. 19-I065-5.97)
STRUCTURE NO. 163 (BRIDGE NO. 19-I065-5.98)
STRUCTURE NO. 164 (BRIDGE NO. 19-I440-4.90(LT))
STRUCTURE NO. 165 (BRIDGE NO. 19-I440-4.88(RT))
STRUCTURE NO. 166 (BRIDGE NO. 19-I440-4.85(LT))
STRUCTURE NO. 167 (BRIDGE NO. 19-I440-4.85(RT))

BRIDGE REPAIR

TENN.	YEAR	SHEET NO.
	2015	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	19009-4184-04	

REV:	REVISIONS		
NO.	DATE	BY	BRIEF DESCRIPTION
3	02-04-15	JG	REVISED YEAR 2014 TO 2015 - ALL SHEETS
			CHANGED DATE UNDER SPECIAL NOTES

PROJECT NO. 19009-4184-04



TRAFFIC DATA (BR. NO. 19-I065-5.97)	
ADT (2014)	20,160
ADT (2034)	22,180
DHV (2034)	2,440
D	55 - 45
T (ADT)	10 %
T (DHV)	7 %
V	55 MPH

ROADWAY LENGTH 0.0379 MILES
BRIDGE LENGTH 0.0973 MILES
PROJECT LENGTH 0.1352 MILES

TRAFFIC DATA (BR. NO. 19-I065-5.98)	
ADT (2014)	5,260
ADT (2034)	5,790
DHV (2034)	868
D	75 - 25
T (ADT)	11 %
T (DHV)	7 %
V	55 MPH

ROADWAY LENGTH 0.0379 MILES
BRIDGE LENGTH 0.0875 MILES
PROJECT LENGTH 0.1254 MILES

TRAFFIC DATA (BR. NO. 19-I440-4.90LT)	
ADT (2014)	17,920
ADT (2034)	19,710
DHV (2034)	2,168
D	50 - 50
T (ADT)	10 %
T (DHV)	7 %
V	55 MPH

ROADWAY LENGTH 0.0379 MILES
BRIDGE LENGTH 0.1320 MILES
PROJECT LENGTH 0.1699 MILES

TRAFFIC DATA (BR. NO. 19-I440-4.88RT)	
ADT (2014)	3,860
ADT (2034)	4,250
DHV (2034)	404
D	53 - 47
T (ADT)	11 %
T (DHV)	7 %
V	55 MPH

ROADWAY LENGTH 0.0379 MILES
BRIDGE LENGTH 0.1335 MILES
PROJECT LENGTH 0.1714 MILES

TRAFFIC DATA (BR. NO. 19-I440-4.85LT)	
ADT (2014)	31,220
ADT (2034)	34,340
DHV (2034)	3,434
D	60 - 40
T (ADT)	10 %
T (DHV)	7 %
V	55 MPH

ROADWAY LENGTH 0.0379 MILES
BRIDGE LENGTH 0.1928 MILES
PROJECT LENGTH 0.2307 MILES

TRAFFIC DATA (BR. NO. 19-I440-4.85RT)	
ADT (2014)	29,270
ADT (2034)	32,200
DHV (2034)	3,220
D	60 - 40
T (ADT)	10 %
T (DHV)	7 %
V	55 MPH

ROADWAY LENGTH 0.0379 MILES
BRIDGE LENGTH 0.1962 MILES
PROJECT LENGTH 0.2341 MILES

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT C.E. MANAGER 1 OR
TDOT DESIGN MANAGER 1 BRIAN EGLI

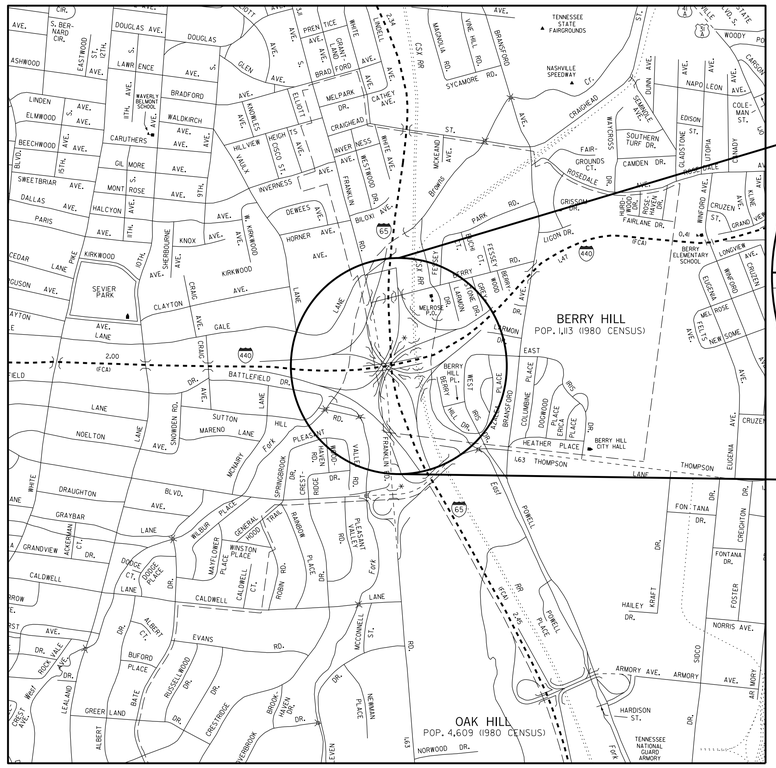
TDOT PROJECT MANAGER TERRY MACKIE

DESIGNED BY JAMES + ASSOCIATES, INC.

DESIGNER DAVID THOMPSON,P.E. CHECKED BY JAMIE GILLESPIE,P.E.

P.E. NO. 19009-4184-04

PIN NO. 119954.00



SCALE: 1" = 5,280'

SEALED BY

UNOFFICIAL SET

NOT FOR BIDDING

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED:
JOHN SCHROER, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

$$$$$$SYTIME$$$$$$$
$$$$$$DGNSPEC$$$$$$$

TENNESSEE D.O.T. DESIGN DIVISION

FILE NO.

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LIST OF DRAWINGS

LIST OF REFERENCE DRAWINGS

	DWG. NO.
EXISTING BRIDGE AND BRIDGE REPAIR PLANS	M-15-55 THRU M-15-57 BR-33-66 THRU BR-33-87

ROADWAY DESIGN STANDARDS

DWG. NO.	REVISION DATE	DESCRIPTION
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-5	05-01-08	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	05-24-12	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD01-S-11	04-04-03	DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD01-S-11A	10-15-02	ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD01-TS-1	10-15-02	DESIGN STANDARDS FOR LOCAL ROADS AND STREETS

CULVERTS AND ENDWALLS

D-FLU-1		FLUME DETAILS

ROADWAY AND PAVEMENT APPURTENANCES

RP-J-9	02-02-12	CONTRACTION AND CONSTRUCTION JOINTS FOR CONCRETE PAVEMENT
RP-J-11	07-29-96	¾" AND 1-3/4" EXPANSION AND EDGE PAVEMENT JOINTS
RP-J-13	03-20-91	¾" AND 1-3/4" ELASTOMERIC COMPRESSION JOINT SEALS
RP-J-17	02-02-12	DOWEL ASSEMBLY DEVICES
RP-J-18	02-02-12	DOWEL ASSEMBLY DEVICES
RP-J-19	02-02-12	DOWEL ASSEMBLY DEVICES
RP-J-23	07-25-12	CONCRETE PAVEMENT REPAIR DETAILS
RP-J-25	05-27-01	CONCRETE PAVEMENT JOINT REPAIR DETAILS

SAFETY APPURTENANCES AND FENCE (3)

S-GR31-1	12-01-14	W-BEAM GUARDRAIL
S-GRC-1		GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL
S-GRT-4	11-06-14	TYPE 13 GUARDRAIL TERMINAL (TRAILING END)
S-GRA-3		GUARDRAIL ANCHOR FOR TYPE 21, 13, AND IN-LINE TERMINALS

TRAFFIC CONTROL APPURTENANCES (3)

T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-1	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-15		ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES
T-PBR-1	06-30-09	INTERCONNECTED PORTABLE BARRIER RAIL
T-S-11	06-06-11	DELINEATOR AND MILEPOST DETAILS
T-S-16	06-05-14	GROUND MOUNTED ROADSIDE SIGN AND DETAILS
T-S-16A	11-01-11	GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-11	03-13-09	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
T-WZ-12	03-13-09	ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
T-WZ-15	04-02-12	INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS
T-WZ-16	03-13-09	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
T-WZ-18	03-13-09	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
T-WZ-21	03-15-11	LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT

EROSION PREVENTION AND SEDIMENT CONTROL

EC-STR-3B	08-01-12	SILT FENCE
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-34	08-01-12	EROSION CONTROL BLANKET FOR SLOPE INSTALLATION

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	1A

(3) 02-04-15 JG CHANGED REVISION DATES AND ADDED STD. SBR-2-115

BRIDGE APPURTENANCES

STD-1-5	03-26-14	REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS - 1995
STD-1-7	08-24-11	BRIDGE END DRAINS W/PAVEMENT AT BRIDGE ENDS - 1993
STD-1-9	05-01-95	BRIDGE END DRAIN 4' X 8'-7" W/PABE - 1993
STD-9-1	10-07-08	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS
SBR-2-115	01-04-96	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991

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STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

INDEX AND STANDARD DRAWINGS

ESTIMATED BRIDGE QUANTITIES (1)

	ITEM NO.	DESCRIPTION	UNIT	STRUCTURE NO. 162	STRUCTURE NO. 163	STRUCTURE NO. 164	STRUCTURE NO. 165	STRUCTURE NOS. 166 & 167	TOTAL QUANTITY
(17)	201-07.01	REMOVAL AND DISPOSAL OF BRUSH AND TREES	LS	0.2	0.2	0.2	0.2	0.2	1
(1)	602-10.05	BRACING REPAIRS	LS	0.2	0.2	0.2	0.2	0.2	1
	602-10.12	BEARING DEVICE (REPAIR)	LS	0	0	0.5	0	0.5	1
(2)	602-10.19	JACKING STEEL SPANS	LS	0	0.33	0.33	0	0.33	1
(5)(3)	602-10.22	STRUCTURAL STEEL WELD REPAIR	EACH	0	0	0	13	13	26
(5)(4)	602-10.32	STRUCTURAL STEEL (REPAIRS)	LB	2,000	1,910	2,690	2,870	8,340	17,810
(6)	602-10.33	STRUCTURAL STEEL TEST FOR CRACKS	LS	0.2	0.2	0.2	0.2	0.2	1
(5)(7)	603-02.20	SPOT PAINTING EXISTING STEEL STRUCTURES	SF	8,700	500	700	700	10,000	20,600
(8)	603-05.20	CONTAINMENT AND DISPOSAL OF WASTE (STRUCTURE NOS. 162-167)	LS	0.2	0.2	0.2	0.2	0.2	1
(9)	604-03.04	PAVEMENT AT BRIDGE ENDS	SY	120	85	0	85	490	780
(10)	604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	SY	420	380	570	570	1,660	3,600
(5)	604-10.05	CONCRETE	SF	5	10	5	5	10	35
(11)	604-10.17	NON-PENETRATING CONCRETE SEAL	SY	35	25	25	25	70	180
(5)(12)	604-10.44	EXPANSION JOINT REPAIRS	LF	84	0	0	30	0	114
(5)	604-10.50	BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	SY	10	10	10	10	20	60
(5)(13)(14)	604-10.54	CONCRETE REPAIRS	SF	30	50	10	20	30	140
(15)	604-10.60	EXPANSION JOINT REPAIRS (MODULAR TYPE)	LF	0	0	0	0	176	176
(18)	604-10.70	EXPANSION JOINT REPAIRS	LF	24	0	32	16	0	72
	604-10.78	RISER BLOCK REPAIR	EACH	0	4	0	0	0	4
	611-06.13	BRIDGE END DRAIN (2'×8'-7")	EACH	1	0	0	2	4	7
(16)	617-04.01	TYPE 1 THIN EPOXY OVERLAY (EPOXY URETHANE)	SY	2,515	1,625	2,495	2,435	10,305	19,375
	709-02.01	RUBBLE STONE RIP-RAP (GROUTED)	CY	0	0	1	0	1	2

FOOTNOTES: (1)(2)(3)

(1) INCLUDES ALL NECESSARY TEMPORARY SUPPORT OF THE STRUCTURE FOR THE DURATION OF THE PROJECT. ALSO INCLUDES FORMWORK OVER TRAFFIC TO STOP DEBRIS FROM FALLING ONTO ROADWAYS AND RAILWAYS BELOW. BRACING PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

(2) SEE JACKING NOTES ON SHEET BR-117-70. INCLUDES THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO JACK AND SUPPORT THE STEEL SPANS AS REQUIRED TO PERFORM REPAIRS.

(3) INCLUDES LABOR, EQUIPMENT AND MATERIALS TO REPAIR WELDS IN ACCORDANCE WITH INFORMATION PROVIDED ON BR-117-100. REPAIRS WILL BE PERFORMED FOR STRUCTURAL CRACKS NOTED IN TDOT BRIDGE INSPECTION REPORTS AND DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33. SEE CRACK LOCATION TABLE ON BR-117-73, BR-117-78, BR-117-83, BR-117-88 AND BR-117-93.

(4) INCLUDES THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO ADD NEW ANGLES TO THE UPPER DIAPHRAGM/WEB/STIFFENER CONNECTIONS AND ANY OTHER STEEL REPAIRS REQUIRED BY ENGINEER. INCLUDES THE COST OF NEW BOLTS. ANY BOLTS REMOVED SHALL BE REPLACED WITH NEW BOLTS. SEE DETAILS ON SHEET BR-117-101.

(5) ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

(6) STRUCTURAL STEEL TESTING PERFORMED INSIDE BOX GIRDERS SHALL BE DYE PENETRANT TESTING AND/OR FLASH MAGNETIC PARTICLE TESTING TO DETERMINE THE EXTENT OF CRACKS IN WELDS AT BEARING STIFFENER TO WEB CONNECTIONS AT CROSS FRAME LOCATIONS AND AT SUPPORT DIAPHRAGM TO WEB CONNECTIONS FOR A TOTAL OF 2,088 LOCATIONS. PRIOR TO TESTING, ALL PARTS OR AREAS OF PARTS TO BE EXAMINED MUST BE FREE OF ALL RUST, SCALE, WELDING FLUX, WELD SPATTER, GREASE, PAINT, OILY FILMS, DIRT, AND SO FORTH, THAT MAY INCREASE WITH TESTING. REMOVAL OF PAINT BY GRINDING SHALL NOT BE ALLOWED IN AREAS WHERE TESTS ARE TO BE PERFORMED. CONTRACTOR SHALL COORDINATE ALL TESTING WITH TDOT BRIDGE INSPECTION OFFICE. INCLUDES ALL PAINT REMOVAL, CLEANING, LABOR, EQUIPMENT AND MATERIALS REQUIRED TO PERFORM TESTS AND TO PROVIDE DOCUMENTATION OF TEST RESULTS TO TDOT BRIDGE INSPECTION OFFICE.

(7) HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS AND INCLUDES PAINTING NEW BOLT HEADS AND NUTS AFTER INSTALLATION. SEE "APPLIED TEXTURE FINISH AND SPOT PAINT SKETCH" ON THIS SHEET.

(8) CONTAINMENT AND DISPOSAL OF WASTE RESULTING FROM WORK PERFORMED IN ITEM NO. 603-02.20 WILL BE PAID FOR AT THE CONTRACT UNIT PRICE (LUMP SUM) COMPLETE IN PLACE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS, FEES AND ANY OTHER COSTS ASSOCIATED WITH OBTAINING PERMITS AND APPROVALS, FURNISHING AND MAINTAINING CONTAINERS, CONTAINING WASTE FROM SURFACE PREPARATION OPERATIONS, PLACING WASTE IN CONTAINERS, TESTING, TRANSPORTING AND DISPOSAL OF ALL WASTE MATERIALS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH T.D.O.T. SPECIFICATIONS.

(9) SQUARE YARD FOR PAVEMENT AT BRIDGE ENDS SHALL BE MEASURED AT ROAD SURFACE AREA AND SHALL INCLUDE REMOVING SCUPPERS, ALL CONCRETE, REINFORCING STEEL, JOINT MATERIAL, MECHANICAL COUPLERS, SURFACE FINISH AS PER SP604, DEMOLITION AND REMOVAL OF EXISTING PAVEMENT AT BRIDGE ENDS AND ANY OTHER INCIDENTALS NECESSARY FOR COMPLETE PHASED CONSTRUCTION. PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.

(10) INCLUDES THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT TO CLEAN CONCRETE AND APPLY TEXTURE FINISH TO PARAPETS AND WINGPOSTS AS INDICATED IN "APPLIED TEXTURE FINISH" SKETCH ON THIS SHEET.

(11) TOP OF ABUTMENT BEAM AND EXPOSED VERTICAL FACE OF ABUTMENT BEAM AND BACKWALL SHALL RECEIVE NON-PENETRATING CONCRETE SEAL.

(12) INCLUDES ALL LABOR AND MATERIALS NECESSARY TO PERFORM PHASED REPLACEMENT OF STRIP SEAL EXPANSION JOINT MEMBRANE. ABUTMENT NOS. 1 AND 2 STRUCTURE NO. 162 AND ABUTMENT NO. 1 STRUCTURE NO. 165. ALL OTHER STRIP SEAL MEMBRANES SHALL BE CLEANED, INSPECTED, AND REPLACED AT DISCRETION OF PROJECT ENGINEER. TOTAL JOINT MOVEMENT REQUIRED = 4". MATERIALS AND WORKMANSHIP SHALL COMPLY WITH SECTION 623.03 OF THE STANDARD SPECIFICATIONS.

(13) INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REPAIR DETERIORATED CONCRETE AREAS WITH QUICK-SET PATCHING MATERIALS.

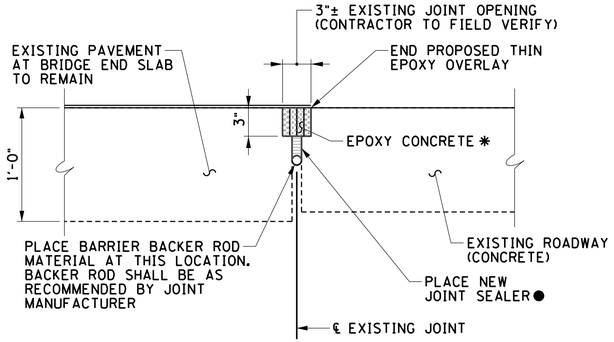
(14) INCLUDES THE COST OF ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO PERFORM PARTIAL DEPTH DECK REPAIRS IN ACCORDANCE WITH NOTES AND DETAILS ON BR-117-98 AND T.D.O.T. SPECIFICATIONS.

(15) INCLUDES ALL LABOR AND MATERIALS NECESSARY TO REPAIR MODULAR EXPANSION JOINTS AT ABUTMENT NO. 1 AND ABUTMENT NO. 2 FOR STRUCTURE NOS. 166 AND 167. WORK SHALL BE IN ACCORDANCE WITH BR-117-98, MODULAR EXPANSION JOINT REPAIR. TOTAL JOINT MOVEMENT REQUIRED = 5". FOR SHOP DRAWINGS OF EXISTING MODULAR EXPANSION JOINT, CONTACT TERRY MACKIE (TDOT BRIDGE REPAIR) AT (615)741-6048.

(16) SEE TYPE 1 THIN EPOXY OVERLAY (EPOXY-URETHANE) NOTES ON BR-117-98. COST SHALL ALSO INCLUDE THE REMOVAL BY DIAMOND GRINDING OF THE EXISTING EPOXY OVERLAY ON STRUCTURE NO. 164. SEE SHEET BR-117-81.

(17) INCLUDES ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO REMOVE VEGETATION FROM BRIDGE COMPONENTS IN ACCORDANCE WITH NOTE (34) ON BR-117-70.

(18) INCLUDES ALL LABOR AND MATERIALS REQUIRED TO REPAIR JOINT BETWEEN EXISTING PAVEMENT AT BRIDGE ENDS AND EXISTING ROADWAY CONCRETE PER "JOINT REPAIR DETAIL AT APPROACH SLABS TO REMAIN" SKETCH ON THIS SHEET.



JOINT REPAIR DETAIL AT APPROACH (3) SLABS TO REMAIN (ITEM NO. 604-10.70)

(SHOWS SECTION THRU SLABS)

* DENOTES: THE BINDER MIX, SAND AGGREGATE BATCH, PLACING METHOD, TEMPERATURE AND HUMIDITY LIMITATION AND CURING TIMES SHALL BE AS RECOMMENDED BY THE EPOXY CONCRETE MANUFACTURER.

● DENOTES: NEW JOINT SEALER SHALL BE A COLD POUR ONE (1) COMPONENT JOINT SEALER AS APPROVED BY THE DIVISION OF MATERIALS AND TESTS.

NOTE: COST INCLUDES LABOR, EQUIPMENT, CLEANING THE EXISTING JOINT, SAW CUTTING, BACKER ROD, GALVANIZED METAL OR PLYWOOD STRIP, COLD POUR JOINT SEALER, EPOXY CONCRETE, AND ANY MISCELLANEOUS MATERIALS OR INCIDENTALS NECESSARY TO CONSTRUCT THE NEW JOINTS.

NOTE: JOINT REPAIR SHALL BE COMPLETE PRIOR TO PLACING THIN EPOXY OVERLAY ON PAVEMENT AT BRIDGE END SLAB.

NOTE: REMOVE EXISTING JOINT MATERIAL BEFORE FILLING WITH NEW EPOXY CONCRETE. THE CONTRACTOR MAY OBTAIN A LIST OF ACCEPTABLE BRANDS OF EPOXY CONCRETE FROM THE TENNESSEE MATERIALS AND TESTS.

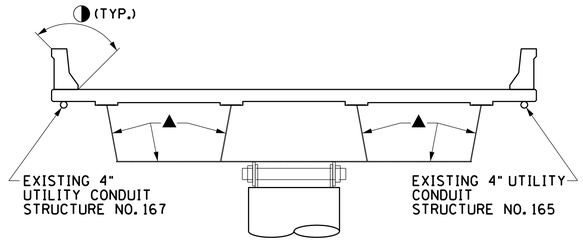
NOTE: THE DEPTH OF THE JOINT POURED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR PROPER INSTALLATION. THE PAVEMENT AND AIR TEMPERATURE SHALL BE 40° F AND RISING AND SHALL NOT FALL BELOW 40° F PRIOR TO COMPLETE CURE OF THE SEALANT.

NOTE: THE SEALANT THICKNESS PLACED SHALL BE CHECKED, PRIOR TO CURING, AT A MINIMUM OF THREE (3) LOCATIONS ACROSS A TWELVE (12) FOOT LENGTH OF JOINT TO ASSURE PROPER THICKNESS.

NOTE: TOP 3" OF JOINT SHALL BE BLAST CLEANED TO REMOVE LAITANCE AND OTHER DELETERIOUS MATERIAL BEFORE INSTALLATION OF BACKER ROD OR SEALANT.

NOTE: ALL DEBRIS AND EXISTING JOINT MATERIAL SHALL BE REMOVED FOR THE FULL DEPTH OF THE EXISTING JOINT OPENING.

NOTE: THE SELF-LEVELING SILICONE JOINT SEALANT MATERIAL SHALL BE ON THE TDOT QUALIFIED PRODUCTS LIST NO. 5, SECTION B.



APPLIED TEXTURE FINISH AND SPOT PAINT SKETCH

(NOT TO SCALE)
STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 AND 167

◑ DENOTES: APPLIED TEXTURE FINISH, ITEM NO. 604-04.02, WHITE NO. 37886

▲ DENOTES: HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS AND SHALL BE INCLUDED IN ITEM NO. 603-02.20.

NOTE: COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.02 AND CONSIST OF TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

NOTE: BEFORE APPLYING ANY TEXTURE FINISH, ALL SURFACES SHALL BE COMPLETELY CLEANED OF ALL DEBRIS AND FOREIGN MATERIALS.

NOTE: THE CONTRACTOR SHALL USE CONTAINMENT SCREENS OR OTHER MEASURES AS NECESSARY TO PREVENT ANY TEXTURE COATING FROM ENTERING THE ENVIRONMENT. CONTAINMENT MEASURES SHALL BE APPROVED BY THE ENGINEER AND COST SHALL BE INCLUDED IN ITEMS BID ON.

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	EDITED ITEM DESCRIPTION AND FOOTNOTE 7
2	07-24-14	DT	EDITED FOOTNOTE 5
3	02-04-15	DT	EDITED FOOTNOTES 7, 15 AND 16 AND REMOVED DENOTE USING PLYWOOD/METAL STRIP IN JOINT REPAIR DETAIL

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED BRIDGE QUANTITIES AND MISC. DETAILS
STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-69

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JA JORDAN ASSOCIATES, P.C.

GENERAL NOTES 3

(1) SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (JANUARY 1, 2015 EDITION)

(2) DESIGN SPECIFICATIONS: AASHTO LRFD SEVENTH EDITION, 2014.

(3) LOADING: HS20-44 WITH ALTERNATE MILITARY

(4) DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

(5) FORMS AND FALSEWORK: ALL CONCRETE FORM WORK AND FALSEWORK SHALL BE REMOVED AFTER REPAIRS ARE COMPLETED. COST OF FORMS, FALSEWORK, AND TEMPORARY SUPPORT REMOVAL SHALL BE INCLUDED IN ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

(6) BRIDGE DECK CONCRETE: CLASS "D" CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

(7) BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH NOTE "C" IN SUBSECTION 604.23 OF THE STANDARD SPECIFICATION.

(8) FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.22 OF THE TENNESSEE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. AVOID APPLYING TEXTURE FINISH TO ALL UTILITY CONDUITS.

(9) QUICK SET PATCHING MATERIAL: QUICK SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTIOUS PATCHING MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13, SECTION B.6, FOR ACCEPTABLE PATCHING MATERIAL.

(10) CRACK SEALING WITH METHACRYLATE: APPLY HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) CRACK SEAL IN TRANSVERSE AND LONGITUDINAL CONSTRUCTION JOINTS. SEALER SHALL BE APPLIED AFTER ALL CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

(11) WELDING: CURRENT AASHTO/AWS D1.5M/D1.5 2002 BRIDGE WELDING CODE AND THE STANDARD SPECIFICATIONS. ALL WELDING TO BE COMPLETED BY AWS CERTIFIED WELDERS. SEE SECTION 602 OF THE STANDARD SPECIFICATIONS.

(12) REINFORCING STEEL: SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS. REINFORCEMENT SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE.

(13) SLAB CONSTRUCTION JOINTS: TRANSVERSE SLAB CONSTRUCTION JOINTS MAY BE LOCATED AT THE CONTRACTOR'S OPTION SUBJECT TO THE FOLLOWING; 1) NO CONSTRUCTION JOINT MAY BE LOCATED CLOSER THAN 10 FEET OR FURTHER THAN 15 FEET FROM AN INTERIOR SUPPORT, 2) THE SLAB IN THE MIDDLE SECTION OF BOTH ADJACENT SPANS MUST BE POURED TO WITHIN AT LEAST 15 FEET OR THE SUPPORT EITHER PRIOR TO OR CONCURRENTLY WITH THE SLAB OVER AN INTERIOR SUPPORT.

(14) MECHANICAL BAR SPLICERS: MUST BE ON THE APPROVED LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE BAR SPLICER SHALL MEET AASHTO STANDARD SPECIFICATIONS FOR MECHANICAL CONNECTION. WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO SPECIAL PROVISION 907A. THE COST OF FURNISHING THE BAR SPLICERS, (AND EPOXY COATING WHEN REQUIRED) INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATIONS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 604-03.04, PAVEMENT AT BRIDGE ENDS, SY.

(15) GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMATER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BAR ROTATED (NOT DRIVEN) INTO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND BAR DRIVEN TO ITS SEAT. ALL GROUTING MATERIALS SHALL BE APPROVED BY TDOT MATERIALS AND TESTS.

(16) ANY DAMAGE TO EXISTING STRUCTURES TO BE LEFT IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

(17) SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO THE STANDARD SPECIFICATIONS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE REPAIR OFFICE OF THE DIVISION OF STRUCTURES.

(18) THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS ABOVE 15 FEET.

(19) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. DESIGN CALCULATIONS AND DETAILS OF TEMPORARY SUPPORT SYSTEM OR FALSEWORK REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE ANY DEMOLITION IS BEGUN. COST OF STABILIZING THE STRUCTURE SHALL BE INCLUDED IN ITEM NO. 602-10.05, BRACING REPAIRS, LS.

(20) CONCRETE: TO BE CLASS "A" f'c = 3000 PSI EXCEPT AS NOTED OTHERWISE.

(21) NO PNEUMATIC CONCRETE ALLOWED.

(22) STRUCTURAL STEEL: SHALL CONFORM TO AASHTO M270 GRADE 36 (ASTM A709 GRADE 36) UNLESS OTHERWISE NOTED.

(23) BOLTS: SHALL BE HIGH TENSILE STRENGTH BOLTS (ASTM-A325), UNLESS OTHERWISE NOTED. SIZE TO BE AS NOTED ON PLANS. SEE AASHTO SPECIFICATIONS; ARTICLE 11.5.6 DIVISION II. EXISTING CONTACT SURFACES SHALL BE CLEANED TO SSPC-10 SPECIFICATIONS PRIOR TO ATTACHMENT OF NEW MEMBERS.

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JA JAMES & ASSOCIATES, INC.

CONCRETE STRENGTH AND CURE TIMES NOTES

(24) HIGH EARLY STRENGTH CONCRETE (PARTIAL DEPTH DECK REPAIRS AND PAVEMENT AT BRIDGE ENDS): THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0.40. NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,000 PSI. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 PSI. MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF EIGHTEEN (18) HOURS.

(25) CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

SURFACE PREPARATION AND PAINTING NOTES

(26) CLEANING AND PAINTING: ALL AREAS OF RUST INSIDE STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS SHALL BE HAND TOOL AND/OR MEDIA BLAST CLEANED AND PAINTED. BLAST CLEANING SHALL BE IN ACCORDANCE WITH SECTION 603.05 (2B). PAINT SHALL BE SYSTEM "B" IN ACCORDANCE WITH SUB SECTION 603.06. SEE SECTIONS 603 AND 910 OF THE STANDARD SPECIFICATIONS.

(27) ALL PRODUCTS USED IN THIS COATING SYSTEM, INCLUDING THINNERS, MUST BE SUPPLIED BY THE SAME MANUFACTURER.

(28) SELECT PAINT SYSTEM FROM QUALIFIED PRODUCTS LIST NO. 3.

(29) ALL NEW STEEL SHALL RECEIVE SHOP COAT OF EPOXY MASTIC ACCORDING TO STANDARD SPECIFICATION 603.06(B).

(30) SPECIAL NOTE SURFACE PREPARATION FOR PAINT: EXISTING RECORDS SHOW THAT THE EXISTING PAINT SYSTEM IS INORGANIC ZINC AND VINYL.

SPECIAL NOTES 1

(31) SPECIAL NOTE FOR UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHOULD BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR.

(32) NO DECK REPAIRS SHALL BE DONE UNTIL ALL STRUCTURAL STEEL REPAIRS AND JACKING OPERATIONS ARE COMPLETE.

(33) CLIFF AND BARN SWALLOW: NO DISTURBANCE OF CLIFF AND BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG OR ADULTS) IS PERMITTED DURING APRIL 15 THROUGH JULY 31. NEST REMOVAL OR DESTRUCTION AND THE IMPLEMENTATION OF MEASURES PREVENTING FUTURE NEST BUILDING (E.G., OBSTRUCTING A STRUCTURE USING NETTING) ARE PERMITTED DURING AUGUST 1 THROUGH APRIL 14. EXCEPTIONS ARE AS FOLLOWS:

1) TDOT MAY REMOVE OR DESTROY NESTS AND PREVENT NEST BUILDING PROVIDED NO EGGS ARE PRESENT PRIOR TO APRIL 15. ABSENCE OF EGGS MUST BE DOCUMENTED USING APPROPRIATE MEANS FOR DETERMINATION, INCLUDING SITE VISITS AND PHOTOGRAPHS.

2) TDOT MAY REMOVE OR DESTROY NESTS PROVIDED NO BIRDS (YOUNG OR ADULTS) ARE PRESENT IN ANY NESTS PRIOR TO JULY 31. ABSENCE OF BIRDS MUST BE DOCUMENTED USING APPROPRIATE MEANS FOR DETERMINATION, INCLUDING SITE VISITS, PHOTOGRAPHS, AND OBSERVATIONS OF NO BIRDS USING NESTS.

(34) SPECIAL NOTE CONCERNING VEGETATION REMOVAL: THE CONTRACTOR SHALL REMOVE ANY VEGETATION DIRECTLY ATTACHED TO THE SUBSTRUCTURE OR SLOPE PAVING. THE CONTRACTOR SHALL ALSO CLEAR ANY VEGETATION NOT ATTACHED BUT AFFECTING THE SUBSTRUCTURE OR SLOPE PAVING OR WHICH WILL AFFECT THE SUBSTRUCTURE OR SLOPE PAVING IN THE FUTURE. ANY COST FOR VEGETATION REMOVAL WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 201-07.01, REMOVAL AND DISPOSAL OF BRUSH AND TREES, L.S. WORK RELATED TO THIS BRIDGE REPAIR PROJECT WILL NOT INVOLVE THE REMOVAL OF TREES THREE INCHES IN DIAMETER OR LARGER.

NOTES CONCERNING JACKING OPERATION

(35) THE CONTRACTOR SHALL FURNISH STRUCTURAL DESIGN PLANS OF PROPOSED JACKING AND TEMPORARY SUPPORTS TO THE ENGINEER IN THE BRIDGE INSPECTION AND REPAIR OFFICE FOR REVIEW. THE DESIGN AND PLANS FOR THE JACKING AND SUPPORT SEQUENCE AND SYSTEM SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TENNESSEE. JACKING OF THE STRUCTURE WILL NOT BE ALLOWED UNTIL JACKING PLAN HAS BEEN APPROVED.

(36) THE CONTRACTOR SHALL JACK THE EXISTING BRIDGES AT THE ABUTMENTS AND TEMPORARILY SUPPORT THE STRUCTURES WHILE REPAIRS ARE MADE AS NOTED BELOW. TEMPORARY SUPPORTS SHALL BE DESIGNED AND CONSTRUCTED TO SUPPORT THE COMBINED DEAD LOAD PLUS LIVE LOAD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE TOP OF SLAB GRADE LINES AND CROSS SLOPE. IF NECESSARY, REJACKING AND USE OF STEEL SHIMS TO MAINTAIN GRADE LINES AND CROSS SLOPE SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL COST.

SCOPE OF JACKING OPERATIONS:
STRUCTURE NO. 163 ABUTMENT NO. 2 - RISER BLOCK REPAIR.
STRUCTURE NO. 164 ABUTMENT NO. 1 - INSERT PLATE AND FIELD WELD AT BEARING.
STRUCTURE NOS. 166 AND 167 ABUTMENT NOS. 1 AND 2 - RESET BEARING DEVICES.

(37) CONTRACTOR IS NOT TO LEAVE BRIDGE SITTING ON JACKS OVER NIGHT.

(38) STRUCTURE IS TO BE CAREFULLY MONITORED DURING JACKING OPERATIONS SO AS NOT TO DAMAGE ANY PORTION OF THE STRUCTURE.

(39) ALL COST OF JACKING AND TEMPORARY SUPPORT IS TO BE INCLUDED IN ITEM NO. 602-10.19, JACKING STEEL SPANS, L.S.

(40) JACKING OF THE STRUCTURE SHALL BE LIMITED TO THE MINIMUM DISTANCE REQUIRED TO RELEASE LOAD FROM EXISTING SUPPORTS ALLOWING FOR COMPLETION OF WORK. ALL STEEL BEAMS SHALL BE RAISED UNIFORMLY BY JACKING. AT NO TIME WILL JACKING OF ANY SINGLE BEAM BE PERMITTED. ANY DAMAGE TO THE STRUCTURE AS A RESULT OF OVERJACKING OR DIFFERENTIAL JACKING SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

(41) JACKING WILL ONLY BE CONDUCTED VERTICALLY. THE SPANS WILL NOT BE SHIFTED LATERALLY.

(42) LOAD WILL NOT BE TRANSFERRED FROM TEMPORARY SUPPORT TO FINAL BEARING UNTIL ALL REPAIRS ARE COMPLETE.

(43) PRIOR TO JACKING, CONTRACTOR SHALL NOTE ORIENTATION OF EXPANSION BEARING DEVICES AND RESET AS EXISTING OR AS DIRECTED BY THE ENGINEER BEFORE TRANSFERRING LOAD BACK TO BEARING DEVICES.

(44) SPECIAL CARE SHALL BE TAKEN DURING JACKING OPERATIONS IN ORDER TO NOT DAMAGE ANY UTILITIES. IF UTILITIES WILL BE DISTURBED, CONTRACTOR SHALL COORDINATE JACKING OPERATIONS WITH OWNER OF UTILITY.

RAILROAD NOTES

(45) THE CONTRACTOR SHALL CONDUCT WORK TO PROTECT THE RAILROAD RIGHT-OF-WAY AND PROPERTY FROM DAMAGE AND TAKE ALL MEASURES NECESSARY TO PREVENT CONSTRUCTION MATERIAL AND DEBRIS FROM FALLING ONTO TRACKS AND PROPERTY, RESTRICTING CLEARANCES, AND/OR INTERRUPTING TRAFFIC. CERTAIN WORK SHALL BE DONE IN ACCORDANCE WITH SPECIFICATIONS AND REGULATIONS STIPULATED BY CSXT OR THEIR ENGINEERING CONSULTANT.

(46) CONTRACTOR(S) SHALL BE REQUIRED TO SUBMIT DETAILED AND COMPREHENSIVE PLANS AND PROCEDURES FOR REVIEW AND ACCEPTANCE BY THE CSXT REGIONAL DIRECTOR OF CONSTRUCTION ENGINEERING OR HIS ENGINEERING DESIGNATE FOR:

(A) PAINTING, PAINT CONTAINMENT, AND SPOT PAINTING OF BRIDGE STEEL MEMBERS AND COMPONENTS.

