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NO PROJECT COMMITMENTS SHEET INCLUDED IN THIS SET OF PLANS

ROADWAY DESIGN STANDARDS

DRAWING NO.	CURRENT REVISION DATE	DESCRIPTION
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
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T-PBR-1	6-30-09	INTERCONNECTED PORTABLE BARRIER RAIL
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T-WZ-35	4-02-12	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

EROSION PREVENTION AND SEDIMENT CONTROL

EC-STR-3B	8-01-12	SILT FENCE WITH WIRE BACKING
EC-STR-3E	4-01-08	SILT FENCE FABRIC JOINING DETAILS

BRIDGE APPURTENANCES

STD-I-ISS	5-1-14	BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET
STD-I4-3	10-15-08	STD. DETAILS FOR PRESTRESSED BOX BEAMS

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 MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT CIVIL ENGINEERING MANAGER I: BRIAN K. EGLI, P.E.

DESIGNED BY BARGE, WAGGONER, SUMNER & CANNON, INC.

DESIGNER MARRIS T. JONES CHECKED BY JUSTIN T. ECKEL, P.E.

P.E. NO. 86001-4218-04

PIN NO. 119737.00

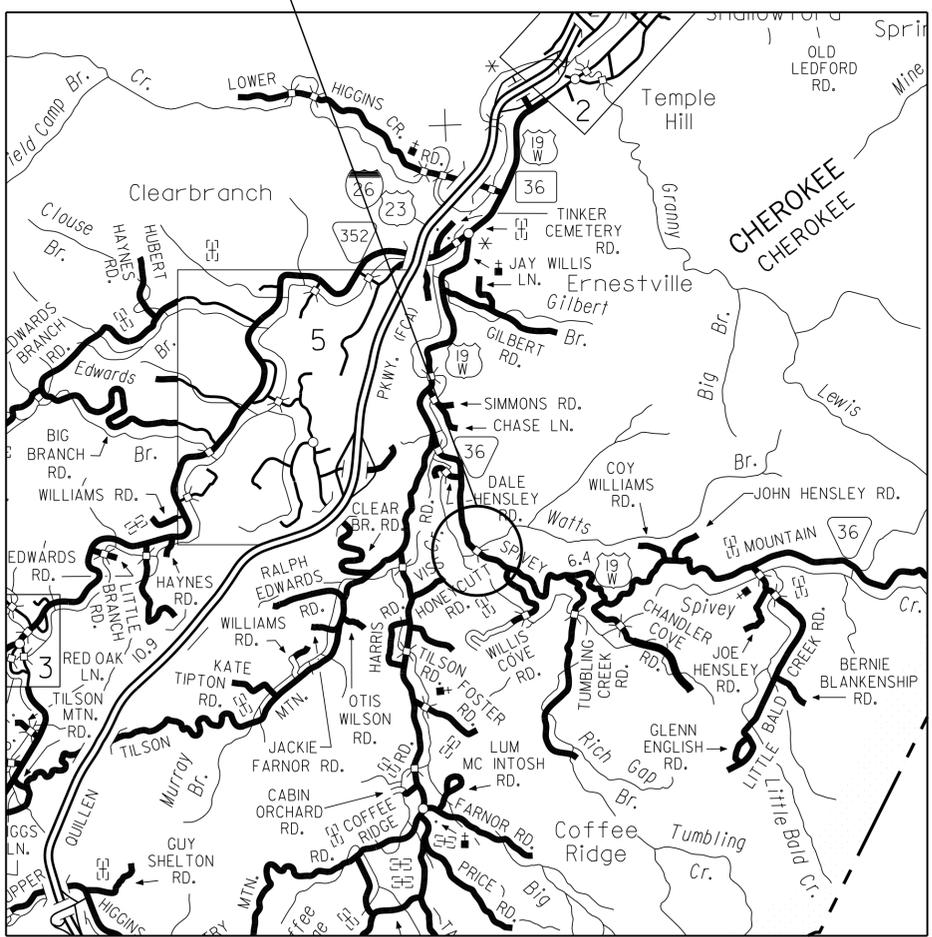
STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

UNICOI COUNTY

STATE ROUTE 36 OVER WATTS BRANCH

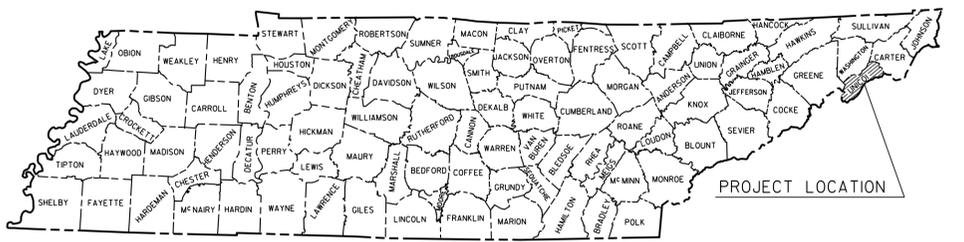
BRIDGE REPAIR

BRIDGE NO. 86-SR036-04.19



SCALE: 1" = 5/8 MILE

TENN.	YEAR	SHEET NO.
	2014	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	86001-4218-04	



LIST OF DRAWINGS

DWG. NO.	LAST REV. DATE	DRAWING
BR-117-35		LAYOUT OF BRIDGE TO BE REPAIRED
BR-117-36		ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES
BR-117-37		SUPERSTRUCTURE
BR-117-38		SUPERSTRUCTURE REPAIR DETAILS
BR-117-39		SUPERSTRUCTURE DETAILS
BR-117-40		SUPERSTRUCTURE DETAILS
BR-117-41		PRESTRESSED BOX BEAM DETAILS
BR-117-42		ABUTMENT NOS. 1 AND 2 REPAIR DETAILS
BR-117-43		WINGWALL REPAIR DETAILS
BR-117-44		MISCELLANEOUS REPAIR DETAILS

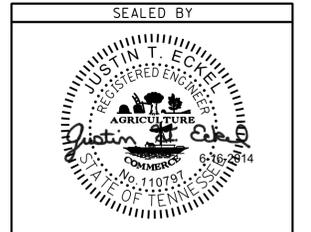
* LIST OF REFERENCE DRAWINGS

DWG. NO.	DRAWING
D-4-26	CONCRETE ABUTMENT FOR SLAB GIRDER BRIDGES
D-4-48	STANDARD CONCRETE DECK GIRDER BRIDGES
D-4-74	CONCRETE HANDRAIL SPINDLE TYPE
D-5-36	LAYOUT OF BRIDGE

* DENOTES: THESE DRAWINGS ARE TO BE PRINTED WITH PLANS.

BRIDGE NO. 86-SR036-04.19
(STATE ROUTE 36 OVER WATTS BRANCH)
ADT (2014) = 425
POSTED SPEED = 40 M.P.H.

UNOFFICIAL SET
NOT FOR BIDDING



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

DATE _____
APPROVED: John Schroer
JOHN SCHROER, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE

GENERAL NOTES:

SPECIFICATIONS:

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, TENNESSEE DEPARTMENT OF TRANSPORTATION, (MARCH 1, 2006 EDITION)

LOADING:

HL-93 LIVE LOADING- DEAD LOAD INCLUDES 35 PSF FOR FUTURE WEARING SURFACE.

DESIGN SPECIFICATIONS:

AASHTO LRFD 6TH EDITION 2007 WITH INTERIMS

CONCRETE:

TO BE CLASS "A" (CAST IN PLACE), f_c=3,000 psi, EXCEPT AS NOTED OTHERWISE.

CLASS "D" CONCRETE:

CONCRETE FOR BRIDGE DECK SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

CONCRETE CURING

ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

BRIDGE DECK SURFACE FINISH:

TO BE IN ACCORDANCE WITH NOTE C IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK FORMS:

BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE OR PERMANENT FORMS. PERMANENT FORMS MAY BE EITHER REMAIN-IN-PLACE STEEL OR PRECAST, PRESTRESSED CONCRETE PANELS. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT BACKWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING STD-4-1 THRU 4, STD-14-3, AND ARTICLE 604.05 FOR THE STANDARD SPECIFICATIONS.

REINFORCING STEEL:

SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE (EPOXY COAT ALL SLAB STEEL). SEE SECTION 604 & 907 OF THE STANDARD SPECIFICATIONS.

REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION:

ONE 9 FOOT TRAFFIC LANE SHALL BE MAINTAINED AT ALL TIMES.

BRIDGE RAIL SYSTEM:

BUILD BRIDGE RAILINGS ACCORDING TO STANDARD DRAWING STD-1-1SS. THE BRIDGE RAIL SHALL BE FORMED AND CAST PLUMB, NOT PERPENDICULAR TO THE SLAB. THE DIMENSIONS AT THE FRONT OR TRAFFIC FACE OF THE RAILING SHALL BE KEPT CONSTANT, WITH VARIATION FOR CROSS SLOPE ACCOMMODATED AT THE REAR FACE.

GROUTED BARS IN DRILLED HOLES:

HORIZONTALLY DRILLED HOLES SHALL BE DRILLED 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT, AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED 1/4" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT, AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY TDOT MATERIALS AND TESTS.

SHOP DRAWINGS:

SEE SECTION 105.2 OF THE STANDARD SPECIFICATIONS. A COPY SHALL ALSO BE SUBMITTED TO THE DIVISION OF STRUCTURES, BRIDGE INSPECTION AND REPAIR OFFICE.

FORMS AND FALSEWORK:

ALL CONCRETE FORM WORK AND FALSEWORK SHALL BE REMOVED FROM THE JOB SITE AFTER WORK IS COMPLETED. COST OF FORMS, FALSEWORK, AND THEIR REMOVAL SHALL BE INCLUDED IN OTHER ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

FINISHING CONCRETE SURFACES:

CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 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 COATING SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE.

SPECIAL NOTE FOR UTILITIES:

CARE SHALL BE TAKEN WHILE REMOVING AND REPAIRING BRIDGE COMPONENTS SO AS NOT TO DISTURB OR DAMAGE ANY UTILITIES.

QUICK SET PATCHING MATERIAL:

QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTIOUS MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13, SECTION B.6, FOR ACCEPTABLE MATERIALS.

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, AS SPECIFIED, TO REMOVE UNSOUND CONCRETE. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCEMENT IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

SPECIAL NOTES TO CONTRACTOR:

CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM BELOW. THIS SHALL BE ACCOMPLISHED BY THE USE OF BASKETS, NETTING, WRAPPING, WORK PLATFORM, OR OTHER SIMILARLY EFFECTIVE MEANS. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE WATER AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN OTHER ITEMS BID.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STURCTURE DURING CONSTRUCTION. DESIGN CALCULATIONS AND DETAILS OF THE 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 LABOR AND MATERIALS FOR STABILIZATION OF THE STRUCTURE SHALL BE INCLUDED IN ITEM NO. 602-10.05, BRACING REPAIRS, LS.

A CONTAINMENT SYSTEM SHALL BE IN PLACE DURING REPAIR ACTIVITIES INCLUDING, BUT NOT LIMITED TO, SANDBLASTING, PAINTING, TEXTURE COATING, CONCRETE CUTTING, WASHING, ETC. TO PREVENT DUST, SPRAY,PAINT, OR OTHER SIMILAR WASTE MATERIALS FROM ENTERING WATTS BRANCH. COST OF CONTAINMENT SYSTEM TO BE INCLUDED IN OTHER ITEMS.

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES BEFORE ORDERING ANY MATERIALS.

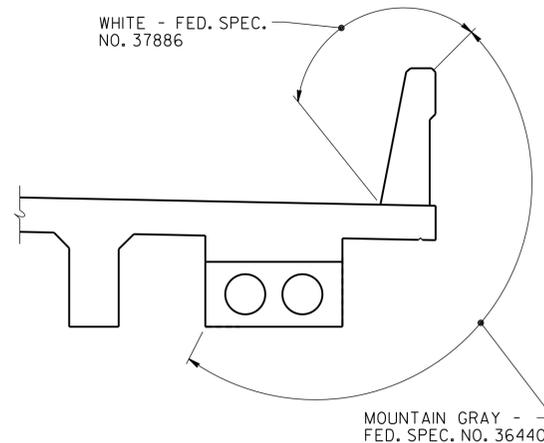
THE CONTRACTOR SHALL CHECK LOCATION OF ALL EXISTING SUBSTRUCTURES AND VERIFY SPAN LENGTHS BEFORE ORDERING STEEL AND FABRICATING GIRDERS.

THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

SEASONAL LIMITATIONS NOTE:

THE SWALLOW NESTS CANNOT BE DISTURBED WHILE EGGS OR YOUNG ARE PRESENT IN THE NEST. THE APPROXIMATE DATE FOR NESTING ACTIVITIES BEGINNING IS MAY 1 AND THE FLEDGLING FOR THE CLIFF SWALLOW IS JULY, 15. NOTE THAT THESE ARE APPROXIMATE DATES AND NESTING COULD OCCUR EARLIER AND LAST UNTIL LATER. THE DATES ARE FOR GUIDANCE ONLY AND THE EMPHASIS IS ON THE PRESENCE OR ABSENCE OF EGGS OR YOUNG, NOT THE DATES. THE CONTRACTOR CANNOT DISTURB THE SWALLOWS OR NESTS AS LONG AS EGGS AND/OR YOUNG ARE PRESENT. THE USFWS HAS GIVEN THE DATE OF JULY 15 AS THE TYPICAL TIME WHEN YOUNG SHOULD BE LEAVING THE NEST. HOWEVER, THIS DATE COULD BE UP TO A MONTH OR MORE LATER DEPENDING ON WHEN THE SWALLOWS ACTUALLY LAY THEIR EGGS. IF THE BIRDS ARE PRESENT AND EGGS OR YOUNG ARE IN THE NEST, THEY ARE NOT TO BE DISTURBED UNTIL THE YOUNG LEAVE THE NESTS. IF WORK BEGINS PRIOR TO THE BIRDS NESTING, THE CONTRACTOR CAN REMOVE THE NESTS AND TAKE MEASURES TO PREVENT THE SWALLOWS FROM BUILDINGS NESTS AND WORK THROUGHOUT THE NESTING SEASON. THIS COULD BE INSTALLATION OF NETTING, TARPS OR JUST HAVING SOMEBODY AVAILABLE TO REMOVE THE NESTS BEFORE THE BIRDS CAN LAY EGGS IN THEM.

PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014	2	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



APPLIED TEXTURE FINISH
SYMMETRIC ABOUT ϵ BRIDGE

TEXTURE FINISH NOTES

IN ADDITION TO SURFACES SHOWN, THE WINGWALL EXTENSIONS AND EXPOSED FACES OF THE EXISTING ABUTMENTS ARE TO RECEIVE AN APPLIED TEXTURE FINISH, MOUNTAIN GREY, (FED. SPEC. NO. 36440).

COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.01 OR 604-04.02.

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

THE EXISTING SURFACES THAT ARE TO RECEIVE A TEXTURE FINISH SHALL BE FREE OF ALL FLAKING TEXTURE COATING, RUST, DIRT, OIL, AND OTHER FOREIGN SUBSTANCES PRIOR TO THE APPLICATION OF THE TEXTURE FINISH. THE SURFACE SHALL BE BE CLEANED TO THE COMPLETE SATISFACTION OF THE ENGINEER USING A HIGH PRESSURE WASH. COST TO BE INCLUDED IN ITEM NO. 604-04.02.