(B) CONCRETE SUPERSTRUCTURE REPAIRS IN THE RAILROAD SPAN.

(C) OTHER SUPERSTRUCTURE REPAIRS IN THE RAILROAD SPAN WITH THE POTENTIAL TO FOUL TRACK OR OBSTRUCT TRAIN OPERATIONS.

(D) BRIDGE SCUPPER REPAIR OR REPLACEMENT IN RAILROAD OR ADJACENT SPANS.

(E) SUBSTRUCTURE CONCRETE REPAIRS AT PIER NO. 4 AND PIER NO. 5 ON STRUCTURE NO. 166 AND NO. 167.

(F) TEXTURE COAT SEALING OF CONCRETE SUPERSTRUCTURE IN THE RAILROAD SPAN.

(G) SUBMITTALS SHALL BE PREPARED IN ACCORDANCE WITH CSXT CONSTRUCTION SUBMISSION CRITERIA - ISSUED APRIL 3, 2009 OR NEWER, AND CAN BE FOUND ON CSXT'S WEBSITE WWW.CSX.COM.

(47) ANY TEMPORARY CONSTRUCTION CLEARANCES PROPOSED SHALL BE SUBJECT TO THE APPROVAL OF CSXT. TYPICALLY, REDUCTIONS IN CLEARANCE FOR CONSTRUCTION ARE NOT PERMITTED.

(48) CONSTRUCTION MATERIAL OR DEMOLITION DEBRIS SHALL NOT BE PLACED, STAGED, OR STORED ON CSXT PROPERTY. CSXT RIGHT-OF-WAY AND SAFE WALKWAYS WILL BE MAINTAINED THROUGHOUT THE PROJECT TO THE SATISFACTION OF THE CSXT FLAGGER AND ENGINEERING DESIGNATE.

(49) ANY DAMAGE TO CSXT RIGHT-OF-WAY DRAINAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE CSXT ENGINEERING DESIGNATE.

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	2A

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	EDITED NOTE 34
3	02-04-15	DT	EDITED NOTES (1), (2) AND (30)

UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE GENERAL AND SPECIAL NOTES

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-70

TENNESSEE D.O.T. DESIGN DIVISION

FILE NO.

ESTIMATED ROADWAY QUANTITIES (1) (3)

	ITEM NO.	DESCRIPTION	UNIT	STRUCTURE NO. 162	STRUCTURE NO. 163	STRUCTURE NO. 164	STRUCTURE NO. 165	STRUCTURE NOS. 166 & 167	TOTAL QUANTITY
(1)	105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	0.2	0.2	0.2	0.2	0.2	1
	202-03	REMOVAL OF RIGID PAVEMENT, SIDEWALK, ETC.	S.Y.	-	-	-	36	110	146
(18)	203-01	ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	55	-	-	-	-	55
(2)	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	180	60	150	120	540	1,050
(3)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	3	3	3	6	-	15
	411-03.10	ACS MIX (PG76-22) GRADING D	TON	0.5	0.5	0.5	1	-	2.5
	501-01	PORTLAND CEMENT CONCRETE PAVEMENT (REPLACEMENT)	S.Y.	-	-	-	36	110	146
	502-04.01	SAWING CONCRETE PAVEMENT (FULL DEPTH)	L.F.	-	-	-	60	130	190
	502-04.02	LOAD TRANSFER DOWELS	EACH	-	-	-	16	48	64
(17)(5)(4)	610-07.03	18" PIPE DRAIN (BRIDGE DRAIN)	L.F.	36	-	-	20	40	96
	703-02	CEMENT CONCRETE DITCH PAVING (REINFORCED)	C.Y.	6	-	-	-	-	6
(6)	705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	27	-	-	-	-	27
(7)	705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350, TL-3	EACH	1	1	1	1	2	6
	706-01	GUARDRAIL REMOVED	L.F.	27	-	-	-	-	27
(5)	709-01.01	RUBBLE STONE RIP-RAP	C.Y.	3	-	-	-	-	3
(8)	712-01	TRAFFIC CONTROL	LS	0.2	0.2	0.2	0.2	0.2	1
(15)	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	350	260	260	260	860	1,990
(16)	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	55	45	48	125	192	465
	712-05.03	WARNING LIGHTS (TYPE C)	EACH	37	28	28	28	116	237
(9)	712-06	SIGNS (CONSTRUCTION)	S.F.	176	176	176	176	883	1,889
	712-08.03	ARROW BOARDS (TYPE C)	EACH	-	-	-	3	2	5
(10)	712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	8,220	7,620	8,570	11,770	22,105	58,285
	713-02.14	FLEXIBLE DELINEATOR (WHITE)	EACH	64	62	74	74	181	455
(11)	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	1	1	1	1	2	6
	716-01.05	TEMPORARY RAISED PAVEMENT MARKER	EACH	-	-	-	-	185	185
	716-01.22	SNWPLWBLE PVMT MRKRS (MONO-DIR) (1 COLOR)	EACH	7	7	10	10	28	62
	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	0.25	0.20	0.3	0.3	0.95	2
	717-01	MOBILIZATION	LS	0.2	0.2	0.2	0.2	0.2	1
(12)	801-01	SEEDING (WITH MULCH)	UNIT	2	-	-	-	-	2
	801-02	SEEDING (WITHOUT MULCH)	UNIT	2	-	-	2	4	8
(13)	801-03	WATER (SEEDING AND SODDING)	M.G.	0.8	-	-	0.4	0.8	2
(14)	805-12.01	EROSION CONTROL BLANKET (TYPE I)	S.Y.	225	-	-	200	400	825

FOOTNOTES

(1) ALL DIMENSIONAL DETAILS SHOWN ON PLANS, INCLUDING ELEVATIONS, SHALL BE CHECKED BY THE CONTRACTOR TO ASSURE ACCURACY OF THE LAYOUT PRIOR TO CONSTRUCTION. ALL BRIDGE SUBSTRUCTURES SHALL BE CHECKED AS TO LOCATION, DIMENSIONAL LAYOUTS AND ELEVATIONS, BY MEANS OF TWO INDEPENDENT LAYOUT METHODS. ANY ERRORS AND APPARENT DISCREPANCIES FOUND IN PREVIOUS SURVEYS, OR IN EITHER THE SPECIFICATIONS OR SPECIAL PROVISIONS, SHALL BE CALLED TO THE ENGINEER'S ATTENTION BY THE CONTRACTOR IMMEDIATELY AND PRIOR TO PROCEEDING WITH WORK.

(2) SEDIMENT REMOVAL SHALL BE INCLUDED IN THE COST OF THIS ITEM. SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.

(3) ITEM INCLUDES STEEL PLATE AND FINES LEVELING COURSE TO BE USED IN BRIDGE DRAIN STABILIZATION.

(4) COST OF CLASS "B" BEDDING MATERIAL TO BE INCLUDED IN UNIT PRICE.

(5) STANDARD DRAWING STD-1-7 IS TO BE USED FOR BURIAL OF THE OUTLET PIPE AND FOR END TREATMENT DETAILS FOR STRUCTURE NO. 162.

(6) ITEM SHALL INCLUDE ROUNDED END ELEMENT SHOWN ON STANDARD DRAWING S-GRT-4.

(7) THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3. EXAMPLES WOULD BE A QUAD-GUARD, A REACT 350 OR A TRACC. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.

(8) INCLUDES COST FOR REMOVAL OF EXISTING OR CONFLICTING MARKINGS.

(9) INCLUDES THE INSTALLATION AND MAINTENANCE OF A NEW SIGN PANEL, SHEETING AND SUPPORTS.

(10) 8" TEMPORARY SOLID LINES PER TRAFFIC CONTROL STANDARDS.

(11) COORDINATE WITH T.D.O.T. CONSTRUCTION DIVISION FOR LOCATION AND MESSAGE FOR CHANGEABLE MESSAGE SIGN.

(12) SEEDING (WITH MULCH) SHALL BE PLACED ON ALL FILL AREAS AND ALL AREAS OF DISTURBED GROUND.

(13) INCLUDES 1 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.

(14) ITEM SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION AND MAINTENANCE OF EROSION CONTROL BLANKETS.

(15) PORTABLE BARRIER RAIL TO BE USED ONLY IN APPROACH TAPER

(16) FLEXIBLE DRUMS TO BE USED IN BRIDGE AREA

(17) COST TO INCLUDE REDUCER FOR PROPOSED 18" PIPE DRAIN (BRIDGE DRAIN) TO EXISTING 12" PIPE OUTLET FROM SCUPPERS.

(18) COST TO INCLUDE GRADING AREA OF EROSION FOR STRUCTURE NO. 162.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2B

(1) 06-27-14 JRG EDITED ITEM NO. DESCRIPTIONS

(3) 02-04-15 JRG REVISED QUANTITIES FOR ITEM NOS. 712-02.02 AND 712-04.01, DELETED ITEM NO. 712-04.50

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

ESTIMATED ROADWAY QUANTITIES

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2C

(3) 02-04-15 JG UPDATED NOTES

ROADWAY GENERAL NOTES

GRADING

(1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

(2) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOODWAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY WITHOUT APPROVAL BY SAME. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

(3) ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.

GUARDRAIL

(4) THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETELY IN PLACE.

(5) IF ANY APPROACH END OF A SECTION OF GUARDRAIL OR BRIDGE RAIL MUST TEMPORARILY BE LEFT INCOMPLETE AND EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL USE TWO (2) TEMPORARY BARRICADES OR DRUMS WITH TYPE "A" LIGHTS AND ROUNDED END ELEMENTS AS MINIMUM MEASURES TO PROTECT TRAFFIC FROM THE HAZARD OF AN EXPOSED END. ALL COST OF FURNISHING AND INSTALLING A TEMPORARY ROUNDED END ELEMENT SHALL BE INCLUDED IN THE COST OF THE PROPOSED GUARDRAIL.

UTILITIES

(6) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-61-106 WILL BE REQUIRED.

(7) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.

(8) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

(9) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.

(10) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK,, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

MISCELLANEOUS

(11) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

PAVEMENT MARKINGS

(12) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 6" ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.02, ENHANCED FLATLINE THERMO PVMT MRKNG (6 IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKING AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

(13) BEFORE OPENING THE LANE SHIFT TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS AND RAISED PAVEMENT MARKERS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01, TRAFFIC CONTROL, LUMP SUM.

PAVING

(14) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

RESURFACING

(15) IN ALL CASES, THE LENGTH OF THE PAVEMENT TRANSITION, THE THICKNESS AND WIDTH OF THE RESURFACING AND ANY ADDITIONAL PAVEMENT MATERIALS SHALL BE AS DIRECTED BY THE TDOT ENGINEER.

CONSTRUCTION WORK ZONE AND TRAFFIC CONTROL NOTES

(16) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.

(17) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OR REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.

(18) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

(19) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

(20) USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

(21) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF A OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCTIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

(22) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

EROSION PREVENTION AND SEDIMENT CONTROL (3)

DISTURBED AREA

(23) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 15 CALENDAR DAYS (10 CALENDAR DAYS FOR SITES WITH AN ACTIVE ARAP) PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS INSTALLED.

(24) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

(25) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.

UNOFFICIAL SET
NOT FOR BIDDING

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY
GENERAL NOTES

TENNESSEE D.O.T. DESIGN DIVISION

FILE NO.

ROADWAY GENERAL AND SPECIAL NOTES (CONT'D) (3)

SEDIMENT CONTROL

(26) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

(27) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFF-SITE MIGRATION OR DEPOSIT OF SEDIMENT ON ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.

(28) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.

INSPECTION, MAINTENANCE, REPAIR

(29) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES/STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S OWN EXPENSE.

(30) THE CONTRACTOR SHALL INSTALL A RAIN GAUGE EVERY LINEAR MILE AT ALL SITES WHERE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING IS BEING ACTIVELY PERFORMED, OR EXPOSED SOIL HAS NOT YET BEEN PERMANENTLY STABILIZED. IF THE PROJECT LENGTH IS LESS THAN ONE LINEAR MILE, ONE RAIN GAUGE SHALL BE INSTALLED AT THE CENTER OF THE PROJECT OR AS INDICATED BY THE TDOT EPSC INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT EACH GAUGE IS MAINTAINED IN GOOD WORKING CONDITION. TDOT AND/OR THE CONTRACTOR SHALL RECORD DAILY PRECIPITATION AND FORECASTED PERCENTAGE OF PRECIPITATION IN DETAILED RECORDS OF RAINFALL EVENTS INCLUDING DATES, AMOUNTS OF RAINFALL PER GAUGE, THE ESTIMATED DURATION (OR STARTING AND ENDING TIMES), AND FORECASTED PERCENTAGE OF PRECIPITATION FOR THE PROJECT. THIS INFORMATION SHALL BE PROVIDED TO THE ENGINEER ON A MONTHLY BASIS. THE COST FOR THE RAIN GAUGES IS TO BE INCLUDED IN THE UNIT BID PRICES FOR OTHER ITEMS. RAIN GAUGES SHALL BE AS SPECIFIED IN THE APPROVED TDOT RAINFALL MONITORING PLAN.

(31) INSPECTION OF EPSC MEASURES SHALL BE DONE AT LEAST TWICE PER CALENDAR WEEK AT LEAST 72 HOURS APART. A CALENDAR WEEK IS DEFINED AS SUNDAY THROUGH SATURDAY. QUALITY ASSURANCE/QUALITY CONTROL SITE ASSESSMENT OF EPSC SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION'S COMPREHENSIVE INSPECTION OFFICE GUIDELINES.

(32) OUTFALL POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO SURROUNDING WATERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE ROADWAY SEDIMENT TRACKING.

(33) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE TIME FRAME, WRITTEN DOCUMENTATION MUST BE PROVIDED IN THE FIELD BOOK AND AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.

MATERIALS AND STAGING

(34) WASTE AND BORROW AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN. BORROW AND WASTE DISPOSAL AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY AN ARAP, 404, OR NPDES PERMIT, OBTAINED SOLELY BY THE CONTRACTOR.

PERMITS, PLANS, RECORDS

(35) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM STATE AND/OR LOCAL AGENCIES REGARDING THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS.

(36) ANY DISAGREEMENT BETWEEN THE PROJECT PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT ENGINEER. THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.

(37) THE FOLLOWING INFORMATION SHALL BE MAINTAINED ON OR NEAR THE SITE: DATES THAT MAJOR GRADING ACTIVITIES OCCUR, DATES WHERE CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, DATES WHEN STABILIZATION MEASURES ARE INITIATED, EPSC INSPECTION RECORDS AND PRECIPITATION RECORDS.

(38) ALL WATER QUALITY AND STORM WATER PERMITS, INCLUDING THE LOCATION OF THE SWPPP, SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE.

(39) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE ENVIRONMENTAL DIVISION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.

(40) PROJECT INSPECTORS AND SUPERVISORS (INCLUDING TDOT STAFF, CONSULTANTS AND CONTRACTOR STAFF) RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF EPSC PLANS SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE OR EQUIVALENT COURSE. A COPY OF CERTIFICATION RECORDS FOR THIS COURSE SHALL BE KEPT ON SITE AND AVAILABLE UPON REQUEST.

LITTER, DEBRIS, WASTE, PETROLEUM

(41) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS. AFTER USE, MATERIALS USED FOR EPSC WILL BE REMOVED FROM THE SITE.

(42) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

SPECIAL NOTES

(43) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF LANES, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION; THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) METRO NASHVILLE POLICE DEPARTMENT, (2) METRO NASHVILLE FIRE DEPARTMENT, (3) LOCAL AMBULANCE SERVICE, (4) DAVIDSON COUNTY SCHOOL SUPERINTENDENT, (5) LOCAL POSTAL SERVICE, (6) TDOT REGION 3 TRAFFIC ENGINEERING OFFICE, (7) METRO PUBLIC WORKS, (8) METRO TRANSIT AUTHORITY, AND (9) CITY OF BERRY HILL PUBLIC WORKS.

(44) ALL CONCRETE ROADWAY RECONSTRUCTION, INCLUDING PAVEMENT AT BRIDGE END SLABS, SHALL BE POURED BACK TO ORIGINAL CROSS SLOPE AND FINISH GRADE LINE ELEVATIONS.

VEGETATION REMOVAL

(45) IF NOTICED THAT DURING VEGETATION REMOVAL, ANY TREES GREATER THAN 5 INCHES IN DIAMETER ARE REQUIRED TO BE REMOVED, CONTACT THE TDOT ENVIRONMENTAL DIVISION ECOLOGY SECTION IMMEDIATELY. DUE TO THE RECENT MODIFICATION OF THE USFWS STANCE REGARDING THE INDIANA BAT NO TREES > 5" DBH SHOULD BE CUT WITHOUT CLEARANCE FROM THE TDOT ENVIRONMENTAL DIVISION ECOLOGY SECTION.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

(46) THE PAVEMENT MARKING ON THE LANE SHIFT FOR CENTERLINE, EDGELINES AND LANE LINES WILL BE INSTALLED AND MAINTAINED TO THE SAME STANDARD AS FOR PERMANENT MARKINGS ON THE MAIN ROADWAY. THESE MARKINGS SHALL BE IN PLACE PRIOR TO ALLOWING TRAFFIC ONTO THE PAVEMENT. THESE PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 712-09.01, REMOVABLE PAVEMENT MARKING LINE, L.F.

RAILROAD NOTES

(47) THE CONTRACTOR SHALL CONDUCT WORK TO PROTECT THE RAILROAD RIGHT-OF-WAY AND PROPERTY FROM DAMAGE AND TAKE ALL MEASURES NECESSARY TO PREVENT CONSTRUCTION MATERIAL AND DEBRIS FROM FALLING ONTO TRACKS AND PROPERTY, RESTRICTING CLEARANCES, AND/OR INTERRUPTING TRAFFIC. CERTAIN WORK SHALL BE DONE IN ACCORDANCE WITH SPECIFICATIONS AND REGULATIONS STIPULATED BY CSXT OR THEIR ENGINEERING CONSULTANT.

(48) CONTRACTOR(S) SHALL BE REQUIRED TO SUBMIT DETAILED AND COMPREHENSIVE PLANS AND PROCEDURES FOR REVIEW AND ACCEPTANCE BY THE CSXT REGIONAL DIRECTOR OF CONSTRUCTION ENGINEERING OR HIS ENGINEERING DESIGNATE FOR:

- (A) PAINTING, PAINT CONTAINMENT, AND SPOT PAINTING OF BRIDGE STEEL MEMBERS AND COMPONENTS.
- (B) CONCRETE SUPERSTRUCTURE REPAIRS IN THE RAILROAD SPAN.
- (C) OTHER SUPERSTRUCTURE REPAIRS IN THE RAILROAD SPAN WITH THE POTENTIAL TO FOUL TRACK OR OBSTRUCT TRAIN OPERATIONS.
- (D) BRIDGE SCUPPER REPAIR OR REPLACEMENT IN RAILROAD OR ADJACENT SPANS.
- (E) SUBSTRUCTURE CONCRETE REPAIRS AT PIER NO. 4 AND PIER NO. 5 ON STRUCTURE NO. 166 AND NO. 167.
- (F) TEXTURE COAT SEALING OF CONCRETE SUPERSTRUCTURE IN THE RAILROAD SPAN.
- (G) SUBMITTALS SHALL BE PREPARED IN ACCORDANCE WITH CSXT CONSTRUCTION SUBMISSION CRITERIA - ISSUED APRIL 3, 2009 OR NEWER, AND CAN BE FOUND ON CSXT'S WEBSITE WWW.CSX.COM.

(49) ANY TEMPORARY CONSTRUCTION CLEARANCES PROPOSED SHALL BE SUBJECT TO THE APPROVAL OF CSXT. TYPICALLY, REDUCTIONS IN CLEARANCE FOR CONSTRUCTION ARE NOT PERMITTED.

(50) CONSTRUCTION MATERIAL OR DEMOLITION DEBRIS SHALL NOT BE PLACED, STAGED, OR STORED ON CSXT PROPERTY. CSXT RIGHT-OF-WAY AND SAFE WALKWAYS WILL BE MAINTAINED THROUGHOUT THE PROJECT TO THE SATISFACTION OF THE CSXT FLAGGER AND ENGINEERING DESIGNATE.

(51) ANY DAMAGE TO CSXT RIGHT-OF-WAY DRAINAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE CSXT ENGINEERING DESIGNATE.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2D

(3) 02-04-15 JG UPDATED NOTES AND ADDED RAILROAD NOTES

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

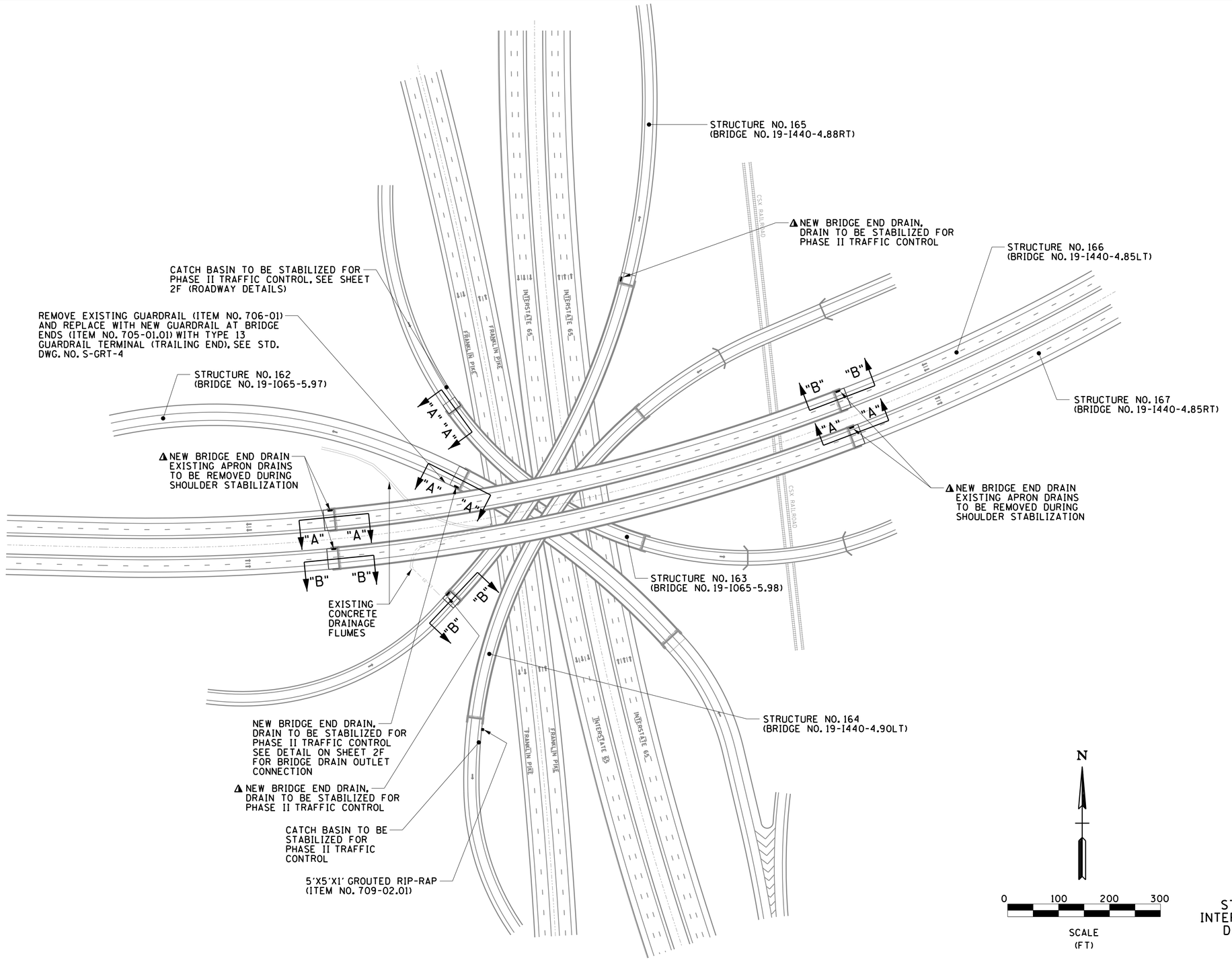
STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

ROADWAY GENERAL AND SPECIAL NOTES

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2E



▲ DENOTES: 18-INCH PIPE DRAIN TO CONNECT TO EXISTING 12-INCH PIPE (COST TO BE INCLUDED IN ITEM NO. 610-07.03). REMOVAL OF EXISTING CONCRETE SCUPPER TO BE PAID FOR UNDER ITEM NO. 604-03.04. PAVEMENT AT BRIDGE ENDS. CONTRACTOR SHALL FIELD VERIFY CONDITIONS IN FIELD BEFORE ORDERING PIPE

NOTE: SEE SHEET 2F FOR SECTION "A-A" AND SECTION "B-B" DETAILS FOR PAVEMENT AT BRIDGE ENDS REPLACEMENT.

NOTE: SEE SHEET 2F FOR BRIDGE DRAIN STABILIZATION DETAIL.

NOTE: CATCH BASIN STABILIZATION SHALL BE PERFORMED BY REPLACING DRAIN GRATE WITH SOLID STEEL PLATE OF MATCHING SIZE AND THICKNESS. TEMPORARY PLATE SHALL BE FLUSH WITH ROADWAY GRADE, AND FLAT WITHOUT CURVES OR BUMPS, AND SECURED TO EXISTING CATCH BASIN FRAME.

N

0 100 200 300

SCALE (FT)

UNOFFICIAL SET

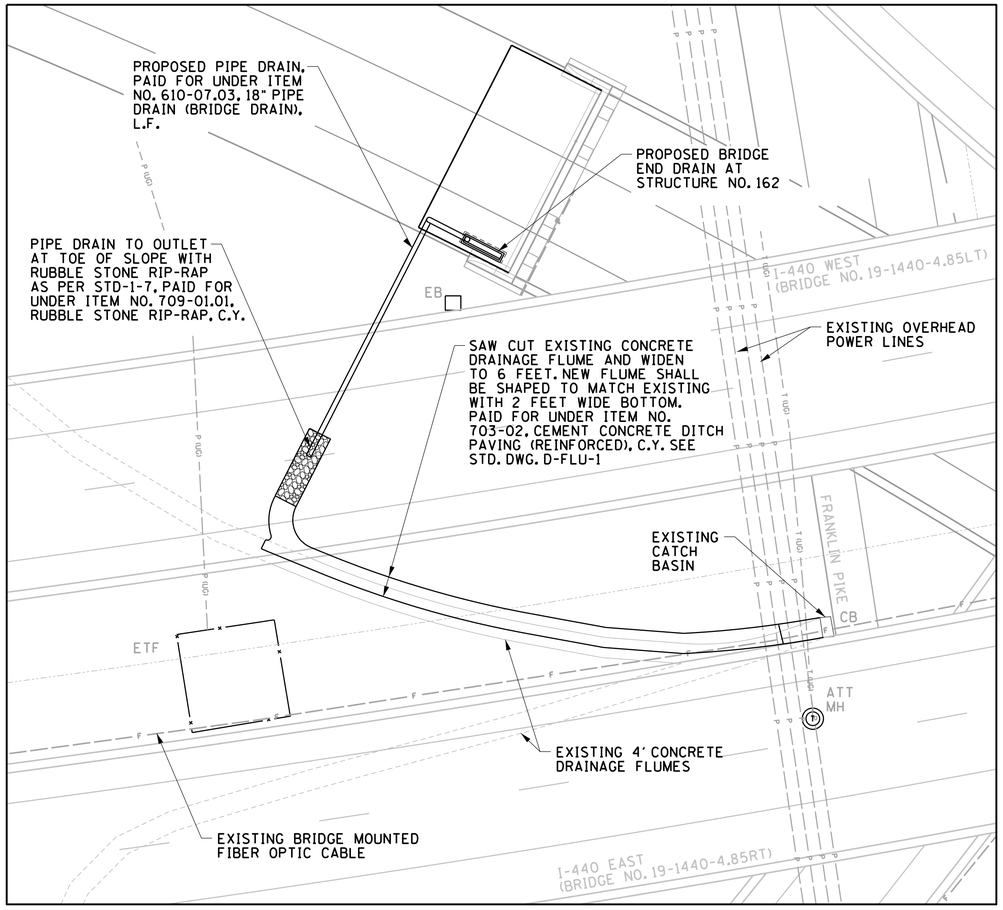
NOT FOR BIDDING

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY DETAILS LAYOUT

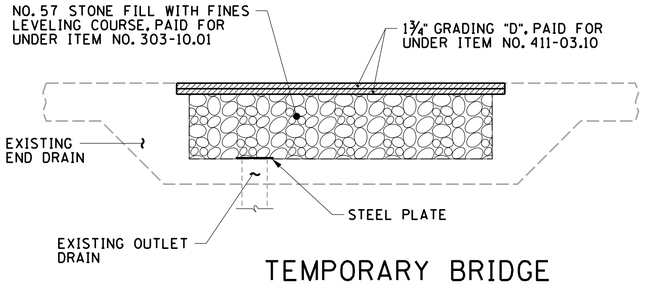
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.



STRUCTURE NO. 162 BRIDGE DRAIN CONNECTION DETAIL

N.T.S.

NOTE: COST OF SAWCUTTING EXISTING CONCRETE FLUME SHALL BE PAID FOR UNDER ITEM NO. 703-02, CEMENT CONCRETE DITCH PAVING (REINFORCED), C.Y.



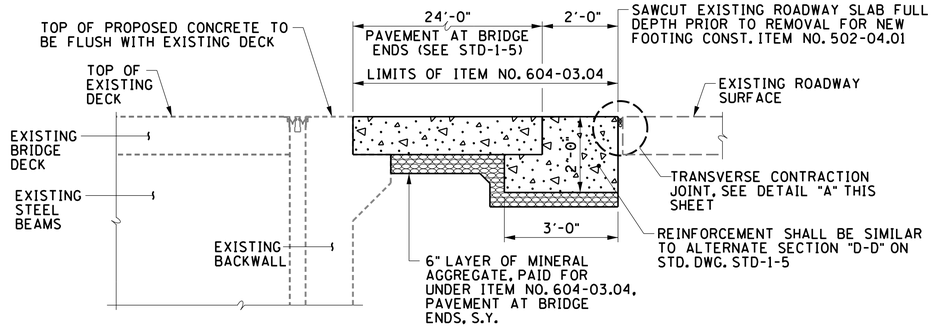
TEMPORARY BRIDGE DRAIN STABILIZATION

N.T.S.

NOTE: BRIDGE DRAIN STABILIZATION SHALL BE PERFORMED PRIOR TO TRAFFIC BEING ALLOWED TO DRIVE ON BRIDGE DRAINS.

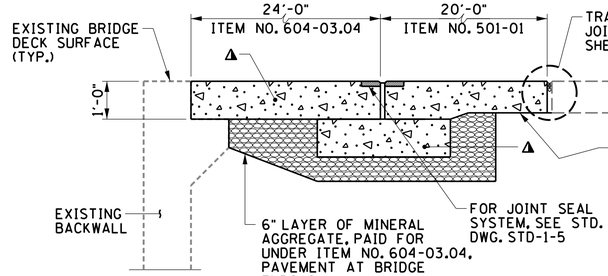
NOTE: FINES LEVELING COURSE AND STEEL PLATE SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE INCLUDED IN THE COST OF STONE AND BE PAID FOR UNDER ITEM NO. 303-10.01 MINERAL AGGREGATE (SIZE 57), TON.

NOTE: GRATE INLET SHALL BE REMOVED PRIOR TO STABILIZATION. AFTER TRAFFIC IS REMOVED FROM DRAIN AREA, ALL MATERIALS NOT PART OF THE EXISTING DRAINAGE STRUCTURE SHALL BE REMOVED AND THE GRATE INLET REPLACED. COST OF REMOVAL AND DISPOSAL OF MATERIAL SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE INCLUDED IN UNIT PRICE BID.



SECTION "A-A"
P.A.B.E REPLACEMENT DETAIL

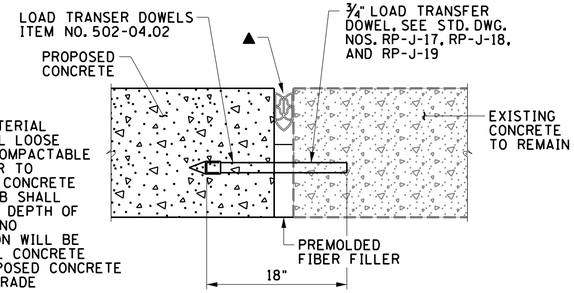
N.T.S



SECTION "B-B"
P.A.B.E REPLACEMENT DETAIL

N.T.S

▲ DENOTES: CONCRETE SHALL BE HIGH EARLY STRENGTH CONCRETE, F'C = 3,000 P.S.I. @ 18 HOUR STRENGTH. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPEICMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 P.S.I. MINIMUM. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN THE REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. FOR DETAILS AND SPECIFICATIONS REGARDING INSTALLATION OF REINFORCED CONCRETE SLAB AT BRIDGE ENDS, SEE STANDARD DRAWING NO. STD-1-5. (TYP.) ITEM NO. 604-03.04

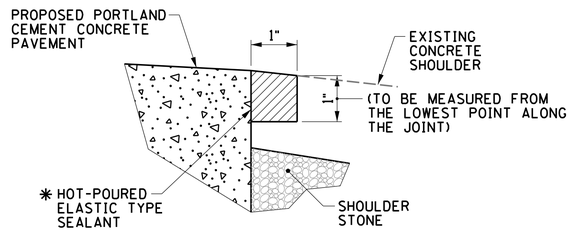


DETAIL "A"

N.T.S.

▲ DENOTES: FOR DETAILS AND SPECIFICATIONS REGARDING INSTALLATION OF TYPE I PREFORMED ELASTOMERIC JOINT SEALS, SEE STD. DWG. NO. RP-J-13

NOTE: GROUTED BARS IN DRILLED HOLES; HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BARS ROTATED (NOT DRIVEN) INTO ITS SEAT. ALL GROUTING MATERIALS SHALL BE APPROVED BY TDOT MATERIALS AND TESTS. ITEM NO. 502-04.02.



SHOULDER JOINT DETAIL

N.T.S.

✱ DENOTES: SEALANT SHALL BE USED AS SHOWN ON THIS DETAIL BETWEEN PROPOSED PORTLAND CEMENT CONCRETE PAVEMENT AND SHOULDERS. COST TO BE INCLUDED IN ITEMS BID ON. SEE STD. DWGS. RP-J-9, RP-J-11, AND RP-J-13

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2F

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY DETAILS

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

NOTE: SILT FENCE SHALL BE INSTALLED ON EXISTING GROUND CONTOURS WITH A 1'MINIMUM UPHILL TURN ON EACH END.

NOTE: SEEDING (WITH MULCH) SHALL BE PLACED WITH A 4' MINIMUM WIDTH AFTER REMOVAL OF THE SILT FENCE.

NOTE: ALL WORK AND EQUIPMENT TO REMAIN INSIDE EXISTING RIGHT OF WAY.

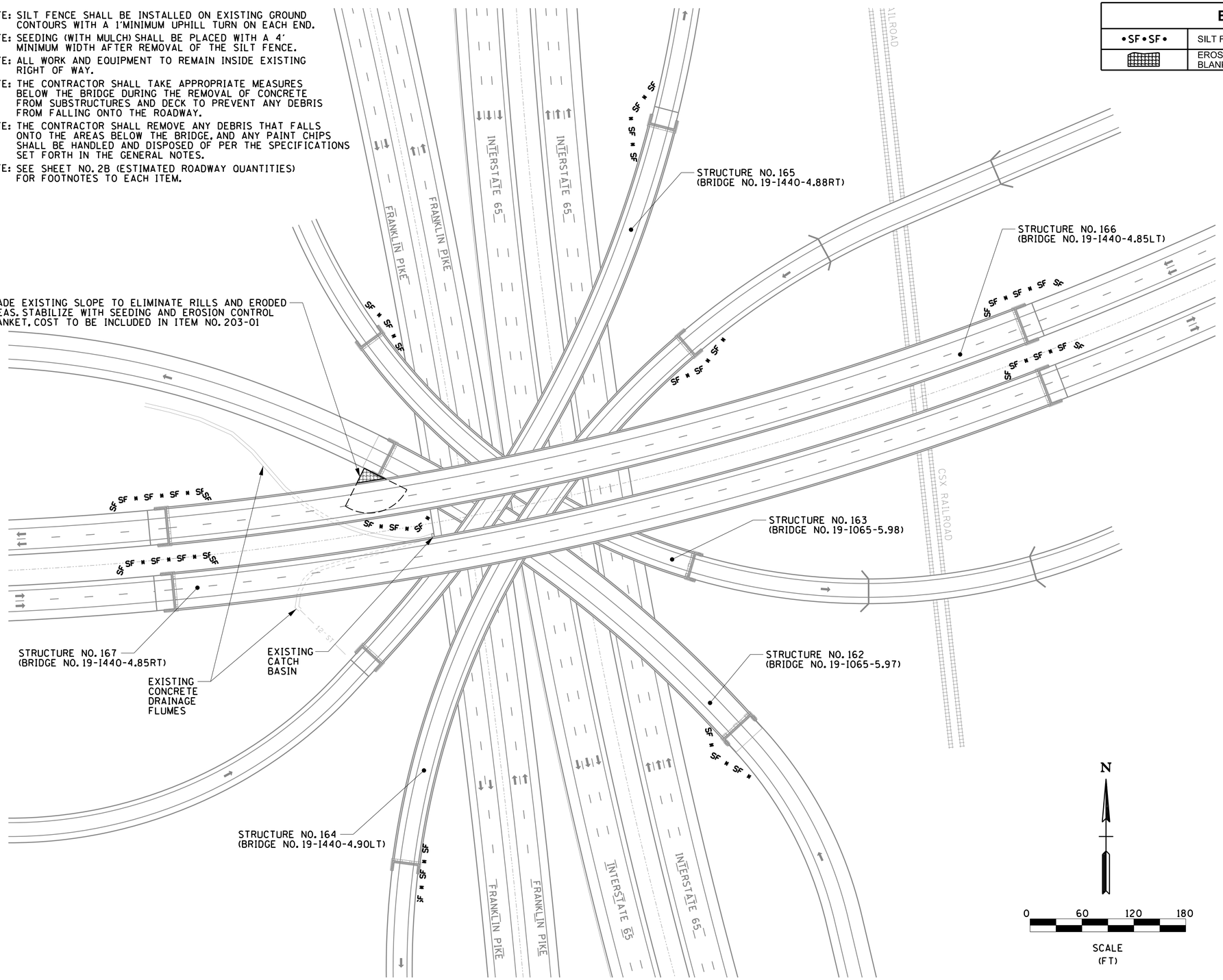
NOTE: THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES BELOW THE BRIDGE DURING THE REMOVAL OF CONCRETE FROM SUBSTRUCTURES AND DECK TO PREVENT ANY DEBRIS FROM FALLING ONTO THE ROADWAY.

NOTE: THE CONTRACTOR SHALL REMOVE ANY DEBRIS THAT FALLS ONTO THE AREAS BELOW THE BRIDGE, AND ANY PAINT CHIPS SHALL BE HANDLED AND DISPOSED OF PER THE SPECIFICATIONS SET FORTH IN THE GENERAL NOTES.

NOTE: SEE SHEET NO. 2B (ESTIMATED ROADWAY QUANTITIES) FOR FOOTNOTES TO EACH ITEM.

EPSC LEGEND		
•SF•SF•	SILT FENCE (SF)	EC-STR-3B
	EROSION CONTROL BLANKET (TYPE I)	EC-STR-34

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2G



EROSION CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	1,050
801-01	SEEDING (WITH MULCH)	UNIT	2
801-02	SEEDING (WITHOUT MULCH)	UNIT	8
801-03	WATER (SEEDING AND SODDING)	M.G.	2
805-12.01	EROSION CONTROL BLANKET (TYPE I)	S.Y.	825

EROSION PREVENTION AND SEDIMENT CONTROL SPECIAL NOTES

LITTER, DEBRIS, WASTE, PETROLEUM

(1) THE CONTRACTOR SHALL MAINTAIN A COMPLETE AND COMPREHENSIVE EROSION PREVENTION AND SEDIMENT CONTROL PLAN TO PREVENT ROADWAY AND/OR CONSTRUCTION SEDIMENT OR DEBRIS AND ANY PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, PAINTS OR COATINGS ETC. FROM FALLING ONTO THE RAILROAD'S RIGHTS-OF-WAY AND/OR FROM ENTERING THE DRAINAGE DITCHES OR DRAINAGE STRUCTURES OF THE RAILROAD, AND ANY SEDIMENT OR DEBRIS OR PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, ETC. THAT DO ENTER SUCH DRAINAGE AREAS OF THE RAILROAD'S RIGHTS-OF-WAY ARE TO BE REMOVED IN ACCORDANCE WITH RULES SET FORTH BY CSX RAILROAD AND AT THE CONTRACTOR'S EXPENSE.

N

0 60 120 180

SCALE (FT)

UNOFFICIAL SET

NOT FOR BIDDING

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL PLAN AND SPECIAL NOTES

TENNESSEE D.O.T. DESIGN DIVISION

FILE NO.

TRAFFIC CONTROL SPECIAL NOTES

(1) THESE TRAFFIC CONTROL PLANS DO NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."

(2) EACH PHASE OF THE SUGGESTED SEQUENCE OF CONSTRUCTION FOR WHICH THESE TRAFFIC CONTROL PLANS WERE DESIGNED, REQUIRES THE TIMELY COMPLETION OF THE PRECEEDING PHASE. ANY VARIATIONS IN THE PROPOSED PHASING SHALL REQUIRE A REVIEW AND APPROVAL OF THE SIGNING AND TRAFFIC CONTROL DEVICES BY THE ENGINEER.

(3) THE CONTRACTOR IS REQUIRED TO PROVIDE LANE SHIFTS WHERE NECESSARY TO ROUTE TRAFFIC AROUND CONSTRUCTION.

(4) NO TRAFFIC SHALL BE DETOURED OR ROADWAY CLOSED, ABANDONED OR REMOVED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

(5) CONSTRUCTION SIGNING SHOWN IN THESE PLANS IS TO SERVE AS A GUIDE ONLY. OTHER SIGNS MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.

(6) PERMANENT SIGNS AND PERMANENT PAVEMENT MARKINGS SHALL BE IN PLACE BEFORE COMPLETED ROADWAYS ARE OPEN TO TRAFFIC.

(7) THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL DEVICES IN PROPER CONDITION THROUGHOUT THE DURATION OF THE PROJECT.

(8) EXISTING SIGNS THAT CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNING SHALL BE COVERED OR REMOVED AND STOCKPILED AS DIRECTED BY THE ENGINEER.

(9) THE CONTRACTOR WILL BE REQUIRED TO HAVE A RESPONSIBLE PERSON ON CALL (WITHIN ONE HOUR), AT ALL TIMES, FOR TRAFFIC CONTROL DURING THE CONSTRUCTION OF THIS PROJECT.

(10) FOR TRAFFIC CONTROL DETAILS, REFER TO STD. DWG. NOS. T-WZ-10, T-WZ-11, T-WZ-15, T-WZ-16, AND T-WZ-21 THROUGHOUT THE DURATION OF THE PROJECT.

(11) IF ADDITIONAL SIGNS ARE DEEMED NECESSARY BY THE ENGINEER, THEY SHALL BE FURNISHED AND INSTALLED AT THE BID PRICE FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION), S.F.

(12) ALL LOCAL EMERGENCY AGENCIES AND RESIDENCES WITHIN THE IMMEDIATE AREA PROJECT AREA SHALL BE NOTIFIED NOT LESS THAN 48 HOURS IN ADVANCE OF BRIDGE CONSTRUCTION WHICH MAY AFFECT ACCESS TO THESE AREAS.

(13) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF LANES, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) METRO NASHVILLE POLICE DEPARTMENT, (2) METRO NASHVILLE FIRE DEPARTMENT, (3) LOCAL AMBULANCE SERVICE, (4) DAVIDSON COUNTY SCHOOL SUPERINTENDENT, (5) LOCAL POSTAL SERVICE, (6) TDOT REGION 3 TRAFFIC ENGINEERING OFFICE, (7) METRO PUBLIC WORKS, (8) METRO TRANSIT AUTHORITY, AND (9) CITY OF BERRY HILL PUBLIC WORKS.

(14) IF CONTRACTOR MOVES OFF THE PROJECT SITE, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AND TRAFFIC CONTROL DEVICES AS DIRECTED BY THE ENGINEER.

(17) TYPE "C" WARNING LIGHTS SHALL BE USED ON ALL CHANNELIZING DRUMS IN TAPERS ON THE INTERSTATE.

(18) TRAFFIC CONTROL PHASING SHOWN ON SHEETS 2J AND 2K IS NOT MEANT TO BE PERFORMED CONCURRENTLY, NOR MUST ALL OF PHASE I BE COMPLETED PRIOR TO BEGINNING WORK ON PHASE II. PHASING IS MEANT ON A "PER BRIDGE" BASIS, AND PHASE I MUST BE COMPLETED ON A GIVEN BRIDGE BEFORE STARTING PHASE II ON THE SAME BRIDGE.

(19) WORK SHALL NOT BE PERFORMED ON STRUCTURES 164 OR 165 DURING PHASE I WORK ON STRUCTURES 166 AND 167, RESPECTIVELY.

(20) PHASE I CONSTRUCTION AND SIGNLE LANE CLOSURE ON STRUCTURES 166 AND 167 SHALL BE WEEKEND WORK ONLY. THE WEEKEND SHALL BE DEFINED AS BETWEEN 9:00 P.M. FRIDAY AND MONDAY AT 5:00 A.M. EXISTING LANE MARKINGS SHALL BE KEPT IN PLACE UNTIL PHASE II.

(21) TRAFFIC CONTROL SHALL BE PERFORMED ON INTERSTATE 65 AND FRANKLIN PIKE TO ALLOW OVERHEAD WORK TO BE COMPLETED. LEFT AND RIGHT LANE CLOSURES ON FRANKLIN PIKE AND INTERSTATE 65 SHALL BE PERFORMED PER TDOT STD. DWG. NO. T-WZ-11. INTERIOR LANE CLOSURES ON INTERSTATE 65 SHALL BE PERFORMED PER TDOT STD. DWG. NO. T-WZ-15.

(22) AT NO TIME SHALL MORE THAN ONE LANE IN EITHER DIRECTION ON INTERSTATE 65 OR FRANKLIN PIKE BE CLOSED.

(23) CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DEBRIS OR OTHER ITEMS FROM FALLING ON THE ROADWAY BELOW.

(24) SIGN W5-1 "ROAD NARROWS" IS TO BE USED 1,000 FEET PRIOR TO LANE SHIFT ON STRUCTURES 162-165 DURING BOTH PHASE I AND PHASE 2. SIGN IS TO BE USED ON BOTH SIDES OF THE ROADWAY ON STRUCTURES 166 AND 167 DURING PHASE 2 ONLY.

(25) SIGN TN-55A "RECORD-A-COMMENT" IS TO BE USED ON BOTH SIDES OF THE ROADWAY 1,000 FEET BEYOND "END OF ROAD WORK" SIGNS. QUANTITY PROVIDED ALLOWS FOR SIGNS ON INTERSTATE 440 (EAST AND WEST) BEYOND THE INTERCHANGE AREA.

TRAFFIC CONTROL QUANTITIES (3)

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
705-08.51	PORTABLE IMPACT ATTENUATOR (NCHRP 350, TL-3)	EACH	6				
712-01	TRAFFIC CONTROL	LS	1				
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	1,990				
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	465				
712-05.03	WARNING LIGHTS (TYPE C)	EACH	237				
712-06	SIGNS (CONSTRUCTION)	S.F.	1,889				
712-08.03	ARROW BOARDS (TYPE C)	EACH	5				
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	58,285				
713-02.14	FLEXIBLE DELINEATOR	EACH	455				
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	6				
716-01.05	TEMPORARY RAISED PAVEMENT MARKER	EACH	185				
716-01.22	SNWPLWBLE PVMT MRKRS (MONO-DIR) (1 COLOR)	EACH	62				
716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6 IN LINE)	L.M.	2				
717-01	MOBILIZATION	LS	1				

ITEM NO. 712-06 SIGNS (CONSTRUCTION)

	DESCRIPTION		QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
	END ROAD WORK		18	144	48" x 24"	G20-2A	
	DO NOT PASS IN RIGHT LANE		1	35	120" x 42"	R4-1 (MOD.)	
	TWO LANE SHIFT LEFT		4	64	48" x 48"	W1-4BL	
	TWO LANE SHIFT RIGHT		4	64	48" x 48"	W1-4BR	
	REVERSE CURVE LEFT		10	160	48" x 48"	W1-4L	
	REVERSE CURVE RIGHT		12	192	48" x 48"	W1-4R	
	MERGE LEFT		2	32	48" x 48"	W4-2L	
	MERGE RIGHT		8	128	48" x 48"	W4-2R	
	ROAD WORK 2 MILES		2	32	48" x 48"	W20-1	
	ROAD WORK 1 MILE		18	288	48" x 48"	W20-1	
	ROAD WORK 1/2 MILE		12	192	48" x 48"	W20-1	
	LANE SHIFT 1/2 MILE		12	192	48" x 48"	W20-5	
	LEFT LANE CLOSED 1/2 MILE		4	64	48" x 48"	W20-5L	
	LEFT LANE CLOSED 1500 FT		4	64	48" x 48"	W20-5L	
	RIGHT LANE CLOSED 1 MILE		2	32	48" x 48"	W20-5R	
	RIGHT LANE CLOSED 1/2 MILE		6	96	48" x 48"	W20-5R	
	RIGHT LANE CLOSED 1500 FT		6	96	48" x 48"	W20-5R	
	MERGE NOW		1	16	48" x 48"	SP-1	
	RECORD-A-COMMENT		4	128	96" x 48"	TN-55A	
TOTAL				**1,889**			

NOTE: SEE SHEET NO. 2B (ESTIMATED ROADWAY QUANTITIES) FOR FOOTNOTES TO EACH ITEM.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2H

(3) 02-04-15 JRG REVISED QUANTITIES FOR ITEM NOS. 712-02.02 AND 712-04.01, DELETED ITEM NO. 712-04.50

UNOFFICIAL SET

NOT FOR BIDDING

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

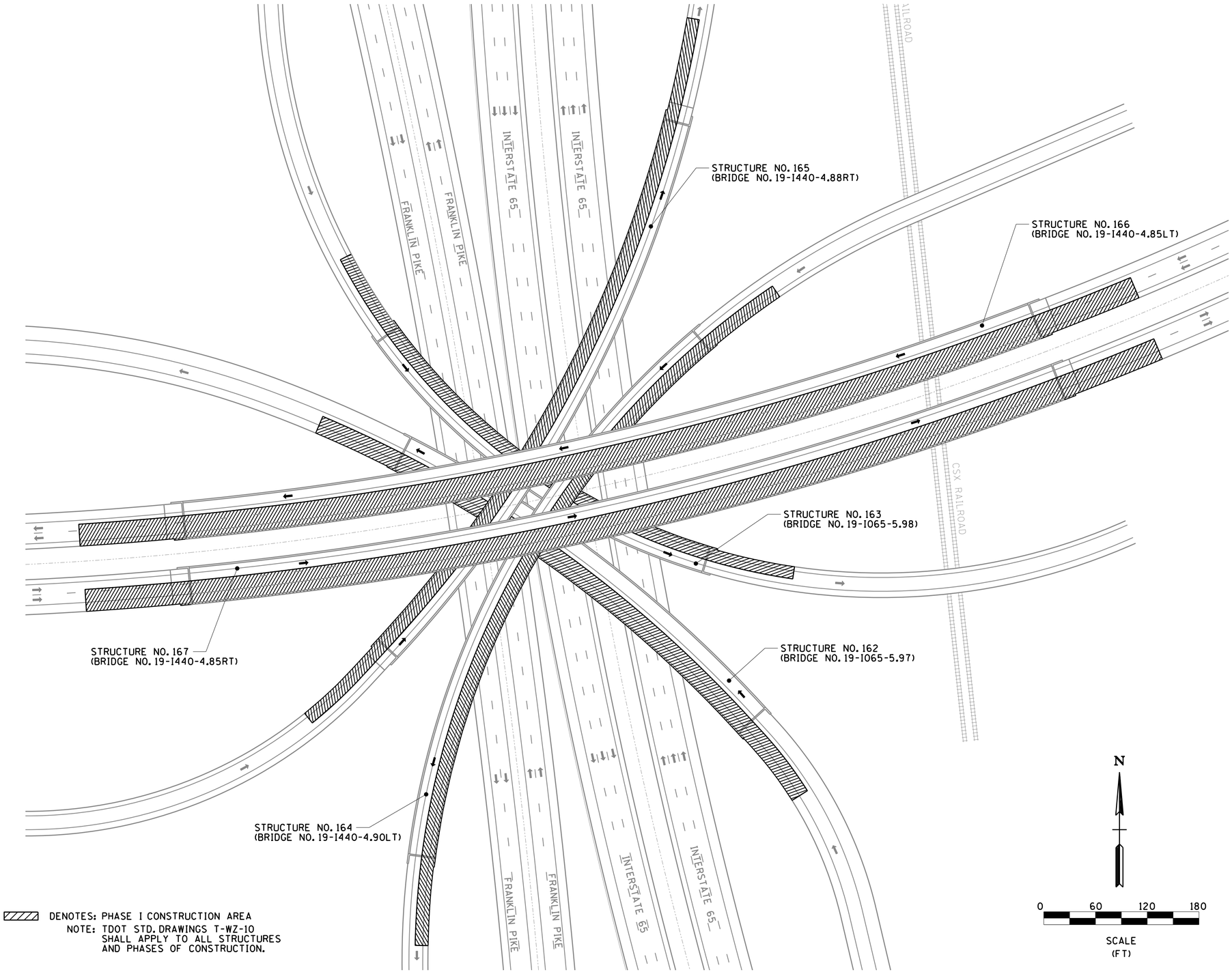
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SPECIAL NOTES AND QUANTITIES

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2J



DENOTES: PHASE I CONSTRUCTION AREA

NOTE: TDOT STD. DRAWINGS T-WZ-10 SHALL APPLY TO ALL STRUCTURES AND PHASES OF CONSTRUCTION.

PHASE I TRAFFIC CONTROL PLAN

STRUCTURE NO. 162

- SINGLE LANE SHIFT RIGHT
  - 430 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165

- SINGLE LANE SHIFT RIGHT
  - 325 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

STRUCTURE NO. 166

- RIGHT LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT
  - 660 L.F. CLOSURE TAPER
  - STANDARD DRAWING: T-WZ-11
  - STANDARD DRAWING: T-WZ-16
  - 630 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-21

NOTE: LANE SHIFT FROM LEFT LANE SHALL SHIFT DIRECTLY INTO PHASE I TRAFFIC POSITION.

STRUCTURE NO. 167

- RIGHT LANE CLOSURE
  - 660 L.F. CLOSURE TAPER
  - STANDARD DRAWING: T-WZ-11
- SINGLE LANE SHIFT LEFT
  - 140 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

N

0 60 120 180

SCALE (FT)

UNOFFICIAL SET

NOT FOR BIDDING

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

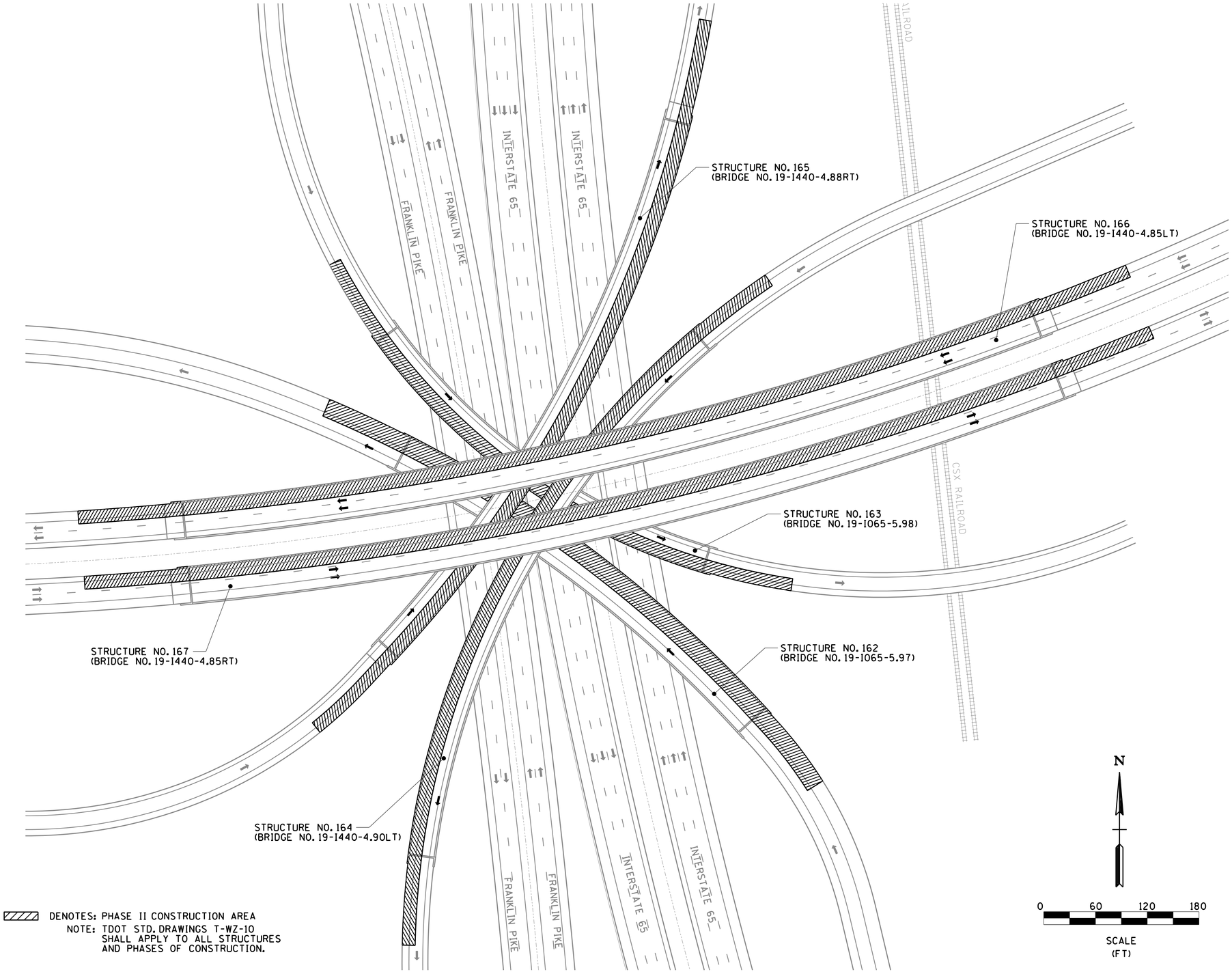
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE I

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2K



DENOTES: PHASE II CONSTRUCTION AREA

NOTE: TDOT STD. DRAWINGS T-WZ-10 SHALL APPLY TO ALL STRUCTURES AND PHASES OF CONSTRUCTION.

PHASE II TRAFFIC CONTROL PLAN

STRUCTURE NO. 162

- SINGLE LANE SHIFT LEFT
  - 265 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165

- SINGLE LANE SHIFT LEFT
  - 270 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

STRUCTURE NO. 166

- TWO LANE SHIFT LEFT
  - 190 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

STRUCTURE NO. 167

- TWO LANE SHIFT RIGHT
  - 350 L.F. SHIFT TAPER
  - STANDARD DRAWING: T-WZ-16

N

0 60 120 180

SCALE (FT)

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

TRAFFIC CONTROL PLAN PHASE II

TENNESSEE D.O.T. DESIGN DIVISION

FILE NO.

REQUIRED LOCATION REQUEST INFORMATION

NAME OF CALLER
TELEPHONE NUMBER
BEST TIME TO CALL
COUNTY
TOWN
STREET ADDRESS
START DATE START TIME
TYPE OF WOORK
BLASTING ?
WORK BEING DONE BY
WORK BEING DONE FOR

CALL THREE WORKING DAYS BEFORE YOU DIG
1-800-351-1111
IN NASHVILLE : 366-1987

TENNESSEE ONE CALL SYSTEM INCORPORATED

UTILITY CONTACTS

AT&T
333 COMMERCE ST 23C142
NASHVILLE, TN 37201
DAVID HUFFAKER
615-214-4871

COMCAST - DAVIDSON CO.
660 MAINSTREAM DRIVE
NASHVILLE, TN 37228
615-244-5900

METRO WATER AND SEWER
1600 2ND AVE NORTH
NASHVILLE, TN 37208
STEVE NUNLEY
615-566-3846

NASHVILLE ELECTRIC SERVICE
1214 CHURCH ST ROOM 353
NASHVILLE, TN 37203
HANK DUNNING
615-747-3530

PIEDMONT NATURAL GAS
83 CENTURY BLVD.
NASHVILLE, TN 37214
JIM THWEATT
615-872-2389 OR
DONNIE WHITTAKER
615-207-5830 (CELL)

TDOT-ITS DIVISION
6603 CENTENNIAL BLVD.
NASHVILLE, TN 37243
RAY HALLAVANT
TMC OPERATIONS MANAGER
615-350-3437/3423

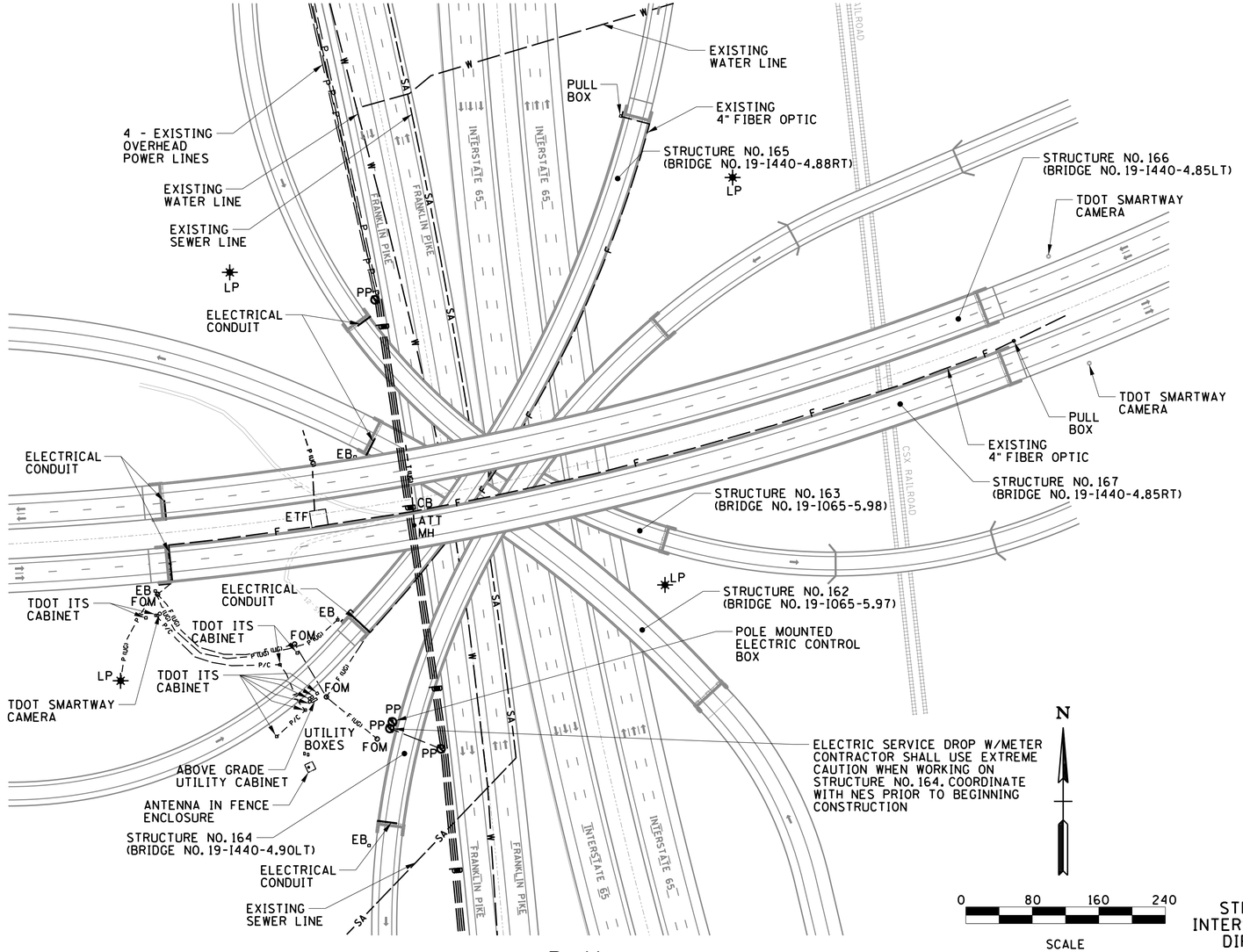
PORTIONS OF THIS DRAWING DEPICTS EXISTING CONDITIONS. LIMITS OF PROPOSED BRIDGE CONSTRUCTION MAY VARY FROM EXISTING CONDITIONS.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	19009-4184-04	2L

LEGEND

MAPPING SYMBOLS AND CODES

- AIR CONDITION (AC)
- CATCH BASIN (CB)
- CATCH BASIN DOUBLE (DCB)
- CATCH BASIN TRIPLE (TCB)
- ELECTRIC BOX (EB)
- ELECTRIC METER (EM)
- ELECTRIC TRANSFORMER (ETF)
- FIBER OPTIC MARKER (FOM)
- FIRE HYDRANT (FH)
- FLOOD LIGHT (FLT)
- FLAG POLE (FP)
- GAS METER (GM)
- GUY POLE (GP)
- GAS VALVE (GV)
- GUY WIRE (GW)
- IRON PIN NEW (IR(N))
- IRON PIN OLD (IR(O))
- IRON PIPE OLD (IP(O))
- IRON SPIKE OLD (IS(O))
- LIGHT STANDARD METAL/WOOD (LS/LP)
- MAIL BOX (MB)
- MAN HOLE (MH)
- MONUMENT CONCRETE OLD (MON(O))
- MONUMENT CONCRETE NEW (MON(N))
- P.K. NAIL OLD (PK(O))
- P.K. NAIL NEW (PK(N))
- LIGHT POLE WITH POWER (LPP)
- LIGHT POLE WITH TELEPHONE (LPT)
- POWER MAN HOLE (PMH)
- POWER POLE (PP)
- POWER AND TELEPHONE POLE (P/T)
- RIGHT-OF-WAY MONUMENT (RWM)
- SPRINKLER HEAD/VALVE (SPH, SPV)
- SANITARY MAN HOLE (SSMH)
- SIGN (SN)
- STEAM MAN HOLE (STMH)
- STORM WATER MAN HOLE (SWMH)
- TELEPHONE POLE (TP)
- TREE
- WATER METER (WM)
- WATER VALVE (WV)



PLAN

LINE STYLES

- CABLE LINE — C —
- CENTER LINE — ℄ —
- CONCRETE AREA
- EDGE OF WOODS LINE
- FENCE LINE — X — X — X —
- GAS LINE — X* — G —
- OVERHEAD POWER LINE — P —
- OVERHEAD TELEPHONE LINE — T —
- OVERHEAD POWER AND TELEPHONE LINE — P — T —
- PROPERTY LINE — PL —
- SANITARY SEWER — X* — SA —
- STORM WATER — X* — ST —
- FIBER OPTIC CABLE — F —
- UNDERGROUND FIBER OPTIC CABLE — F(UG) —
- UNDERGROUND POWER LINE — P(UG) —
- UNDERGROUND POWER AND TELEPHONE LINE — UG — P — T —
- UNDERGROUND TELEPHONE LINE — T(UG) —
- WATER LINE — X* — W —

NOTE: UTILITIES INFORMATION SHOWN WAS DERIVED FROM METRO WATER SERVICES MAPPING, AERIAL IMAGERY, AND SITE VISIT. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS AND SERVICES PRIOR TO ROADWAY AND BRIDGE CONSTRUCTION.

NOTE: CONTRACTOR SHALL USE EXTREME CAUTION WHEN OPERATING IN ANY AREA WHERE UTILITIES ARE PRESENT AND AVOID WORKING IN THESE AREAS AS MUCH AS PRACTICALLY POSSIBLE. DAMAGES TO ANY UTILITIES ARE TO BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

NOTE: THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING POLES, GUY WIRES AND ROADWAY SIGNS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE MOVEMENT OF SUCH SIGNS, POLES AND GUY WIRES WITH THEIR RESPECTIVE OWNERS. THE CONTRACTOR SHALL RE-SET EXISTING SIGNAGE IN ITS ORIGINAL LOCATION. THE COST OF RE-SETTING SIGNAGE WILL NOT BE PAID FOR DIRECTLY BUT WILL BE INCLUDED IN OTHER ITEMS OF CONSTRUCTION.

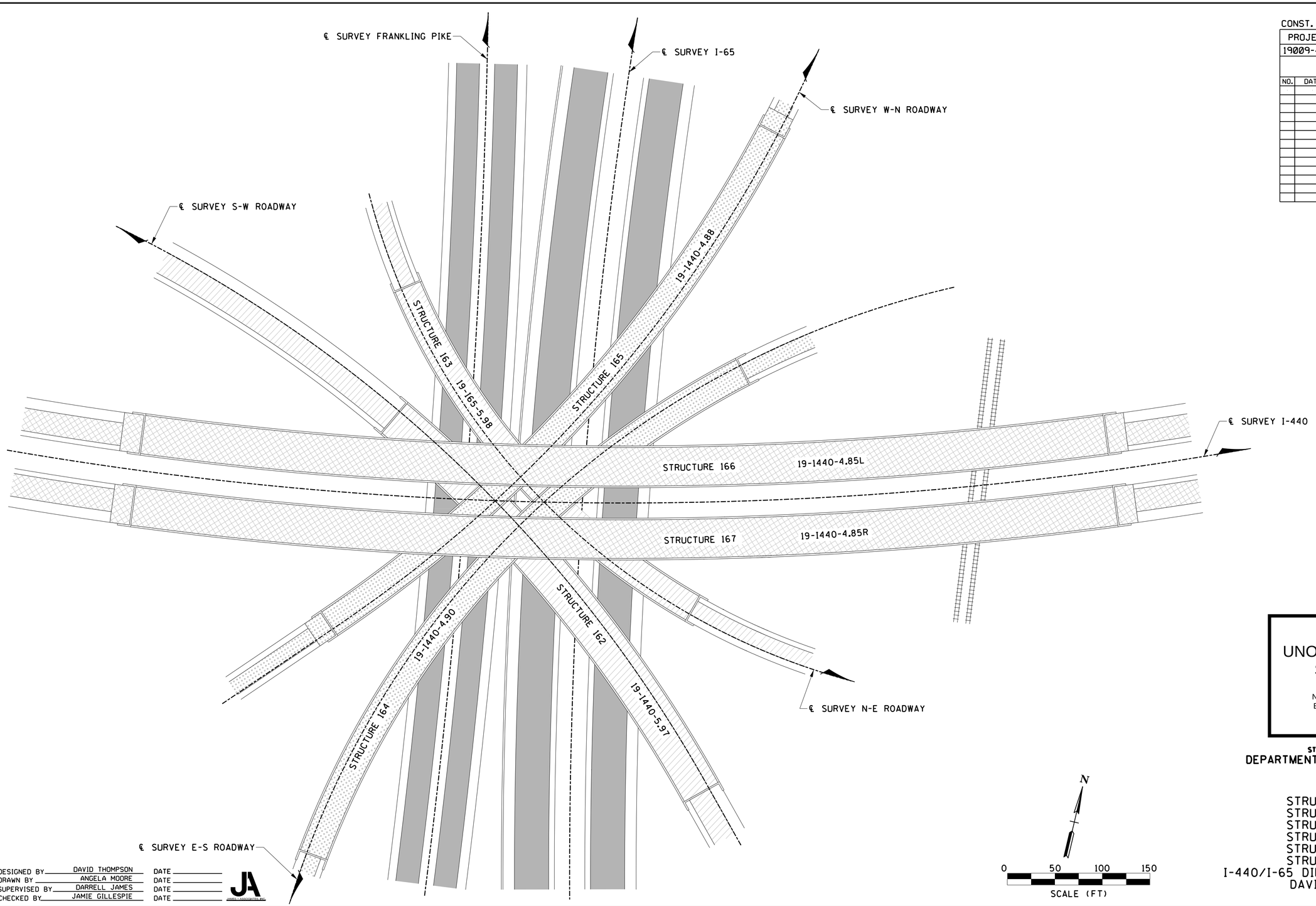
UNOFFICIAL SET

NOT FOR BIDDING

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NOS. 166 & 167
INTERSTATE 440/INTERSTATE 65
DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITIES



CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JA JAMES & ASSOCIATES, INC.