THE WASH WATER IS TO BE FILTERED AND PAINT CHIPS AND DEBRIS COLLECTED PRIOR TO RELEASE OF WATER.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED BRIDGE QUANTITIES
AND GENERAL NOTES
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1)	202-04.01 REMOVAL OF STRUCTURES (BRIDGE NO. 86-SR036-04.19)	LS	1
(14)	602-10.05 BRACING REPAIRS	LS	1
(2)	604-02.03 EPOXY COATED REINFORCING STEEL	LB.	4,622
(3)	604-03.09 CLASS D CONCRETE (BRIDGE DECK)	C.Y.	21
	604-04.01 APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	155
	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	75
(4) *	604-10.05 CONCRETE	S.F.	1
(5)	604-10.14 REMOVE EXISTING WEARING SURFACE	LS	1
(6) *	604-10.18 REINFORCING STEEL (REPAIRS)	LB.	518
	604-10.30 BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB)	S.Y.	5
(7)	604-10.42 CONCRETE REPAIRS	C.F.	74
	604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	S.Y.	15
(8)	604-10.51 SCARIFYING	S.Y.	35
(9)	604-10.54 CONCRETE REPAIRS	S.F.	1
	604-10.58 EPOXY INJECTION (INJECTION)	GAL.	1
	604-10.62 EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	12
(10)	615.02.02 PRESTRESSED CONCRETE BOX BEAM (17"x36")	L.F.	55
	617-02 BRIDGE DECK CRACK SEALING	L.F.	32
	617-05 SEALANT (HMWM)	GAL.	1
(11) (12)	620-05.01 CONCRETE PARAPET SINGLE SLOPE (STD-1-1SS)	L.F.	58

* DENOTES: ITEM SHALL BE BID AS CONTINGENCY AND MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

FOOTNOTES:

- (1) INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF EXTERIOR PORTION OF THE SLAB, EXTERIOR BEAMS, AND CONCRETE BRIDGE RAIL AS INDICATED IN THE PLANS.
- (2) MECHANICAL BAR SPLICERS MUST BE ON THE QUALIFIED PRODUCTS LIST 27 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 SECTION 907 OF THE STANDARD SPECIFICATIONS. THE COST OF FURNISHING THE BAR SPLICERS AND EPOXY COATING INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 604-02.03.
- (3) INCLUDES ALL LABOR AND MATERIALS TO PLACE CLASS D CONCRETE FOR THE NEW 4 1/2" MIN. REINFORCED CONCRETE OVERLAY AND NEW CANTILEVERS AS NOTED IN THE PLANS.
- (4) INCLUDES ALL LABOR AND MATERIALS TO PLACE HIGH EARLY STRENGTH CONCRETE FOR REPAIR AREAS NOTED IN THE PLANS.
- (5) INCLUDES REMOVAL AND DISPOSAL OF ASPHALT FROM SURFACE OF BRIDGE ONLY. (AVERAGE DEPTH = 5"±).
- (6) INCLUDES COST OF REINFORCING STEEL FOR CONSTRUCTION OF WINGWALL REPAIRS AS SHOWN ON DWG. NO. BR-117-43.
- (7) INCLUDES COST OF ALL LABOR, MATERIALS (EXCEPT REINFORCING STEEL), SAW CUTTING, DRILLING, GROUTING, AND INCIDENTALS NECESSARY TO EXTEND THE HEIGHT OF THE ABUTMENT WINGWALLS AS SHOWN ON DWG. NO. BR-117-43.
- (8) INCLUDES ALL COST TO SCARIFY CONCRETE SLAB 1" ON BRIDGE NO. 86-SR036-04.19.
- (9) INCLUDES ALL LABOR AND MATERIALS TO PLACE A POLYMER MODIFIED CEMENTIOUS STRUCTURAL PATCHING MATERIAL FOR REPAIR AREAS NOTED IN PLANS.
- (10) COST OF ELASTOMERIC BEARING PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT COST FOR THE PRESTRESSED BEAMS. SEE DETAILS ON DWG. NO. BR-117-41.
- (11) INCLUDES ALL LABOR AND MATERIALS NECESSARY TO CONSTRUCT NEW CONCRETE PARAPET AND NEW ENDPOSTS, (ON-BRIDGE). SEE DWG. NO. BR-117-37 AND STD. DWG. NO. STD-1-1SS.
- (12) COST OF (4) BRIDGE DECK DRAINS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET.
- (13) THE COST OF WATER STOPS, BITUMINOUS FIBERBOARD, AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- (14) INCLUDES ALL NECESSARY TEMPORARY SUPPORT OF THE STRUCTURE FOR THE DURATION OF THE PROJECT. BRACING PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

6/16/2014 F:\35\35034\3503416\Bridges\3503416_E0001.dgn

DESIGNED BY M. JONES DATE 12/13
 DRAWN BY M. JONES DATE 12/13
 SUPERVISED BY L. BILBREY DATE 12/13
 CHECKED BY J. ECKEL DATE 12/13

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	86001-4218-04	2A

ESTIMATED ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	10
203-07	FURNISHING & SPREADING TOPSOIL	C.Y.	390
* 209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	520
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	120
(1) 411-01.10	ACS MIX (PG64-22) GRADING D	TON	35
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	385
705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	108
705-04.07	TAN ENERGY ABSORBING TERM (NCHRP 350, TL3)	EACH	4
705-04.09	EARTH PAD FOR TYPE 38 GR END TREATMENT	EACH	4
(2) 705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	2
(4) (5) 712-01	TRAFFIC CONTROL	LS	1
(6) 712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	250
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	26
(3) 712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	8
712-05.03	WARNING LIGHTS (TYPE C)	EACH	12
712-06	SIGNS (CONSTRUCTION)	S.F.	328
(3) 712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	1030
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	22
716-13.06	SPRAY THERMO PVMT MRKNG (40 mil) (4IN LINE)	L.M.	0.5
717-01	MOBILIZATION	LS	1
730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1
801-02.01	CROWN VETCH MIXTURE (WITHOUT MULCH)	UNIT	2
801-03	WATER (SEEDING & SODDING)	M.G.	0.2
805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	180

* DENOTES: ITEM TO BE BID AS CONTINGENCY AND MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

GRADING

- ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY 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.

GUARDRAIL

- 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 COMPLETE IN PLACE.

SEEDING AND SODDING

- ITEM NOS. 801-02.01 CROWN VETCH MIXTURE (WITHOUT MULCH) AND 805-12.02 EROSION CONTROL BLANKET (TYPE II) SHALL BE USED ON SLOPES 3:1 OR STEEPER AND OTHER AREAS AS INDICATED IN THE PLANS THAT ARE INACCESSIBLE FOR MOWING.

UTILITIES

- 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 65-31-106 WILL BE REQUIRED.
- 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 COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

FOOTNOTES:

- INCLUDES THE COST OF 0.03 TONS OF BITUMINOUS MATERIAL FOR PRIME COAT (P.C) AT A RATE OF 0.35 GAL/S.Y. AND THE COST OF 0.19 TONS OF BITUMINOUS MATERIAL FOR TACK COAT (T.C.). APPLICATION RATE FOR TACK COAT SHALL BE 0.1 GAL/S.Y. FOR MILLED SURFACES AND 0.07 GAL/S.Y. BETWEEN LIFTS OF NEW ASPHALT.
- THIS ITEM SHALL BE A PORTABLE ENERGY ASORBING 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.
- SHALL BE WHITE
- THE CONTRACTOR SHALL DEVELOP TRAFFIC CONTROL PLANS FOR OPERATIONS RELATING TO APPLICATION OF THE TEXTURE FINISH OF THE PARAPET.
- TEMPORARY CLOSURES DURING LATE NIGHT OR NON-PEAK HOURS MAY BE REQUIRED TO COMPLETE THE REMOVAL OF EXISTING ASPHALT OVERLAY AND PLACEMENT OF NEW ASPHALT ON APPROACHES. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO COMPLETE THESE OPERATIONS TO THE ENGINEER FOR APPROVAL. THE COSTS OF ALL ENGINEERING, MATERIALS, AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF THE TRAFFIC CONTROL SHALL BE INCLUDED IN ITEM 712-01.
- TO INCLUDE COST OF PORTABLE STEEL BARRIER CONNECTOR PLATES AS SHOWN ON DWG. BR-117-40.

UTILITY OWNERS

ELECTRICAL: FRENCH BROAD ELECTRIC CO-OP
P.O. BOX 9
HWY 213
MARSHALL, NC 28753
RICK THOMASON (828) 649-2051

TELEPHONE: CENTURY LINK
101 N. ROAN STREET
JOHNSON CITY, TN 37601
JEFF JOHNSON (423) 946-8602

AT&T CORP
360 GEES MILL BUSINESS PARKWAY
CONYERS, GA 30013
SCOTT LOGEMAN (770) 335-8255

CABLE: XFINITY (COMCAST)
1794 OLD GRAY STATION ROAD
GRAY, TN 37654
KEVIN WALDROP (423) 791-4128

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.

- 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.
- 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.
- 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

- THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES WHERE AND AS DIRECTED BY THE ENGINEER.

- 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

ON S.R. 36 (SPIVEY MOUNTAIN ROAD)

- PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMOPLASTIC (40 mil) 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. 716-13.06, SPRAY THERMO PVMT MRKNG (40 mil) (4IN 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 MARKINGS 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

- BEFORE OPENING THE LANE SHIFT TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM 712-09.01 REMOVABLE PAVEMENT MARKING LINE, LIN. FT. 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.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES & GENERAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	86001-4218-04	2B

GENERAL NOTES

PAVEMENT

PAVING

- (15) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.
- (16) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- (17) 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.
- (18) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF 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.
- (19) 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.
- (20) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (21) 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.
- (22) 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 LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- (23) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- (24) ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED AND THE VERTICAL PANELS ARE TO BE IN PLACE BEFORE IT IS OPENED TO TRAFFIC.

EROSION PREVENTION AND SEDIMENT CONTROL

DISTURBED AREA

- (25) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 15 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS INSTALLED.
 - (26) 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.
 - (27) 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.
 - (28) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.
- ### SEDIMENT CONTROL
- (29) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
 - (30) 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.
 - (31) IF PERMANENT OR TEMPORARY VEGETATION IS TO BE USED AS AN EPSC MEASURE, THEN THE TIMING OF PLANTING OF VEGETATION SHALL BE SHOWN IN THE SWPPP. DELAYING PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED, IF POSSIBLE.
 - (32) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ACCESS (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED, AS NEEDED, TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
 - (33) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.

STREAM/WETLAND

- (34) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT WATER QUALITY MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG STREAM BANKS IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS IN ACCORDANCE WITH TDOT STANDARDS. THEY MUST BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.
- (35) INSTREAM EPSC DEVICES REQUIRE THE ENVIRONMENTAL DIVISION'S PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN TDEC, USACE, AND TVA PERMITS.
- (36) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS, SHALL BE ONLY AS SHOWN ON THE PROJECT PLANS AND/OR AS SO SPECIFIED IN THE ARAP/401, SECTION 404 PERMIT(S) AND/OR TVA26(A), IF APPLICABLE. ANY ADDITIONAL PERMITS REQUIRED BY THE CONTRACTOR'S METHOD OF OPERATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, AFTER RECEIVING THE APPROVAL OF TDOT ENVIRONMENTAL DIVISION.

- (37) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CROSSINGS MUST BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES MUST BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK MUST BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS MUST BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO THEIR PREEXISTING ELEVATION. ALL TEMPORARY CROSSINGS MUST BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.

SPECIES

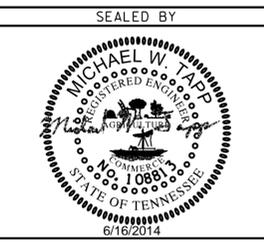
- (38) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA. THE SWPPP SHALL BE MODIFIED TO INCLUDE EPSC MEASURES TO PREVENT NEGATIVE IMPACTS TO LEGALLY PROTECTED STATE OR FEDERAL FAUNA OR FLORA OR AS INDICATED IN THE ECOLOGICAL STUDIES OR ON THE PERMIT(S).

INSPECTION, MAINTENANCE, REPAIR

- (39) EPSC CONTROLS WILL BE MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES.
- (40) 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.
- (41) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND BE TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT IS TO BE INCLUDED IN PRICE BID FOR ITEM NO. 209-08.02 TEMPORARY SILT FENCE (WITH BACKING), L.F.
- (42) 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.
- (43) 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.
- (44) 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.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**GENERAL
NOTES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	86001-4218-04	2C

GENERAL NOTES

EROSION PREVENTION AND SEDIMENT CONTROL (CONT'D)

INSPECTION, MAINTENANCE, REPAIR

- (45) 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 TIMEFRAME, 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.
- (46) THE TDOT PROJECT SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S SITE SUPERINTENDENT ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT PROJECT SUPERVISOR OR THEIR DESIGNEE WILL COMPLETE THE INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

MATERIALS

- (47) 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.

SWPPP, PERMITS, PLANS, RECORDS

- (48) 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 FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS.
- (49) 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, ROADWAY 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.
- (50) 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, QUALITY ASSURANCE SITE ASSESSMENT RECORDS, PRECIPITATION RECORDS, SWPPP, PROJECT ENVIRONMENTAL PERMITS, AND A COPY OF THE PROJECT EPSC INSPECTOR'S TDEC LEVEL 1 CERTIFICATION.
- (51) ALL WATER QUALITY AND STORM WATER PERMITS, INCLUDING A COPY OF THE NOC WITH NPDES PERMIT TRACKING NUMBER AND THE LOCATION OF THE SWPPP, SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BREIF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. 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. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.
- (52) 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 AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. A COPY OF CERTIFICATION RECORDS FOR THE COURSES SHALL BE KEPT ON SITE AND AVAILABLE UPON REQUEST.

LITTER, DEBRIS, WASTE, PETROLEUM

- (53) 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.
- (54) 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.

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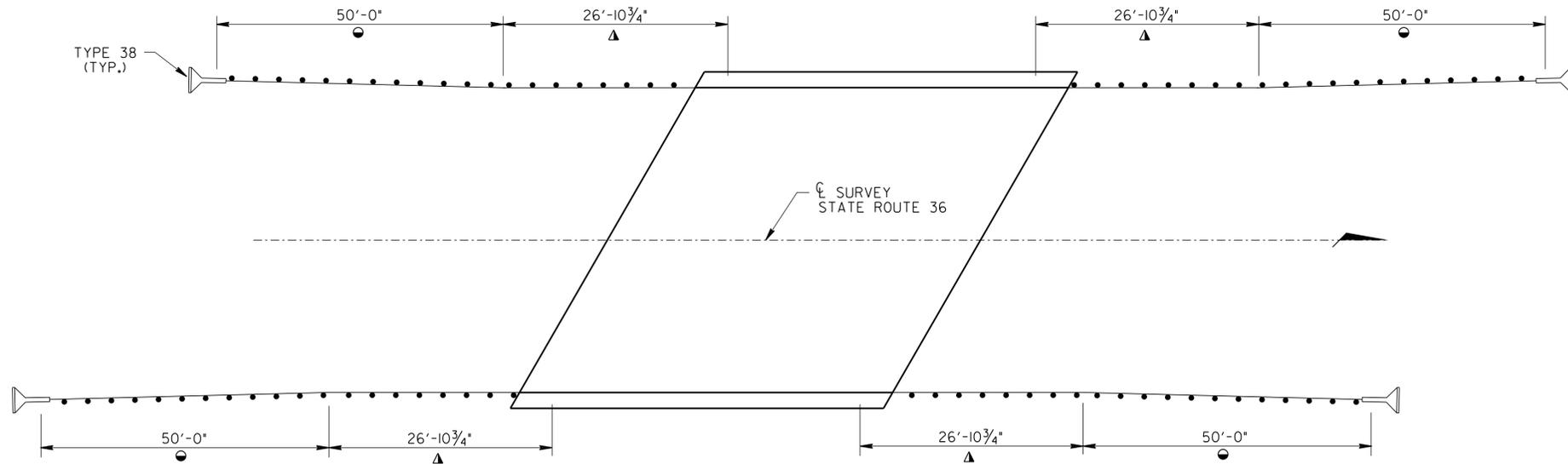
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL
NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	86001-4218-04	2D

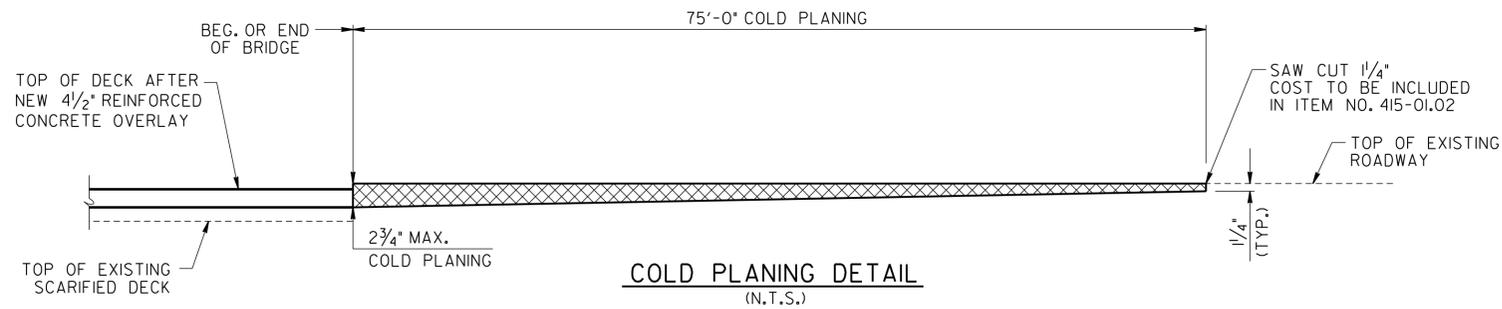


GUARDRAIL PLAN
(N.T.S.)

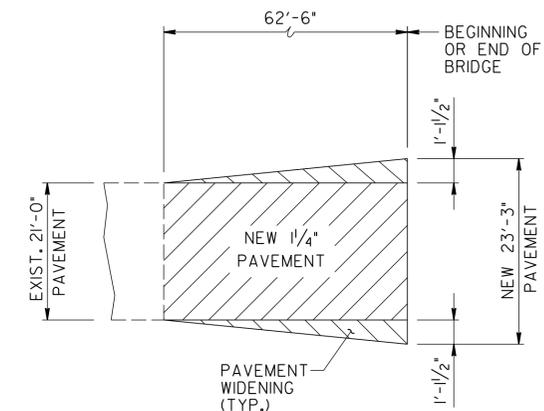
▲ DENOTES: ITEM NO. 705-01.01
● DENOTES: ITEM NO. 705-04.07

NOTES

1. COLD PLANING MAY BE MORE OR LESS DEPENDING UPON CROSS SLOPES OF THE ROADWAYS. HOWEVER, 1/4" SAW CUT AT BEGINNING OF TRANSITION SHALL BE MAINTAINED.
2. IF COLD PLANING UNCOVERS BASE STONE, MINERAL AGGREGATE, TYPE A BASE, GRADING D MATERIAL SHALL BE ADDED IN A MINIMUM OF ONE 6" COMPACTED LIFT. AN APPLICATION OF PRIME COAT SHALL BE PLACED BETWEEN THE BASE STONE AND ANY ASPHALT AT A RATE OF 0.35 GAL/SY. ALL COST TO EXCAVATE BASE STONE, INSTALL GRADING D MATERIAL, AND APPLY PRIME COAT SHALL BE INCLUDED IN THE BID FOR OTHER ITEMS.
3. SEE SECTION 906.04 FOR DETAILS OF BRIDGE DECK SEALANT AND MASTIC.

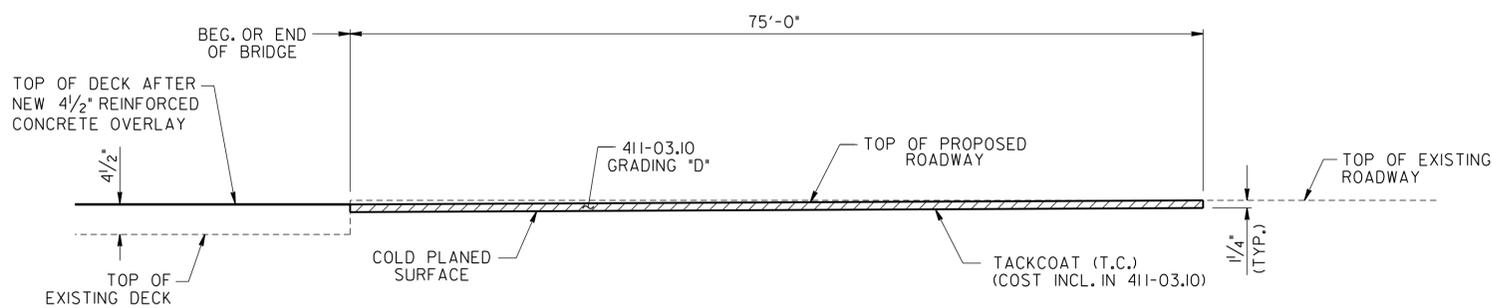


COLD PLANING DETAIL
(N.T.S.)