N

0 50 100 150
SCALE (FT)

UNOFFICIAL SET

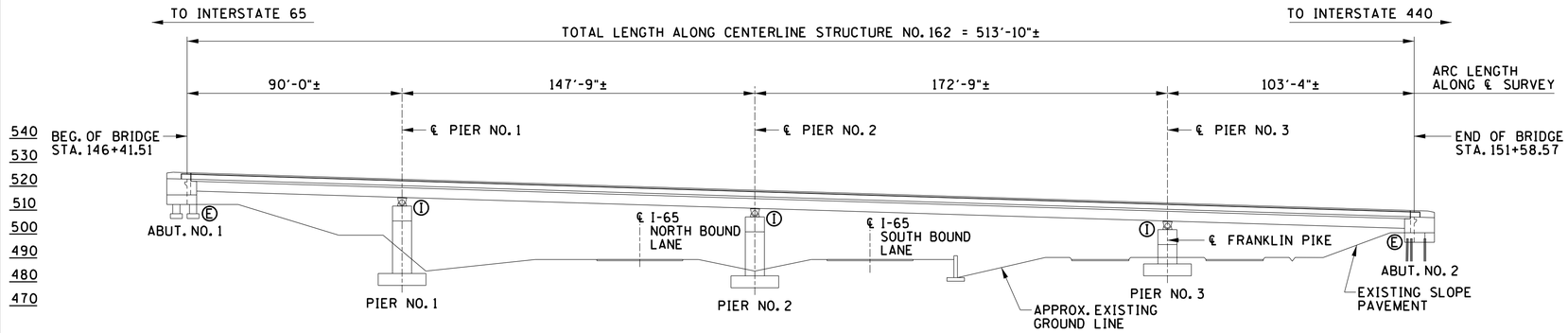
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT

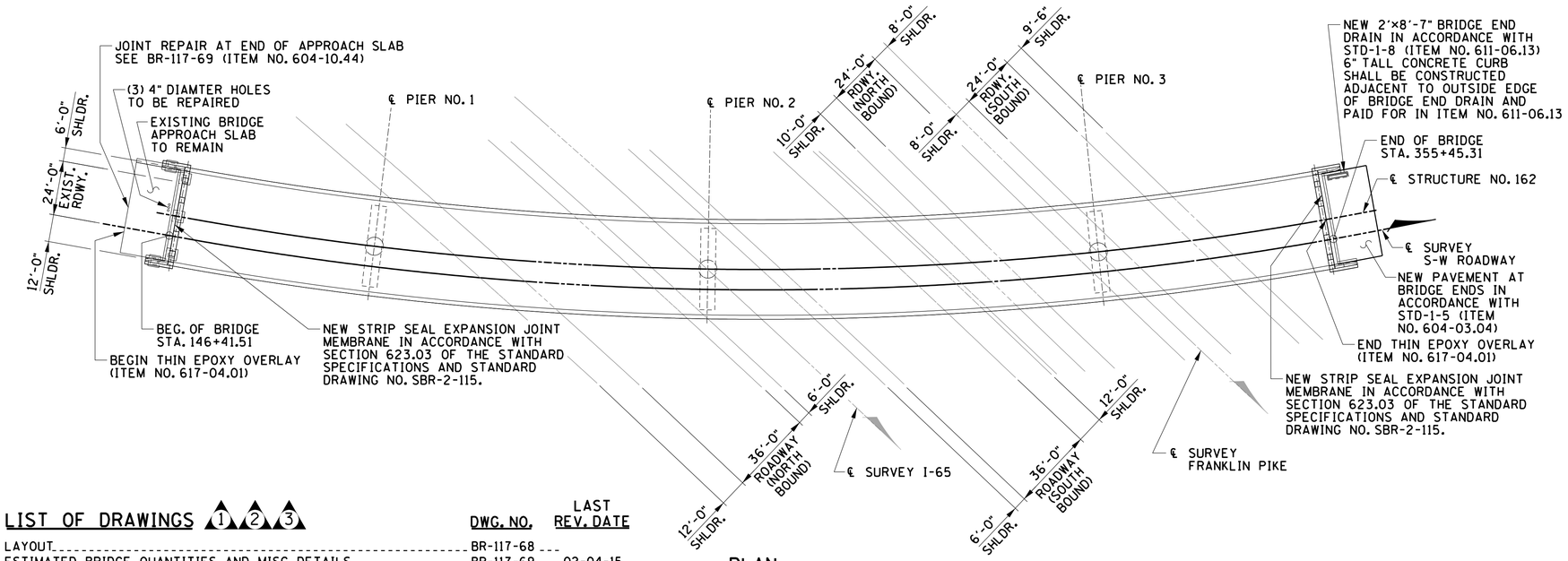
STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-68



ELEVATION

Ⓕ DENOTES: FIXED (EXISTING AND PROPOSED)
Ⓘ DENOTES: INTEGRAL (EXISTING AND PROPOSED)



PLAN

LIST OF DRAWINGS ①②③

	DWG. NO.	LAST REV. DATE
LAYOUT	BR-117-68	
ESTIMATED BRIDGE QUANTITIES AND MISC. DETAILS	BR-117-69	02-04-15
BRIDGE GENERAL AND SPECIAL NOTES	BR-117-70	02-04-15
LAYOUT OF BRIDGE TO BE REPAIRED STRUCTURE NO. 162	BR-117-71	02-04-15
SUPERSTRUCTURE STRUCTURE NO. 162	BR-117-72	
FRAMING PLAN STRUCTURE NO. 162	BR-117-73	
SUBSTRUCTURE REPAIRS STRUCTURE NO. 162	BR-117-74	
CONCRETE REPAIRS (PARAPET)	BR-117-75	
MODULAR EXPANSION JOINT REPAIR AND CONCRETE DECK REPAIR	BR-117-98	02-04-15
CONCRETE REPAIR DETAILS	BR-117-99	07-24-14
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-100	
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-101	

LIST OF REFERENCE DRAWINGS

	DWG. NO.
EXISTING BRIDGE PLANS	M-15-55 THRU M-15-57, BR-33-66 THRU BR-33-69, BR-33-84 THRU BR-33-87

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JAMES + ASSOCIATES, INC.

BRIDGE APPURTENANCES ③

SBR-2-115	01-04-96	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991
STD-1-5	03-26-14	REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS - 1995
STD-1-7	08-24-11	BRIDGE END DRAINS W/PAVEMENT AT BRIDGE ENDS - 1993
STD-1-9	05-01-95	BRIDGE END DRAIN 4' X 8'-7" W/PABE - 1993
STD-9-1	10-07-08	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

LIST OF SPECIAL PROVISIONS

DWG. NO.	LAST REV. DATE	DESCRIPTION
107CS	02-13-2012	NESTING SITES OF CLIFF SWALLOWS AND BARN SWALLOWS

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	ADDED REVISION DATE
2	07-24-14	DT	ADDED REVISION DATE
3	02-04-15	DT	ADDED REVISION DATE AND SBR-2-115 TO BRIDGE APPURTENANCES

SCOPE OF WORK

1. CONSTRUCT ENVIRONMENTAL PROTECTION.
2. ESTABLISH TRAFFIC CONTROL TO PROVIDE ONE LANE OF TRAFFIC ON STRUCTURE NO. 162 DURING CONSTRUCTION PHASES USING TEMPORARY SIGNAGE AND TRAFFIC BARRIERS.
3. REMOVE PAINT AND PERFORM EITHER DYE PENETRANT TEST OR FLASH MAGNETIC PARTICLE TEST AT THE DISCRETION OF THE PROJECT ENGINEER IN WELDS AT BEARING STIFFENER TO WEB CONNECTIONS AT CROSS FRAME LOCATIONS AND AT SUPPORT DIAPHRAGM TO WEB CONNECTIONS (248 LOCATIONS) IN ORDER TO DETERMINE EXISTENCE AND EXTENT OF CRACKING IN WELDS AND IN GIRDER WEB. CONTRACTOR SHALL FOLLOW INSTRUCTIONS ON BR-117-73 TO DOCUMENT TEST RESULTS IN "CRACK LOCATION TABLE".
4. AFTER TESTING IS COMPLETE AND TEST RESULTS HAVE BEEN RECORDED IN THE "CRACK LOCATION TABLE", ALL CRACKS DENOTED IN THE TABLE SHALL BE REPAIRED IN ACCORDANCE WITH THE CRACK REPAIR PROCEDURE GIVEN ON BR-117-100.
5. CONSTRUCT 6"x6"x1/2" ANGLE SUPPORT AT UPPER CORNER OF ALL BEARING STIFFENERS AT DIAPHRAGM CROSS FRAME LOCATIONS (92 LOCATIONS) IN ACCORDANCE WITH INSTRUCTIONS ON BR-117-101.
6. REPAINT ALL METAL AT LOCATIONS OF TESTING AND REPAIRS AND HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE OF STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS.
7. REPAIR AREAS OF DEFICIENT CONCRETE IN PARAPETS AND SUBSTRUCTURES.
8. PERFORM PARTIAL DEPTH DECK REPAIR.
9. CLEAN BRIDGE DECK EXPANSION JOINTS AND REPLACE PREFORMED ELASTOMERIC SEALS AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
10. REPLACE DAMAGED GUARDRAIL AND GUARDRAIL TERMINAL.
11. REMOVE EXISTING AND CONSTRUCT PAVEMENT AT BRIDGE ENDS WITH BRIDGE END DRAIN AT ABUTMENT NO. 2.
12. APPLY NON-PENETRATING CONCRETE SEAL AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
13. REMOVE VEGETATION AND DEBRIS FROM STRUCTURES AND SLOPE PAVING.
14. CONSTRUCT TYPE I THIN EPOXY OVERLAY ON BRIDGE DECK AND ON EXISTING APPROACH SLAB AT ABUTMENT NO. 1.
15. TEXTURE COAT CONCRETE SURFACES OF BRIDGE IN ACCORDANCE WITH SKETCH ON BR-117-69.

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

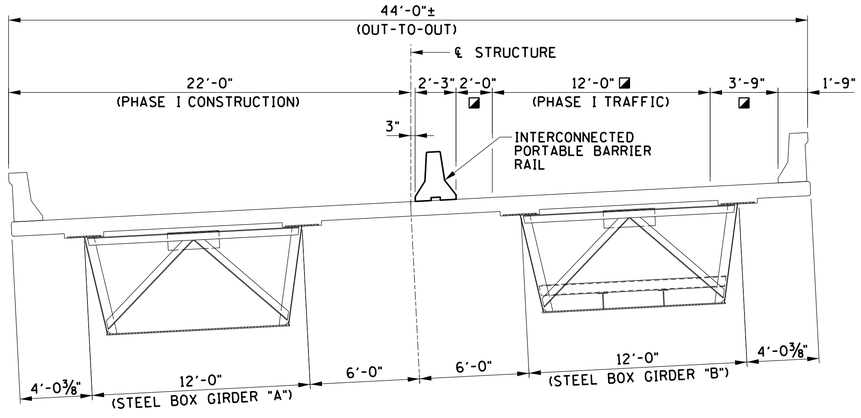
LAYOUT OF BRIDGE TO BE REPAIRED

STRUCTURE NO. 162
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

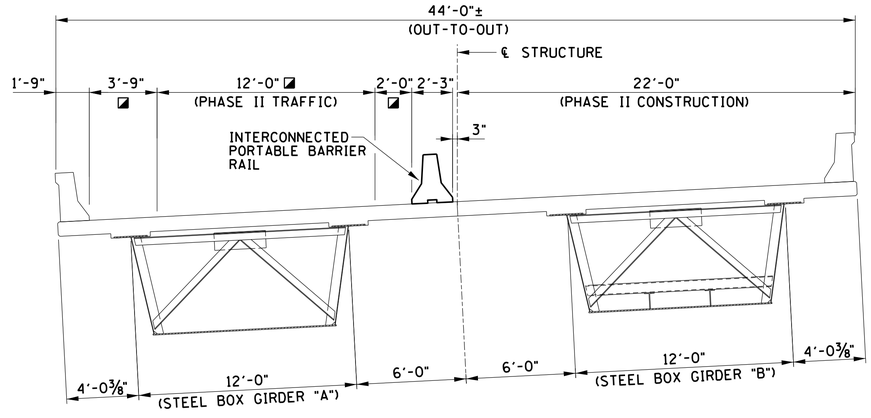
N

0 30 60 90
SCALE (FT)

BR-117-71



PHASE I CONSTRUCTION



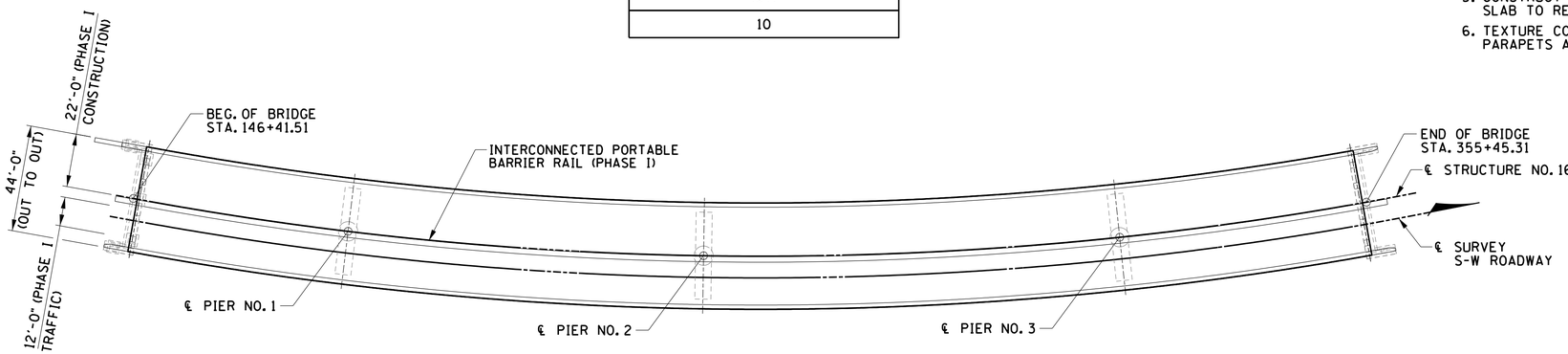
PHASE II CONSTRUCTION

TYPICAL CROSS-SECTION

(LOOKING FORWARD ON SURVEY)
(NOT TO SCALE)

◪ DENOTES: TRAFFIC CONTROL

ESTIMATED QUANTITIES
ITEM NO. 604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB) (SY)
10



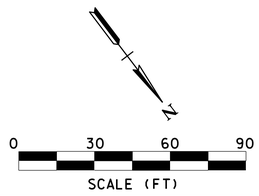
SLAB PLAN

PHASE I CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. REPLACE SEALS IN EXPANSION JOINTS AT ABUTMENTS.
4. PERFORM GUARDRAIL AT BRIDGE END REPLACEMENT.
5. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 2.
6. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB TO REMAIN AT ABUTMENT NO. 1.
7. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

PHASE II CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. REPLACE SEALS IN EXPANSION JOINTS AT ABUTMENTS.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 2.
5. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB TO REMAIN AT ABUTMENT NO. 1.
6. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.



CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE

STRUCTURE NO. 162
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-72

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

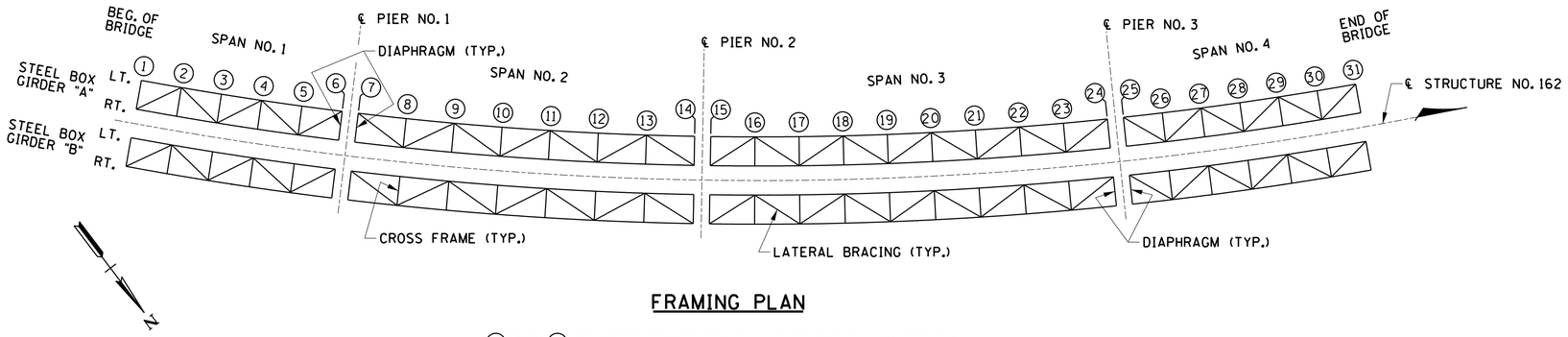
JACOBS ASSOCIATES INC

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

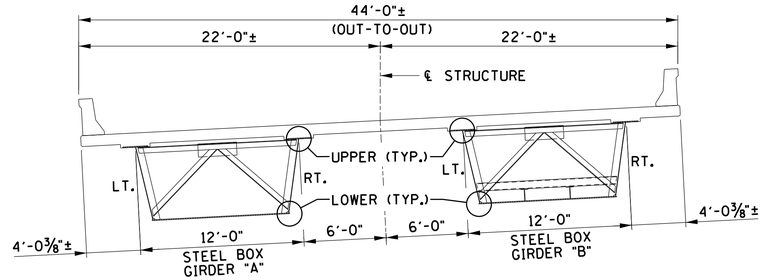
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



FRAMING PLAN

(1) THRU (31) DENOTES: CROSS FRAME AND DIAPHRAGM NUMBER IN "CRACK LOCATION TABLE"



HALF SECTION NEAR MID-SPAN HALF SECTION NEAR SUPPORT

TYPICAL CROSS-SECTION

(LOOKING WEST)
(NOT TO SCALE)

CRACK LOCATION TABLE

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(1)								
(2)								
(3)								
(4)								
(5)								
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(26)								
(27)								
(28)								
(29)								
(30)								
(31)								

NOTE: CONTRACTOR SHALL FILL IN "CRACK LOCATION TABLE" ON THIS SHEET WITH "#" OR "+" WHERE APPROPRIATE IN ORDER TO DOCUMENT THE RESULTS OF THE DYE PENETRANT TEST OR THE FLASH MAGNETIC PARTICLE TEST PERFORMED IN "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33. TEST RESULTS SHALL BE SUBMITTED TO TDOT BRIDGE INSPECTION OFFICE.

NOTE: ALL CRACKS NOTED IN "CRACK LOCATION TABLE" IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 02/09/2012 AND DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33, SHALL BE REPAIRED IN ACCORDANCE WITH INFORMATION PROVIDED ON BR-117-100.

△ DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 02/09/2012.

✱ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 02/09/2012.

DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

+ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

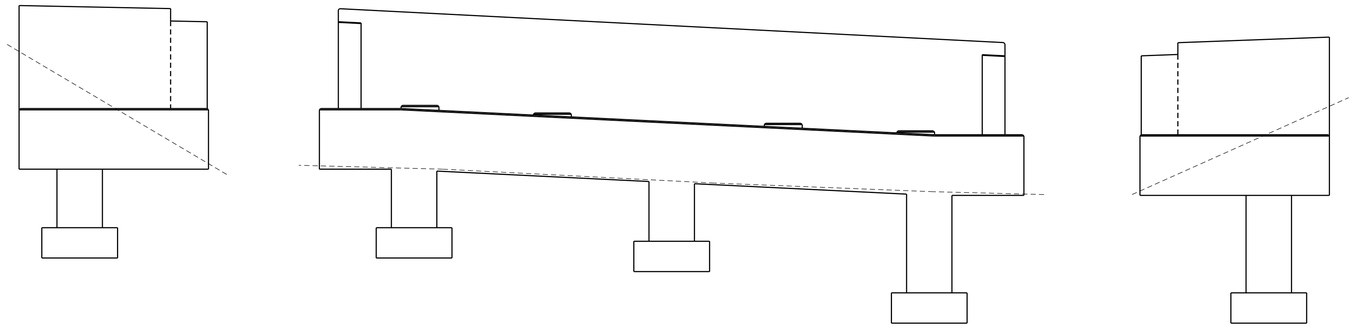
FRAMING PLAN

STRUCTURE NO. 162
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

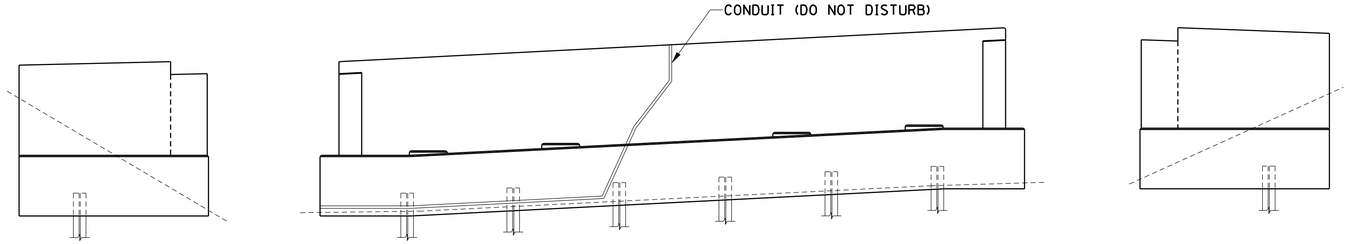
BR-117-73

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JAMES & ASSOCIATES, INC.



ABUTMENT NO. 1



ABUTMENT NO. 2

LEGEND

DETERIORATED CONCRETE

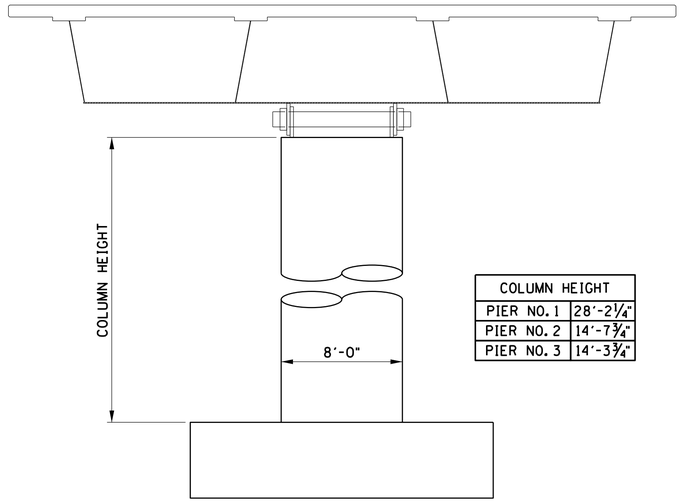
GROUND LEVEL

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

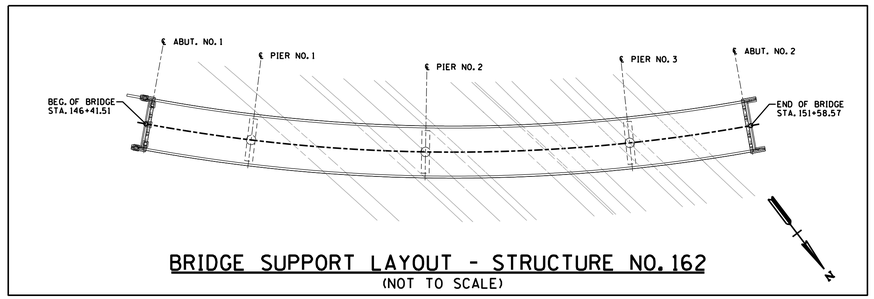
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



COLUMN HEIGHT	
PIER NO. 1	28'-2¼"
PIER NO. 2	14'-7¾"
PIER NO. 3	14'-3¾"

PIER NOS. 1 THRU 3



BRIDGE SUPPORT LAYOUT - STRUCTURE NO. 162

(NOT TO SCALE)

UNOFFICIAL SET

NOT FOR BIDDING

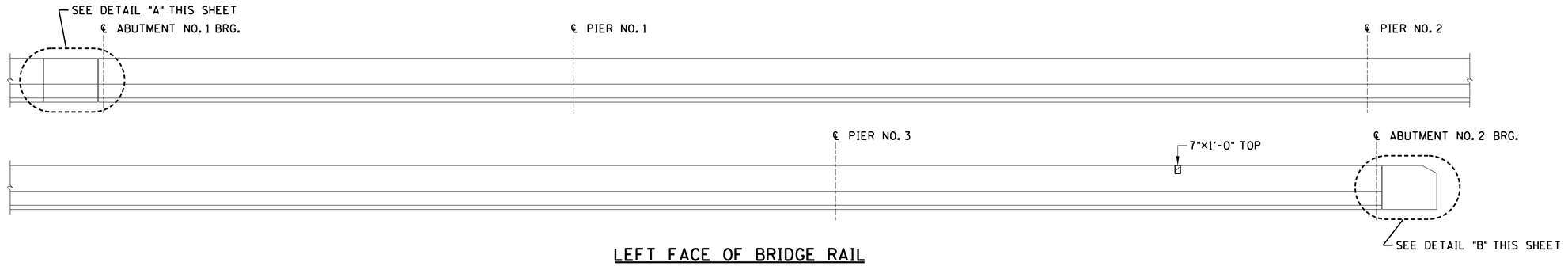
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS

STRUCTURE NO. 162
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

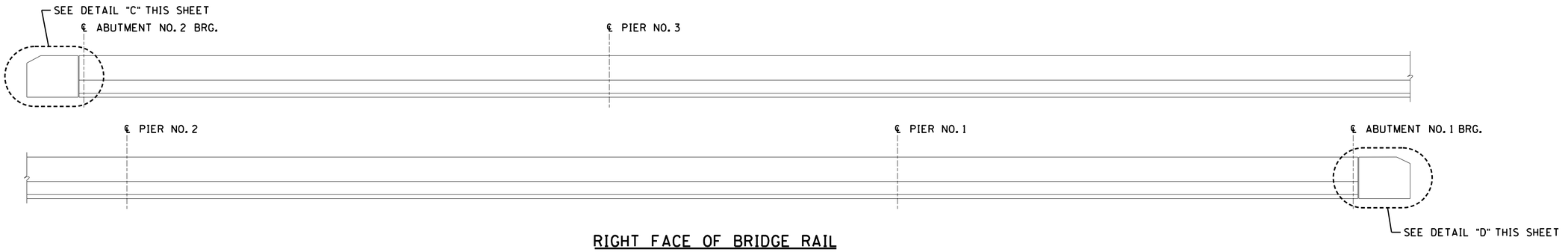
BR-117-74

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____



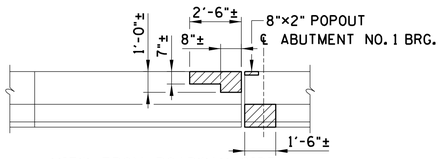
LEFT FACE OF BRIDGE RAIL

(LOOKING SOUTHWEST)

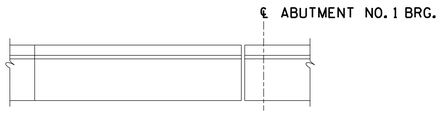


RIGHT FACE OF BRIDGE RAIL

(LOOKING NORTHEAST)

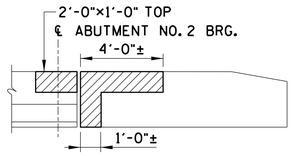


VIEW FROM ROADWAY SIDE

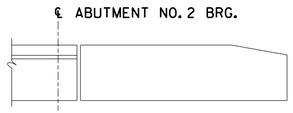


VIEW FROM OUTSIDE

DETAIL "A" - LEFT BRIDGE RAIL

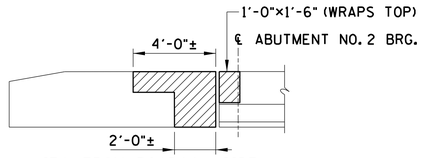


VIEW FROM ROADWAY SIDE

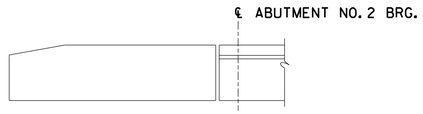


VIEW FROM OUTSIDE

DETAIL "B" - LEFT BRIDGE RAIL

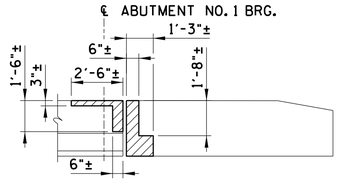


VIEW FROM ROADWAY SIDE

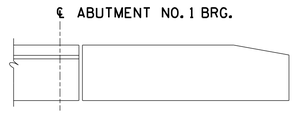


VIEW FROM OUTSIDE

DETAIL "C" - RIGHT BRIDGE RAIL



VIEW FROM ROADWAY SIDE



VIEW FROM OUTSIDE

DETAIL "D" - RIGHT BRIDGE RAIL

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JAMES & ASSOCIATES, INC.

▨ DENOTES: DETERIORATED CONCRETE

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

UNOFFICIAL SET

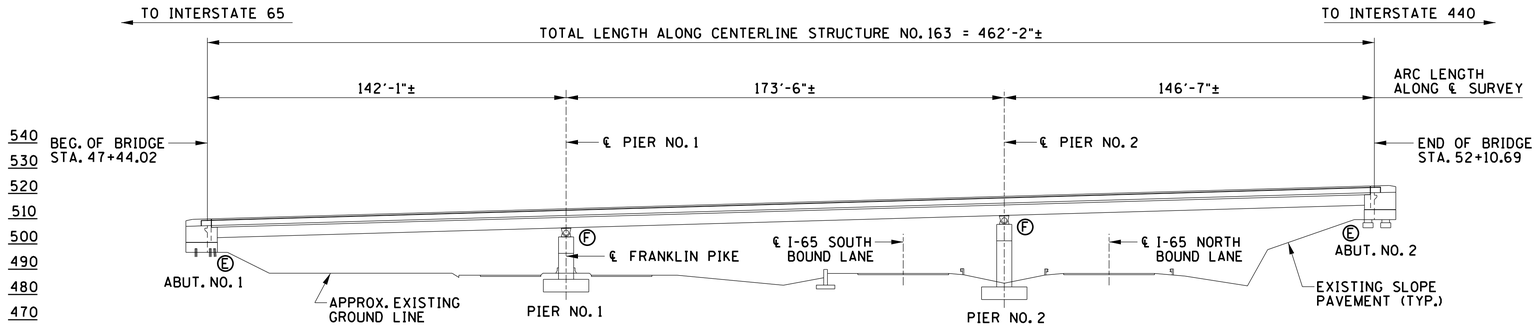
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIRS
(PARAPET)

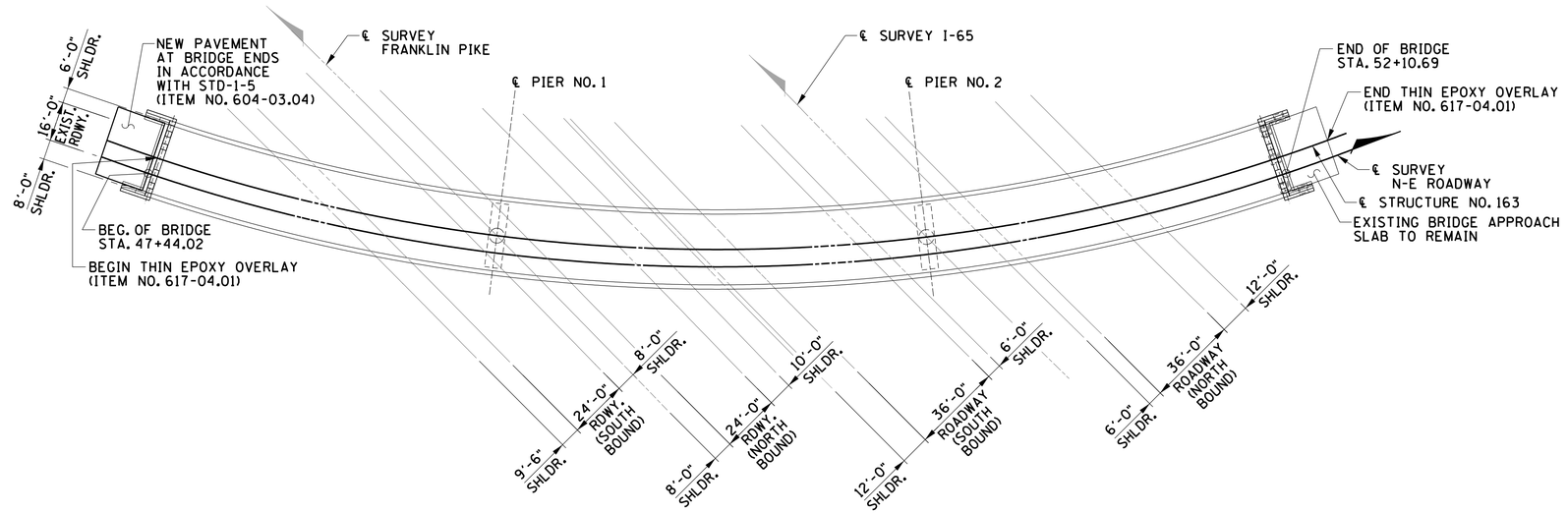
STRUCTURE NO. 162
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-75



ELEVATION

Ⓔ DENOTES: EXPANSION (EXISTING AND PROPOSED)
Ⓕ DENOTES: FIXED (EXISTING AND PROPOSED)



PLAN

LIST OF DRAWINGS (1)(2)(3)

	DWG. NO.	LAST REV. DATE
LAYOUT	BR-117-68	
ESTIMATED BRIDGE QUANTITIES AND MISC. DETAILS	BR-117-69	02-04-15
BRIDGE GENERAL AND SPECIAL NOTES	BR-117-70	02-04-15
LAYOUT OF BRIDGE TO BE REPAIRED STRUCTURE NO. 163	BR-117-76	02-04-15
SUPERSTRUCTURE STRUCTURE NO. 163	BR-117-77	
FRAMING PLAN STRUCTURE NO. 163	BR-117-78	
SUBSTRUCTURE REPAIRS STRUCTURE NO. 163	BR-117-79	
CONCRETE REPAIRS (PARAPET)	BR-117-80	
MODULAR EXPANSION JOINT REPAIR AND CONCRETE DECK REPAIR	BR-117-98	02-04-15
CONCRETE REPAIR DETAILS	BR-117-99	07-24-14
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-100	
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-101	

LIST OF REFERENCE DRAWINGS

	DWG. NO.
EXISTING BRIDGE PLANS	M-15-55 THRU M-15-57, BR-33-67, BR-33-70 THRU BR-33-72, BR-33-84 THRU BR-33-87

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JAMES & ASSOCIATES, INC.

BRIDGE APPURTENANCES

STD-1-5 ..... 03-26-14 ..... REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS - 1995
STD-9-1 ..... 10-07-08 ..... REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

LIST OF SPECIAL PROVISIONS

DWG. NO.	LAST REV. DATE	DESCRIPTION
107CS	02-13-2012	NESTING SITES OF CLIFF SWALLOWS AND BARN SWALLOWS

CONST. NO.

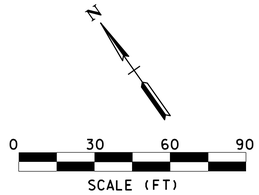
PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	ADDED REVISION DATE
2	07-24-14	DT	ADDED REVISION DATE
3	02-04-15	DT	ADDED REVISION DATE

SCOPE OF WORK

1. PRIOR TO BEGINNING CONSTRUCTION, SUBMIT TO TDOT BRIDGE INSPECTION OFFICE STRUCTURAL DESIGN PLANS SEALED BY A PROFESSIONAL ENGINEER SHOWING PROPOSED JACKING AND TEMPORARY BRACING OF THE BRIDGE REQUIRED TO REPAIR RISER BLOCKS AT ABUTMENT NO. 2.
2. CONSTRUCT ENVIRONMENTAL PROTECTION.
3. ESTABLISH TRAFFIC CONTROL TO PROVIDE ONE LANE OF TRAFFIC ON STRUCTURE NO. 163 DURING CONSTRUCTION PHASES USING TEMPORARY SIGNAGE AND TRAFFIC BARRIERS.
4. REMOVE PAINT AND PERFORM EITHER DYE PENETRANT TEST OR FLASH MAGNETIC PARTICLE TEST IN WELDS AT BEARING STIFFENER TO WEB CONNECTIONS AT CROSS FRAME LOCATIONS AND AT SUPPORT DIAPHRAGM TO WEB CONNECTIONS (224 LOCATIONS) IN ORDER TO DETERMINE EXISTENCE AND EXTENT OF CRACKING IN WELDS AND IN GIRDER WEB. CONTRACTOR SHALL FOLLOW INSTRUCTIONS ON BR-117-78 TO DOCUMENT TEST RESULTS IN "CRACK LOCATION TABLE".
5. AFTER TESTING IS COMPLETE AND TEST RESULTS HAVE BEEN RECORDED IN THE "CRACK LOCATION TABLE", ALL CRACKS DENOTED IN THE TABLE SHALL BE REPAIRED IN ACCORDANCE WITH THE CRACK REPAIR PROCEDURE GIVEN ON BR-117-100.
6. CONSTRUCT 6"×6"×1/2" ANGLE SUPPORT AT UPPER CORNER OF ALL BEARING STIFFENERS AT DIAPHRAGM CROSS FRAME LOCATIONS (88 LOCATIONS) IN ACCORDANCE WITH INSTRUCTIONS ON BR-117-101.
7. REPAINT ALL METAL AT LOCATIONS OF TESTING AND REPAIRS AND HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE OF STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS.
8. REPAIR FOUR RISER BLOCKS AT ABUTMENT NO. 2.
9. REPAIR AREAS OF DEFICIENT CONCRETE IN PARAPETS AND SUBSTRUCTURES.
10. PERFORM PARTIAL DEPTH DECK REPAIR.
11. CLEAN BRIDGE DECK EXPANSION JOINTS AND REPLACE PREFORMED ELASTOMERIC SEALS AS DIRECTED BY PROJECT ENGINEER.
12. REMOVE EXISTING AND CONSTRUCT PAVEMENT AT BRIDGE ENDS AT ABUTMENT NO. 1.
13. APPLY NON-PENETRATING CONCRETE SEAL AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
14. REMOVE VEGETATION AND DEBRIS FROM STRUCTURES AND SLOPE PAVING.
15. CONSTRUCT TYPE I THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB AT ABUTMENT NO. 2.
16. TEXTURE COAT CONCRETE SURFACES OF BRIDGE IN ACCORDANCE WITH SKETCH ON BR-117-69.



UNOFFICIAL SET

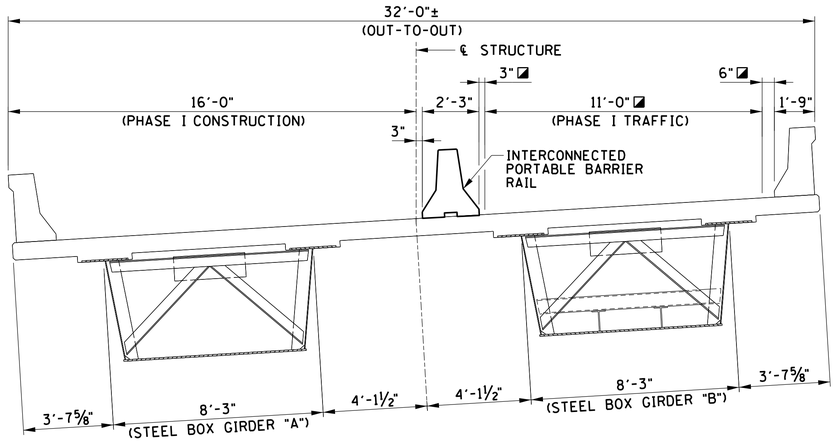
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

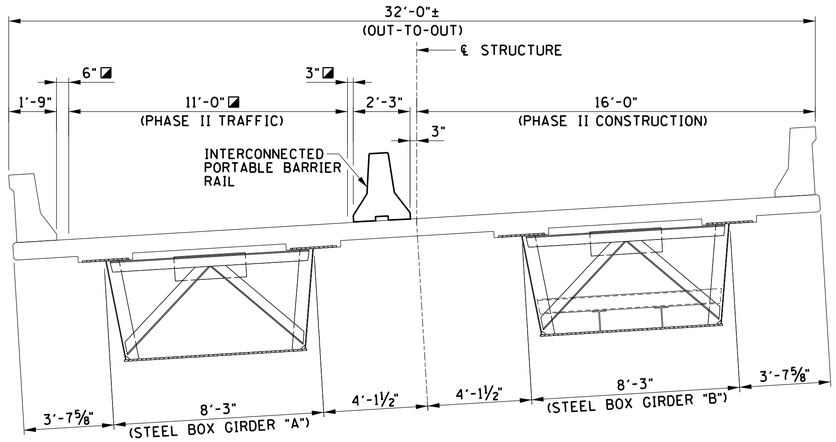
LAYOUT OF BRIDGE TO BE REPAIRED

STRUCTURE NO. 163
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-76



PHASE I CONSTRUCTION



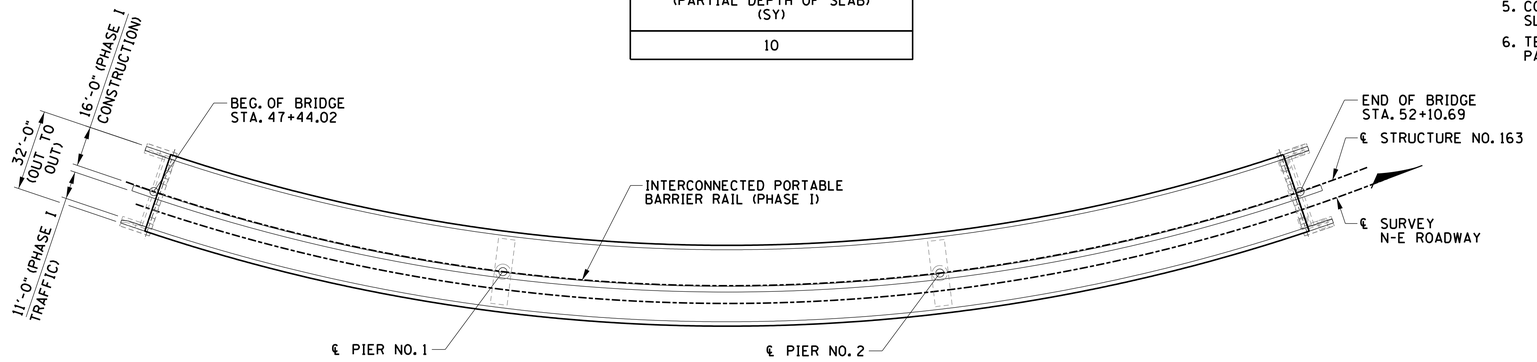
PHASE II CONSTRUCTION

TYPICAL CROSS-SECTION

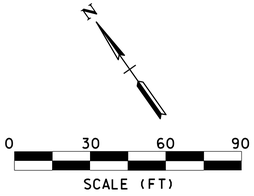
(LOOKING FORWARD ON SURVEY)
(NOT TO SCALE)

◪ DENOTES: TRAFFIC CONTROL

ESTIMATED QUANTITIES
ITEM NO. 604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB) (SY)
10



SLAB PLAN



PHASE I CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. CLEAN EXPANSION JOINTS AND REPLACE SEALS AS REQUIRED.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 1.
5. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB TO REMAIN AT ABUTMENT NO. 2.
6. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

PHASE II CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. CLEAN EXPANSION JOINTS AND REPLACE SEALS AS REQUIRED.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 1.
5. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB TO REMAIN AT ABUTMENT NO. 2.
6. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE

STRUCTURE NO. 163
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-77

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

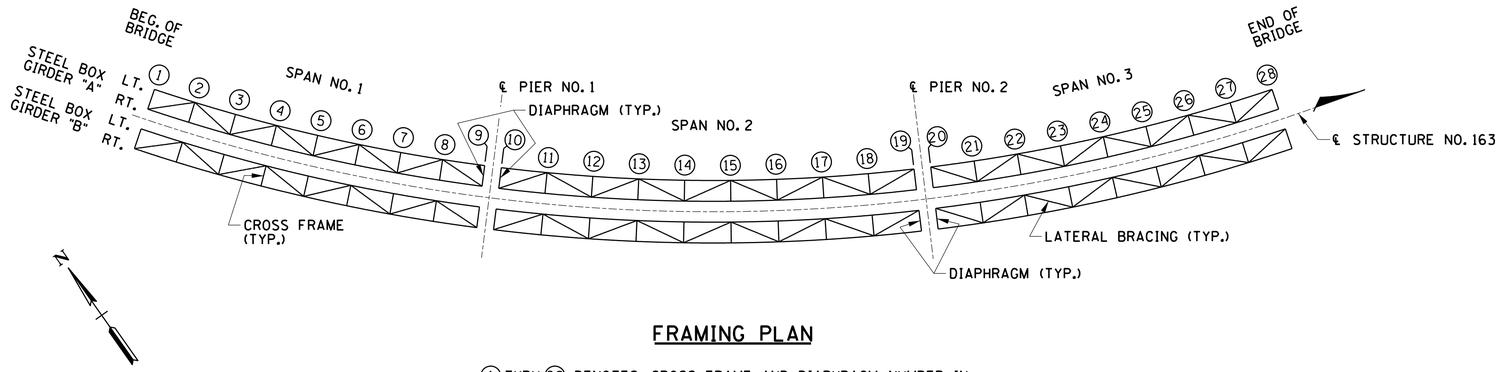
JAMES + ASSOCIATES, INC.

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

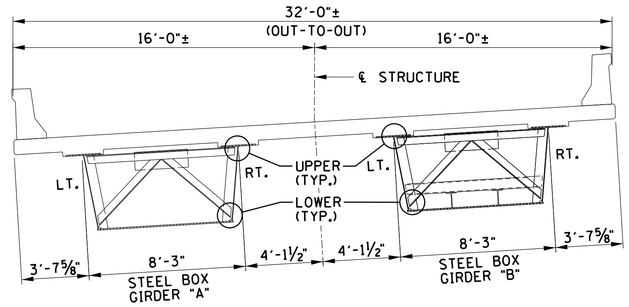
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



FRAMING PLAN

(1) THRU (28) DENOTES: CROSS FRAME AND DIAPHRAGM NUMBER IN "CRACK LOCATION TABLE"



HALF SECTION NEAR MID-SPAN HALF SECTION NEAR SUPPORT

TYPICAL CROSS-SECTION

(LOOKING EAST)
(NOT TO SCALE)

CRACK LOCATION TABLE

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(1)								
(2)								
(3)								
(4)								
(5)								
(6)								
(7)								
(8)								
(9)								
(10)								
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(20)								
(21)								
(22)								
(23)								
(24)								
(25)								
(26)								
(27)								
(28)								

NOTE: CONTRACTOR SHALL FILL IN "CRACK LOCATION TABLE" ON THIS SHEET WITH "#" OR "+" WHERE APPROPRIATE IN ORDER TO DOCUMENT THE RESULTS OF THE DYE PENETRANT TEST OR THE FLASH MAGNETIC PARTICLE TEST PERFORMED IN "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33. TEST RESULTS SHALL BE SUBMITTED TO TDOT BRIDGE INSPECTION OFFICE.

NOTE: ALL CRACKS NOTED IN "CRACK LOCATION TABLE" IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 02/08/2010 AND DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33, SHALL BE REPAIRED IN ACCORDANCE WITH INFORMATION PROVIDED ON BR-117-100.

△ DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 02/08/2010.

✱ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 02/08/2010.

DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

+ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

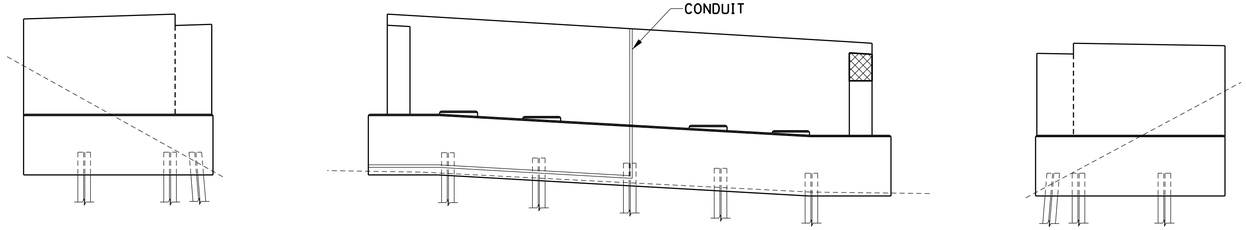
FRAMING PLAN

STRUCTURE NO. 163
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-78

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JA



ABUTMENT NO. 1

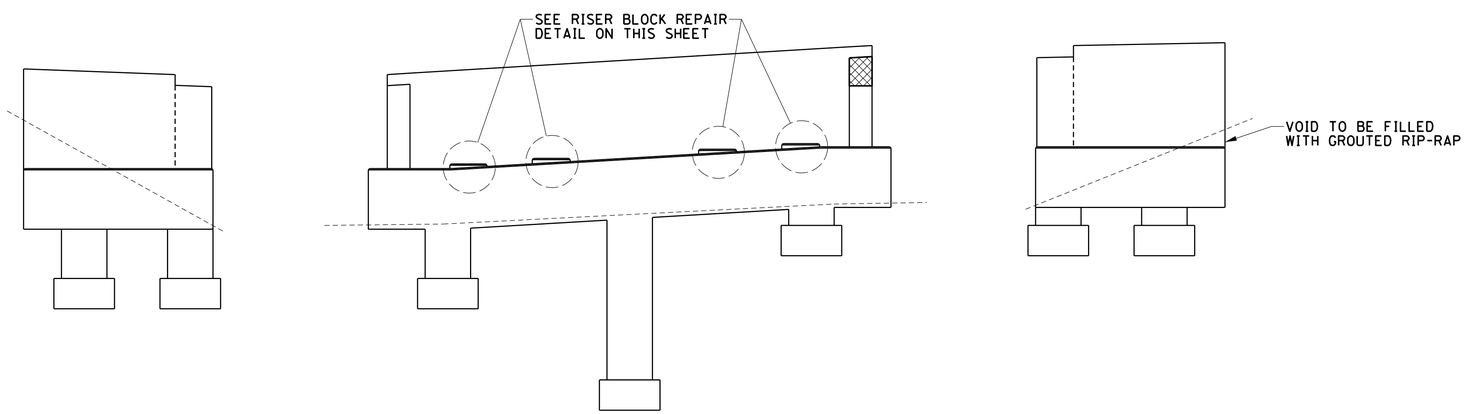
LEGEND	
DETERIORATED CONCRETE	
GROUND LEVEL	

CONST. NO. _____

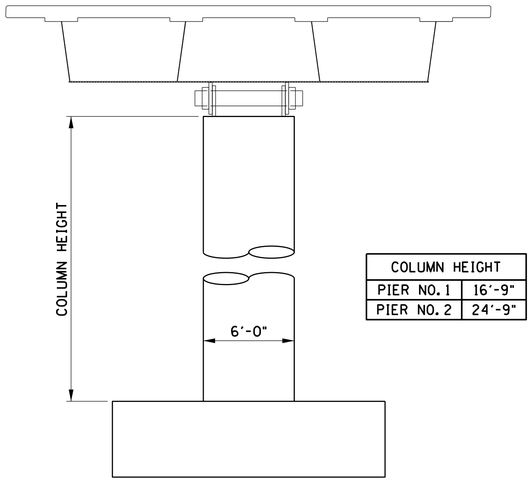
PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

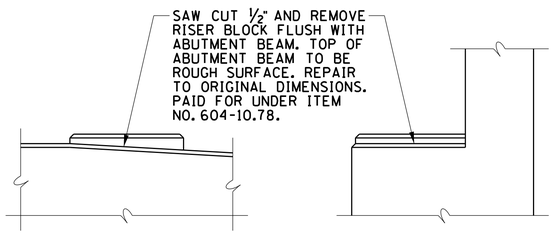


ABUTMENT NO. 2

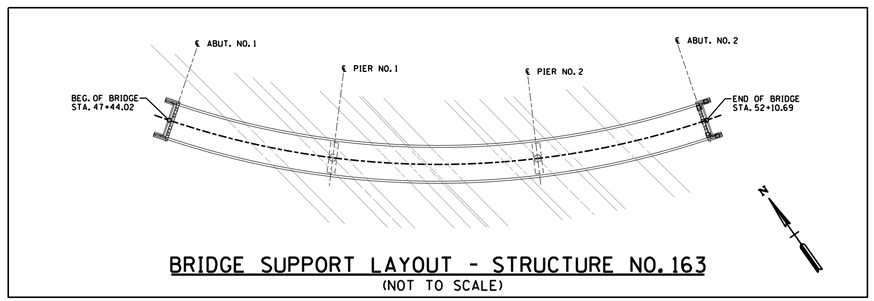


COLUMN HEIGHT	
PIER NO. 1	16'-9"
PIER NO. 2	24'-9"

PIER NOS. 1 AND 2



RISER BLOCK REPAIR DETAIL
(NOT TO SCALE)



BRIDGE SUPPORT LAYOUT - STRUCTURE NO. 163
(NOT TO SCALE)

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS

STRUCTURE NO. 163
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-79

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

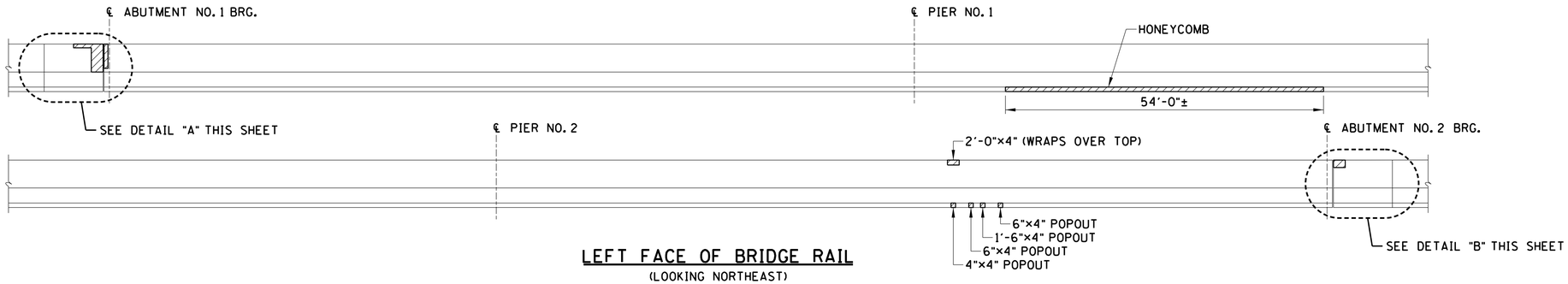
JACOBS ASSOCIATES, INC.

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

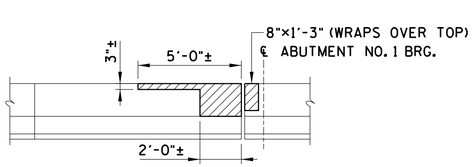
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

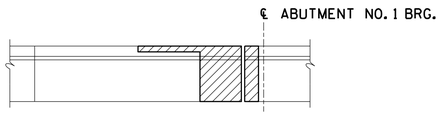


LEFT FACE OF BRIDGE RAIL
(LOOKING NORTHEAST)

RIGHT FACE OF BRIDGE RAIL
(LOOKING SOUTHWEST)

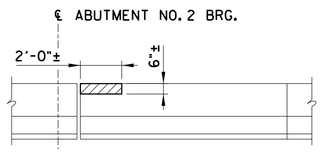


VIEW FROM ROADWAY SIDE

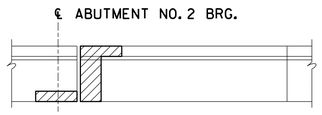


VIEW FROM OUTSIDE

DETAIL "A" - LEFT BRIDGE RAIL

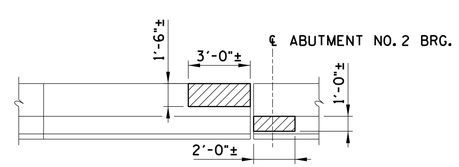


VIEW FROM ROADWAY SIDE

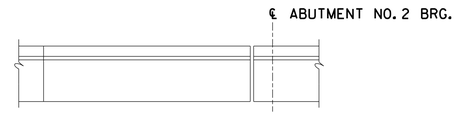


VIEW FROM OUTSIDE

DETAIL "B" - LEFT BRIDGE RAIL

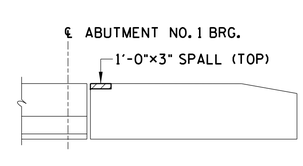


VIEW FROM ROADWAY SIDE

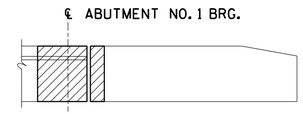


VIEW FROM OUTSIDE

DETAIL "C" - RIGHT BRIDGE RAIL



VIEW FROM ROADWAY SIDE



VIEW FROM OUTSIDE

DETAIL "D" - RIGHT BRIDGE RAIL

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JAMES & ASSOCIATES, INC.

▨ DENOTES: DETERIORATED CONCRETE

UNOFFICIAL SET

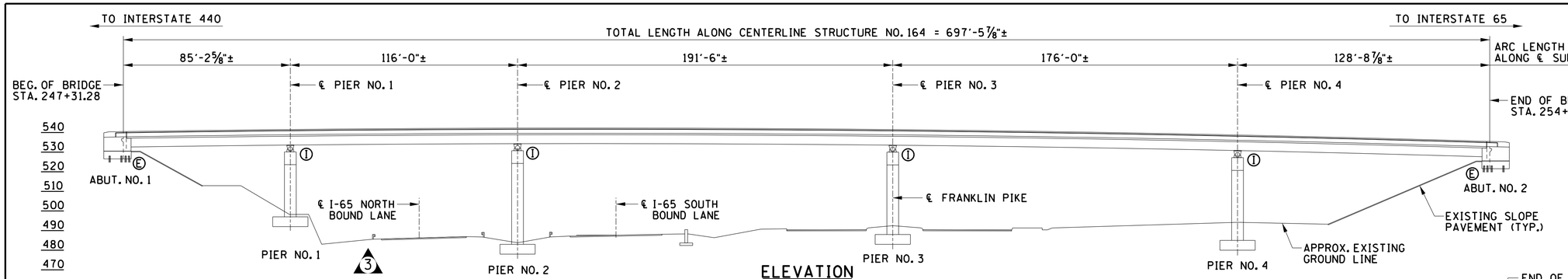
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIRS
(PARAPET)

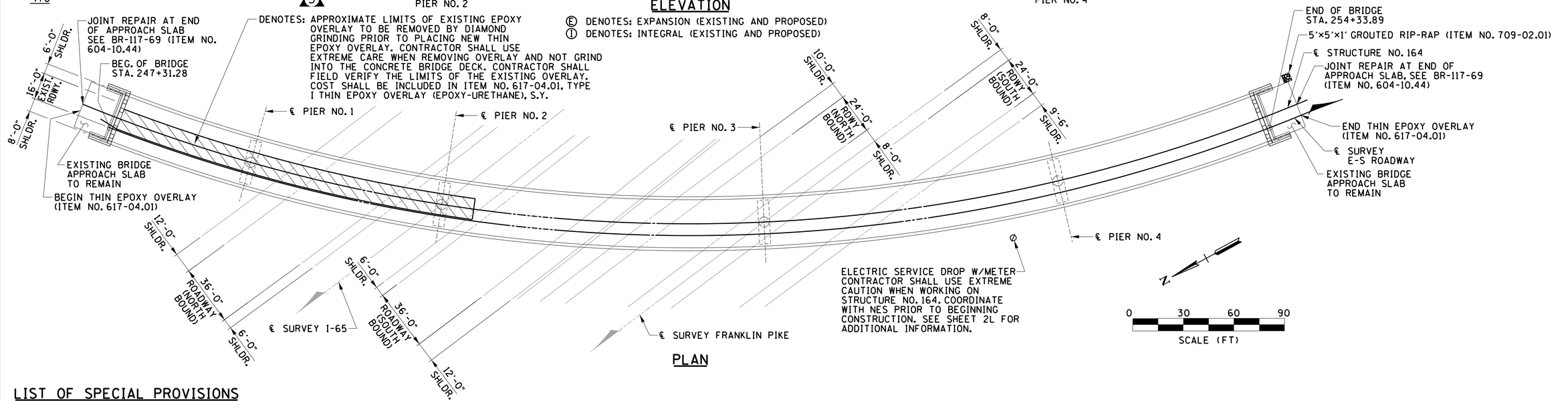
STRUCTURE NO. 163
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-80



ELEVATION

Ⓔ DENOTES: EXPANSION (EXISTING AND PROPOSED)
Ⓘ DENOTES: INTEGRAL (EXISTING AND PROPOSED)



PLAN

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	ADDED REVISION DATE
2	07-24-14	DT	ADDED REVISION DATE
3	02-04-15	DT	ADDED REVISION DATE AND ADDED APPROXIMATE LIMITS OF OVERLAY REMOVED

LIST OF SPECIAL PROVISIONS

DWG. NO.	LAST REV. DATE	DESCRIPTION
107CS	02-13-2012	NESTING SITES OF CLIFF SWALLOWS AND BARN SWALLOWS

LIST OF DRAWINGS ①②③

	DWG. NO.	LAST REV. DATE
LAYOUT	BR-117-68	
ESTIMATED BRIDGE QUANTITIES AND MISC. DETAILS	BR-117-69	02-04-15
BRIDGE GENERAL AND SPECIAL NOTES	BR-117-70	02-04-15
LAYOUT OF BRIDGE TO BE REPAIRED STRUCTURE NO. 164	BR-117-81	02-04-15
SUPERSTRUCTURE STRUCTURE NO. 164	BR-117-82	02-04-15
FRAMING PLAN STRUCTURE NO. 164	BR-117-83	
SUBSTRUCTURE REPAIRS STRUCTURE NO. 164	BR-117-84	02-04-15
CONCRETE REPAIRS (PARAPET)	BR-117-85	
MODULAR EXPANSION JOINT REPAIR AND CONCRETE DECK REPAIR	BR-117-98	02-04-15
CONCRETE REPAIR DETAILS	BR-117-99	07-24-14
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-100	
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-101	

LIST OF REFERENCE DRAWINGS

	DWG. NO.
EXISTING BRIDGE PLANS	M-15-55 THRU M-15-57, BR-33-67, BR-33-73 THRU BR-33-75, BR-33-84 THRU BR-33-87

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JA JOHNSON ASSOCIATES INC.

SCOPE OF WORK

1. PRIOR TO BEGINNING CONSTRUCTION, SUBMIT TO TDOT BRIDGE INSPECTION OFFICE STRUCTURAL DESIGN PLANS SEALED BY A PROFESSIONAL ENGINEER SHOWING PROPOSED JACKING AND TEMPORARY BRACING OF THE BRIDGE REQUIRED TO REPLACE PLATES TO ELIMINATE GAP AT BEARING DEVICE AT ABUTMENT NO. 1.
2. CONSTRUCT ENVIRONMENTAL PROTECTION.
3. ESTABLISH TRAFFIC CONTROL TO PROVIDE ONE LANE OF TRAFFIC ON STRUCTURE NO. 164 DURING CONSTRUCTION PHASES USING TEMPORARY SIGNAGE AND TRAFFIC BARRIERS.
4. REMOVE PAINT AND PERFORM EITHER DYE PENETRANT TEST OR FLASH MAGNETIC PARTICLE TEST IN WELDS AT BEARING STIFFENER TO WEB CONNECTIONS AT CROSS FRAME LOCATIONS AND AT SUPPORT DIAPHRAGM TO WEB CONNECTIONS (328 LOCATIONS) IN ORDER TO DETERMINE EXISTENCE AND EXTENT OF CRACKING IN WELDS AND IN GIRDER WEB. CONTRACTOR SHALL FOLLOW INSTRUCTIONS ON BR-117-83 TO DOCUMENT TEST RESULTS ON "CRACK LOCATION TABLE".
5. AFTER TESTING IS COMPLETE AND TEST RESULTS HAVE BEEN RECORDED IN THE "CRACK LOCATION TABLE", ALL CRACKS DENOTED IN THE TABLE SHALL BE REPAIRED IN ACCORDANCE WITH THE CRACK REPAIR PROCEDURE GIVEN ON BR-117-100.
6. CONSTRUCT 6"×6"×1/2" ANGLE SUPPORT AT UPPER CORNER OF ALL BEARING STIFFENERS AT DIAPHRAGM CROSS FRAME LOCATIONS (124 LOCATIONS) IN ACCORDANCE WITH INSTRUCTIONS ON BR-117-101.
7. REPAINT ALL METAL AT LOCATIONS OF TESTING AND REPAIRS AND HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE OF STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS.
8. REPLACE METAL PLATES AT ONE BEARING DEVICE TO ELIMINATE GAP BETWEEN DEVICE AND GIRDER B AT ABUTMENT NO. 1.
9. REPAIR AREAS OF DEFICIENT CONCRETE IN PARAPETS AND SUBSTRUCTURES.
10. APPLY GROUTED RIP-RAP UNDER PAVEMENT AT BRIDGE END AT ABUTMENT NO. 2.
11. PERFORM PARTIAL DEPTH DECK REPAIR.
12. CLEAN BRIDGE DECK EXPANSION JOINTS AND REPLACE PREFORMED ELASTOMERIC SEALS AS DIRECTED BY PROJECT ENGINEER.
13. APPLY NON-PENETRATING CONCRETE SEAL AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
14. REMOVE VEGETATION AND DEBRIS FROM STRUCTURES AND SLOPE PAVING.
15. REMOVE EXISTING EPOXY OVERLAY FROM BRIDGE DECK AND THEN CONSTRUCT TYPE I THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLABS AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
16. TEXTURE COAT CONCRETE SURFACES OF BRIDGE IN ACCORDANCE WITH SKETCH ON BR-117-69.

UNOFFICIAL SET

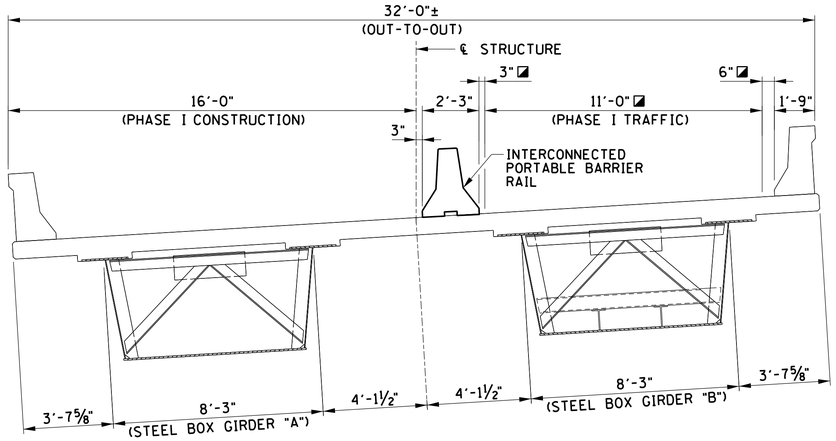
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

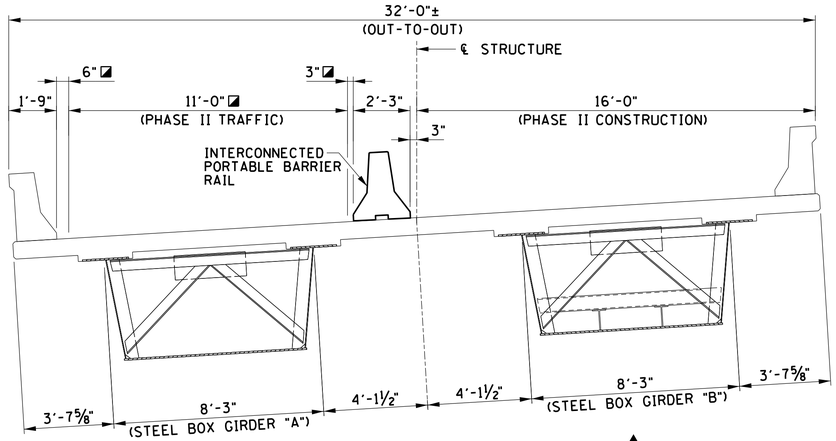
LAYOUT OF BRIDGE TO BE REPAIRED

STRUCTURE NO. 164
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-81



PHASE I CONSTRUCTION



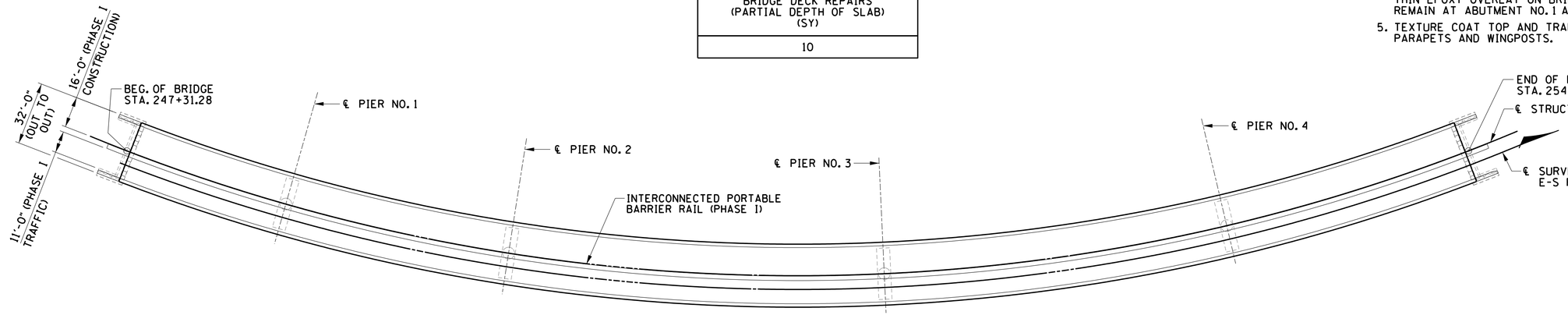
PHASE II CONSTRUCTION

TYPICAL CROSS-SECTION

(LOOKING FORWARD ON SURVEY)
(NOT TO SCALE)

◪ DENOTES: TRAFFIC CONTROL

ESTIMATED QUANTITIES
ITEM NO. 604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB) (SY)
10



SLAB PLAN

3 PHASE I CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. CLEAN EXPANSION JOINTS AND REPLACE SEALS AS REQUIRED.
4. REMOVE PORTION OF EXISTING EPOXY OVERLAY AND THEN CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLABS TO REMAIN AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
5. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

3 PHASE II CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. CLEAN EXPANSION JOINTS AND REPLACE SEALS AS REQUIRED.
4. REMOVE PORTION OF EXISTING EPOXY OVERLAY AND THEN CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLABS TO REMAIN AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
5. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
3	02-04-15	DT	REVISED PHASE I AND PHASE II CONSTRUCTION NOTE 4

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE

STRUCTURE NO. 164
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

N

0 30 60 90
SCALE (FT)

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JACOBS ENGINEERING GROUP

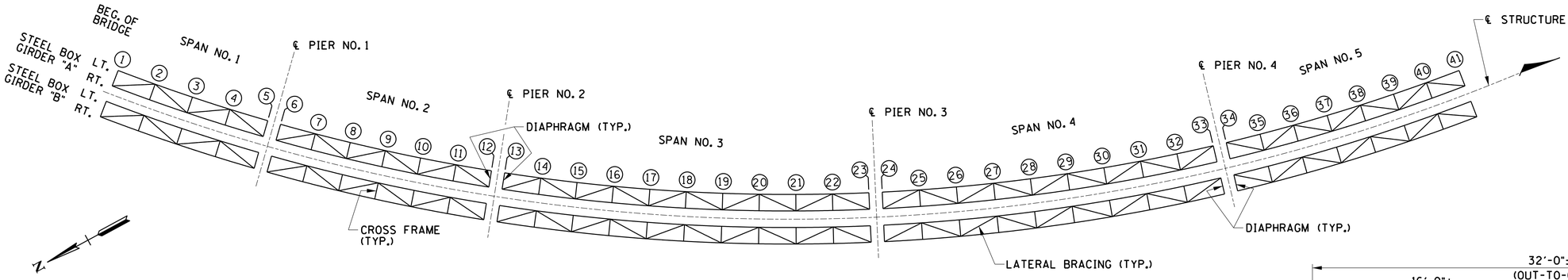
BR-117-82

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

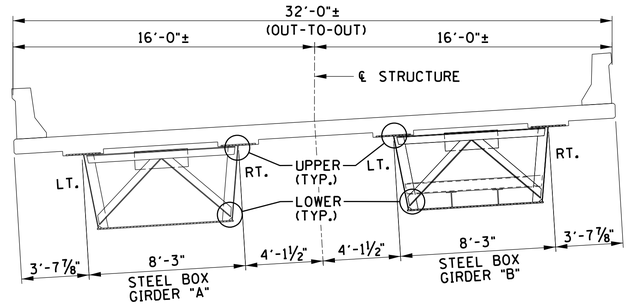
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



FRAMING PLAN

(1) THRU (41) DENOTES: CROSS FRAME AND DIAPHRAGM NUMBER IN "CRACK LOCATION TABLE"



HALF SECTION NEAR MID-SPAN HALF SECTION NEAR SUPPORT

TYPICAL CROSS-SECTION

(LOOKING WEST)
(NOT TO SCALE)

CRACK LOCATION TABLE

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(1)								
(2)								
(3)								
(4)								
(5)								
(6)								
(7)								
(8)								
(9)								
(10)								
(11)								
(12)								
(13)								
(14)								
(15)								
(16)								
(17)								
(18)								
(19)								
(20)								
(21)								

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(22)								
(23)								
(24)								
(25)								
(26)								
(27)								
(28)								
(29)								
(30)								
(31)								
(32)								
(33)								
(34)								
(35)								
(36)								
(37)								
(38)								
(39)								
(40)								
(41)								

△ DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 04/02/2012.

✱ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 04/02/2012.

DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

+ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

NOTE: CONTRACTOR SHALL FILL IN "CRACK LOCATION TABLE" ON THIS SHEET WITH "#" OR "+" WHERE APPROPRIATE IN ORDER TO DOCUMENT THE RESULTS OF THE DYE PENETRANT TEST OR THE FLASH MAGNETIC PARTICLE TEST PERFORMED IN "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33. TEST RESULTS SHALL BE SUBMITTED TO TDOT BRIDGE INSPECTION OFFICE.

NOTE: ALL CRACKS NOTED IN "CRACK LOCATION TABLE" IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 04/02/2012 AND DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33, SHALL BE REPAIRED IN ACCORDANCE WITH INFORMATION PROVIDED ON BR-117-100.

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

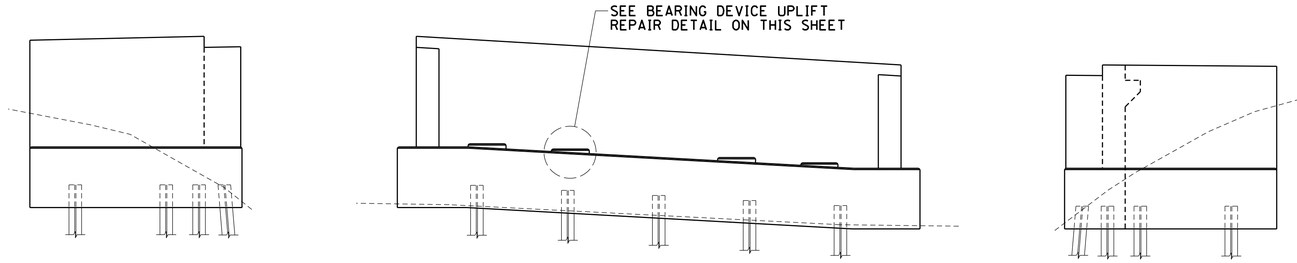
FRAMING PLAN

STRUCTURE NO. 164
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

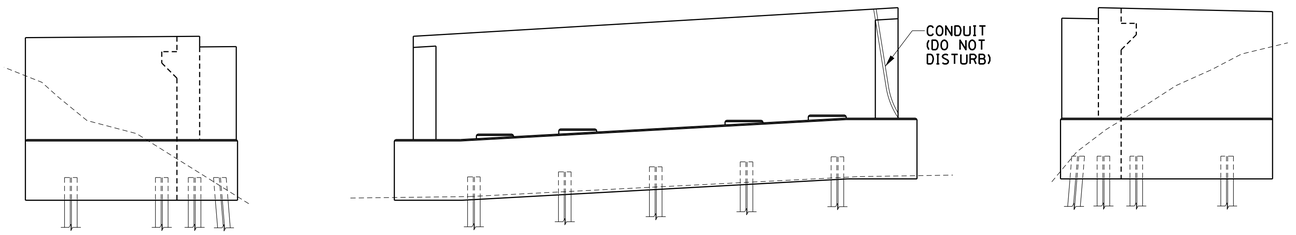
DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JACOBS ASSOCIATES, P.C.

BR-117-83



ABUTMENT NO. 1



ABUTMENT NO. 2

LEGEND

DETERIORATED CONCRETE

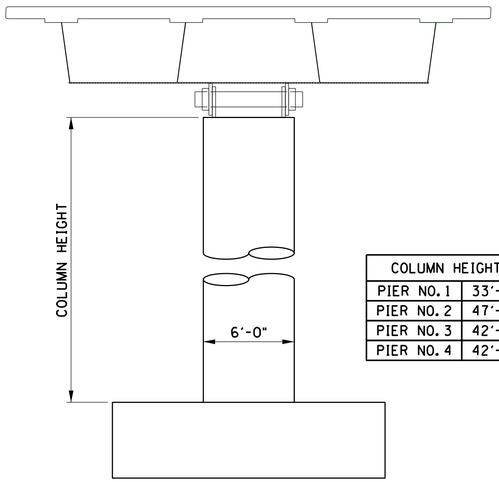
GROUND LEVEL

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

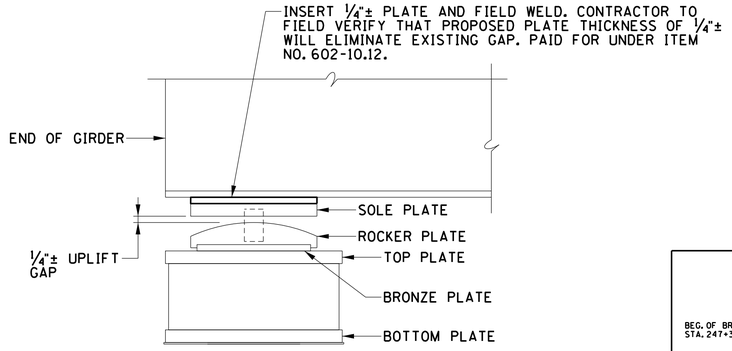
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
3	02-04-15	DT	REVISED "BEARING DEVICE UPLIFT
			REPAIR" DETAIL AND ADDED NOTE



COLUMN HEIGHT	
PIER NO. 1	33'-2"
PIER NO. 2	47'-2"
PIER NO. 3	42'-0"
PIER NO. 4	42'-2"

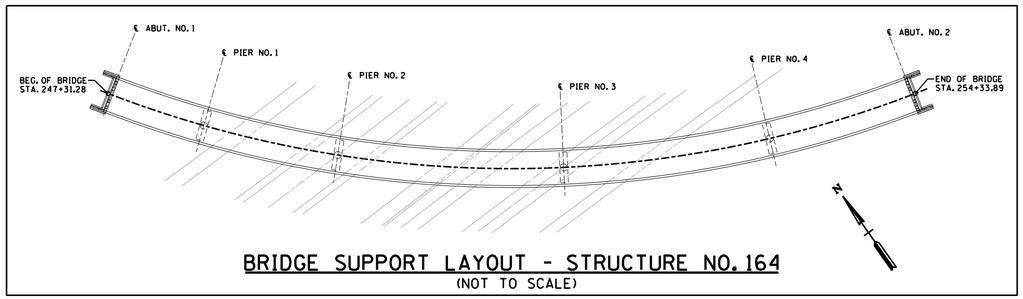
PIER NOS. 1 THRU 4



BEARING DEVICE UPLIFT REPAIR (3)

(NOT TO SCALE)

NOTE: BEARING UPLIFT REPAIR PROCEDURE SHALL BE SUBMITTED TO THE TDOT BRIDGE REPAIR OFFICE AND APPROVED PRIOR TO STARTING WORK.