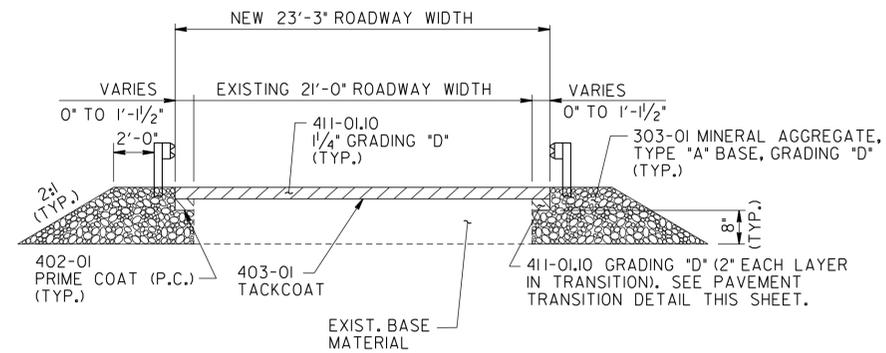
TYPICAL PLAN
(SHOWING SHOULDER STABILIZATION)

UNOFFICIAL SET
NOT FOR BIDDING



PAVEMENT TRANSITION DETAIL
(N.T.S.)

NOTE: SEE SECTIONS 617 AND 906.04 OF THE TENNESSEE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.



PAVEMENT CROSS SECTION

(LOOKING FORWARD ON SURVEY @ BEG. OF BRIDGE)

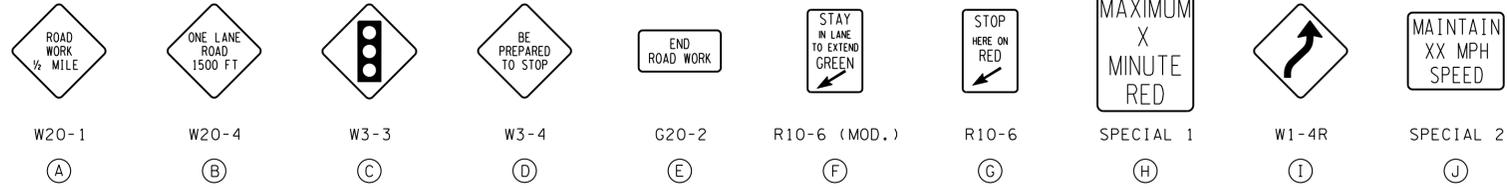
NOTE: COST OF EXCAVATION REQUIRED FOR THE PLACEMENT OF ITEM NO. 303-01 SHALL BE INCLUDED IN THE COST OF OTHER ITEMS OF CONSTRUCTION.

SEALED BY
MICHAEL W. TAPP
REGISTERED ENGINEER
No. 10881
STATE OF TENNESSEE
6/18/2014

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GUARDRAIL PLAN & PAVEMENT TRANSITION DETAILS

TYPE	YEAR	PROJECT NO.	SHEET NO.
REPAIR	2014	86001-4218-04	3



TRAFFIC CONTROL 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 ON UNIFORM TRAFFIC CONTROL DEVICES."
2. CONSTRUCTION SIGNING SHOWN IN THIS PLANS IS TO SERVE AS A GUIDE ONLY. OTHER SIGNS MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
3. NO TRAFFIC SHALL BE DETOURED OR ROADWAY CLOSED, ABANDONED, OR REMOVED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
4. ADVANCE WARNING SIGNS ARE TO BE PLACED PRIOR TO BEGINNING OF CONSTRUCTION AND REMAIN IN PLACE UNTIL THE COMPLETION OF THIS PROJECT.
5. SEE THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE TDOT SUPPLEMENT TO "STANDARD HIGHWAY SIGNS", AND THE CONSTRUCTION WORK ZONE AND TRAFFIC CONTROL GENERAL NOTES FOR TRAFFIC DETAILS NOT SHOWN.
6. CONTRACTOR IS TO COVER ALL CONFLICTING SIGNS DURING CONSTRUCTION. COVERINGS SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION. COST ASSOCIATED WITH COVERING AND UNCOVERING SIGNS TO BE INCLUDED IN ITEM 712-06, SIGNS (CONSTRUCTION).
7. THE CONTRACTOR IS TO COORDINATE ALL LANE CLOSURES WITH THE TDOT REGIONAL OFFICE AND THE COUNTY ENGINEER.
8. IF INGRESS/EGRESS IS REQUIRED FOR PRIVATE ENTRANCE, THE CONTRACTOR SHALL USE A FLAGMAN TO DIRECT ANY TRAFFIC FOR THE PRIVATE ENTRANCE. ALL COST FOR THE FLAGMAN SHALL BE INCLUDED IN THE COST OF ITEM NO. 712-01, TRAFFIC CONTROL, (LS).
9. TYPE C WARNING LIGHTS SHALL BE USED IN TAPER AREAS AND MOUNTED TO THE FLEXIBLE DRUMS.
10. FOR ALL DETAILS NOT SHOWN, SEE STD. DWGS. T-WZ-32, T-WZ-34, AND T-WZ-35.

TRAFFIC CONTROL SIGN QUANTITIES					
	DESCRIPTION	SIZE	EACH	SIGNS (CONST.) 712-06, S.F.	
	W20-1	ROAD WORK 1/2 MILE	48" X 48"	2	32
*	W20-1	ROAD WORK 1500 FT	48" X 48"	2	32
*	W20-1	ROAD WORK 1000 FT	48" X 48"	2	32
*	W20-1	ROAD WORK 500 FT	48" X 48"	2	32
	W20-4	ONE LANE ROAD 1500 FT	48" X 48"	2	32
*	W20-7A	FLAGGER AHEAD (SYMBOL)	36" X 36"	2	18
*	W16-2P	1000 FEET	24" X 18"	2	6
	W1-4R	REVERSE CURVE (RIGHT)	30" X 30"	1	6.25
	W3-3	SIGNAL AHEAD (SYMBOL)	36" X 36"	2	18
	W3-4	BE PREPARED TO STOP	48" X 48"	2	32
	R10-6	STOP HERE ON RED	24" X 36"	2	12
	R10-6 (MOD.)	STAY IN LANE TO EXTEND GREEN	30" X 42"	2	17.5
	G20-2	END ROAD WORK	36" X 18"	2	9
	SPECIAL 1	MAXIMUM _ MINUTE RED	42" X 48"	2	28
	SPECIAL 2	MAINTAIN _ MPH SPEED	42" X 36"	2	21
TOTAL					327.75

* FOR USE OF THESE SIGNS, SEE TDOT STANDARD DRAWINGS T-WZ-32, T-WZ-34 AND T-WZ-35.

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
●	FLEXIBLE DRUMS (CHANNELIZING)
▬	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
RSSWL	REMOVABLE SINGLE SOLID WHITE LINE
RSL	REMOVABLE STOP BAR (24")
⊣	SIGN (CONSTRUCTION)
⊣	SIGN (CONSTRUCTION) (2-POST)
■→	SIGNAL HEAD WITH BACKPLATE
●	SIGNAL SUPPORT - WOOD POLE
△	TEMPORARY ATTENUATOR
→	TRAFFIC FLOW
▨	WORK ZONE

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

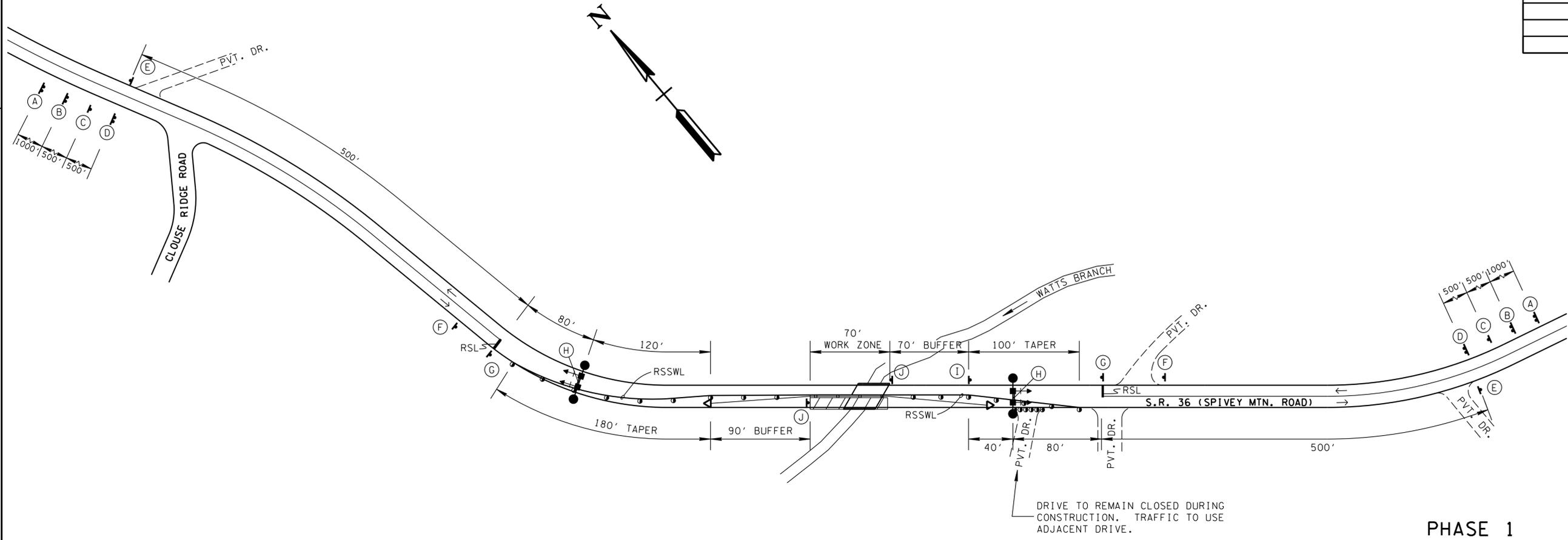


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

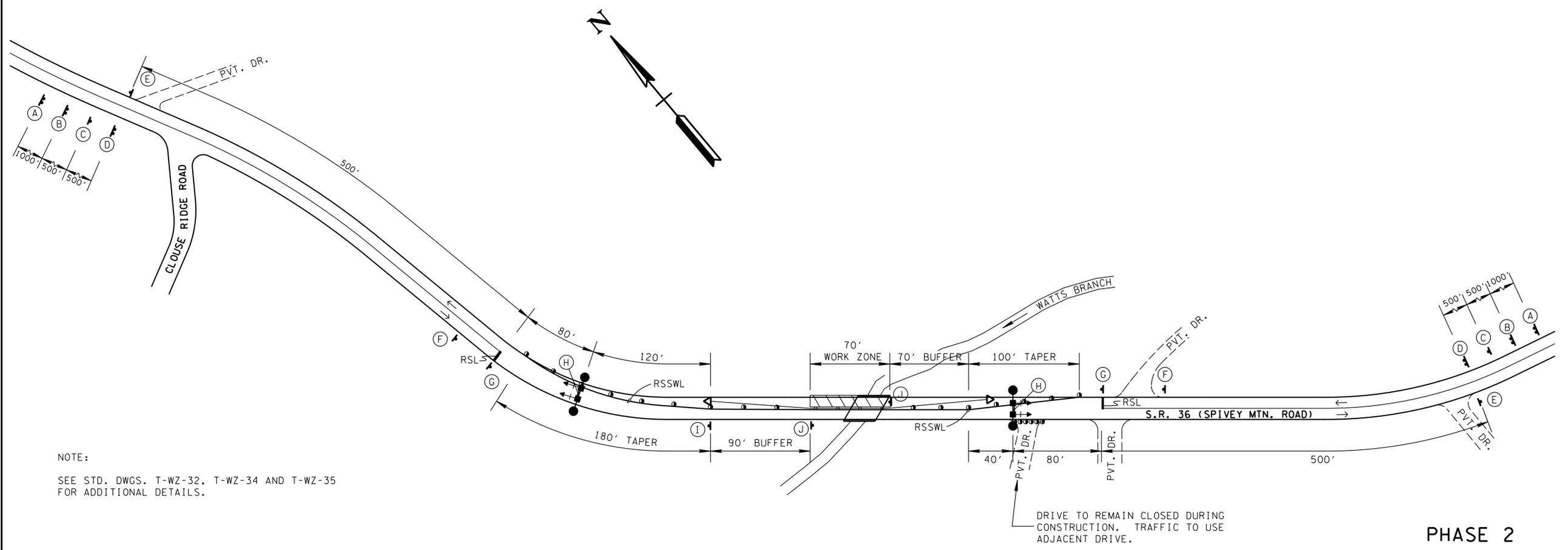
TRAFFIC CONTROL NOTES & QUANTITIES

SCALE: N.T.S.

TYPE	YEAR	PROJECT NO.	SHEET NO.
REPAIR	2014	86001-4218-04	3A

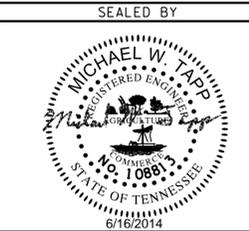


PHASE 1



PHASE 2

UNOFFICIAL SET
NOT FOR BIDDING



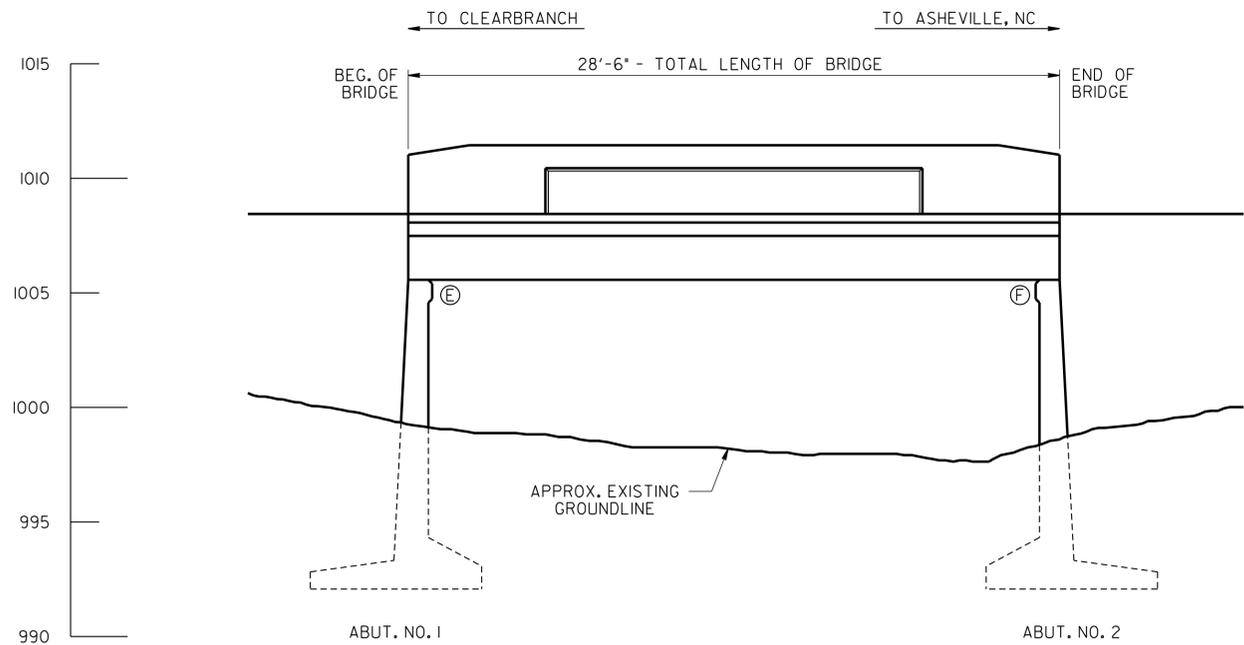
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN
S.R. 36 (SPIVEY MOUNTAIN ROAD) OVER WATTS BRANCH
SCALE: 1" = 50'

NOTE:
SEE STD. DWGS. T-WZ-32, T-WZ-34 AND T-WZ-35 FOR ADDITIONAL DETAILS.

6/13/2014
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PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



ELEVATION
 ⓔ DENOTES: EXPANSION
 ⓕ DENOTES: FIXED
 NOTE: EXISTING AND PROPOSED SUPPORT CONDITIONS TO REMAIN THE SAME.

GENERAL SCOPE OF WORK

1. PROVIDE REQUIRED TRAFFIC CONTROL TO MAINTAIN ONE 9'-0" LANE OF TRAFFIC AT ALL TIMES ON THE EXISTING BRIDGE.
2. PROVIDE SPALL REPAIRS WITH HIGH EARLY STRENGTH CONCRETE AND POLYMER MODIFIED CEMENTITIOUS MATERIAL.
3. HAND CLEAN AND PAINT EXISTING BEARINGS.
4. REMOVE EXISTING 5"+ ASPHALT OVERLAY FOR ENTIRE LENGTH OF BRIDGE AND APPROPRIATE TRANSITION LENGTH BEYOND EACH END OF BRIDGE.
5. REMOVE EXISTING EDGE BEAM, BRIDGE DECK FROM EDGE OF SLAB TO CENTERLINE OF FIRST INTERIOR GIRDER AND CONCRETE PARAPET ON EACH SIDE OF BRIDGE.
6. SCARIFY 1" FROM EXISTING BRIDGE DECK.
7. EPOXY INJECT CRACKED CONCRETE AT ABUTMENTS.
8. RECONSTRUCT CONCRETE SLAB IN AREAS OF FULL AND PARTIAL DEPTH DECK REPAIR. DECK REPAIRS TO BE POURED CONCURRENTLY WITH THE PROPOSED REINFORCED CONCRETE OVERLAY.
9. INSTALL NEW PRECAST, PRESTRESSED CONCRETE BOX EDGE BEAMS WITH ASSOCIATED BEARINGS AND CONSTRUCT NEW DECK SLAB AND CANTILEVERS.
10. PROVIDE A NEW 4 1/2" REINFORCED 10-DAY CURE CONCRETE OVERLAY WITH MECHANICAL DECK GROOVING ACROSS THE ENTIRE DECK.
11. CONSTRUCT NEW STD-I-ISS PARAPETS INCLUDING PARAPET DRAINS AND PARAPET DELINEATORS.
12. CONSTRUCT 1'-0" VERTICAL EXTENSION TO WINGWALLS.
13. PROVIDE TEXTURE COATING FOR NEW PARAPETS, EDGE BEAMS AND BOTTOM AND SIDES OF DECK SLAB AS WELL AS EXPOSED FACES OF EXISTING ABUTMENTS.
14. CONSTRUCT SHOULDER STABILIZATION AS SHOWN IN THE ROADWAY PLANS TO ACCOMMODATE WIDENING.
15. PROVIDE NEW ASPHALT TRANSITIONS TO EXISTING ASPHALT.
16. INSTALL NEW GUARDRAIL AT BRIDGE ENDS.

LIST OF DRAWINGS

DWG. NO.	LAST REV. DATE	DRAWING
BR-117-35		LAYOUT OF BRIDGE TO BE REPAIRED
BR-117-36		ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES
BR-117-37		SUPERSTRUCTURE
BR-117-38		SUPERSTRUCTURE REPAIR DETAILS
BR-117-39		SUPERSTRUCTURE DETAILS
BR-117-40		SUPERSTRUCTURE DETAILS
BR-117-41		PRESTRESSED BOX BEAM DETAILS
BR-117-42		ABUTMENT NOS. 1 AND 2 REPAIR DETAILS
BR-117-43		WINGWALL REPAIR DETAILS
BR-117-44		MISCELLANEOUS REPAIR DETAILS

*** LIST OF REFERENCE DRAWINGS**

DWG. NO.	DRAWING
D-4-26	CONCRETE ABUTMENT FOR SLAB GIRDER BRIDGES
D-4-48	STANDARD CONCRETE DECK GIRDER BRIDGES
D-4-74	CONCRETE HANDRAIL SPINDLE TYPE
D-5-36	LAYOUT OF BRIDGE

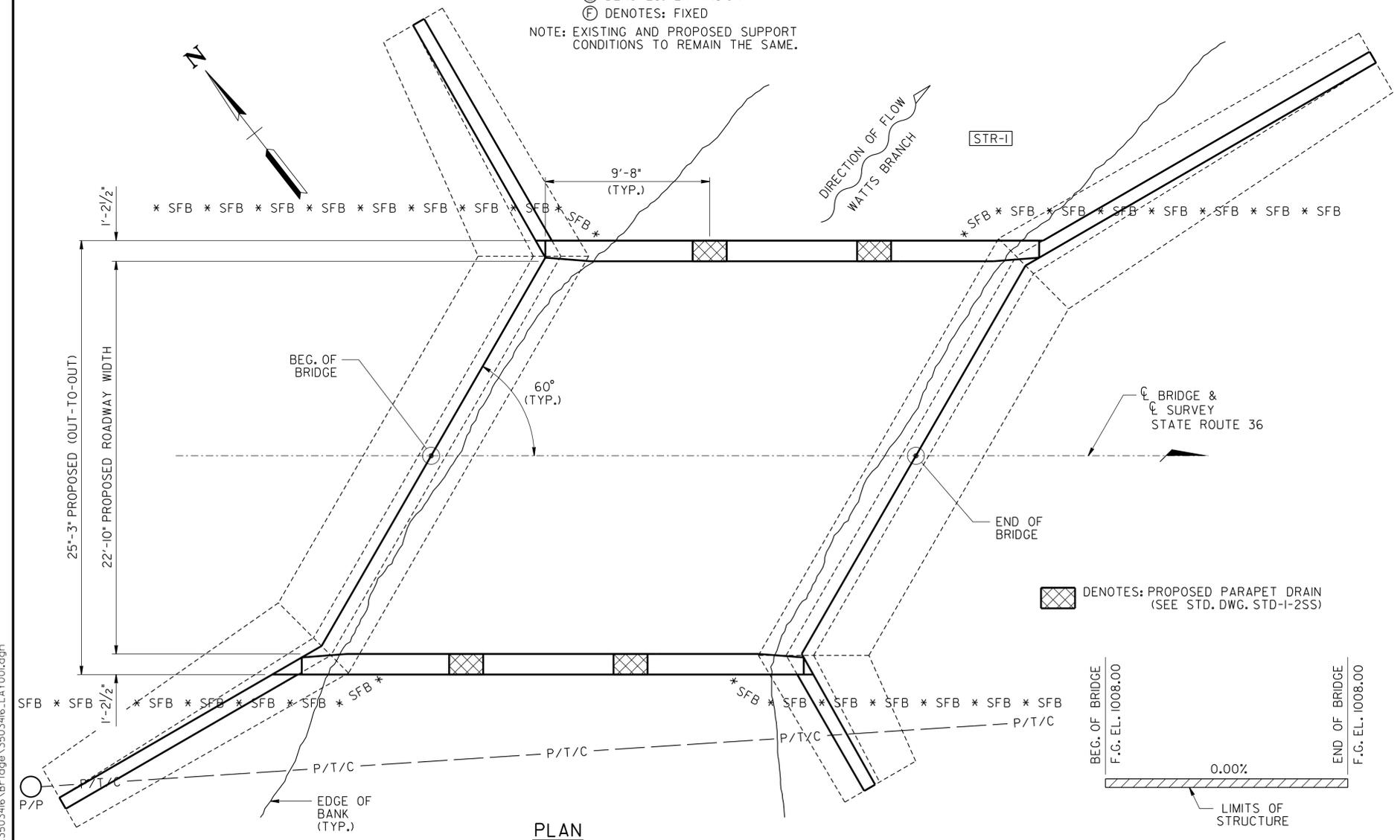
* DENOTES: THESE DRAWINGS ARE TO BE PRINTED WITH PLANS.

UNOFFICIAL SET
 NOT FOR BIDDING

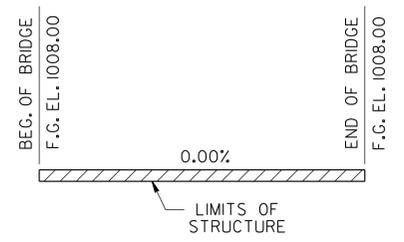
STATE ROUTE 36 2014 EST. ADT = 425
 POSTED SPEED LIMIT = 40 M.P.H.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE TO BE REPAIRED
 STATE ROUTE 36 OVER
 WATTS BRANCH
 BRIDGE NO. 86-SR036-04.19
 UNICOI COUNTY
 2014



⊠ DENOTES: PROPOSED PARAPET DRAIN (SEE STD. DWG. STD-I-25S)

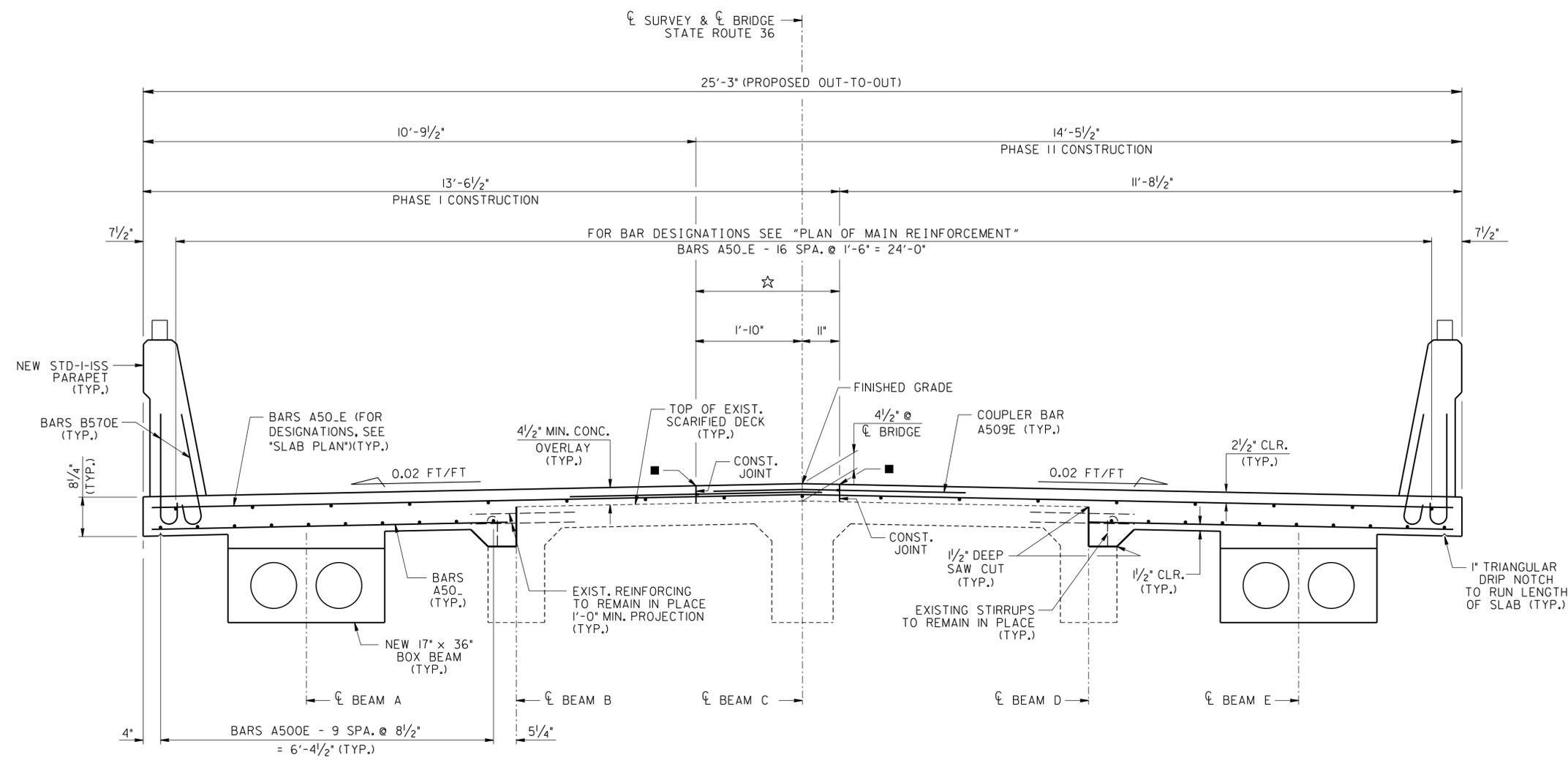


GRADE SKETCH
 EXISTING BRIDGE DECK

DESIGNED BY M. JONES DATE 12/13
 DRAWN BY M. JONES DATE 12/13
 SUPERVISED BY L. BILBREY DATE 12/13
 CHECKED BY J. ECKEL DATE 12/13

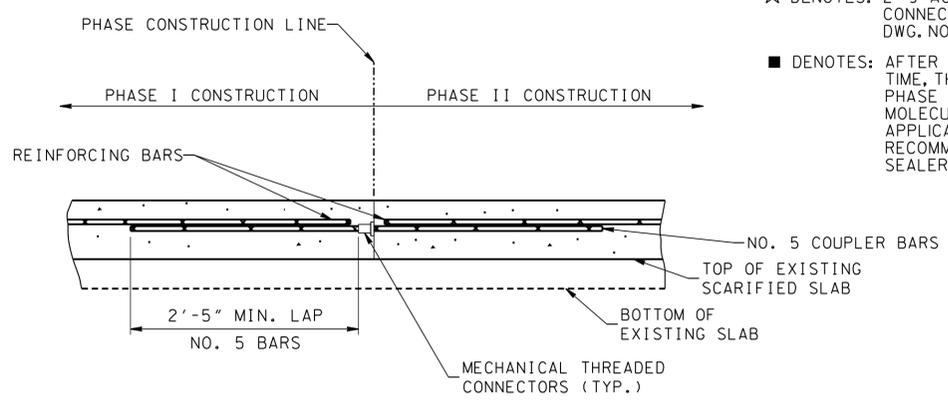
TOTAL DISTURBED AREA 2,400 S.F. (0.06 ACRES)

PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



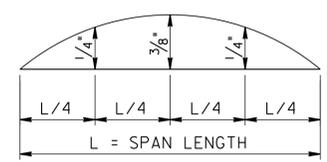
TYPICAL SECTION
(LOOKING FORWARD ON SURVEY)

- ☆ DENOTES: 2'-9" ACCESSIBLE REPAIR AREA BEHIND STEEL BARRIER CONNECTOR PLATE FOR SUPERSTRUCTURE REPAIRS. SEE DWG. NO. BR-117-39.
- DENOTES: AFTER CONCRETE HAS REACHED AN APPROPRIATE CURE TIME, THE LONGITUDINAL JOINT BETWEEN PHASE I AND PHASE II CONSTRUCTION SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) SEALER. APPLICATION TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL COST FOR FURNISHING AND APPLYING SEALER IS TO BE INCLUDED IN ITEM NOS. 617-02 AND 617-05.



COUPLER BAR DETAIL
(SHOWING TRANSVERSE REINFORCING STEEL SPLICING WITH MECHANICAL THREADED CONNECTORS)

NOTE: COST OF MECHANICAL THREADED CONNECTORS WITH COUPLER BARS TO BE INCLUDED UNDER ITEM NO. 604-02.03, EPOXY COATED REINFORCING STEEL, (LBS.). INSTALLATION MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.



DEAD LOAD CORRECTION CURVE

DEAD LOAD CORRECTION CURVE; THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER SLAB IS IN PLACE.

UNOFFICIAL SET
NOT FOR BIDDING



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014

**** SPECIAL NOTE REGARDING ELEVATIONS ****

THE ENGINEER MAY ADJUST THE PLANS ELEVATIONS SO THAT THE CONCRETE OVERLAY IS AT A MINIMUM THICKNESS OF 4 1/2" INCHES.

NOTES:

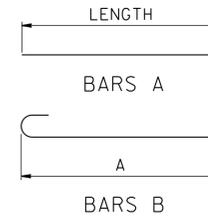
1. WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. NO PORTION OF THE PARAPET SHALL BE POURED UNTIL THE ENTIRE DECK SLAB HAS BEEN POURED AND ALL SUPERSTRUCTURE FALSEWORK HAS BEEN REMOVED. SEE ALSO STANDARD DRAWING NO. STD-1-ISS.
2. THE CONTRACTOR SHALL TAKE SPECIAL CARE WHEN PERFORMING DEMOLITION NOT TO DAMAGE THE EXISTING REINFORCING STEEL. THE EXISTING REINFORCEMENT SHALL REMAIN AS PRACTICAL AND POSSIBLE. EXISTING REINFORCEMENT SHALL BE THOROUGHLY CLEANED BEFORE NEW CONCRETE IS PLACED.
3. ALL COST TO FURNISH AND INSTALL ALL SLAB STEEL SHALL BE PAID FOR UNDER ITEM NO. 604-02.03, EPOXY COATED REINFORCING STEEL (LB.).
4. ALL COST TO FURNISH AND INSTALL CONCRETE FOR CANTILEVERS AND 4 1/2" MIN. OVERLAY SHALL BE PAID FOR UNDER ITEM NO. 604-03.09, CLASS "D" CONCRETE (BRIDGE DECK), (C.Y.).
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION. IT IS STRONGLY RECOMMENDED THAT THE TEMPORARY ERECTION DIAPHRAGMS BE INSTALLED PRIOR TO PLACING ANY LOADS ON THE BEAMS HOWEVER, TEMPORARY ERECTION DIAPHRAGMS MUST BE IN PLACE IN THE SPAN AT THE TIME THE SLAB IS POURED IN SAID SPAN.
6. EACH BAR HP570E IN THE PARAPET WINGPOST SHOWN ON STD. DWG. STD-1-ISS IS TO BE REPLACED WITH TWO BARS B570E, ONE BAR A500E, AND ONE BAR BD500E. THE LENGTHS OF BARS A500E AND BD500E IN THE SECTION OF PARAPET WITH THE SLOPED TOP FACE SHALL BE ADJUSTED FROM THOSE SHOWN ON STD. DWG. STD-1-ISS TO MAINTAIN THE REQUIRED CONCRETE COVER. THE ADDITIONAL BARS B570E ARE INCLUDED IN THE SUPERSTRUCTURE BILL OF STEEL. THE ADDITIONAL BARS A500E AND BD500E SHALL BE INCLUDED IN THE COST OF THE PARAPET.