BRIDGE SUPPORT LAYOUT - STRUCTURE NO. 164

(NOT TO SCALE)

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

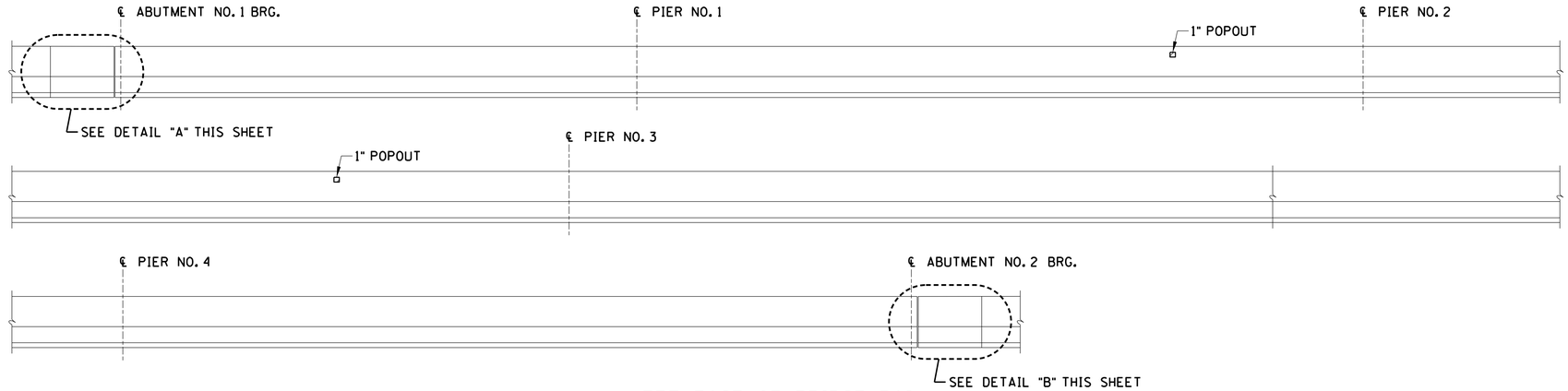
SUBSTRUCTURE REPAIRS

STRUCTURE NO. 164
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

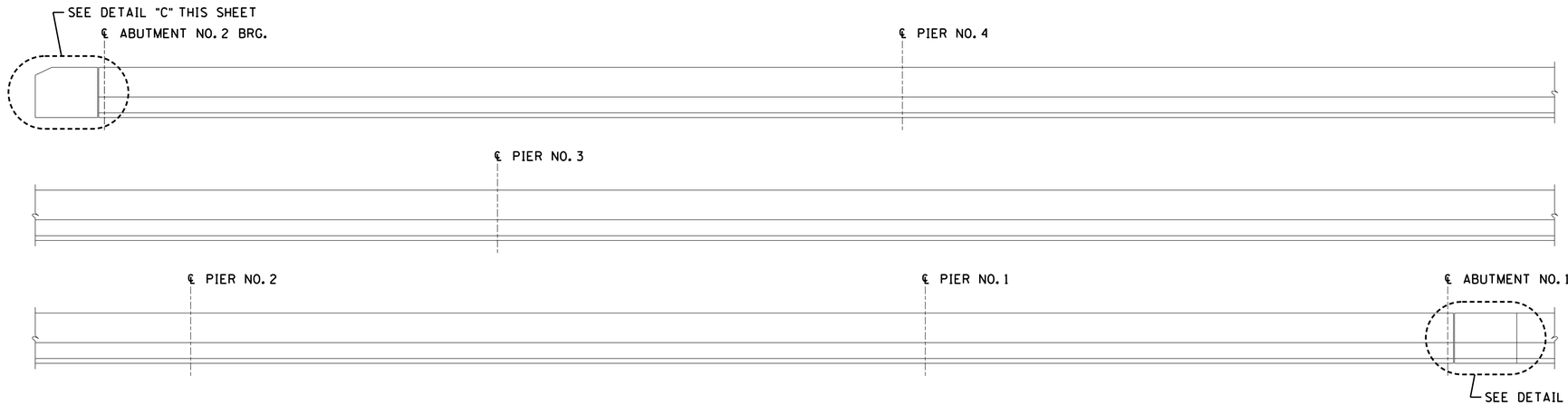
JACOBS ASSOCIATES INC.

BR-117-84



LEFT FACE OF BRIDGE RAIL

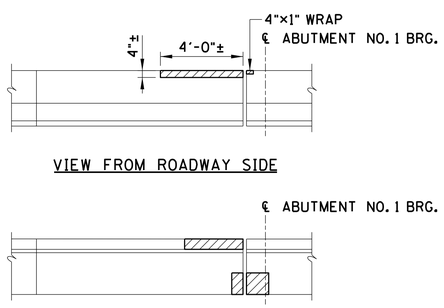
(LOOKING SOUTHEAST)



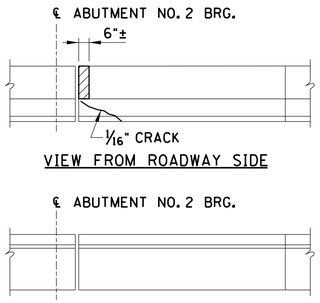
RIGHT FACE OF BRIDGE RAIL

(LOOKING NORTHWEST)

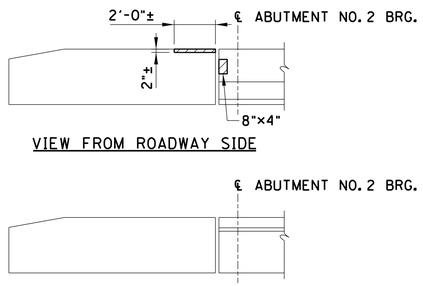
DENOTES: DETERIORATED CONCRETE



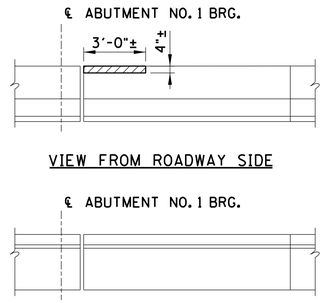
DETAIL "A" - LEFT BRIDGE RAIL



DETAIL "B" - LEFT BRIDGE RAIL



DETAIL "C" - RIGHT BRIDGE RAIL



DETAIL "D" - RIGHT BRIDGE RAIL

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JAMES + ASSOCIATES, INC.

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

UNOFFICIAL SET

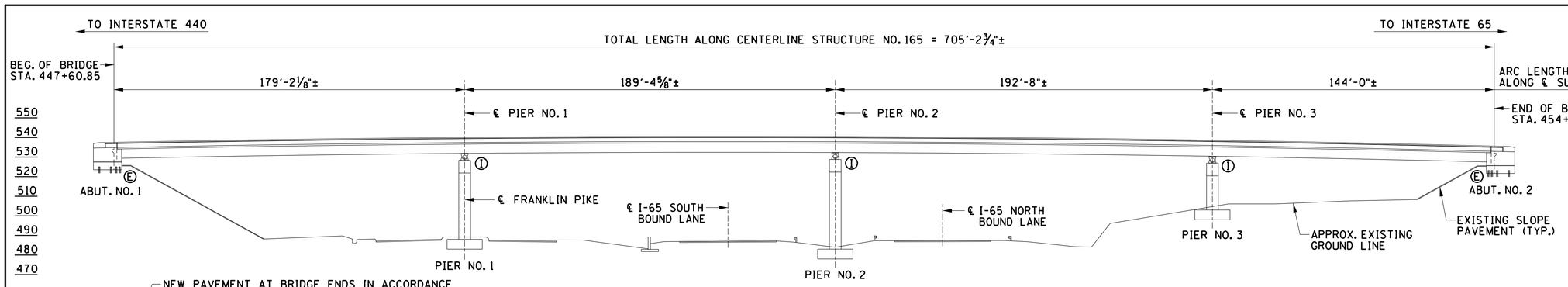
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIRS
(PARAPET)

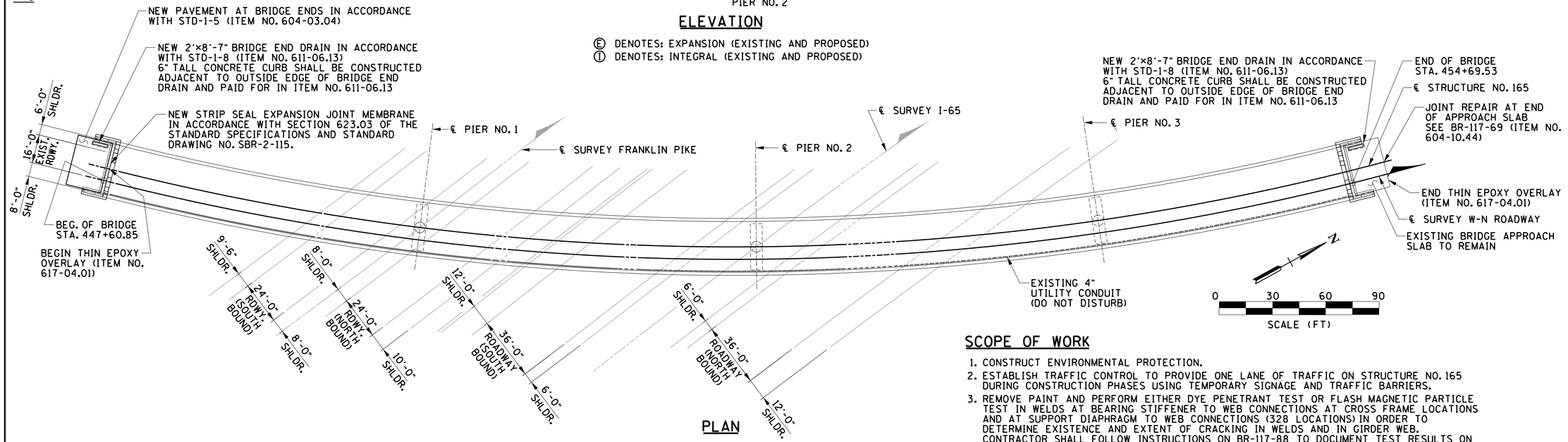
STRUCTURE NO. 164
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-85



ELEVATION

Ⓔ DENOTES: EXPANSION (EXISTING AND PROPOSED)
Ⓘ DENOTES: INTEGRAL (EXISTING AND PROPOSED)



PLAN

SCOPE OF WORK

1. CONSTRUCT ENVIRONMENTAL PROTECTION.
2. ESTABLISH TRAFFIC CONTROL TO PROVIDE ONE LANE OF TRAFFIC ON STRUCTURE NO. 165 DURING CONSTRUCTION PHASES USING TEMPORARY SIGNAGE AND TRAFFIC BARRIERS.
3. REMOVE PAINT AND PERFORM EITHER DYE PENETRANT TEST OR FLASH MAGNETIC PARTICLE TEST IN WELDS AT BEARING STIFFENER TO WEB CONNECTIONS AT CROSS FRAME LOCATIONS AND AT SUPPORT DIAPHRAGM TO WEB CONNECTIONS (328 LOCATIONS) IN ORDER TO DETERMINE EXISTENCE AND EXTENT OF CRACKING IN WELDS AND IN GIRDER WEB. CONTRACTOR SHALL FOLLOW INSTRUCTIONS ON BR-117-88 TO DOCUMENT TEST RESULTS ON "CRACK LOCATION TABLE".
4. AFTER TESTING IS COMPLETE AND TEST RESULTS HAVE BEEN RECORDED IN THE "CRACK LOCATION TABLE", ALL CRACKS DENOTED IN THE TABLE SHALL BE REPAIRED IN ACCORDANCE WITH THE CRACK REPAIR PROCEDURE GIVEN ON BR-117-100.
5. CONSTRUCT 6"×6"×1/2" ANGLE SUPPORT AT UPPER CORNER OF ALL BEARING STIFFENERS AT DIAPHRAGM CROSS FRAME LOCATIONS (132 LOCATIONS) IN ACCORDANCE WITH INSTRUCTIONS ON BR-117-101.
6. REPAINT ALL METAL AT LOCATIONS OF TESTING AND REPAIRS AND HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE OF STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS.
7. REPAIR AREAS OF DEFICIENT CONCRETE IN PARAPETS AND SUBSTRUCTURES.
8. PERFORM PARTIAL DEPTH DECK REPAIR INCLUDING AREAS OF OVERHEAD REPAIR TO PRECAST DECK PANELS IN EXTERIOR OF STEEL BOX GIRDERS.
9. CLEAN BRIDGE DECK EXPANSION JOINTS AND REPLACE PREFORMED ELASTOMERIC SEAL AT ABUTMENT NO. 1 AND ABUTMENT NO. 2 AS DIRECTED BY PROJECT ENGINEER.
10. REMOVE EXISTING AND CONSTRUCT PAVEMENT AT BRIDGE ENDS AT ABUTMENT NO. 1.
11. CONSTRUCT BRIDGE END DRAINS.
12. APPLY NON-PENETRATING CONCRETE SEAL AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
13. REMOVE VEGETATION AND DEBRIS FROM STRUCTURES AND SLOPE PAVING.
14. CONSTRUCT TYPE I THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLABS AT ABUTMENT NO. 2.
15. TEXTURE COAT CONCRETE SURFACES OF BRIDGE IN ACCORDANCE WITH SKETCH ON BR-117-69.

LIST OF DRAWINGS ①②③

	DWG. NO.	LAST REV. DATE
LAYOUT	BR-117-68	
ESTIMATED BRIDGE QUANTITIES AND MISC. DETAILS	BR-117-69	02-04-15
BRIDGE GENERAL AND SPECIAL NOTES	BR-117-70	02-04-15
LAYOUT OF BRIDGE TO BE REPAIRED STRUCTURE NO. 165	BR-117-86	02-04-15
SUPERSTRUCTURE STRUCTURE NO. 165	BR-117-87	
FRAMING PLAN STRUCTURE NO. 165	BR-117-88	
SUBSTRUCTURE REPAIRS STRUCTURE NO. 165	BR-117-89	
CONCRETE REPAIRS (PARAPET)	BR-117-90	
MODULAR EXPANSION JOINT REPAIR AND CONCRETE DECK REPAIR	BR-117-98	02-04-15
CONCRETE REPAIR DETAILS	BR-117-99	07-24-14
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-100	
STRUCTURAL STEEL TESTING AND REPAIR DETAILS	BR-117-101	

LIST OF REFERENCE DRAWINGS

	DWG. NO.
EXISTING BRIDGE PLANS	M-15-55 THRU M-15-57, BR-33-67, BR-33-76 THRU BR-33-78, BR-33-84 THRU BR-33-87

BRIDGE APPURTENANCES ③

SBR-2-115	01-04-96	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991
STD-1-5	03-26-14	REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS - 1995
STD-1-7	08-24-11	BRIDGE END DRAINS W/PAVEMENT AT BRIDGE ENDS - 1993
STD-1-9	05-01-95	BRIDGE END DRAIN 4' X 8'-7" W/PABE - 1993
STD-9-1	10-07-08	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

LIST OF SPECIAL PROVISIONS

DWG. NO.	LAST REV. DATE	DESCRIPTION
107CS	02-13-2012	NESTING SITES OF CLIFF SWALLOWS AND BARN SWALLOWS

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JA JAMES & ASSOCIATES, INC.

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	ADDED REVISION DATE
2	07-24-14	DT	ADDED REVISION DATE
3	02-04-15	DT	ADDED REVISION DATE AND SBR-2-115 TO BRIDGE APPURTENANCES

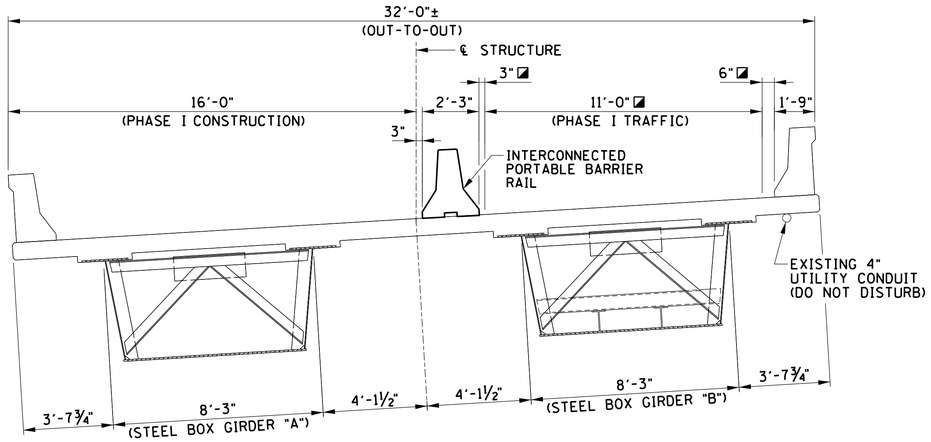
UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

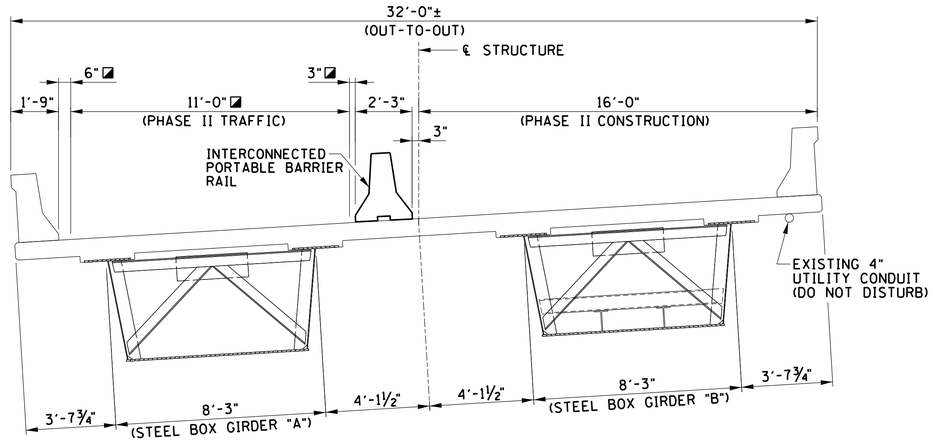
LAYOUT OF BRIDGE TO BE REPAIRED

STRUCTURE NO. 165
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-86



PHASE I CONSTRUCTION



PHASE II CONSTRUCTION

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

TYPICAL CROSS-SECTION

(LOOKING FORWARD ON SURVEY)
(NOT TO SCALE)

◪ DENOTES: TRAFFIC CONTROL

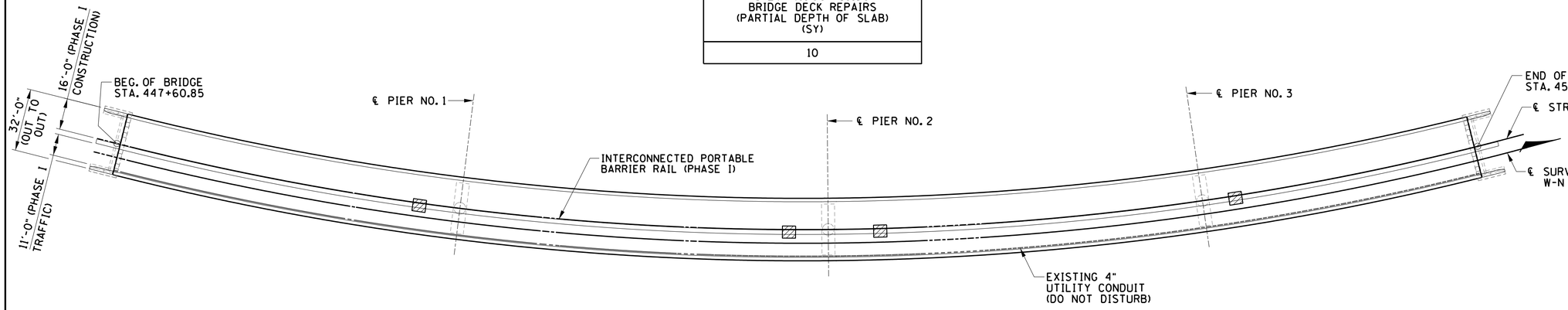
ESTIMATED QUANTITIES
ITEM NO. 604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB) (SY)
10

PHASE I CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. CLEAN EXPANSION JOINTS AND REPLACE SEALS AS REQUIRED.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 1.
5. CONSTRUCT BRIDGE END DRAINS.
6. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB TO REMAIN AT ABUTMENT NO. 2.
7. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

PHASE II CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. CLEAN EXPANSION JOINTS AND REPLACE SEALS AS REQUIRED.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 1.
5. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK AND APPROACH SLAB TO REMAIN AT ABUTMENT NO. 2.
6. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.



SLAB PLAN

(SHOWING LIMITS OF DEMOLITION)

▨ DENOTES: VERTICAL OVERHEAD PRESTRESSED CONCRETE DECK PANEL REPAIR.

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE

STRUCTURE NO. 165
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

N

0 30 60 90
SCALE (FT)

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JAMES & ASSOCIATES, INC.

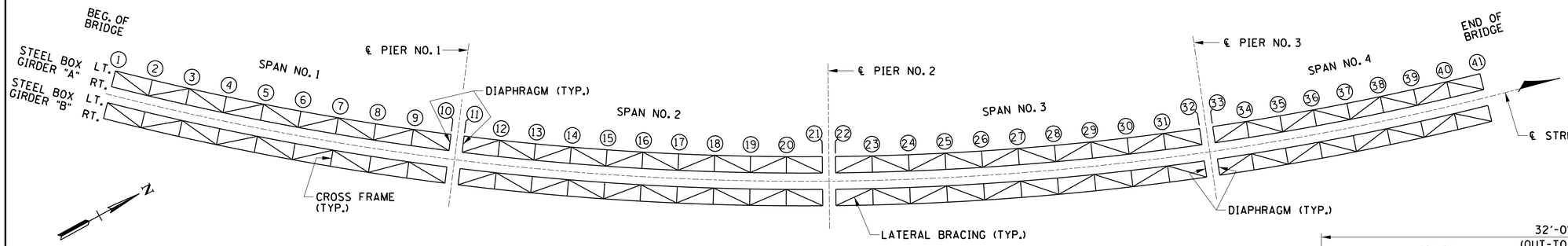
BR-117-87

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

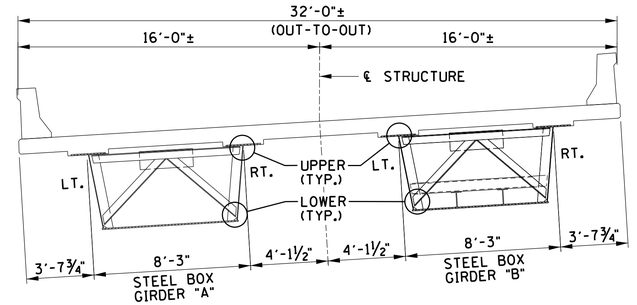
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



FRAMING PLAN

(1) THRU (41) DENOTES: CROSS FRAME AND DIAPHRAGM NUMBER IN "CRACK LOCATION TABLE"



HALF SECTION NEAR MID-SPAN HALF SECTION NEAR SUPPORT

TYPICAL CROSS-SECTION

(LOOKING NORTH)
(NOT TO SCALE)

CRACK LOCATION TABLE

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(1)								
(2)								
(3)								
(4)								
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(14)								
(15)				*				
(16)			*					
(17)		*	*					
(18)								
(19)	*							
(20)								
(21)								

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(22)	*		*					
(23)			*					
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(26)	*							
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△ DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 03/08/2010.

* DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 03/08/2010.

\# DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

\+ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

NOTE: CONTRACTOR SHALL FILL IN "CRACK LOCATION TABLE" ON THIS SHEET WITH "#" OR "+" WHERE APPROPRIATE IN ORDER TO DOCUMENT THE RESULTS OF THE DYE PENETRANT TEST OR THE FLASH MAGNETIC PARTICLE TEST PERFORMED IN "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33. TEST RESULTS SHALL BE SUBMITTED TO TDOT BRIDGE INSPECTION OFFICE.

NOTE: ALL CRACKS NOTED IN "CRACK LOCATION TABLE" IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 03/08/2010 AND DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33, SHALL BE REPAIRED IN ACCORDANCE WITH INFORMATION PROVIDED ON BR-117-100.

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

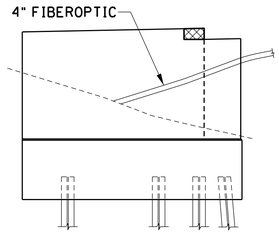
FRAMING PLAN

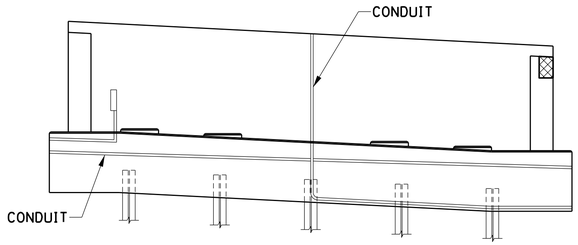
STRUCTURE NO. 165
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

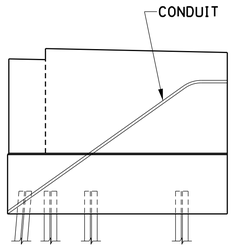
JA JAMES & ASSOCIATES, INC.

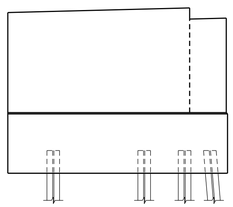
BR-117-88

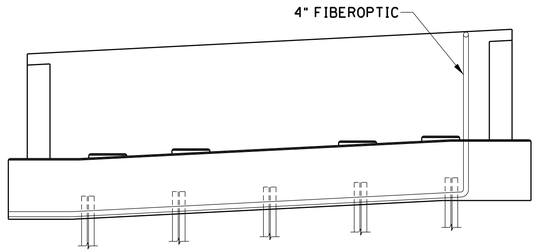




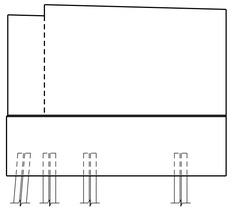
ABUTMENT NO. 1







ABUTMENT NO. 2



LEGEND

DETERIORATED CONCRETE

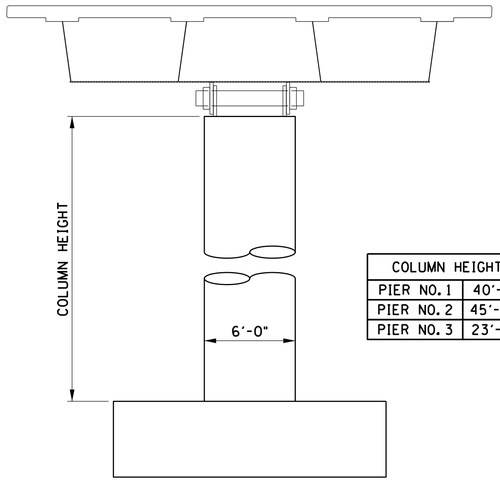
GROUND LEVEL

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

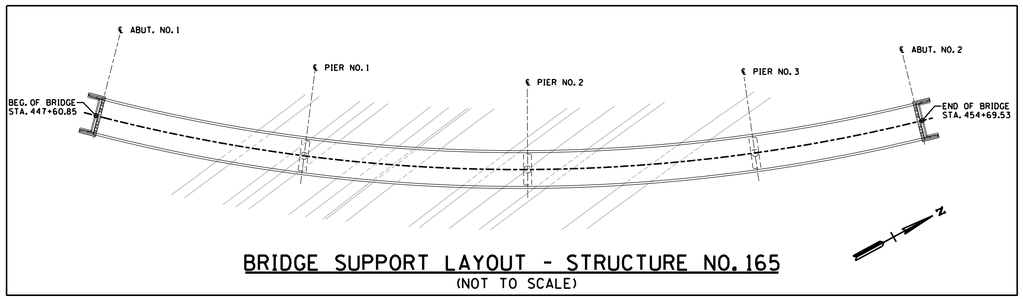
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



COLUMN HEIGHT	
PIER NO. 1	40'-4"
PIER NO. 2	45'-10"
PIER NO. 3	23'-11"

PIER NOS. 1 THRU 3



BRIDGE SUPPORT LAYOUT - STRUCTURE NO. 165

(NOT TO SCALE)

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS

STRUCTURE NO. 165
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-89

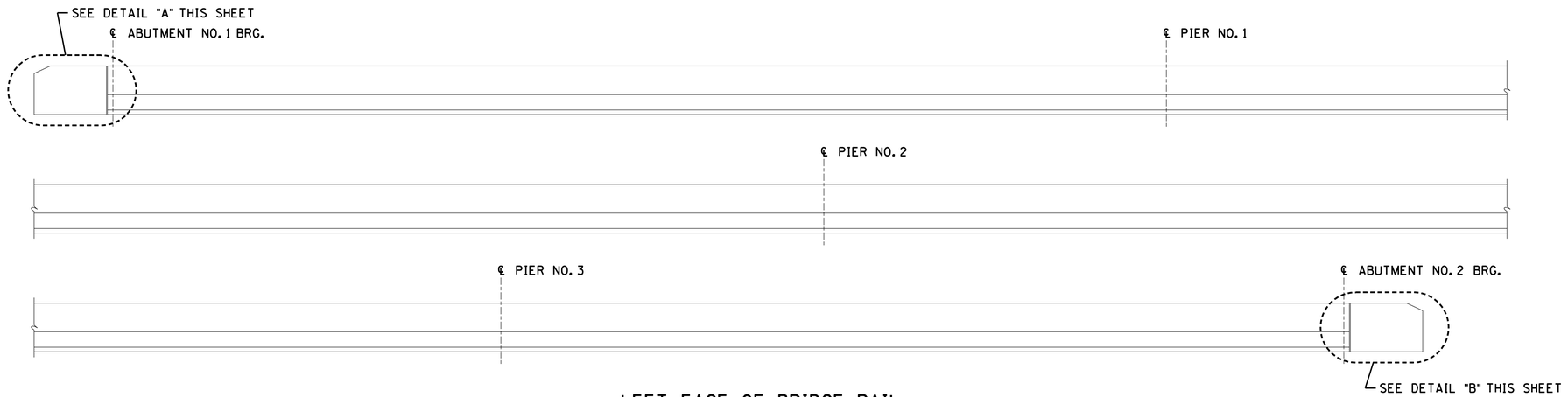
DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

CONST. NO. _____

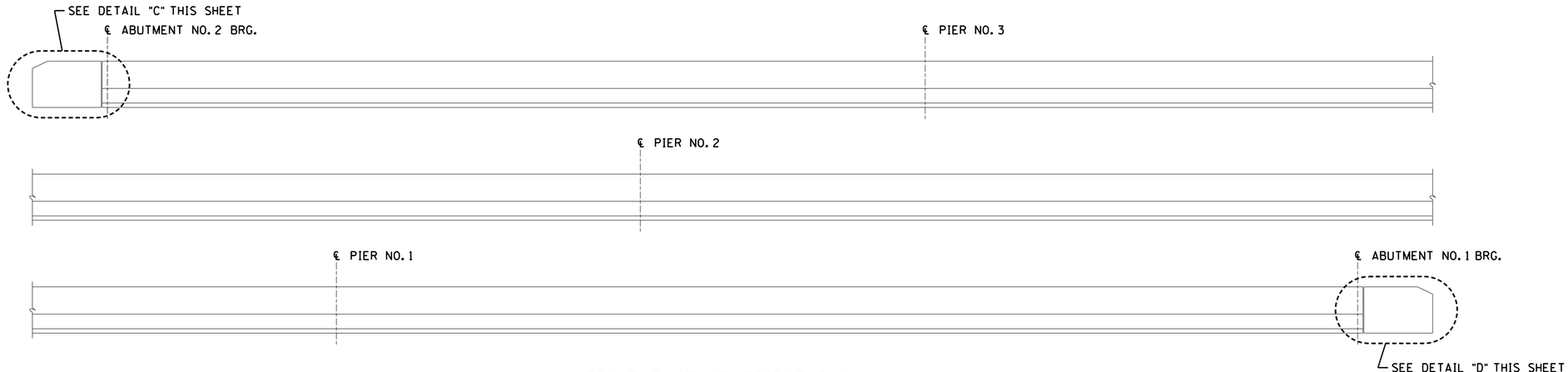
PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

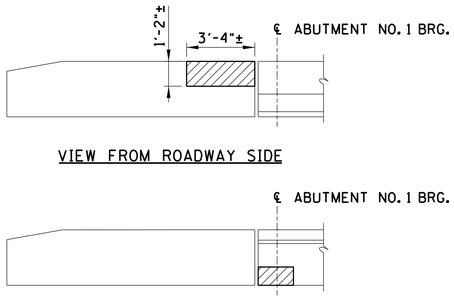


LEFT FACE OF BRIDGE RAIL
(LOOKING NORTHWEST)

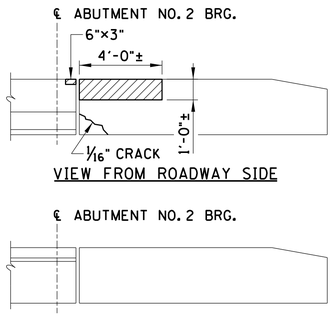


RIGHT FACE OF BRIDGE RAIL
(LOOKING SOUTHEAST)

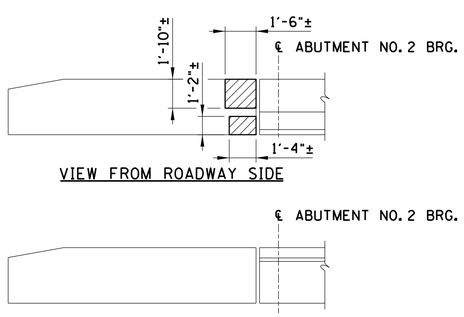
▨ DENOTES: DETERIORATED CONCRETE



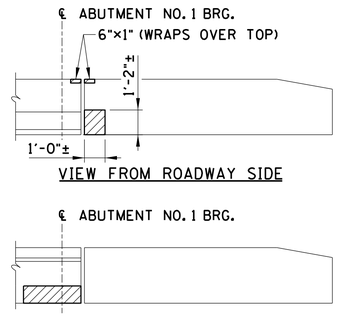
DETAIL "A" - LEFT BRIDGE RAIL



DETAIL "B" - LEFT BRIDGE RAIL



DETAIL "C" - RIGHT BRIDGE RAIL



DETAIL "D" - RIGHT BRIDGE RAIL

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JAMES & ASSOCIATES, INC.

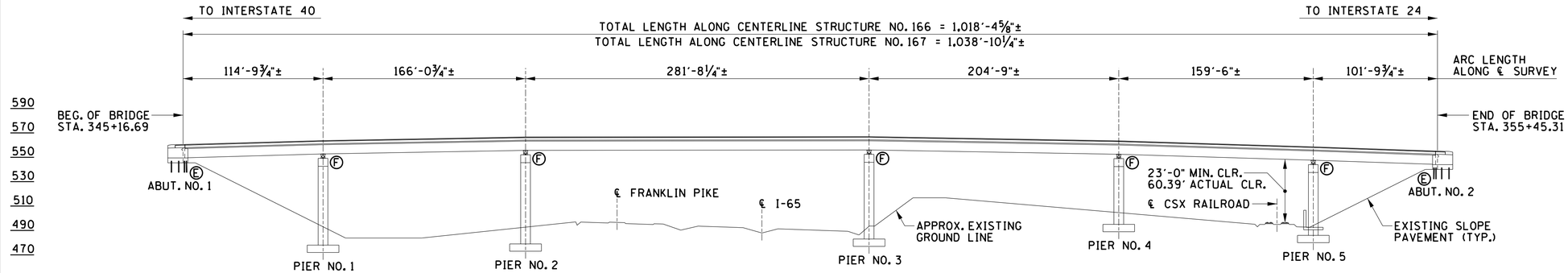
UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIRS
(PARAPET)

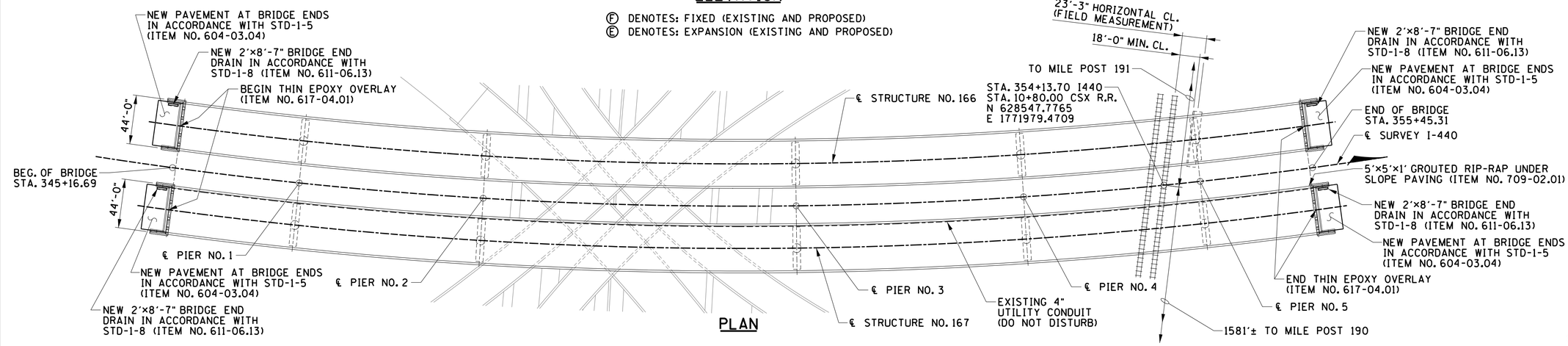
STRUCTURE NO. 165
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-90



ELEVATION

Ⓕ DENOTES: FIXED (EXISTING AND PROPOSED)
Ⓔ DENOTES: EXPANSION (EXISTING AND PROPOSED)



PLAN

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	06-27-14	DT	ADDED REVISION DATE
2	07-24-14	DT	ADDED REVISION DATE
3	02-04-15	DT	ADDED REVISION DATE

LIST OF DRAWINGS △1 △2 △3

LIST OF REFERENCE DRAWINGS

	DWG. NO.
EXISTING BRIDGE PLANS	M-15-55 THRU M-15-57, BR-33-67, BR-33-79 THRU BR-33-85, BR-33-87

BRIDGE APPURTENANCES

STD-1-5	03-26-14	REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS - 1995
STD-1-7	08-24-11	BRIDGE END DRAINS W/PAVEMENT AT BRIDGE ENDS - 1993
STD-1-9	05-01-95	BRIDGE END DRAIN 4' X 8'-7" W/PABE - 1993
STD-9-1	10-07-08	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JA JACOBS ASSOCIATES, INC.