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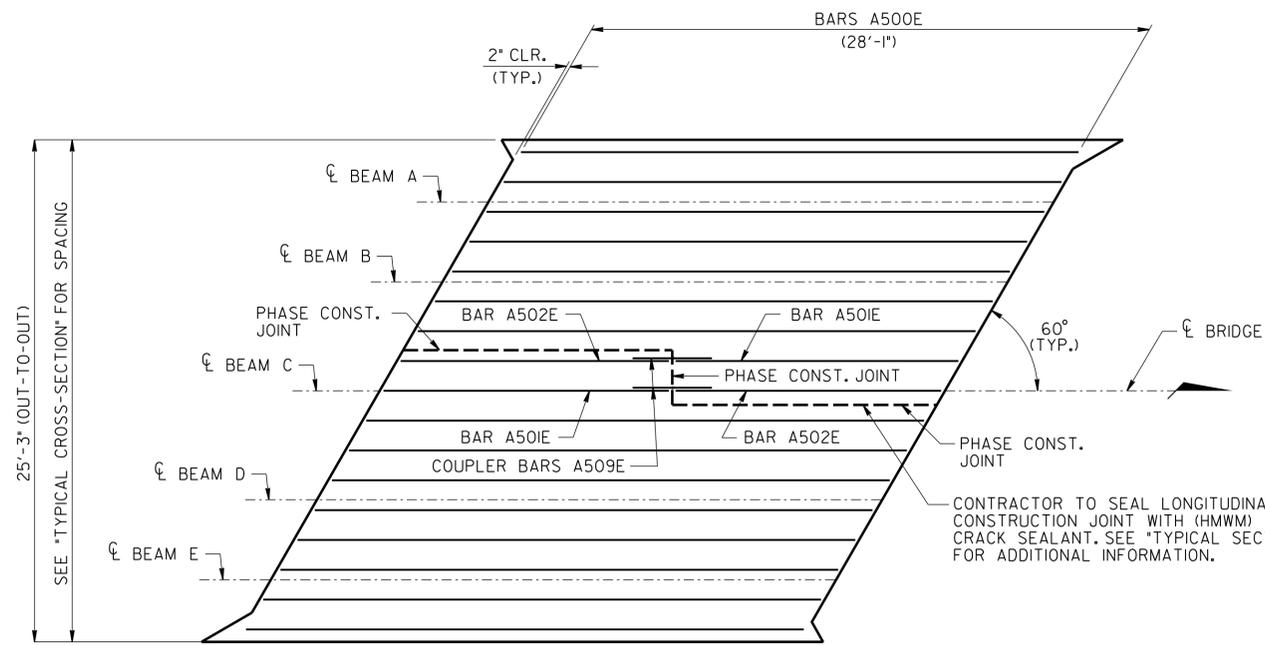
DESIGNED BY	M. JONES	DATE	12/13
DRAWN BY	M. JONES	DATE	12/13
SUPERVISED BY	L. BILBREY	DATE	12/13
CHECKED BY	J. ECKEL	DATE	12/13

ESTIMATED SUPERSTRUCTURE REPAIRS

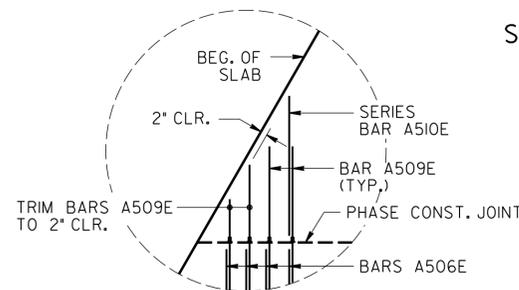
ITEM NO. 604-02.03 (L.B.)	ITEM NO. 604-03.09 (C.Y.)
4,212	19



PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

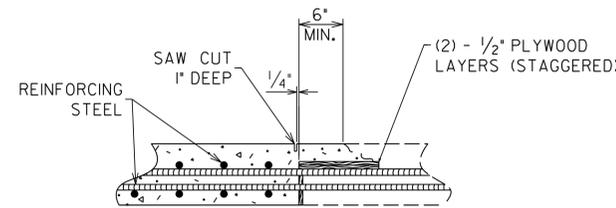


PLAN OF MAIN REINFORCEMENT
(SHOWING TOP MAT REINFORCEMENT)



DETAIL "A"

(BEG. OF BRIDGE SHOWN, END OF BRIDGE SIMILAR)



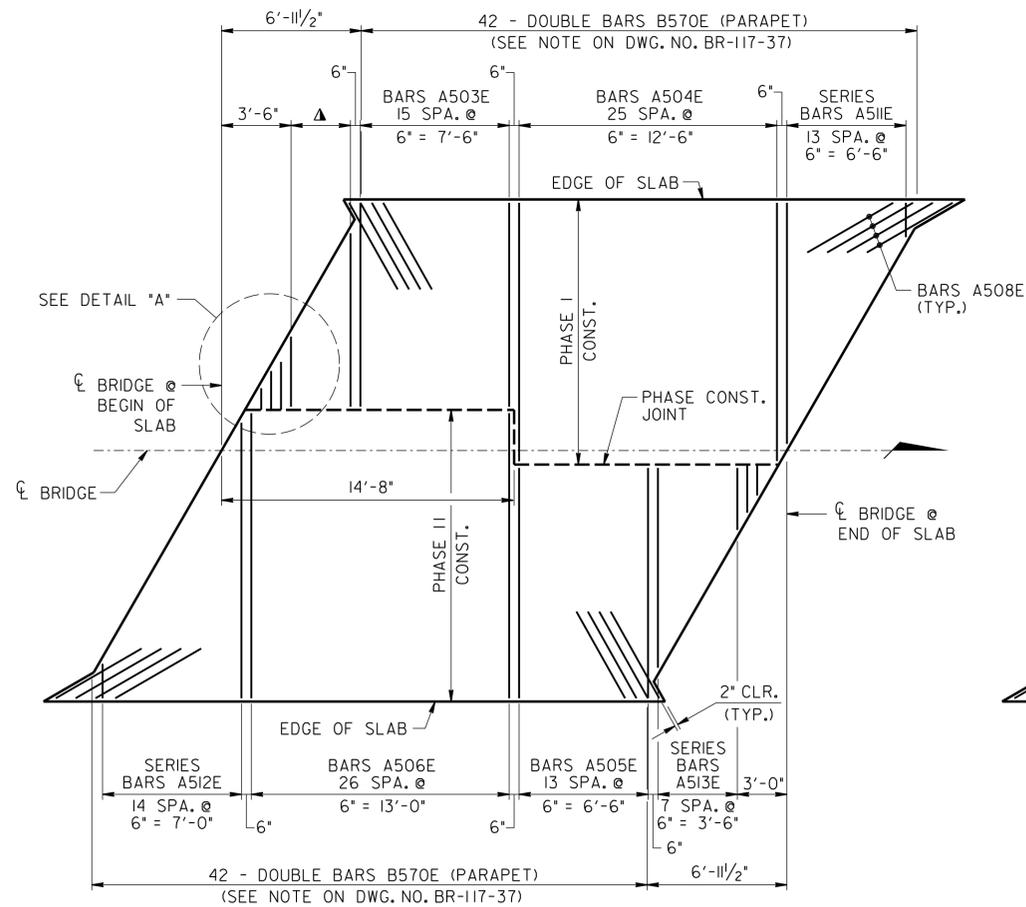
SLAB CONSTRUCTION JOINT DETAIL

NOTE: THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS DURING PLACEMENT OF SLAB TO PREVENT THE EXTERIOR BEAM FROM TWISTING. NO EQUIPMENT SHALL BE PERMITTED ON THE BRIDGE UNTIL ALL POURS ARE MADE AND THE CONCRETE IS PROPERLY CURED. ALL SLAB CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE SLAB CONSTRUCTION JOINT DETAIL SHOWN ABOVE.

BILL OF STEEL

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS				LENGTH
				A	B	C	D	
EPOXY								
A500E	TOP/BOTTOM SLAB	5	35					28'-1"
A501E	TOP SLAB	5	2					14'-3"
A502E	TOP SLAB	5	2					13'-5"
A503E	TOP SLAB	5	16					10'-5"
A504E	TOP SLAB	5	26					13'-3"
A505E	TOP SLAB	5	14					11'-5"
A506E	TOP SLAB	5	27					14'-2"
A507E	BOTTOM SLAB	5	100					6'-10"
A508E	TOP/BOTTOM SLAB	5	32					5'-0"
A509E	COUPLER BARS	5	106					2'-5"
SERIES A510E	TOP SLAB	5	1	LENGTHS VARY FROM 3'-8" TO 8'-11" IN INCREMENTS OF 10 1/2" (7 BARS)				44'-1"
SERIES A511E	TOP SLAB	5	1	LENGTHS VARY FROM 1'-7 1/2" TO 13'-0" IN INCREMENTS OF 10 1/2" (14 BARS)				102'-5"
SERIES A512E	TOP SLAB	5	1	LENGTHS VARY FROM 1'-7" TO 13'-10" IN INCREMENTS OF 10 1/2" (15 BARS)				115'-8"
SERIES A513E	TOP SLAB	5	1	LENGTHS VARY FROM 3'-8 1/2" TO 9'-10" IN INCREMENTS OF 10 1/2" (8 BARS)				54'-2"
SERIES A514E	BOTTOM SLAB	5	2	LENGTHS VARY FROM 1'-9" TO 5'-3" IN INCREMENTS OF 10 1/2" (5 BARS)				17'-6"
SERIES A515E	BOTTOM SLAB	5	2	LENGTHS VARY FROM 1'-8 1/2" TO 6'-1" IN INCREMENTS OF 10 1/2" (6 BARS)				23'-5"
B570E	PARAPET	5	168	2'-1"				2'-8"

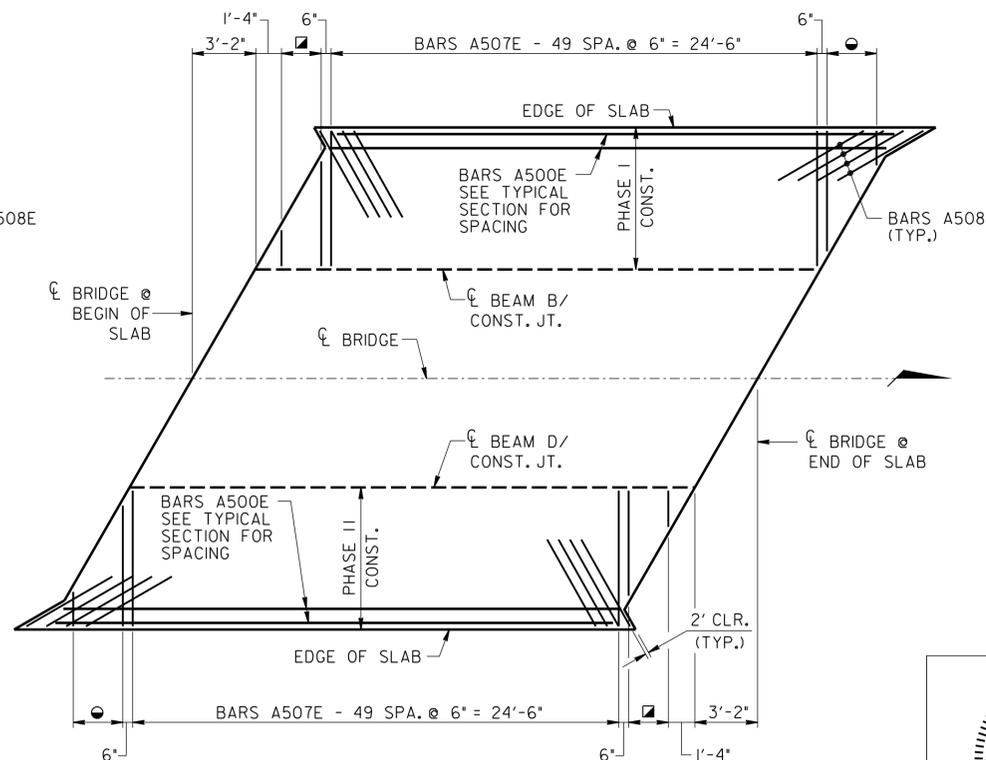
NOTE: DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BARS. STANDARD C.R.S.I. HOOK DETAILS SHALL APPLY EXCEPT AS NOTED.



SLAB PLAN

(SHOWING TOP MAT REINFORCEMENT, COUPLER BAR SPLICES NOT SHOWN FOR CLARITY)

▲ DENOTES: SERIES BARS A510E - 6 SPA. @ 6' = 3'-0"



SLAB PLAN

(SHOWING BOTTOM MAT REINFORCEMENT)

■ DENOTES: SERIES BARS A514E - 4 SPA. @ 6' = 2'-0"

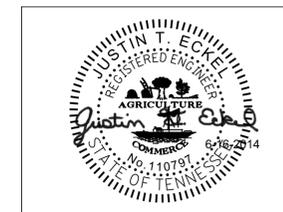
● DENOTES: SERIES BARS A515E - 5 SPA. @ 6' = 2'-6"

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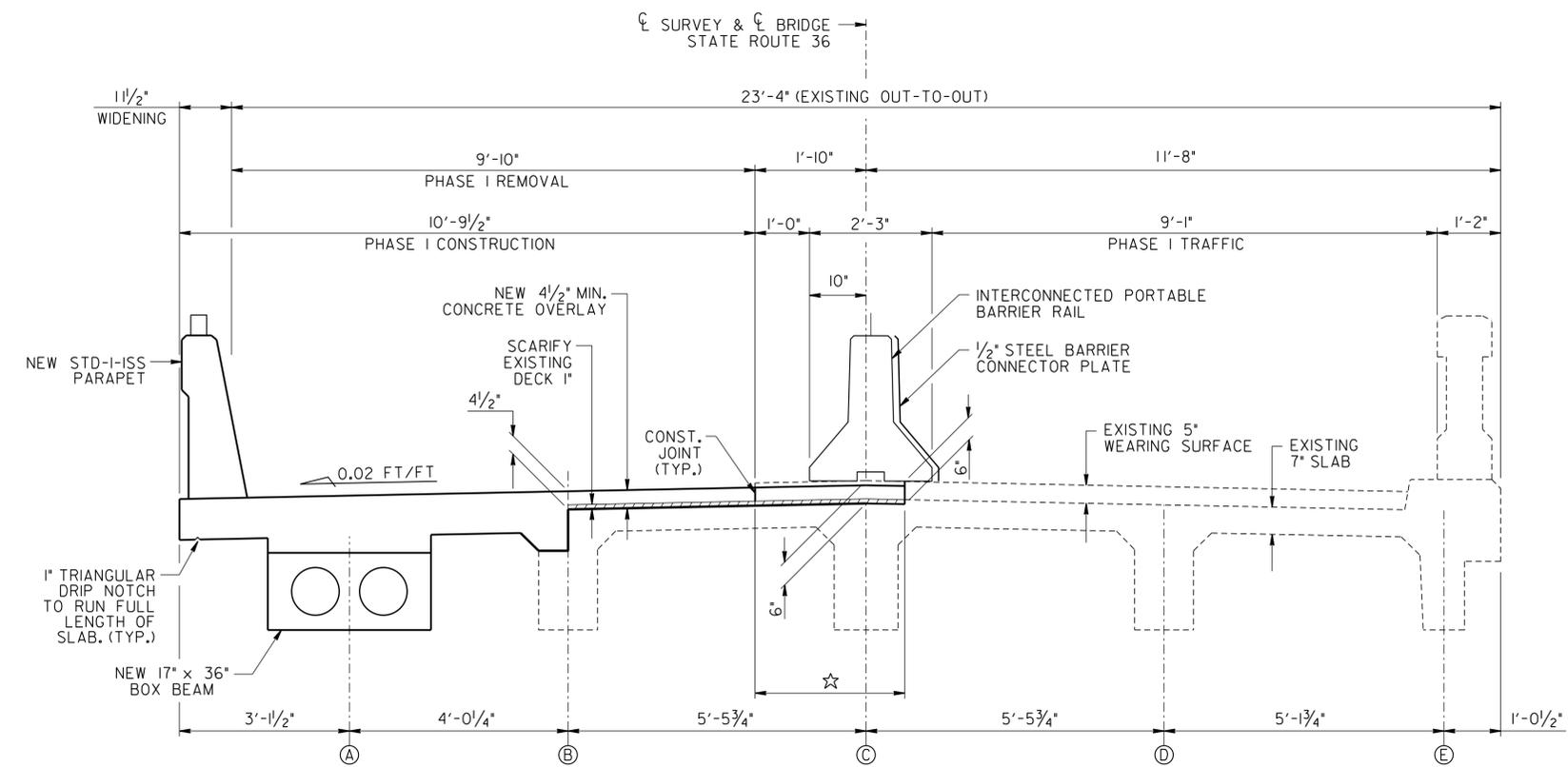
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIR DETAILS
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014



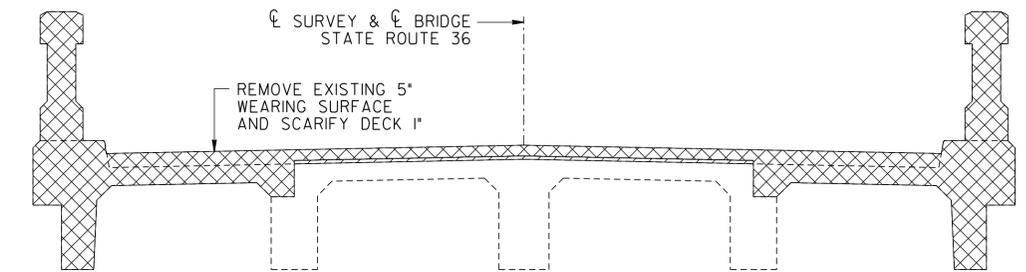
DESIGNED BY M. JONES DATE 12/13
DRAWN BY M. JONES DATE 12/13
SUPERVISED BY L. BILBREY DATE 12/13
CHECKED BY J. ECKEL DATE 12/13

PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



TYPICAL SECTION - PHASE I CONSTRUCTION
(LOOKING FORWARD ON SURVEY)

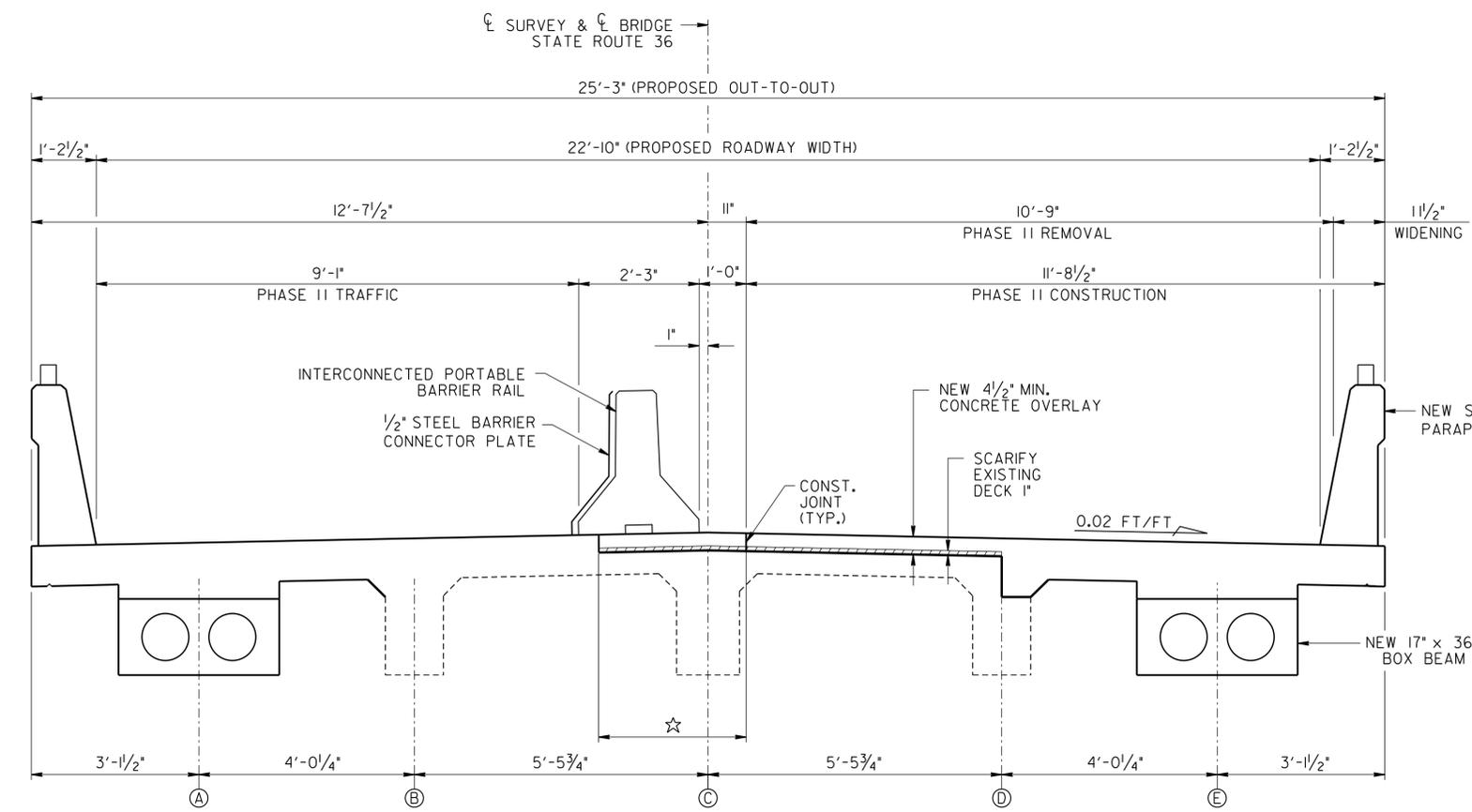
☆ DENOTES: 2'-9\"/>



DEMOLITION SKETCH
(LOOKING FORWARD ON SURVEY)

▨ DENOTES: AREA OF EXISTING BRIDGE TO BE REMOVED.
▧ DENOTES: AREA OF BRIDGE DECK TO BE SCARIFIED.

NOTE: CONTRACTOR TO USE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE SPECIFICALLY REMOVED INCLUDING ANY REINFORCEMENT PROJECTIONS TO BE INCORPORATED INTO NEW SLAB.



TYPICAL SECTION - PHASE II CONSTRUCTION
(LOOKING FORWARD ON SURVEY)

DESIGNED BY M. JONES DATE 12/13
DRAWN BY M. JONES DATE 12/13
SUPERVISED BY L. BILBREY DATE 12/13
CHECKED BY J. ECKEL DATE 12/13

UNOFFICIAL SET
NOT FOR BIDDING

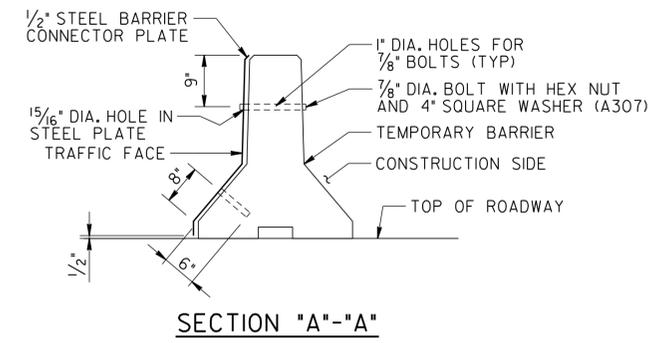
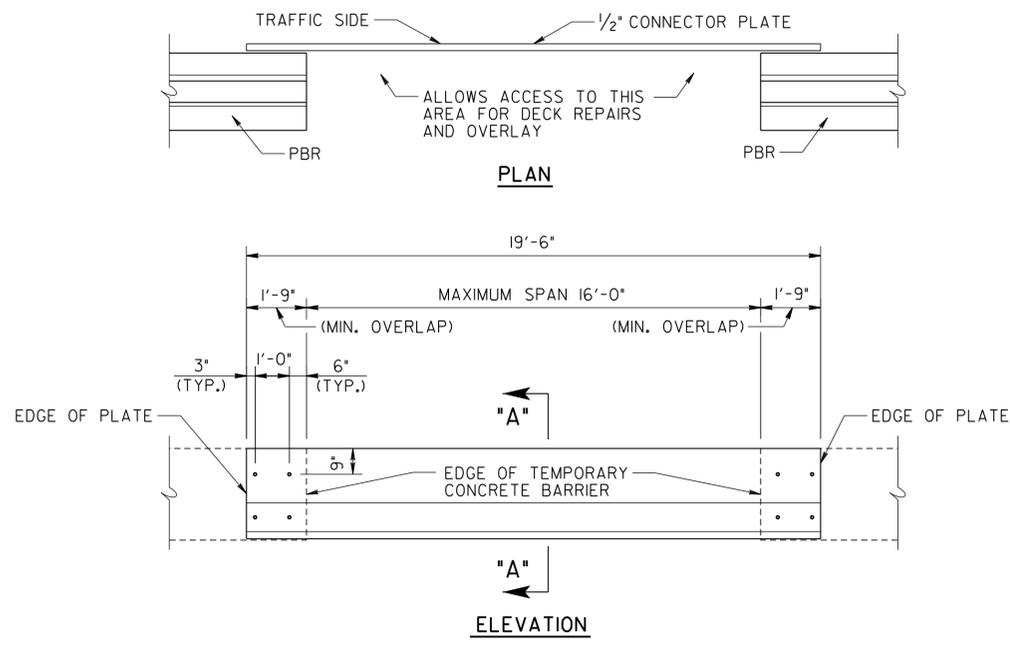


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014

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PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



PORTABLE STEEL BARRIER CONNECTOR PLATE DETAIL

NOTE: CONTRACTOR SHALL INSTALL A 1/2" THICK STEEL CONNECTOR PLATE TO THE PORTABLE CONCRETE BARRIERS TO GAIN ADDITIONAL ACCESS TO DECK AREAS TO PERFORM REPAIRS. THE CONNECTOR PLATES SHALL BE USED ON THE OPPOSITE SIDE DURING PHASE II CONSTRUCTION. 1" DIA. HOLES MAY BE REUSED FOR PHASE II CONSTRUCTION WITH NEW HOLES FOR BOTTOM MASONRY ANCHORS.

NOTE: COST OF THE 1/2" THICK STEEL CONNECTOR PLATES, ALL BOLTS WITH HEX NUTS AND WASHERS, MASONRY ANCHORS, DRILLING, LABOR, AND ALL MISCELLANEOUS MATERIALS NECESSARY FOR THE INSTALLATION OF STEEL BARRIER CONNECTOR PLATES TO BE INCLUDED IN ITEM NO. 712-02.02, INTERCONNECTED PORTABLE BARRIER RAIL, L.F.. TOTAL WEIGHT OF PLATE IS 1,140 LBS.

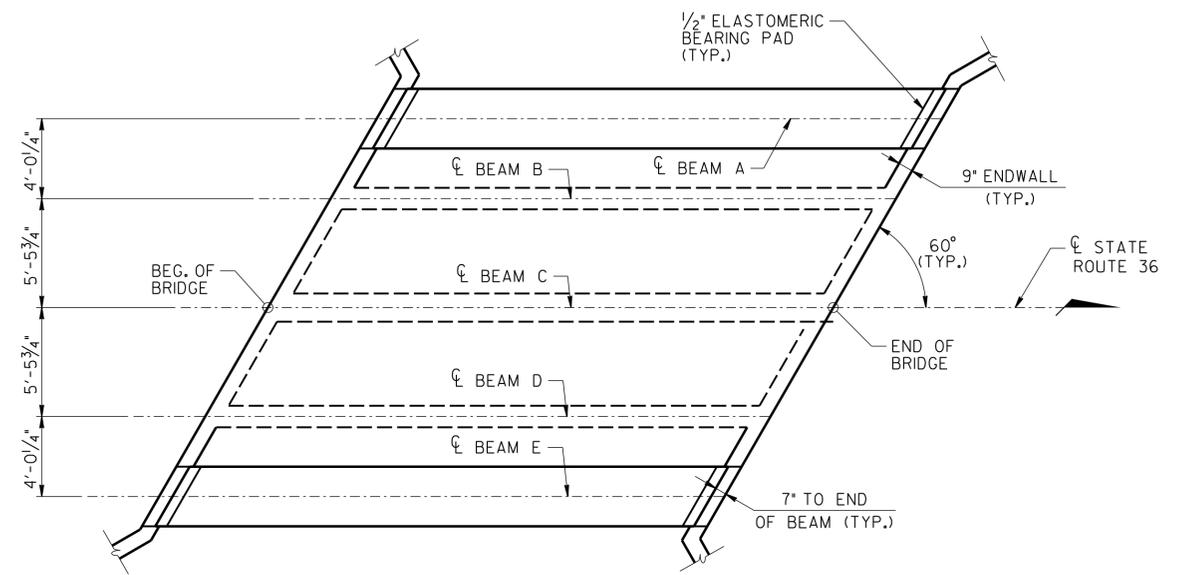
NOTE: 1" DIA. HOLES FOR THE MASONRY ANCHOR AND 1" DIA. HOLES FOR 7/8" DIA. BOLTS SHALL BE DRILLED WITH A HIGH SPEED DRILL. THE DRILL BIT SHALL BE CAPABLE OF DRILLING THROUGH EXISTING REINFORCING BARS AND CONCRETE.

NOTE: IN LIEU OF THE 19'-6" STEEL BARRIER CONNECTOR PLATE AS SHOWN IN DETAIL, THE CONTRACTOR HAS THE OPTION OF SUBMITTING TO THE ENGINEER AN ALTERNATE METHOD OF PLACING THE CONCRETE PORTABLE BARRIERS WHEN WORKING AROUND THE REPAIR AREAS. IF ALTERNATIVE METHOD IS CHOSEN, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE TRAFFIC FROM THE REPAIR AREAS. IF ALTERNATIVE METHOD IS CHOSEN, THERE SHALL BE NO ADDITIONAL COMPENSATION.

*** DECK REPAIR SEQUENCE**

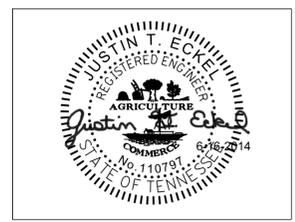
- REMOVE ASPHALT FOR THE PHASE I LIMITS SHOWN. MAY REQUIRE TEMPORARY CLOSURE, LATE NIGHT OR NON-PEAK HOURS AS APPROVED BY THE ENGINEER.
- CHAIN DRAG PHASE I CONSTRUCTION AND PORTABLE BARRIER RAIL AREAS.
- SET PORTABLE BARRIER RAIL. USE PORTABLE STEEL CONNECTOR PLATE TO ACCESS AREAS OF FULL AND PARTIAL DEPTH DECK REPAIR AND REINFORCED CONCRETE OVERLAY LIMITS FOR PHASE I.
- REMOVE EXISTING EDGE BEAM, BRIDGE DECK FROM EDGE OF SLAB TO CENTERLINE OF FIRST INTERIOR GIRDER AND CONCRETE PARAPET WITHIN PHASE I LIMITS.
- COMPLETE FULL AND PARTIAL DEPTH REPAIRS, PLACE NEW EDGE BEAM, PLACE NEW REINFORCED CONCRETE OVERLAY, AND PLACE NEW PARAPET FOR THE PHASE I CONSTRUCTION AREA.
- REMOVE ASPHALT FOR THE PHASE II LIMITS SHOWN. MAY REQUIRE TEMPORARY CLOSURE, LATE NIGHT OR NON-PEAK HOURS AS APPROVED BY THE ENGINEER.
- CHAIN DRAG PHASE II CONSTRUCTION AND PORTABLE BARRIER RAIL AREAS.
- SET PORTABLE BARRIER RAIL. USE PORTABLE STEEL CONNECTOR PLATE TO ACCESS AREAS OF FULL AND PARTIAL DEPTH DECK REPAIR AND REINFORCED CONCRETE OVERLAY LIMITS FOR PHASE II.
- REMOVE EXISTING EDGE BEAM, BRIDGE DECK FROM EDGE OF SLAB TO CENTERLINE OF FIRST INTERIOR GIRDER AND CONCRETE PARAPET WITHIN PHASE II LIMITS.
- COMPLETE FULL AND PARTIAL DEPTH REPAIRS, PLACE NEW EDGE BEAM, PLACE NEW REINFORCED CONCRETE OVERLAY, AND PLACE NEW PARAPET FOR THE PHASE II CONSTRUCTION AREA.

* SEQUENCE SHOWN MAY BE ADJUSTED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER.



FRAMING PLAN

UNOFFICIAL SET
NOT FOR BIDDING



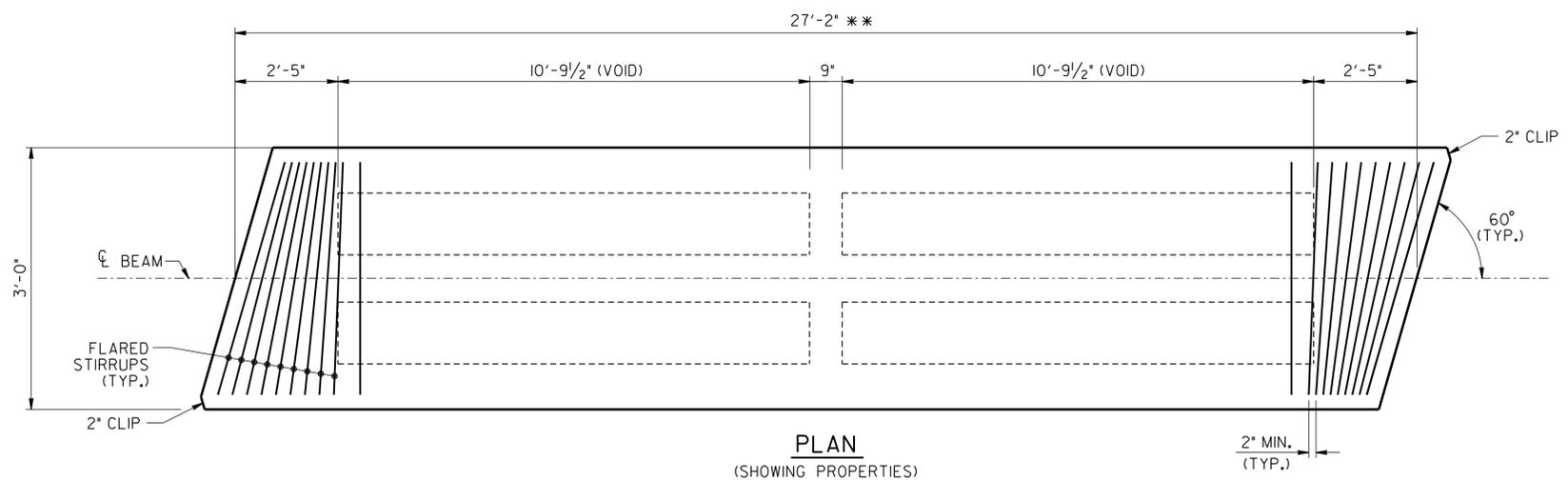
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014

6/16/2014 F:\35\35034\3503416\Bridges\3503416_S0003.dgn

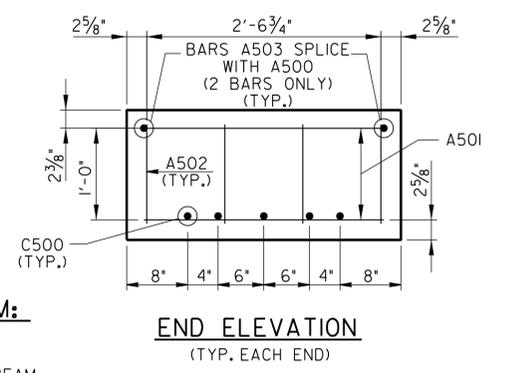
DESIGNED BY	M. JONES	DATE	12/13
DRAWN BY	M. JONES	DATE	12/13
SUPERVISED BY	L. BILBREY	DATE	12/13
CHECKED BY	J. ECKEL	DATE	12/13

PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



NOTES:

- 1) THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 5,000 PSI AT THE AGE OF 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE TO THE BRIDGE MEMBER UNTIL THE TEST SPECIMENS INDICATE THAT THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 4,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
- 2) SEE STD-14-3 FOR BOX BEAM STANDARD DETAILS, NOTES AND REINFORCING.
- 3) ALL PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER ASTM 270K, 7-WIRE UNCOATED LOW RELAXATION PRESTRESSING STRANDS.
- 4) AN INITIAL FORCE OF 31,003 LB. SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
- 5) THE PRESTRESSED BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING ENDWALLS AND DECK SLAB.