SCOPE OF WORK

1. PRIOR TO BEGINNING CONSTRUCTION, SUBMIT TO TDOT BRIDGE INSPECTION OFFICE STRUCTURAL DESIGN PLANS SEALED BY A PROFESSIONAL ENGINEER SHOWING PROPOSED JACKING AND TEMPORARY BRACING OF THE BRIDGE REQUIRED TO RESET BEARING DEVICES.
2. CONSTRUCT ENVIRONMENTAL PROTECTION.
3. ESTABLISH TRAFFIC CONTROL ON STRUCTURE NOS. 166 AND 167 USING TEMPORARY SIGNAGE AND TRAFFIC BARRIERS TO PROVIDE TWO PHASES OF CONSTRUCTION AS FOLLOWS:
   A. PHASE I: ONE 12'-0" WIDE LANE OF TRAFFIC AND 27'-3" WIDTH OF CONSTRUCTION. LANE CLOSURES RESTRICTED TO WEEKENDS ONLY.
   B. PHASE II: TWO 11'-0" WIDE LANES OF TRAFFIC AND 16'-9" WIDTH OF CONSTRUCTION. LANE CLOSURES NOT RESTRICTED TO WEEKENDS ONLY.
4. REMOVE PAINT AND PERFORM EITHER DYE PENETRANT TEST OR FLASH MAGNETIC PARTICLE TEST IN WELDS AT BEARING STIFFENER TO WEB CONNECTIONS AT CROSS FRAME LOCATIONS AND AT SUPPORT DIAPHRAGM TO WEB CONNECTIONS (480 LOCATIONS IN STRUCTURE NO. 166 AND 480 LOCATIONS IN STRUCTURE NO. 167 IN ORDER TO DETERMINE EXISTENCE AND EXTENT OF CRACKING IN WELDS AND IN GIRDER WEB. CONTRACTOR SHALL FOLLOW INSTRUCTIONS ON BR-117-93 TO DOCUMENT TEST RESULTS IN "CRACK LOCATION TABLE".
5. AFTER TESTING IS COMPLETE AND TEST RESULTS HAVE BEEN RECORDED IN THE "CRACK LOCATION TABLE", ALL CRACKS DENOTED IN THE TABLE SHALL BE REPAIRED IN ACCORDANCE WITH THE CRACK REPAIR PROCEDURE GIVEN ON BR-117-100.
6. CONSTRUCT 6"x6"x1/2" ANGLE SUPPORT AT UPPER CORNER OF ALL BEARING STIFFENERS AT DIAPHRAGM CROSS FRAME LOCATIONS (192 LOCATIONS IN STRUCTURE NO. 166 AND 192 LOCATIONS IN STRUCTURE NO. 167) IN ACCORDANCE WITH INSTRUCTIONS ON BR-117-101.
7. REPAINT ALL METAL AT LOCATIONS OF TESTING AND REPAIRS AND HAND TOOL AND/OR MEDIA BLAST CLEAN AND SPOT PAINT AREAS OF RUST INSIDE OF STEEL GIRDERS AND PIER SUPPORT DIAPHRAGMS.
8. BLAST CLEAN AND PAINT INTERIOR FLOOR PLATE OF STRUCTURE NO. 167 GIRDER B IN SPANS 3, 4 AND 5.
9. REPAIR AREAS OF DEFICIENT CONCRETE IN PARAPETS AND SUBSTRUCTURES.
10. APPLY GROUTED RIP-RAP UNDER SLOPE PAVING AT BRIDGE NO. 167 ABUTMENT NO. 2.
11. RESET BEARING DEVICES.
12. PERFORM PARTIAL DEPTH DECK REPAIR.
13. REPAIR MODULAR EXPANSION JOINTS AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
14. REMOVE EXISTING AND CONSTRUCT PAVEMENT AT BRIDGE ENDS WITH BRIDGE END DRAINS AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
15. APPLY NON-PENETRATING CONCRETE SEAL AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
16. REMOVE VEGETATION AND DEBRIS FROM STRUCTURES AND SLOPE PAVING.
17. CONSTRUCT TYPE I THIN EPOXY OVERLAY ON BRIDGE DECK.
18. TEXTURE COAT CONCRETE SURFACES OF BRIDGE IN ACCORDANCE WITH SKETCH ON BR-117-69.

LIST OF SPECIAL PROVISIONS

DWG. NO.	LAST REV. DATE	DESCRIPTION
107CS	02-13-2012	NESTING SITES OF CLIFF SWALLOWS AND BARN SWALLOWS

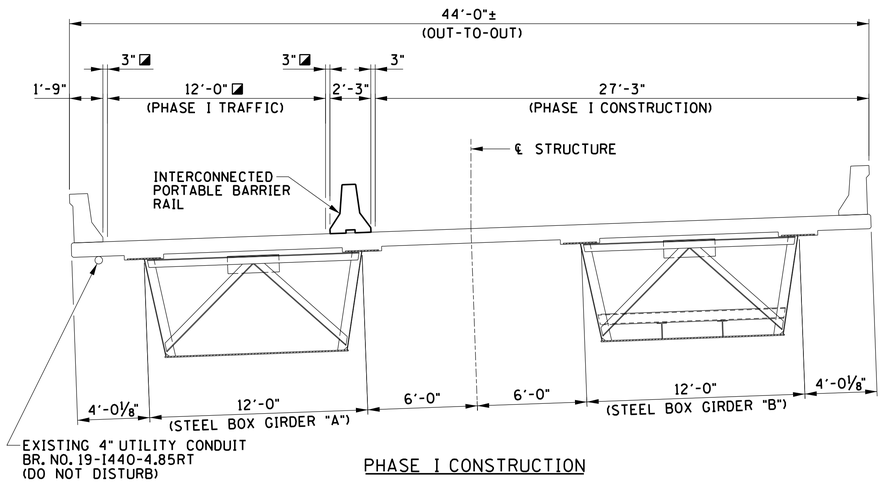
UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

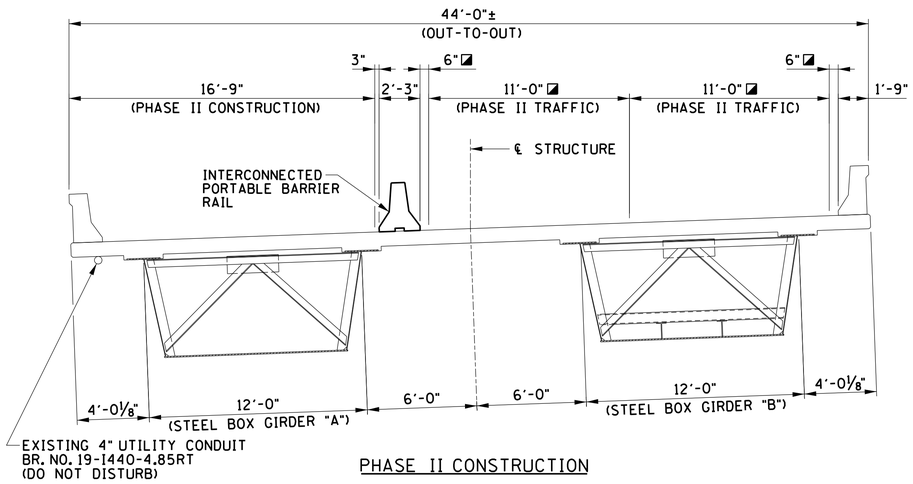
LAYOUT OF BRIDGES TO BE REPAIRED

STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-91



PHASE I CONSTRUCTION



PHASE II CONSTRUCTION

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

TYPICAL CROSS-SECTION

(LOOKING FORWARD ON SURVEY)
(NOT TO SCALE)

◪ DENOTES: TRAFFIC CONTROL

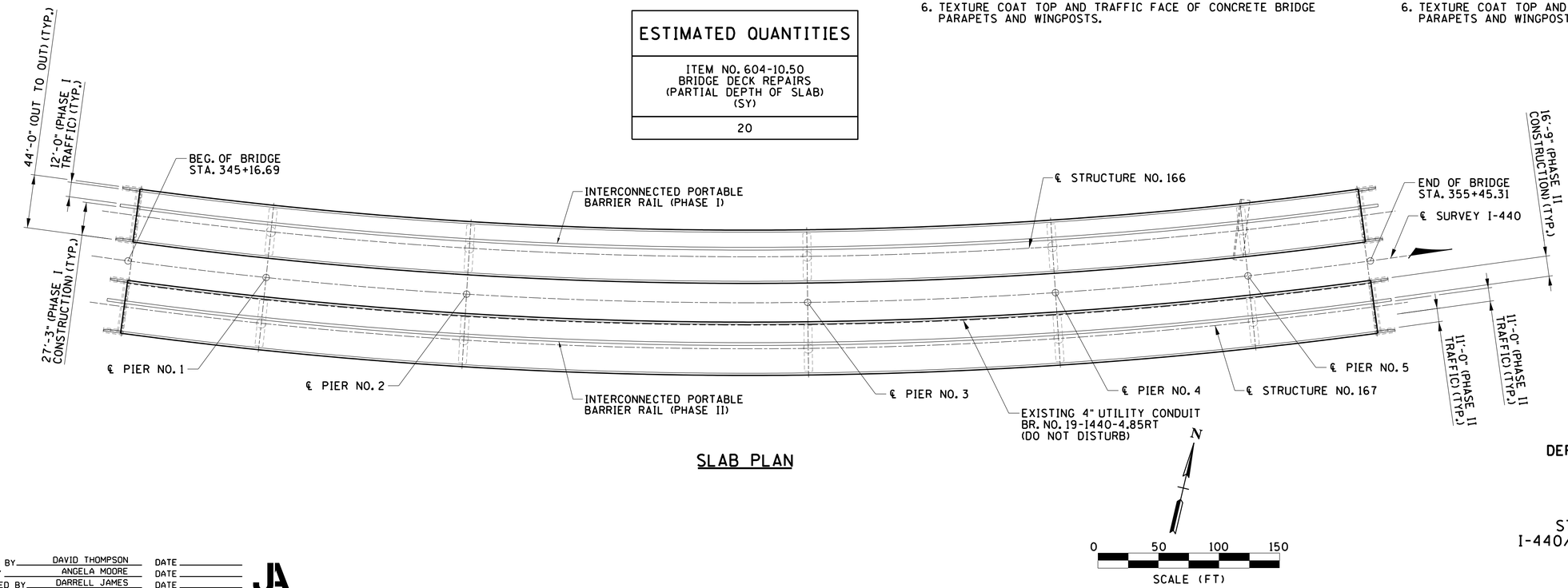
PHASE I CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. REPAIR MODULAR EXPANSION JOINTS.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
5. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK.
6. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

PHASE II CONSTRUCTION

1. PERFORM PARTIAL DEPTH DECK REPAIR.
2. REPAIR DEFICIENT CONCRETE IN PARAPET.
3. REPAIR MODULAR EXPANSION JOINTS.
4. CONSTRUCT PAVEMENT AT BRIDGE ENDS SLAB AT ABUTMENT NO. 1 AND ABUTMENT NO. 2.
5. CONSTRUCT THIN EPOXY OVERLAY ON BRIDGE DECK.
6. TEXTURE COAT TOP AND TRAFFIC FACE OF CONCRETE BRIDGE PARAPETS AND WINGPOSTS.

ESTIMATED QUANTITIES
ITEM NO. 604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB) (SY)
20



SLAB PLAN

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

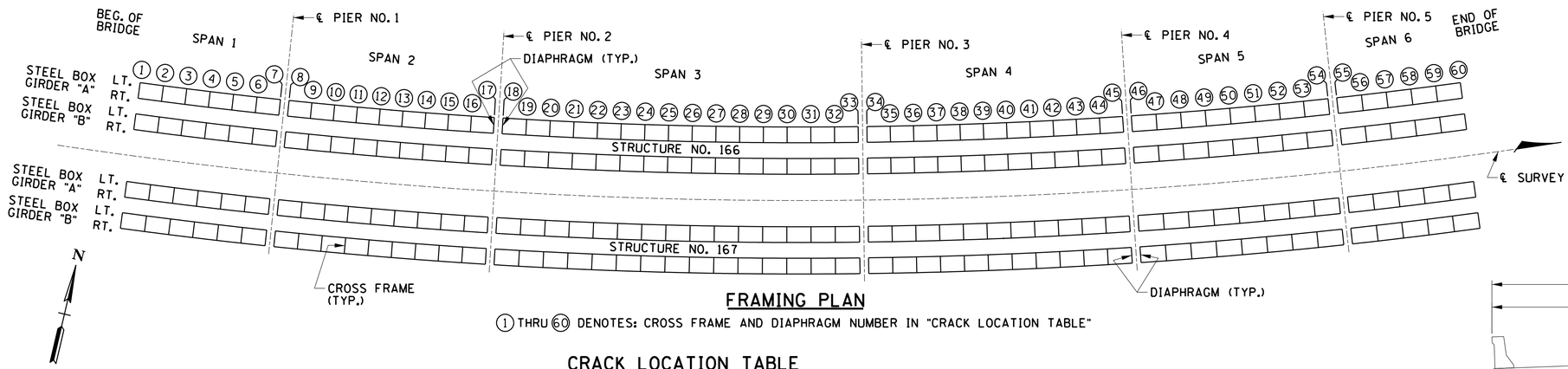
SUPERSTRUCTURE

STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-92

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JA JAMES & ASSOCIATES, INC.



FRAMING PLAN

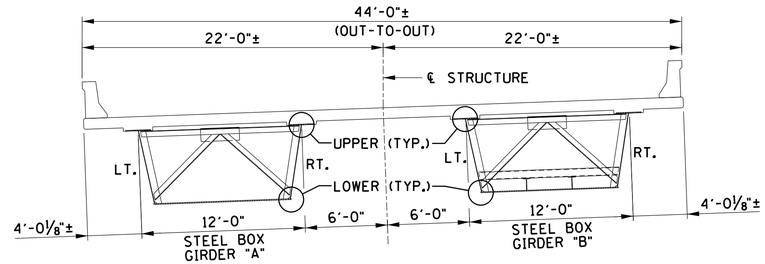
(1) THRU (60) DENOTES: CROSS FRAME AND DIAPHRAGM NUMBER IN "CRACK LOCATION TABLE"

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



HALF SECTION NEAR MID-SPAN HALF SECTION NEAR SUPPORT

TYPICAL CROSS-SECTION

(LOOKING EAST)
(NOT TO SCALE)

CRACK LOCATION TABLE

STRUCTURE NO. 166

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(1)								
(2)								
(3)								
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STRUCTURE NO. 166 (CON'D)

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(42)								
(43)								
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(46)								
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(58)								
(59)								
(60)								

STRUCTURE NO. 167

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
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STRUCTURE NO. 167 (CON'D)

CROSS FRAME OR DIAPHRAGM NO.	STEEL BOX GIRDER "A"				STEEL BOX GIRDER "B"			
	LEFT		RIGHT		LEFT		RIGHT	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
(19)	*							
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△ DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 04/02/2012.

* DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 04/02/2012.

DENOTES: LOCATION OF STRUCTURAL CRACK IN BOX GIRDER WEB AT INTERSECTION WITH CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

\+ DENOTES: LOCATION OF STRUCTURAL CRACK IN WELD MATERIAL BETWEEN BOX GIRDER WEB AND EITHER CROSS FRAME OR DIAPHRAGM AS DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33.

NOTE: CONTRACTOR SHALL FILL IN "CRACK LOCATION TABLE" ON THIS SHEET WITH "■" OR "+" WHERE APPROPRIATE IN ORDER TO DOCUMENT THE RESULTS OF THE DYE PENETRANT TEST OR THE FLASH MAGNETIC PARTICLE TEST PERFORMED IN "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33. TEST RESULTS SHALL BE SUBMITTED TO TDOT BRIDGE INSPECTION OFFICE.

NOTE: ALL CRACKS NOTED IN "CRACK LOCATION TABLE" IN ACCORDANCE WITH INFORMATION PROVIDED IN TDOT BRIDGE INSPECTION REPORT DATED 04/02/2012 AND DISCOVERED WHILE PERFORMING "STRUCTURAL STEEL TEST FOR CRACKS", ITEM NO. 602-10.33, SHALL BE REPAIRED IN ACCORDANCE WITH INFORMATION PROVIDED ON BR-117-100.

UNOFFICIAL SET

NOT FOR BIDDING

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

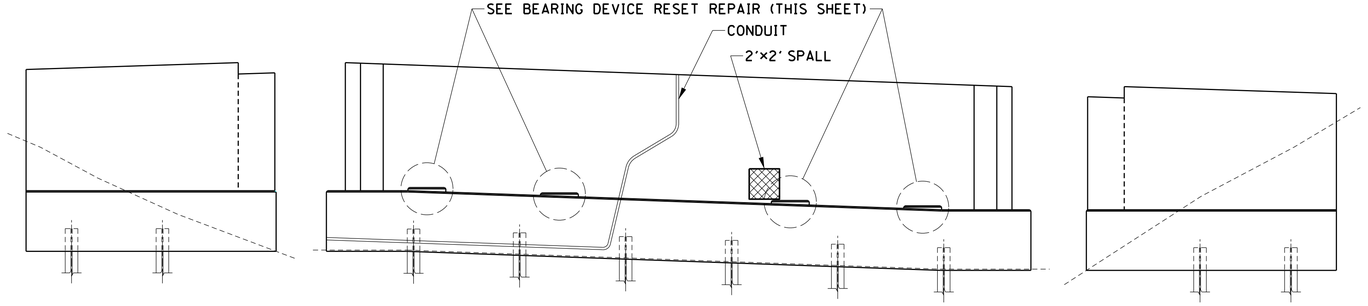
JA JOHNSON ASSOCIATES, INC.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

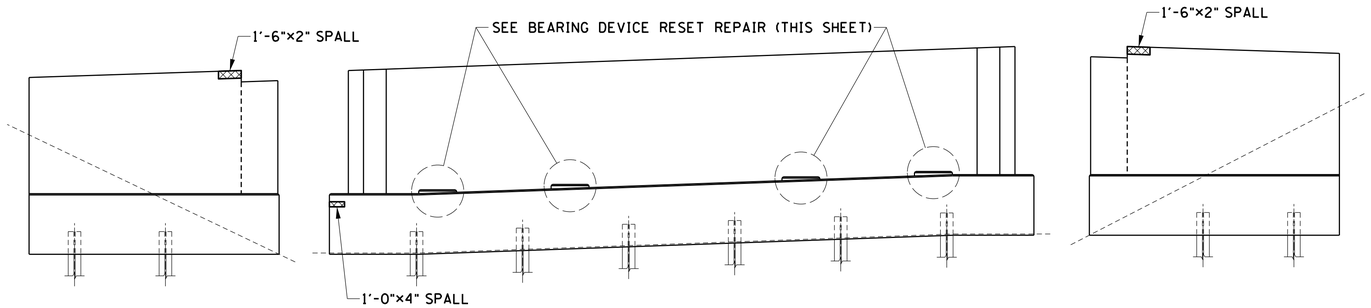
FRAMING PLAN

STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-93



ABUTMENT NO. 1



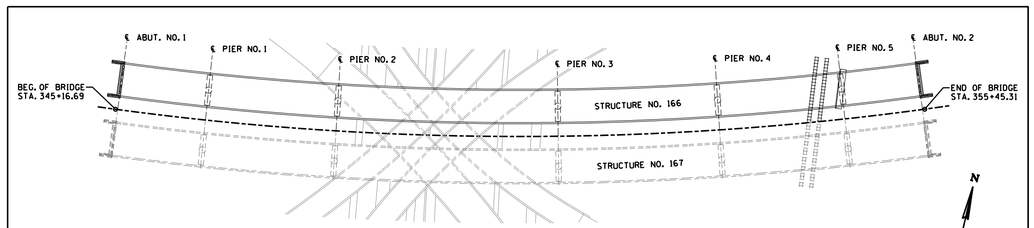
ABUTMENT NO. 2

BEARING DEVICE RESET REPAIR (3)

(NOT TO SCALE)

NOTE: BEARING REPAIR PROCEDURE SHALL BE SUBMITTED TO THE TDOT BRIDGE REPAIR OFFICE AND APPROVED PRIOR TO STARTING WORK.

DESIGNED BY	DAVID THOMPSON	DATE	
DRAWN BY	ANGELA MOORE	DATE	
SUPERVISED BY	DARRELL JAMES	DATE	
CHECKED BY	JAMIE GILLESPIE	DATE	



BRIDGE SUPPORT LAYOUT - STRUCTURE NO. 166 AND 167

(NOT TO SCALE)

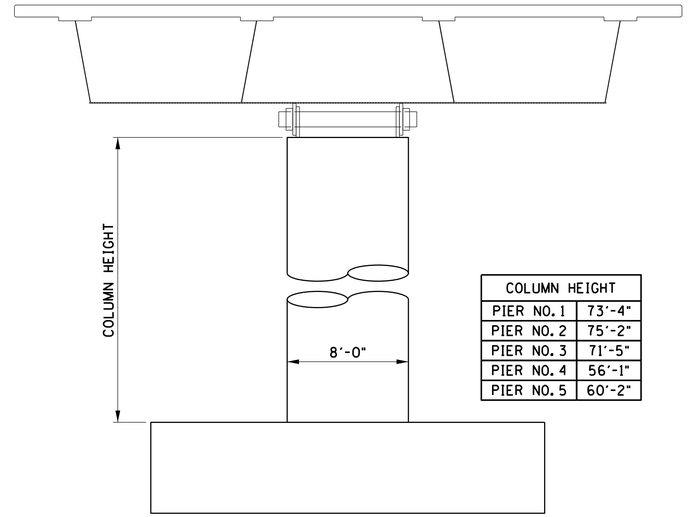
LEGEND	
DETERIORATED CONCRETE	
GROUND LEVEL	

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
3	02-04-15	DT	REVISED "BEARING DEVICE RESET REPAIR" DETAIL AND ADDED NOTE



COLUMN HEIGHT	
PIER NO. 1	73'-4"
PIER NO. 2	75'-2"
PIER NO. 3	71'-5"
PIER NO. 4	56'-1"
PIER NO. 5	60'-2"

PIER NOS. 1 THRU 5

UNOFFICIAL SET

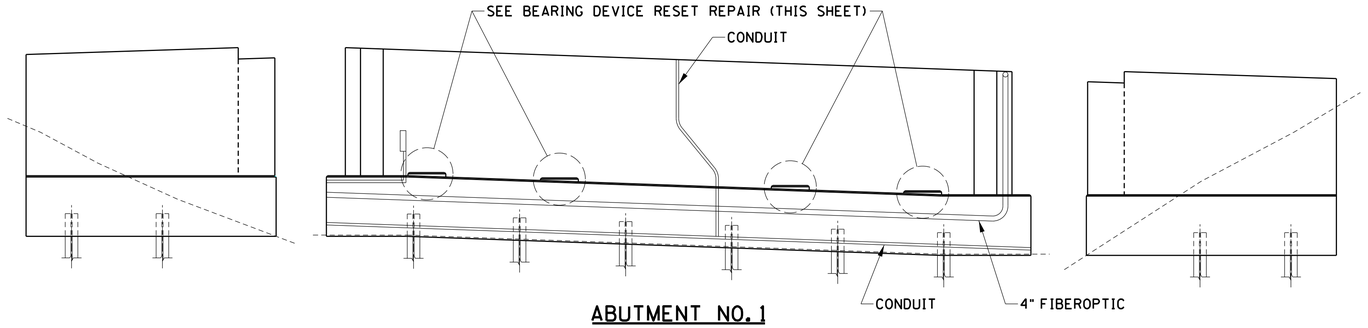
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

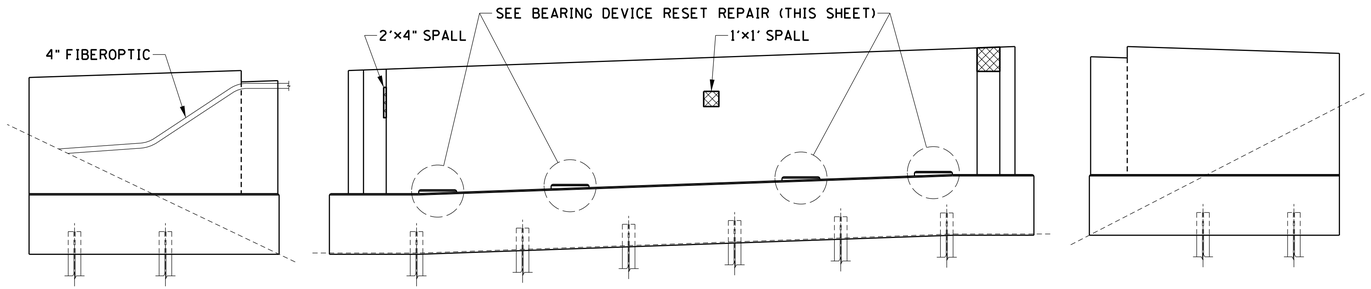
SUBSTRUCTURE REPAIRS
(STRUCTURE NO. 166)

STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

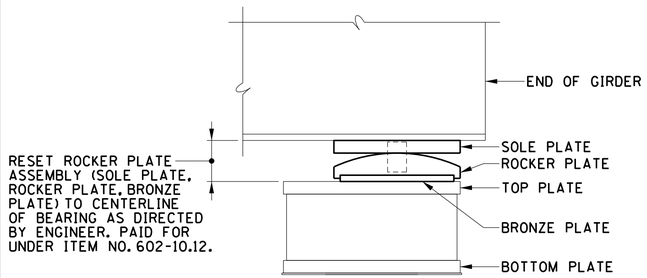
BR-117-94



ABUTMENT NO. 1



ABUTMENT NO. 2



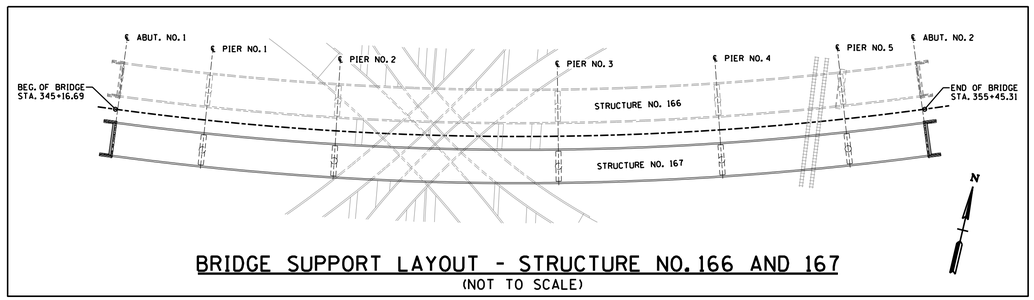
BEARING DEVICE RESET REPAIR (3)

(NOT TO SCALE)

NOTE: BEARING REPAIR PROCEDURE SHALL BE SUBMITTED TO THE TDOT BRIDGE REPAIR OFFICE PRIOR TO STARTING WORK.

DESIGNED BY	DAVID THOMPSON	DATE	
DRAWN BY	ANGELA MOORE	DATE	
SUPERVISED BY	DARRELL JAMES	DATE	
CHECKED BY	JAMIE GILLESPIE	DATE	

JA JORDAN ASSOCIATES, INC.



BRIDGE SUPPORT LAYOUT - STRUCTURE NO. 166 AND 167

(NOT TO SCALE)

LEGEND

DETERIORATED CONCRETE

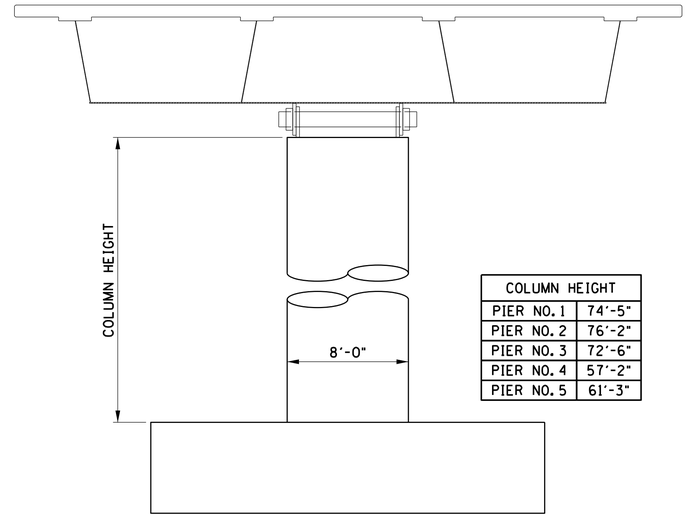
GROUND LEVEL

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
3	02-04-15	DT	REVISED "BEARING DEVICE RESET REPAIR" DETAIL AND ADDED NOTE



COLUMN HEIGHT	
PIER NO. 1	74'-5"
PIER NO. 2	76'-2"
PIER NO. 3	72'-6"
PIER NO. 4	57'-2"
PIER NO. 5	61'-3"

PIER NOS. 1 THRU 5

UNOFFICIAL SET

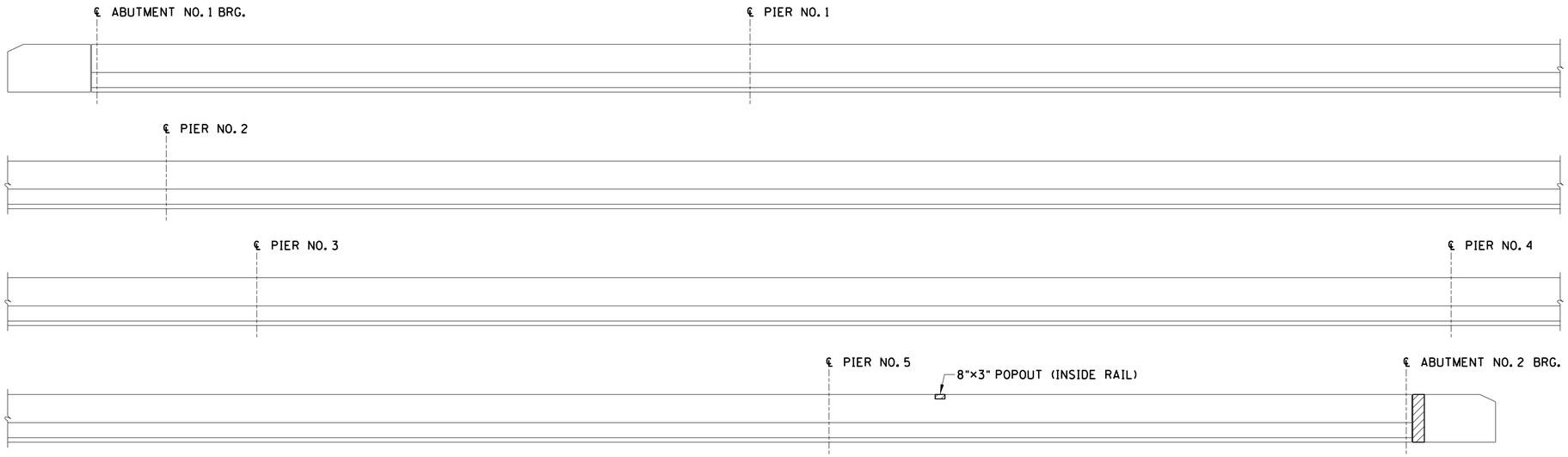
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
(STRUCTURE NO. 167)

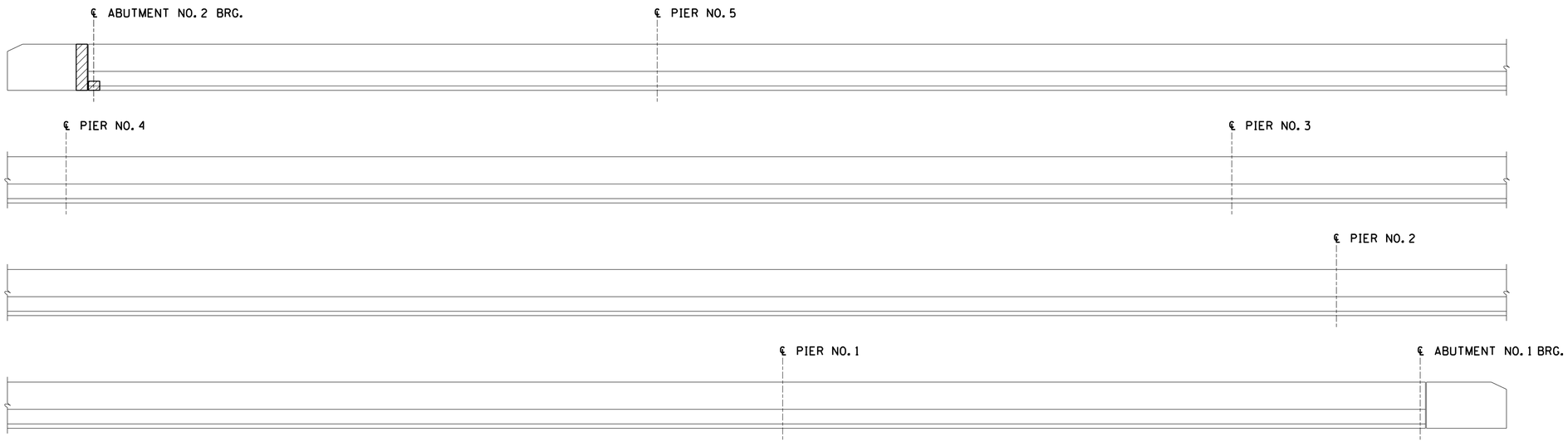
STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-95



LEFT FACE OF BRIDGE RAIL

(LOOKING NORTHWEST)



RIGHT FACE OF BRIDGE RAIL

(LOOKING SOUTHEAST)

▨ DENOTES: DETERIORATED CONCRETE

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JA JOHNSON ASSOCIATES INC.