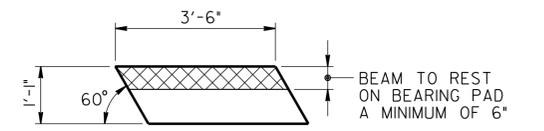
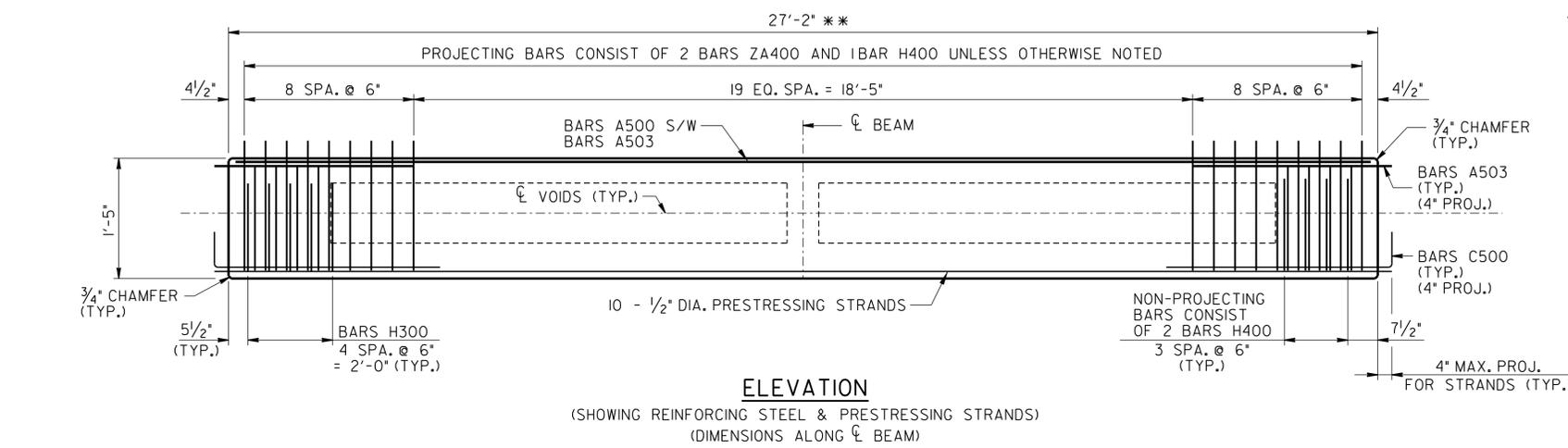
PRESTRESSED BEAM DESIGN DATA - PER BEAM:

LIVE LOAD DISTRIBUTION FACTORS
 LIVE LOAD DISTRIBUTION FACTOR FOR MOMENT = 0.834 LANES PER BEAM
 LIVE LOAD DISTRIBUTION FACTOR FOR SHEAR = 0.961 LANES PER BEAM

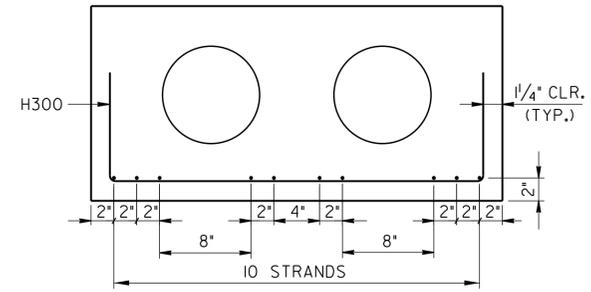
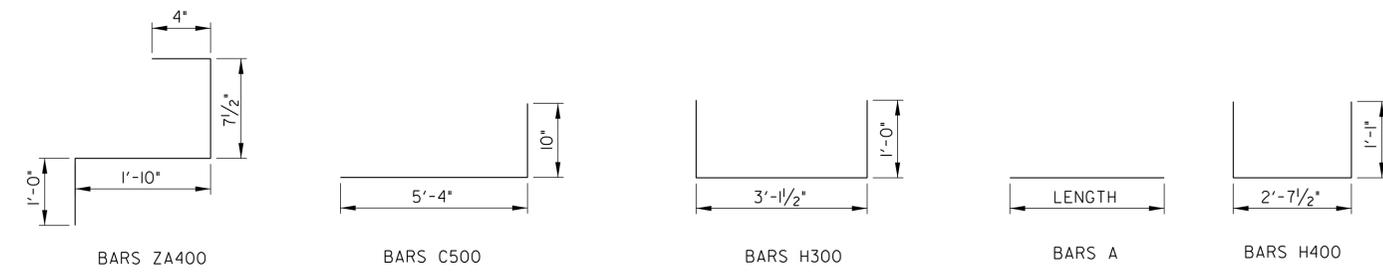
DEAD LOADS

COMPOSITE DEAD LOAD: DC = 150 LB/FT PER BEAM; DW = 163 LB/FT PER BEAM
 COMPOSITE SLAB DESIGN STRENGTH: $f'c = 3,000$ PSI

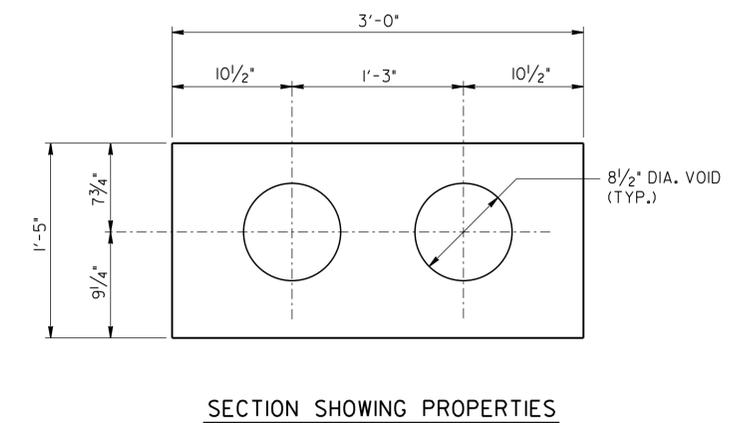
* * * CONTRACTOR IS TO FIELD VERIFY BEAM LENGTH PRIOR TO FABRICATING BEAMS.



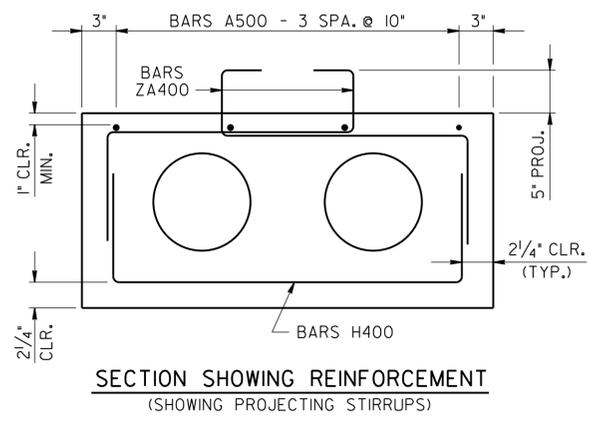
ELASTOMERIC BEARING PAD DETAILS
TYP. AT ABUT. (4 REQ'D)



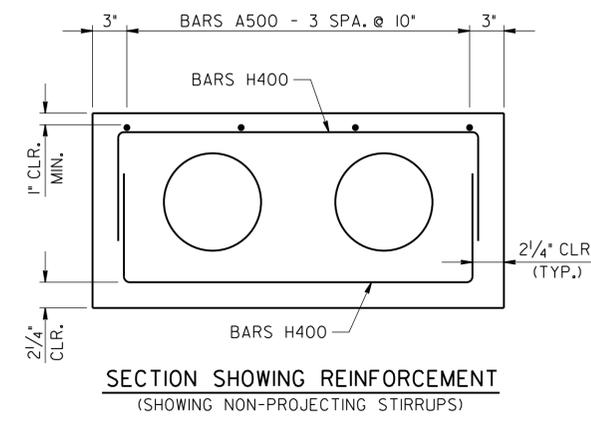
SECTION SHOWING PRESTRESSING STRANDS



SECTION SHOWING PROPERTIES



SECTION SHOWING REINFORCEMENT (SHOWING PROJECTING STIRRUPS)



SECTION SHOWING REINFORCEMENT (SHOWING NON-PROJECTING STIRRUPS)

UNOFFICIAL SET
NOT FOR BIDDING



BILL OF STEEL PER BEAM

BAR	SIZE	NO. REQ'D	LENGTH
A500	5	4	26'-10"
A501	5	4	3'-0"
A502	5	8	1'-1"
A503	5	4	5'-4"
C500	5	10	6'-2"
H300	3	10	5'-1 1/2"
H400	4	52	4'-9 1/2"
ZA400	4	72	3'-9 1/2"

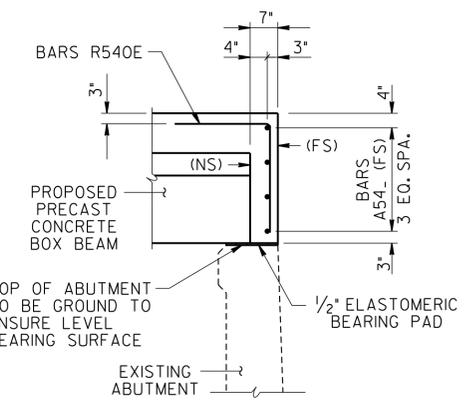
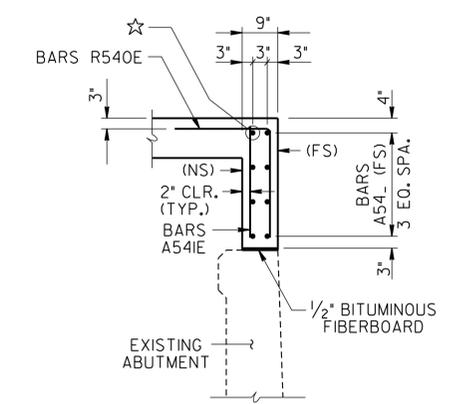
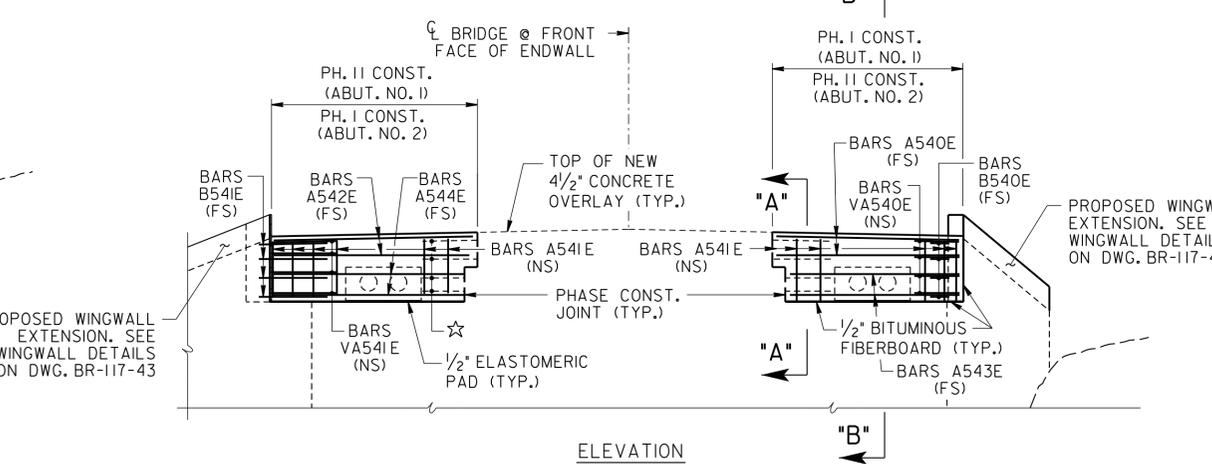
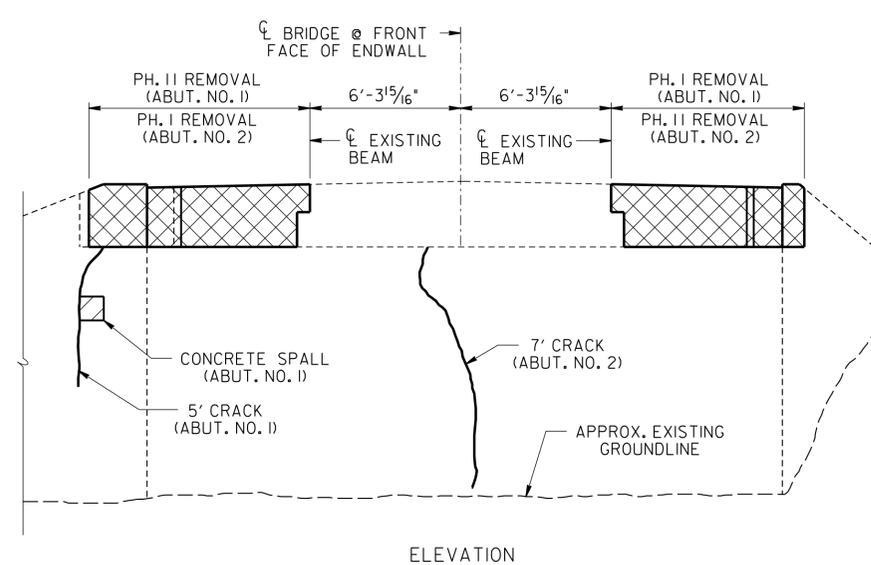
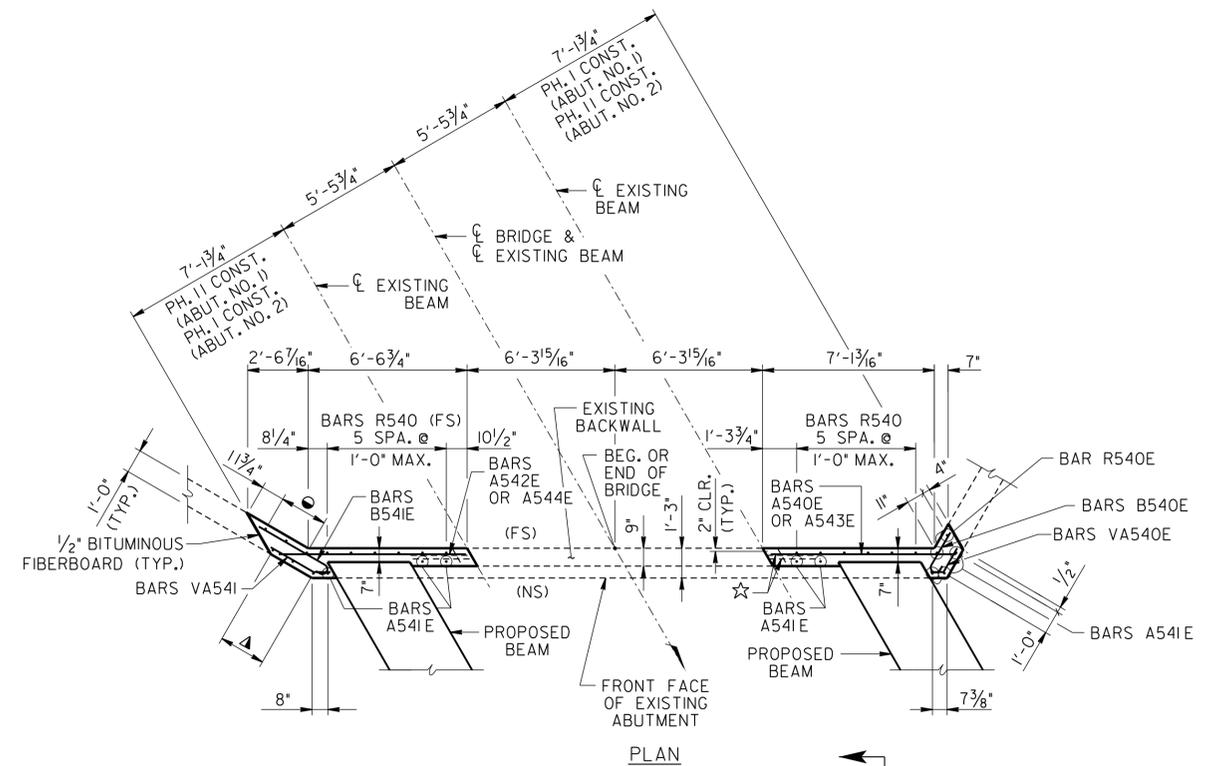
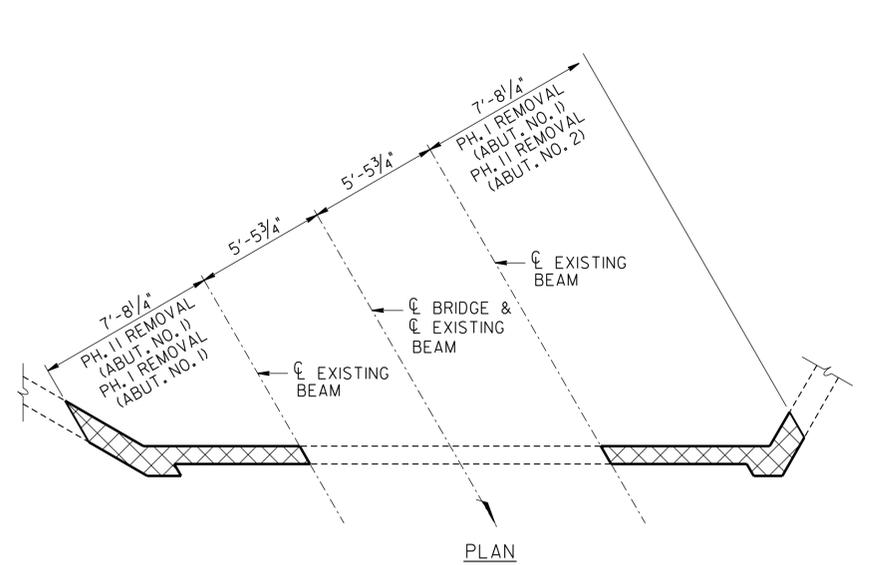
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESTRESSED BOX BEAM DETAILS
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014

6/16/2014
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DESIGNED BY M. JONES DATE 12/13
 DRAWN BY M. JONES DATE 12/13
 SUPERVISED BY L. BILBREY DATE 12/13
 CHECKED BY J. ECKEL DATE 12/13

PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



ABUTMENT NOS. 1 & 2
 (ABUT. NO. 1 SHOWN - LOOKING BACK ON SURVEY)
 (ABUT. NO. 2 - LOOKING FORWARD ON SURVEY, SIMILAR)

ABUTMENT NOS. 1 & 2
 (ABUT. NO. 1 SHOWN - LOOKING BACK ON SURVEY)
 (ABUT. NO. 2 - LOOKING FORWARD ON SURVEY, IDENTICAL)

BILL OF STEEL PER ABUTMENT

BAR	SIZE	NO. REQ'D.	BENDING DIMENSIONS				LENGTH
			A	B	C	D	
A540E	5	2					7'-7"
A541E	5	11					2'-3"
A542E	5	2					7'-9"
A543E	5	2					6'-11"
A544E	5	2					7'-1"
B540E	5	4	1'-5"				2'-0"
B541E	5	4	2'-10"				3'-5"
R540E	5	17	2'-3"	2'-3"			4'-6"
VA540E	5	4	6"	1'-0"	10"		1'-6"
VA541E	5	4	8"	1'-6"	9"		2'-2"

ESTIMATED ABUTMENT REPAIRS

LOCATION OF REPAIR	ITEM NO. 604-10.05 AND/OR 604-10.54 APPROX. REPAIR AREAS (S.F.)	ITEM NO. 604-10.62 APPROX. REPAIR AREAS (L.F.)	ITEM NO. 604-03.09 CLASS "D" CONCRETE (C.Y.)	ITEM NO. 604-02.03 EPOXY COATED REINFORCING STEEL (LB.)
ABUT. NO. 1	1	5	2	205
ABUT. NO. 2	-	7	2	205

- ☆ DENOTES: EXISTING HORIZONTAL REINFORCEMENT TO REMAIN IN PLACE. CUT TO 2" CLR. OF NEW BOX BEAM. (TYP.)
 - ▲ DENOTES: BARS A541E - 2 SPA. @ 8" = 1'-3"
 - DENOTES: BARS R540E - 2 SPA. @ 1'-0" = 2'-0"
 - ⊗ DENOTES: APPROXIMATE AREAS TO BE REMOVED AND REPLACED AS SHOWN IN THE PLANS.
 - ▨ DENOTES: APPROXIMATE AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. SEE REPAIR DETAILS ON DWG. NO. BR-117-44.
 - ⌈⌋ DENOTES: CRACK TO BE EPOXY INJECTED. QUANTITIES AND LOCATIONS GIVEN ARE APPROXIMATE, AND SHALL BE INCREASED, DECREASED, OR ELIMINATED BY THE ENGINEER SEE EPOXY INJECTION NOTES ON DWG. NO. BR-117-44.
- NOTE: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS.