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

UNOFFICIAL SET

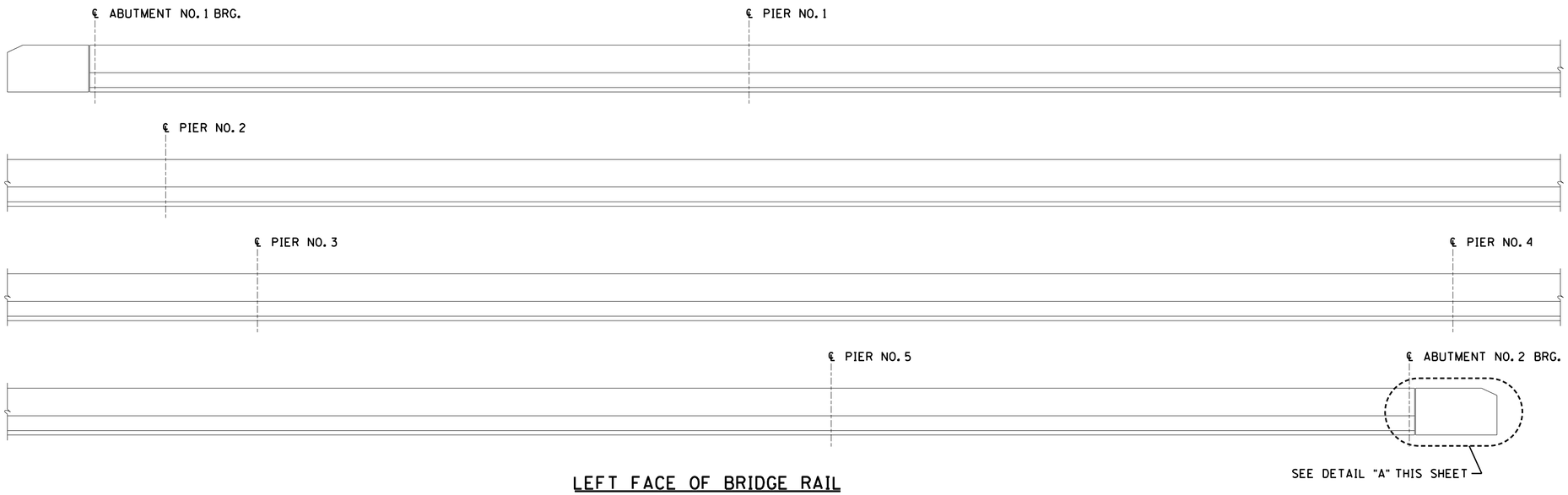
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

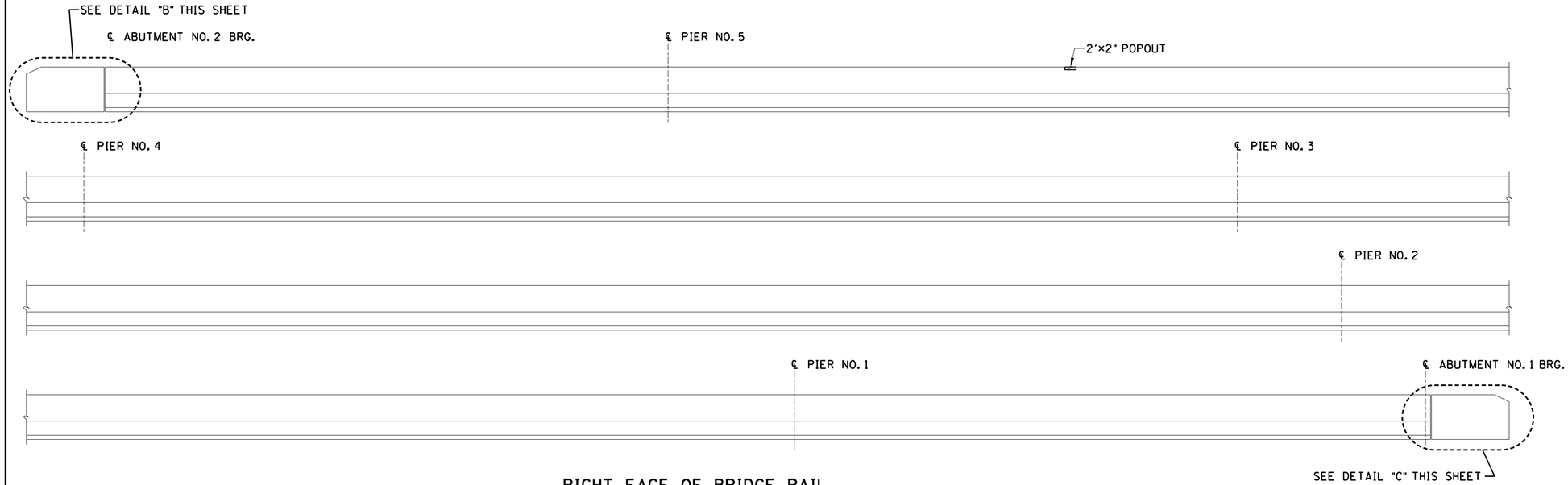
CONCRETE REPAIRS
(PARAPET)
(STRUCTURE NO. 166)

STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-96



LEFT FACE OF BRIDGE RAIL
(LOOKING NORTHWEST)



RIGHT FACE OF BRIDGE RAIL
(LOOKING SOUTHEAST)

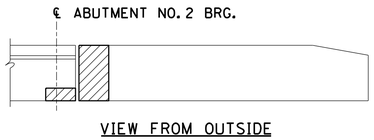
DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

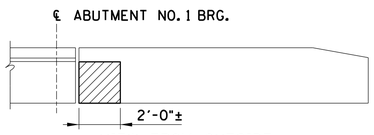


VIEW FROM OUTSIDE

DETAIL "A" - LEFT BRIDGE RAIL

VIEW FROM OUTSIDE

DETAIL "B" - RIGHT BRIDGE RAIL



VIEW FROM OUTSIDE

DETAIL "C" - RIGHT BRIDGE RAIL

▨ DENOTES: DETERIORATED CONCRETE

UNOFFICIAL SET

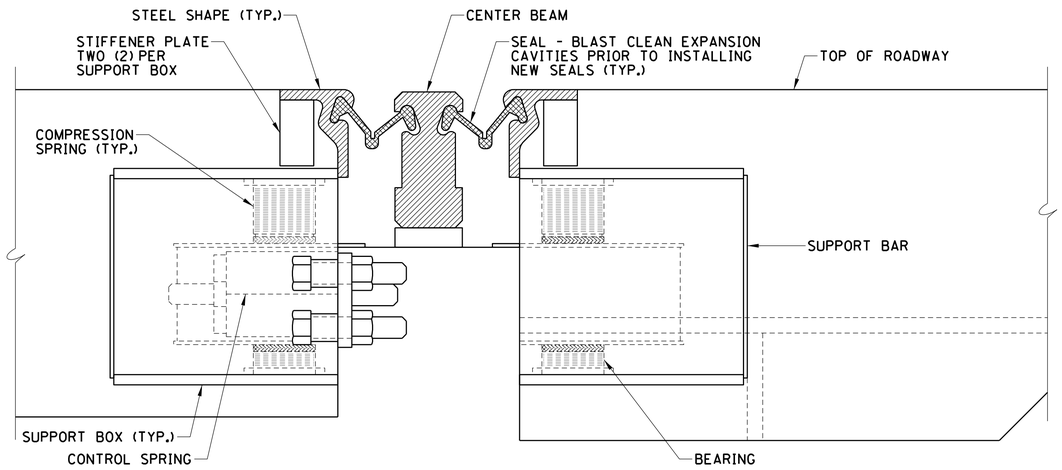
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIRS
(PARAPET)
(STRUCTURE NO. 167)

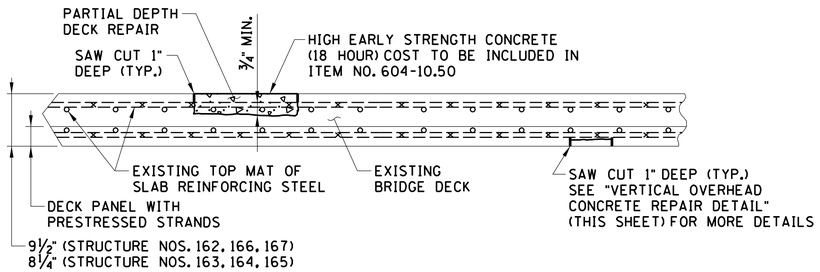
STRUCTURE NOS. 166 AND 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-97



SECTION THRU MODULAR EXPANSION JOINT

STRUCTURE NOS. 166 AND 167, ABUTMENT NO. 1 AND ABUTMENT NO. 2
(CONTRACTOR SHALL FIELD VERIFY ALL COMPONENTS OF EXISTING MODULAR EXPANSION JOINT)
(NOT TO SCALE)



DETAIL SHOWING PARTIAL DEPTH AND PRECAST PRESTRESSED DECK SPALL REPAIR

(NOT TO SCALE)

NOTES: (2)

(1) REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF ¾" BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL. ALL REINFORCING STEEL IN AREAS OF DECK REPAIR SHALL BE COMPLETELY CLEANED. AREAS OF CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM THE BRIDGE REPAIR OFFICE. INSPECTIONS, TO DETERMINE AREAS OF DECK REPAIR, WERE SCHEDULED WITH THE BRIDGE REPAIR OFFICE AND ARE SHOWN BELOW FOR REFERENCE. POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS: 1) (PARTIAL DEPTH REPAIRS) PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 60 POUND CLASS SHALL NOT BE USED. 2) (ALSO ALL DECK REPAIR OVER BEAMS WILL BE RESTRICTED TO 60 POUND PNEUMATIC HAMMERS. 3) CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

(2) ITEM NO. 604-10.50 MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

(3) DETAILS OF ANY TEMPORARY SUPPORT SYSTEM AND DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET THE FULL SATISFACTION OF THE ENGINEER BEFORE ANY PARTIAL DECK REPAIR IS BEGUN. COST TO BE INCLUDED IN ITEM NO. 602-10.05 BRACING REPAIRS, LUMP SUM.

(4) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD ALL EXISTING UTILITIES FROM DAMAGE DURING CONTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE OF ITEMS BID ON.

(5) COST OF FRAMING, CONCRETE, ABRASIVE BLASTING, LABOR AND CONCRETE REMOVAL BY PNEUMATIC HAMMERS AND ANY MISCELLANEOUS MATERIALS TO COMPLETE THE PARTIAL DEPTH REPAIRS SHALL BE INCLUDED IN ITEM NO. 604-10.50.

(6) IF ANY EXISTING REINFORCING STEEL IS DAMAGED AFTER THE REMOVAL PROCESS, IT SHALL BE REPLACED AND INCLUDED IN ITEM NO. 604-03.01.

DESIGNED BY DAVID THOMPSON DATE
DRAWN BY ANGELA MOORE DATE
SUPERVISED BY DARRELL JAMES DATE
CHECKED BY JAMIE GILLESPIE DATE

JA

MODULAR EXPANSION JOINT REPAIR NOTES:

(1) THE FOLLOWING PARTS ARE TO BE REMOVED FROM THE EXISTING EXPANSION JOINTS AT ABUTMENT NO. 1 AND ABUTMENT NO. 2 FOR STRUCTURE NOS. 166 AND 167 AND REPLACED WITH IDENTICAL PARTS FROM THE MANUFACTURER OF THE EXISTING JOINTS: SEALS, CONTROL SPRINGS, UPPER AND LOWER BEARINGS.

(2) WORK SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND TDOT SPECIFICATIONS.

(3) EXPANSION JOINT REPAIR SHALL BE CONSTRUCTED IN PHASES AS SHOWN ON SHEET BR-117-92. WHEN REPAIRS ARE COMPLETE, THE STEEL PORTIONS OF EXPANSION DEVICE SHALL BE CONTINUOUS. IF STEEL PORTION OF EXPANSION DEVICE IS CUT IN ORDER TO PERFORM PHASED CONSTRUCTION, THE STEEL PORTION SHALL BE RE-CONNECTED WITH A FULL PENETRATION BUTT WELD.

(4) COST OF FURNISHING AND INSTALLING THE MODULAR EXPANSION JOINT REPAIR PARTS COMPLETE AND IN PLACE INCLUDING ALL LABOR, EQUIPMENT AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS SHALL BE INCLUDED IN BID ITEM NO. 604-10.60, EXPANSION JOINT REPAIRS (MODULAR TYPE), L.F.

(5) CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS RELATING TO THE PHASED REPAIR OF THE MODULAR EXPANSION DEVICES. SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE REPAIR OFFICE OF THE DIVISION OF STRUCTURES PRIOR TO BEGINNING REPAIR.

THIN EPOXY OVERLAY NOTES: (3)

(1) TYPE 1 THIN EPOXY OVERLAY SYSTEM - USE DECK PRETREATMENT/PRIMER PER MANUFACTURER'S RECOMMENDATION, AND 2 LIFTS OF AN EPOXY-URETHANE COPOLYMER AND AGGREGATE. TYPE 1 OVERLAY SHALL BE APPLIED MECHANICALLY USING METERED EQUIPMENT; HAND MIXING OF MATERIAL IS NOT PERMITTED. THIN OVERLAY SYSTEM SHALL BE FROM THE QUALIFIED PRODUCTS LIST 23, SECTION D2. MINIMUM OVERLAY THICKNESS SHALL BE ⅜ INCH.

(2) APPLICATION EQUIPMENT SHOULD:

- A) BE CAPABLE OF METERING, MIXING AND DISTRIBUTING THE POLYMER AND PRETREATMENT TO MANUFACTURER'S RECOMMENDATION.
- B) USE AN APPLICATION MACHINE THAT FEATURES POSITIVE DISPLACEMENT VOLUMETRIC METERING PUMPS CONTROLLED BY A HYDRAULIC POWER UNIT.
- C) STORE COMPONENTS IN TEMPERATURE CONTROLLED RESERVOIRS CAPABLE OF MAINTAINING 100 DEGREES FAHRENHEIT (PLUS OR MINUS 10 DEGREES) TO INSURE OPTIMAL MIXING.
- D) CHECK MIXING RATIO AT THE PUMP OUTLETS AS WELL AS CYCLE COUNTING CAPABILITIES TO MONITOR OUTPUT ON STANDARD FEATURES.
- E) USE MOTIONLESS IN-LINE MIXING SO AS TO NOT OVERLY SHEAR THE MATERIAL TO ENTRAP AIR IN THE MIX.
- F) MAXIMIZE MATERIAL WORKING TIME BY MIXING IT IMMEDIATELY BEFORE DISPENSING.

(3) AGGREGATE SHALL BE ANGULAR, HAVING LESS THAN 0.2% MOISTURE AND FREE OF DIRT, CLAY, ASPHALT AND OTHER FOREIGN OR ORGANIC MATERIALS. AGGREGATE FOR ALL LAYERS SHALL BE BAUXITE AND MEET THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
NO. 6	95-100
NO. 10	10-35
NO. 20	0-3

(4) PARTIAL DEPTH DECK REPAIR SHALL CURE A MINIMUM OF 28 DAYS BEFORE THE OVERLAY IS PLACED. TRAFFIC SHALL BE ALLOWED TO USE THE BRIDGE DURING THE CURING PERIOD OF THE PATCHES BUT NOT AFTER SHOTBLASTING. MAGNESIUM PHOSPHATE BASED MATERIALS WILL NOT BE ALLOWED.

(5) THE CONCRETE DECK SURFACE SHALL BE CLEANED BY SHOTBLASTING TO REMOVE ANY OIL, DIRT, RUBBER, TRAFFIC STRIPING, OR ANY OTHER POTENTIAL DETRIMENTAL MATERIAL SUCH AS CURING COMPOUND AND LAITANCES, WHICH THE MANUFACTURER AND ENGINEER'S OPINION WOULD PREVENT PROPER BONDING AND CURING OF THE MATERIAL. IN AREAS WHERE SHOTBLASTING EQUIPMENT CAN NOT REACH (I.E., ALONG CURBS AND BRIDGE RAILS) SANDBLASTING IS PERMITTED TO AN EXTENT TO THE ENGINEER'S AND MANUFACTURER'S APPROVAL. IMMEDIATELY BEFORE APPLICATION, ALL PREPARED SURFACES SHALL BE CLEANED WITH COMPRESSED AIR OR VACUUMED TO REMOVE DUST AND DEBRIS.

(6) ALL SURFACES THAT ARE TREATED SHALL BE DRY AT THE TIME OF APPLICATION. THE OVERLAY SHALL NOT BE APPLIED WHEN IT HAS RAINED 24 HOURS PRIOR TO, OR RAIN IS FORECAST WITHIN 8 HOURS AFTER, APPLICATION. THE MOISTURE CONTENT IN THE DECK SUBSTRATE SHALL BE TESTED. MOISTURE IS NOT TO EXCEED 4.5 PERCENT WHEN MEASURED BY ELECTRONIC METER. IF THE TEST SHOWS EXCESS MOISTURE, THE DECK SHALL CONTINUE TO DRY BEFORE APPLICATION PROCEEDS.

(7) BLUSHING (A WAXY SURFACE COATING ON THE EPOXY) IS CAUSED BY THE REACTION OF MOISTURE WITH THE HARDENING AGENT. BLUSHING CREATES A SURFACE THAT MAKES FUTURE LAYERS DIFFICULT TO ADHERE. LIFTS THAT SHOW SIGNS OF BLUSHING SHALL BE REMOVED AND REPLACED PRIOR TO APPLICATION OF THE NEXT. THE COST TO REMOVE AND REPLACE THESE AREAS SHALL BE AT THE CONTRACTOR'S EXPENSE.

(8) TRAFFIC, OTHER THAN APPLICATION EQUIPMENT, SHALL NOT BE ALLOWED ON ANY PORTION OF THE DECK THAT HAS BEEN SHOTBLASTED OR WHERE PART OF THE APPLICATION HAS BEEN PLACED.

(9) SEE MANUFACTURER'S RECOMMENDATIONS FOR REQUIRED AMBIENT AND SURFACE TEMPERATURES AND HUMIDITY LIMITS FOR APPLICATION.

(10) THE MANUFACTURER SHALL HAVE A REPRESENTATIVE ON THE JOB SITE AT ALL TIMES DURING APPLICATION AND CURE TIME. THE REPRESENTATIVE, ALONG WITH CONSULTATION WITH ENGINEER, MAY SUSPEND ANY ITEM OF WORK THAT IS SUSPECT AND DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. WORK SHALL NOT RESUME UNTIL THE ENGINEER AND REPRESENTATIVE ARE SATISFIED THAT APPROPRIATE REMEDIAL ACTION HAS BEEN TAKEN BY THE CONTRACTOR.

(11) ALL COSTS FOR AGGREGATE, EPOXY FOR MINIMUM OF TWO LIFTS, SURFACE PREPARATION, LABOR AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO PLACE THIN OVERLAY SHALL BE INCLUDED IN ITEM NO. 617-04.01, TYPE 1 THIN EPOXY OVERLAY (EPOXY URETHANE), SY. AS CALLED FOR ON THE QUANTITY SHEET.

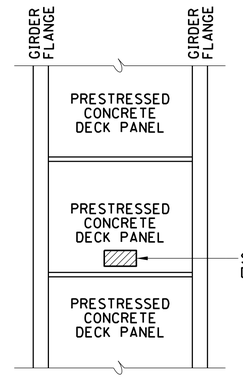
(12) THICKNESS VERIFICATION: THE PROJECT ENGINEER SHALL BE NOTIFIED OF THE NUMBER OF GALLONS USED ON THE PROJECT WITH NOTARIZED QUANTITY STATEMENTS FROM THE CONTRACTOR AND THE MANUFACTURER. THE CONTRACTOR SHALL VERIFY TO TDOT THAT THE OVERLAY IS AN AVERAGE OF AT LEAST ⅜ INCH THICK AT THREE RANDOM LOCATIONS AGREED UPON BY THE PROJECT ENGINEER AND THE MATERIAL MANUFACTURER REPRESENTATIVE. IF ⅜ INCH AVERAGE IN NOT ACHIEVED, A RETEST SHALL BE PERFORMED IN ADJOINING AREAS. THIN AREAS SHALL BE RE-COATED AS DESCRIBED ABOVE BY THE CONTRACTOR AND RE-VERIFIED AT NO ADDITIONAL COST TO TDOT. THIS VERIFICATION MAY CONSIST OF CORES, HOLES, ETC., BUT IN ALL CASES, ANY DESTRUCTIVELY TESTED AREAS SHALL BE REPAIRED BY THE CONTRACTOR BEFORE FINAL ACCEPTANCE BY THE PROJECT ENGINEER.

CONST. NO.

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
2	07-24-14	DT	EDITED NOTE 2
3	02-04-15	DT	EDITED NOTE 3



NOTE: SAW CUTS SHALL BE MADE AS DEEP AS 1". EXTREME CAUTION SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING REINFORCING STRANDS.

NOTE: CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE THE CONCRETE TO A DEPTH OF ½" BEHIND EXPOSED PRESTRESSING STRANDS AFTER DETERIORATED CONCRETE HAS BEEN REMOVED.

VERTICAL OVERHEAD CONCRETE REPAIR DETAIL (VIEW FROM BELOW DECK)

(NOT TO SCALE)

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
MODULAR EXPANSION JOINT REPAIR AND CONCRETE DECK REPAIR
STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-98

STRUCTURE NO. 162	
ESTIMATED QUANTITIES	
ABUTMENT NO. 1	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0
PARAPET	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
5	30
ABUTMENT NO. 2	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0

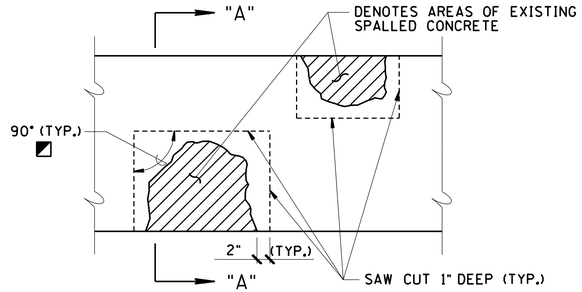
STRUCTURE NO. 164	
ESTIMATED QUANTITIES	
ABUTMENT NO. 1	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0
PARAPET	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
5	10
ABUTMENT NO. 2	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0

STRUCTURE NO. 166	
ESTIMATED QUANTITIES	
ABUTMENT NO. 1	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	5
PARAPET	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
5	5
ABUTMENT NO. 2	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0

STRUCTURE NO. 163	
ESTIMATED QUANTITIES	
ABUTMENT NO. 1	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	5
PARAPET	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
10	40
ABUTMENT NO. 2	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	5

STRUCTURE NO. 165	
ESTIMATED QUANTITIES	
ABUTMENT NO. 1	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	5
PARAPET	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
5	15
ABUTMENT NO. 2	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0

STRUCTURE NO. 167	
ESTIMATED QUANTITIES	
ABUTMENT NO. 1	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	0
PARAPET	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
5	15
ABUTMENT NO. 2	
ITEM NO. 604-10.05 CONCRETE S.F.	ITEM NO. 604-10.54 CONCRETE REPAIRS S.F.
0	5



DETAIL SHOWING AREAS OF EXISTING SPALLED CONCRETE SURFACES TO BE REMOVED AND REPAIRED

◒ DENOTES: LIMITS AND LOCATION OF REPAIRS DESIGNATED ON THE CONCRETE REPAIR SHEETS.

◩ DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

NOTE: THE COST OF REMOVING PORTIONS OF THE EXISTING CONCRETE WITHIN THE LIMITS SHOWN, SAW CUTTING, COMPLETELY CLEANING EXISTING REINFORCING STEEL, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR AND ALL MISCELLANEOUS MATERIAL, INCLUDING REINFORCING STEEL, NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.

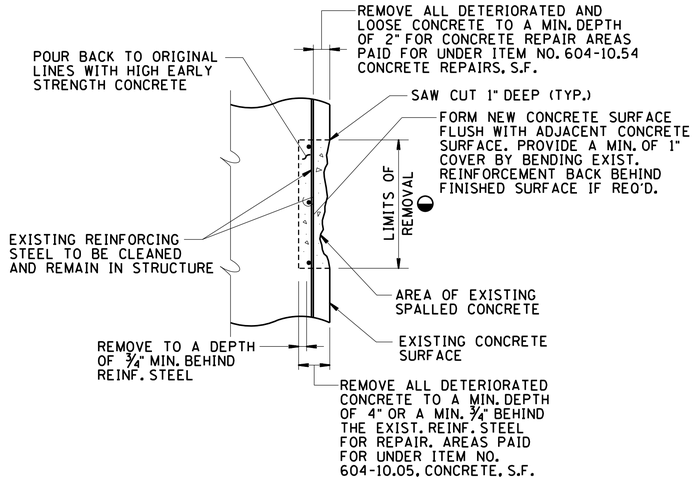
2 1. THE ENGINEER SHALL DESIGNATE ALL CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE. ITEM NO. 604-10.05 AND ITEM NO. 604-10.54 MAY BE INCREASED, DECREASED, OR ELIMINATED BY THE ENGINEER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. DESIGN CALCULATION AND DETAILS OF TEMPORARY SUPPORT SYSTEM OR FALSEWORK REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE ANY DEMOLITION IS BEGUN. COST OF STABILIZING THE STRUCTURE SHALL BE INCLUDED IN ITEM NO. 602-10.05, BRACING REPAIRS, L.S..

3. THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALL AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 OR ITEM NO. 604-10.54. PATCHING MATERIAL FOR ITEM NO. 604-10.05 SHALL BE HIGH EARLY STRENGTH CONCRETE. PATCHING MATERIAL FOR ITEM NO. 604-10.54 SHALL BE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL. SEE QUALIFIED PRODUCTS LIST 13, SECTION B.6.

4. EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

5. POWER DRIVEN HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:
   A. PNEUMATIC HAMMERS HEAVIER THAN 35 LB. CLASS SHALL NOT BE USED.
   B. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL AND BEAM END REPAIRS.



SECTION "A-A"

CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
2	07-24-14	DT	EDITED NOTE 1

UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

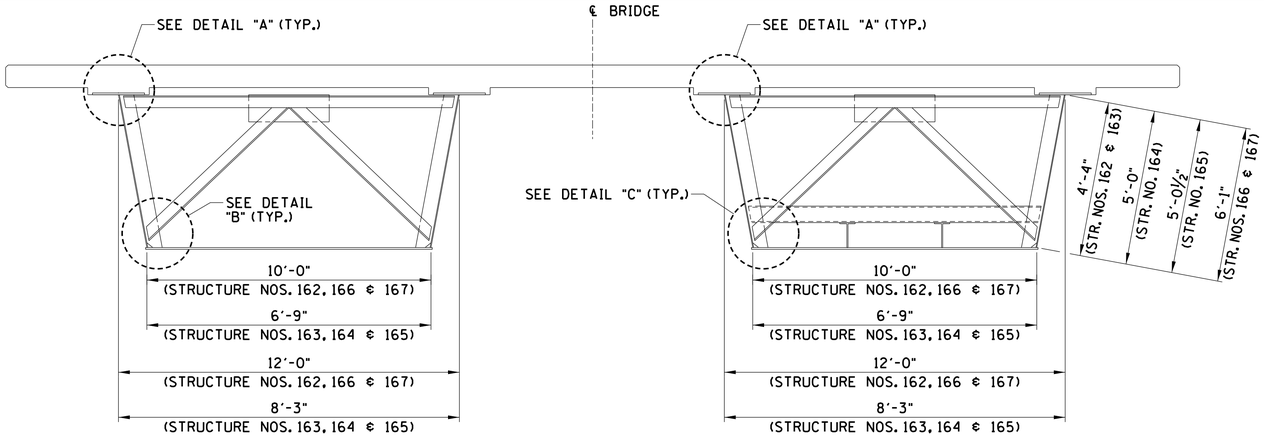
CONCRETE REPAIR DETAILS

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-99

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JA JORDAN ASSOCIATES, INC.



HALF SECTION NEAR MID-SPAN

(NOT TO SCALE)

HALF SECTION NEAR SUPPORT

(NOT TO SCALE)

CRACK REPAIR PROCEDURE

NOTE: AFTER DYE PENETRANT TESTING OR FLASH MAGNETIC PARTICLE TESTING IS COMPLETE AND THE TEST RESULTS HAVE BEEN RECORDED IN THE "CRACK LOCATION TABLE" FOR EACH STRUCTURE, ALL CRACKS DENOTED IN THE TABLE SHALL BE REPAIRED BY UTILIZING EITHER METHOD NO. 1 OR METHOD NO. 2 AS FOLLOWS:

METHOD NO. 1: WHEN THE CRACK IS IN THE FILLET WELD MATERIAL THAT CONNECTS THE GIRDER WEB TO THE STIFFENER PLATES, THE EXISTING WELD MATERIAL IS TO BE REMOVED IN THE AREA OF THE CRACK AND A NEW FILLET WELD MADE CONNECTING THE STIFFENER PLATE TO THE WEB.

METHOD NO. 2: WHEN THE CRACK EXTENDS INTO THE WEB METAL, THE EXISTING WELD MATERIAL IS TO BE REMOVED AND A NEW FILLET WELD MADE AND THE CRACK IN THE WEB METAL IS TO BE REPAIRED USING FULL PENETRATION WELDS. FULL PENETRATION WELDS TO BE GROUND FLUSH. ALL FULL PENETRATION WELDS SHALL BE 100% U.T. TESTED. U.T. TESTING OF FULL PENETRATION WELDS SHALL BE INCLUDED UNDER ITEM NO. 602-10.22, EACH.

NOTE: ALL WELDS SHALL BE IN ACCORDANCE WITH ANSI-AASHTO-AWS D1.5-96 BRIDGE WELDING CODE AND SPECIAL PROVISION NO. 602, PREPARATION OF CRACKS FOR WELDING AND ALL CRACK REPAIR WELDING SHALL BE PAID FOR UNDER ITEM NO. 602-10.22, EACH.

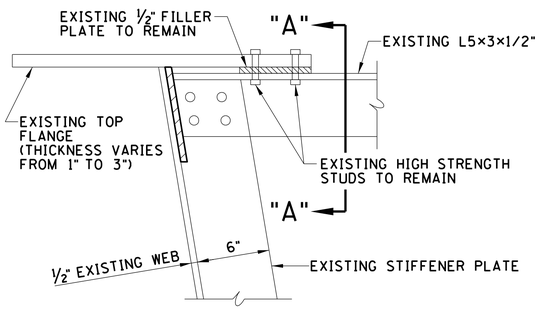
CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

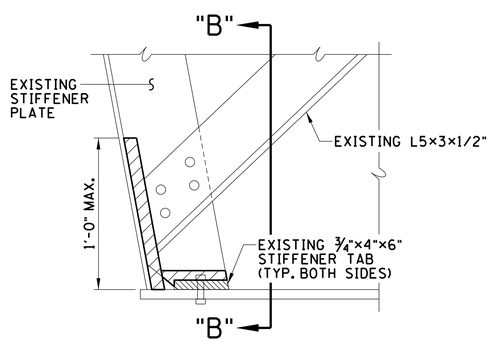
NO.	DATE	BY	BRIEF DESCRIPTION

▨ DENOTES: LIMITS OF DYE PENETRANT TESTING AND/OR FLASH MAGNETIC PARTICLE TESTING.



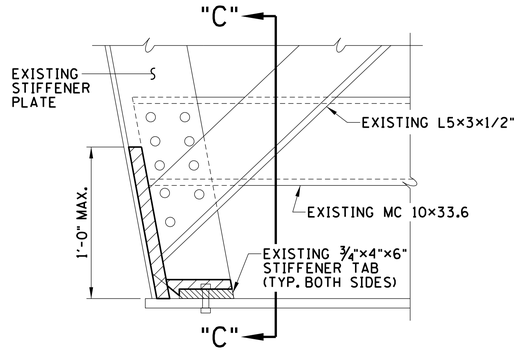
DETAIL "A" SHOWING LIMITS OF DYE PENETRANT TESTING

(NOT TO SCALE)



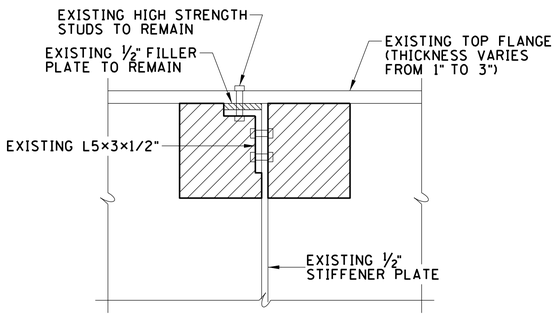
DETAIL "B" SHOWING LIMITS OF DYE PENETRANT TESTING

(NOT TO SCALE)



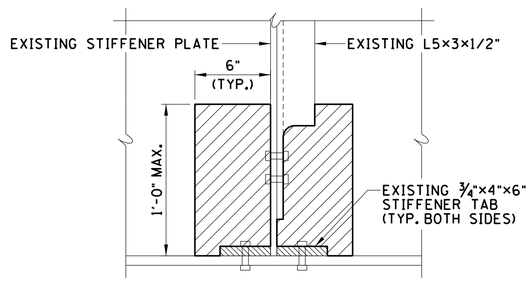
DETAIL "C" SHOWING LIMITS OF DYE PENETRANT TESTING

(NOT TO SCALE)



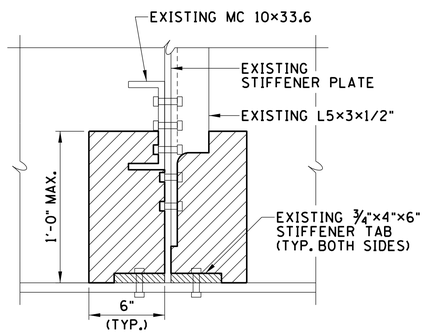
DETAIL "A-A" SHOWING LIMITS OF DYE PENETRANT TESTING

(NOT TO SCALE)



DETAIL "B-B" SHOWING LIMITS OF DYE PENETRANT TESTING

(NOT TO SCALE)



DETAIL "C-C" SHOWING LIMITS OF DYE PENETRANT TESTING

(NOT TO SCALE)

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JAMES & ASSOCIATES, INC.

UNOFFICIAL SET

NOT FOR BIDDING

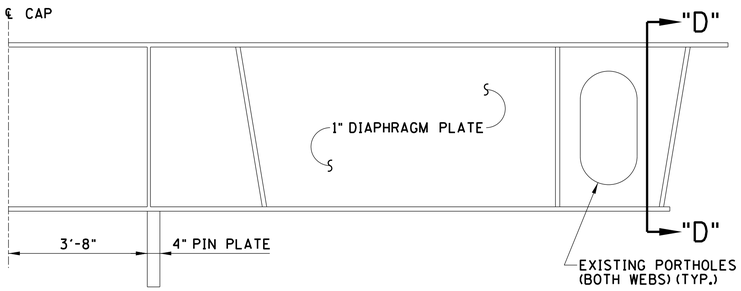
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL TESTING AND REPAIR DETAILS

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167

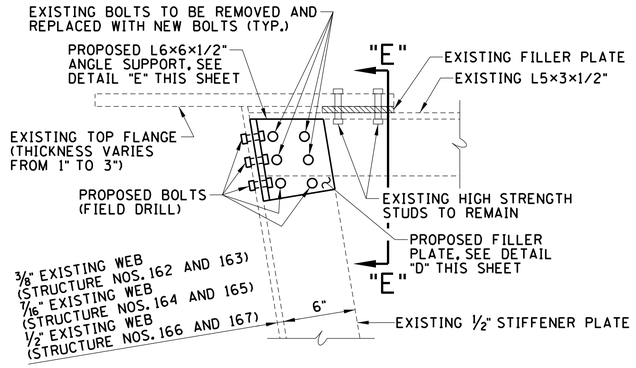
I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-100



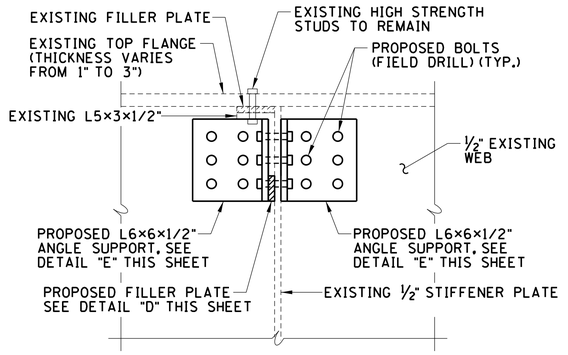
SUPPORT DIAPHRAGM AT PIERS

(NOT TO SCALE)



ANGLE SUPPORT DETAIL FOR UPPER DIAPHRAGM/STIFFENER CONNECTION

(NOT TO SCALE)
NOTE: BOLT SPACING = 3"±.



SECTION "E-E"

(NOT TO SCALE)
NOTE: BOLT SPACING = 3"±.

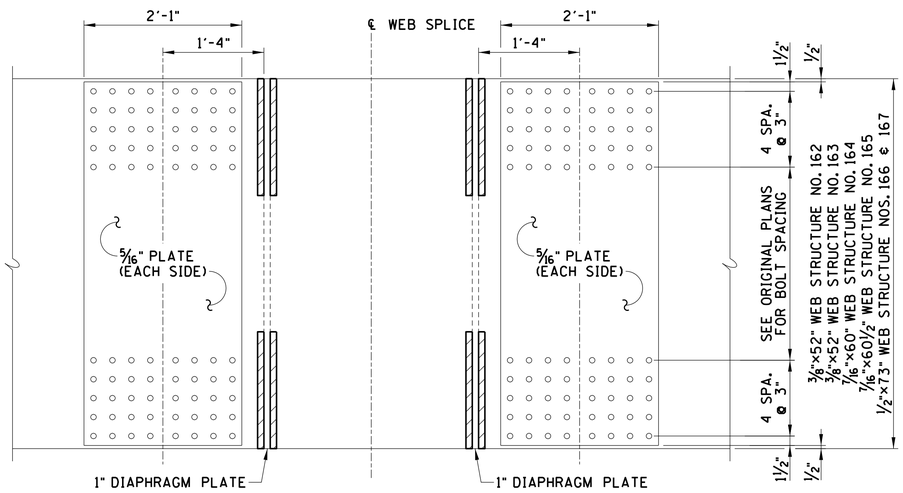
CONST. NO. _____

PROJECT NO.	YEAR	SHEET NO.
19009-4184-04	2015	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

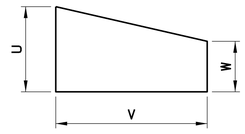
NOTE: CONTRACTOR SHALL FIELD VERIFY EXISTING STEEL PLATE DIMENSIONS AND BOLT SPACING.



SECTION "D-D" SHOWING LIMITS OF DYE PENETRANT TESTING AT WEB SPLICE

(NOT TO SCALE)

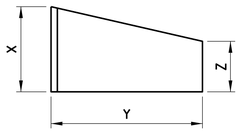
DENOTES: LIMITS OF DYE PENETRANT TESTING AND/OR FLASH MAGNETIC PARTICLE TESTING.



	STRUCTURE NO.					
	162	163	164	165	166	167
U	3⅜"	3½"	3½"	3½"	3⅜"	3⅜"
V	6"	6"	6"	6"	6"	6"
W	2"	2⅜"	2½"	2½"	2⅜"	2⅜"

DETAIL "D" 1/2" THICK PLATE

(NOT TO SCALE)



	STRUCTURE NO.					
	162	163	164	165	166	167
X	8"	8"	8"	8"	8"	8"
Y	6"	6"	6"	6"	6"	6"
Z	6½"	7"	7"	7"	7"	7"

DETAIL "E" 6"×6"×1/2" ANGLE SUPPORT

(NOT TO SCALE)

CRACK REPAIR PROCEDURE

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UNOFFICIAL SET

NOT FOR BIDDING

DESIGNED BY DAVID THOMPSON DATE _____
DRAWN BY ANGELA MOORE DATE _____
SUPERVISED BY DARRELL JAMES DATE _____
CHECKED BY JAMIE GILLESPIE DATE _____

JACOBS ENGINEERING GROUP INC.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL TESTING AND REPAIR DETAILS

STRUCTURE NO. 162
STRUCTURE NO. 163
STRUCTURE NO. 164
STRUCTURE NO. 165
STRUCTURE NO. 166
STRUCTURE NO. 167

I-440/I-65 DIRECTIONAL INTERCHANGE
DAVIDSON COUNTY
2015

BR-117-101