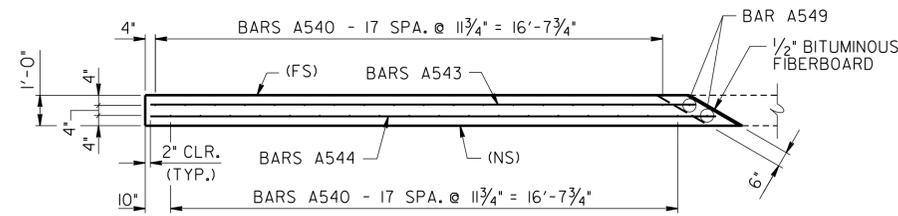
UNOFFICIAL SET
NOT FOR BIDDING



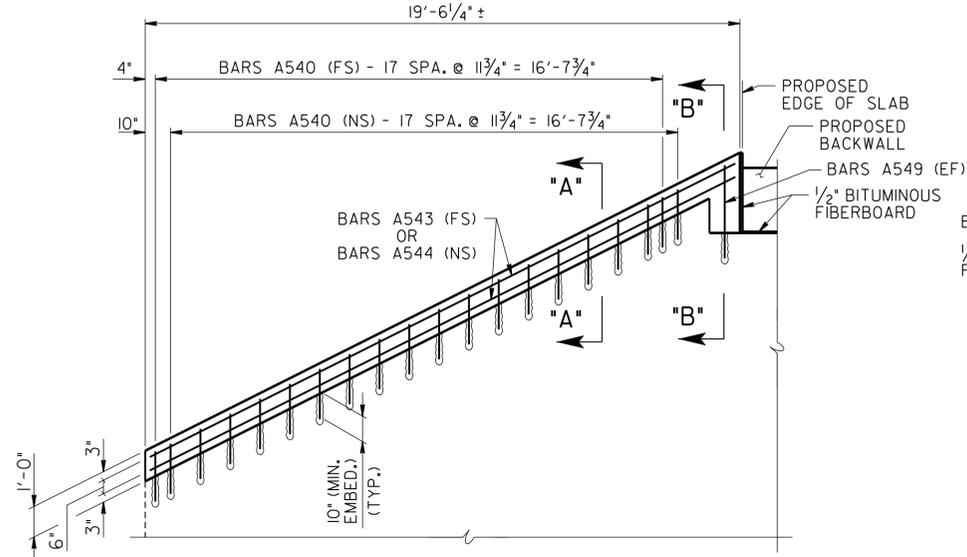
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
ABUTMENT NOS. 1 & 2 REPAIR DETAILS
 STATE ROUTE 36 OVER
 WATTS BRANCH
 BRIDGE NO. 86-SR036-04.19
 UNICOI COUNTY
 2014

6/16/2014 F:\35\35034\3503416\Bridges\3503416_AB1001.dgn

DESIGNED BY M. JONES DATE 12/13
 DRAWN BY M. JONES DATE 12/13
 SUPERVISED BY L. BILBREY DATE 12/13
 CHECKED BY J. ECKEL DATE 12/13

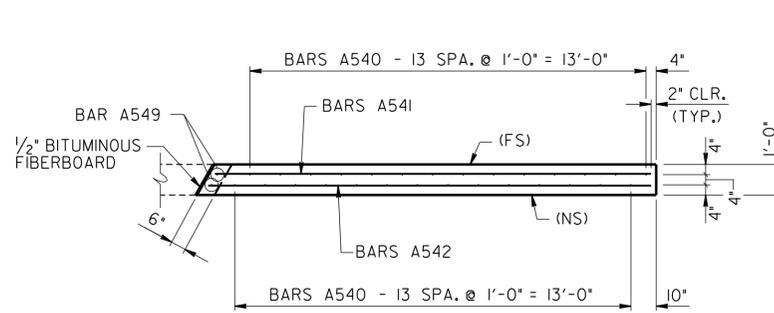


PLAN

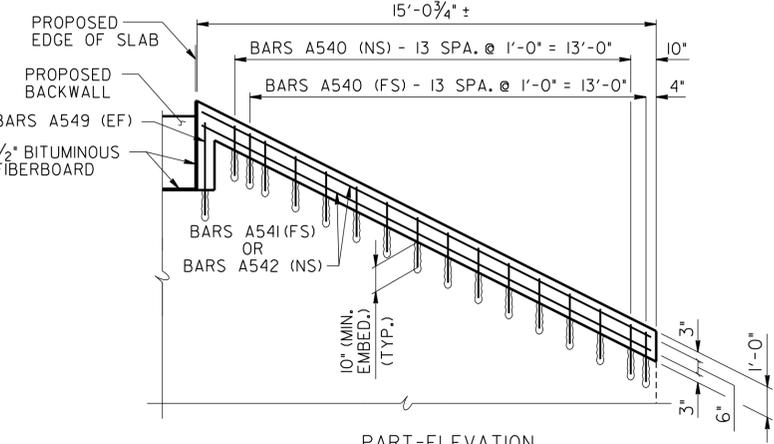


PART-ELEVATION

RIGHT WINGWALL @ ABUT. NO. 1

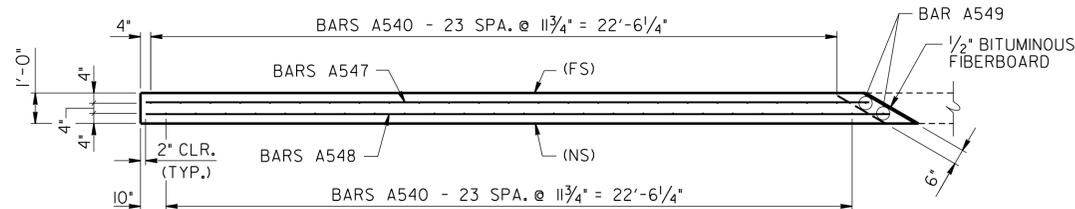


PLAN

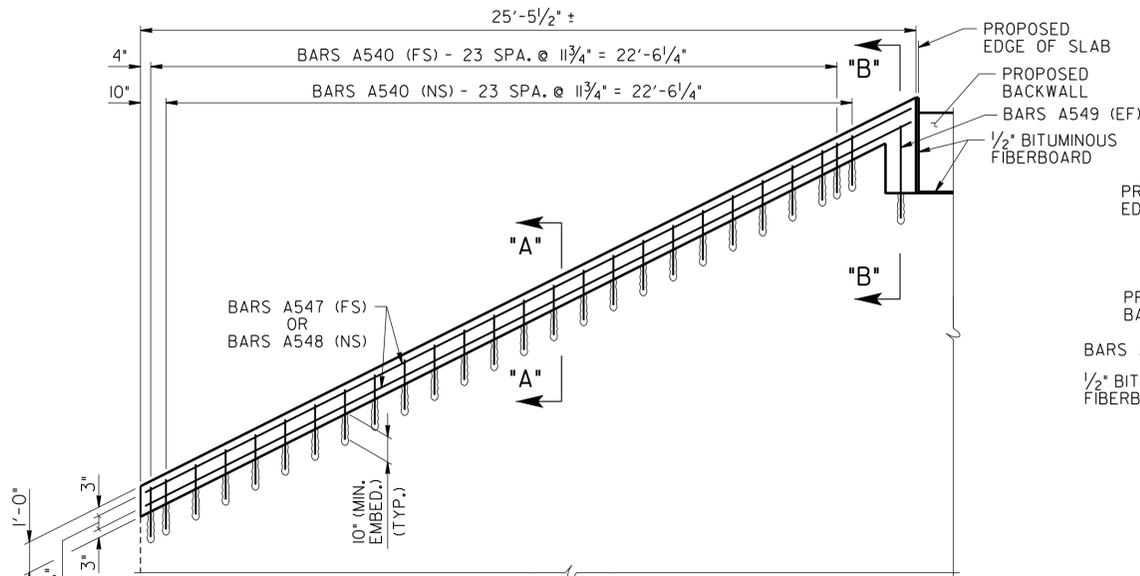


PART-ELEVATION

LEFT WINGWALL @ ABUT. NO. 1

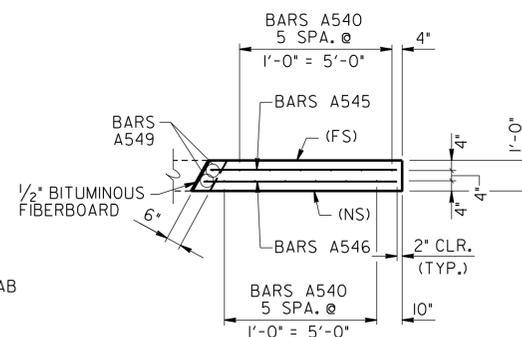


PLAN

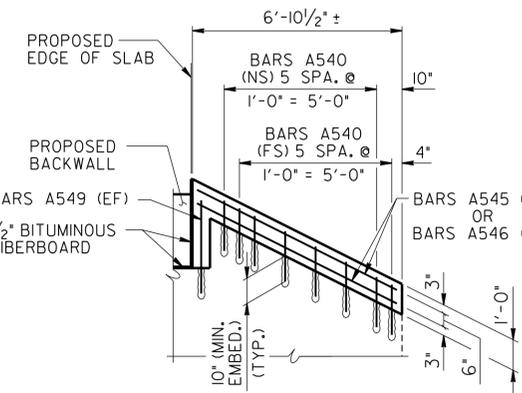


PART-ELEVATION

LEFT WINGWALL @ ABUT. NO. 2



PLAN



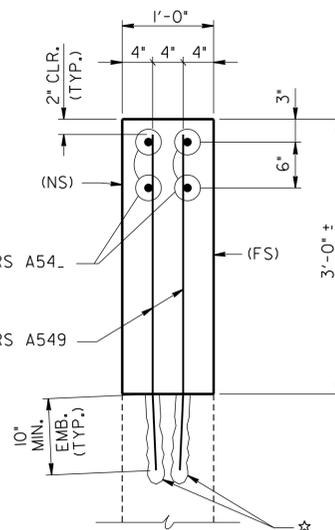
PART-ELEVATION

RIGHT WINGWALL @ ABUT. NO. 2

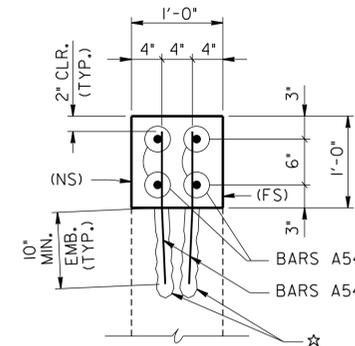
NOTES:

CONTRACTOR SHALL FIELD VERIFY ALL WING DIMENSIONS BEFORE ORDERING REINFORCING STEEL.

(EF) DENOTES: EACH FACE



SECTION "B"- "B"
N.T.S. (TYP.)



SECTION "A"- "A"
N.T.S. (TYP.)

☆ DENOTES: DRILL POCKET 10 DEGREES FROM VERTICAL PLANE, ALTERNATE TO AVOID CONTACT.

BILL OF STEEL

ABUTMENT NO. 1

BAR	LOCATION	SIZE	NO. REQ'D.	LENGTH
A540	WINGWALLS	5	64	1'-8"
A541	LT. WINGWALL	5	2	14'-9"
A542	LT. WINGWALL	5	2	15'-0"
A543	RT. WINGWALL	5	2	18'-6"
A544	RT. WINGWALL	5	2	19'-2"
A549	WINGWALLS	5	4	3'-8"

ABUTMENT NO. 2

A540	WINGWALLS	5	60	1'-8"
A545	RT. WINGWALL	5	2	6'-4"
A546	RT. WINGWALL	5	2	6'-6"
A547	LT. WINGWALL	5	2	24'-6"
A548	LT. WINGWALL	5	2	25'-2"
A549	WINGWALLS	5	4	3'-8"

ESTIMATED ABUTMENT REPAIRS

LOCATION OF REPAIR	ITEM NO. 604-10.42 CONCRETE REPAIRS (C.F.)	ITEM NO. 604-10.18 REINFORCING STEEL (REPAIRS) (LB.)
ABUT. NO. 1	38	268
ABUT. NO. 2	36	250

UNOFFICIAL SET
NOT FOR BIDDING

(VARIES)
BARS A



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

WINGWALL REPAIR DETAILS
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.19
UNICOI COUNTY
2014

SPECIAL NOTES FOR EPOXY INJECTION

UNLESS OTHERWISE NOTED, THE INTENT OF THIS SPECIFICATION IS FOR DESIGNATED CRACKS TO BE INJECTED THEIR FULL LENGTH AND DEPTH.

DESIGNATED CRACKS SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE FILLING ALL VOIDS FOR THE CRACK DEPTH OR THICKNESS OF THE MEMBER. THE EPOXY RESIN ADHESIVE SHALL BE ON THE CURRENT QUALIFIED PRODUCTS LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TEST. ALL CRACKS SHALL BE INJECTED USING AN ADHESIVE SUITABLE FOR THE FIELD CONDITIONS (CRACK WIDTH, TEMPERATURE, HUMIDITY, ETC.) RECOMMENDED BY THE ADHESIVE MANUFACTURER AS SHOWN ON MATERIAL DATA SHEETS. FOLLOWING INJECTION, ALL INJECTION PORTS AND CAPPING MATERIAL SHALL BE REMOVED FROM EXPOSED SURFACES LEAVING THE SURFACE SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

THE CONTRACTOR SHALL HAVE SUFFICIENT EXPERIENCE AND TRAINING TO PERFORM THE EPOXY INJECTION IN ACCORDANCE WITH THESE PLANS. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN PROCEDURE FOR PERFORMING THE EPOXY INJECTION. THE PROCEDURE SHALL DESCRIBE IN DETAIL HOW THE WORK WILL BE PERFORMED. THE PROCEDURE SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION.

- 1) DESCRIPTION OF EQUIPMENT.
 - A. THE INJECTION EQUIPMENT SHALL BE OF THE TYPE THAT MIXES ADHESIVE COMPONENTS AT THE INJECTION HEAD.
 - B. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF DISCHARGING MIXED ADHESIVE AT ANY PRESSURE UP TO 300 PSI. THE INJECTION EQUIPMENT SHALL BE EQUIPPED WITH GAUGES WHICH CAN MEASURE THE INJECTION PRESSURE AND VOLUME.
- 2) EQUIPMENT CALIBRATION PROCEDURES AND SCHEDULE.
- 3) MATERIALS TO BE USED (INCLUDING MANUFACTURER DATA SHEETS).
 - A. CAPPING MATERIAL
 - B. EPOXY ADHESIVE (TYPE TO BE APPROPRIATE FOR CRACK SIZES TO BE INJECTED).
- 4) PORT SPACING
 - A. PORT SPACING SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE IN THAT LOCATION.
- 5) INJECTION SEQUENCE
 - A. INJECTION SHALL PROCEED FROM LOWER END OF CRACK ALONG ADJACENT PARTS.
 - B. SKIPPING OF PORTS DURING INJECTION SHALL NOT BE ALLOWED.

THE CONTRACTOR SHALL HAVE THE MANUFACTURER'S INSTRUCTIONS FOR PROPORTIONING AND MIXING AVAILABLE AT THE JOB SITE AT ALL TIMES AND SHALL ENSURE THAT THE EQUIPMENT IS SUPPLYING THE MIXED ADHESIVE IN THE CORRECT PROPORTIONS.

TO ENSURE PROPER MIXING AND PROPORTIONING, SAMPLES SHALL BE TAKEN FROM THE INJECTOR HEAD AT THE START OF EACH WORKDAY AND EACH TIME THE ADHESIVE RESERVOIRS ARE REFILLED. THE SAMPLES SHALL BE IN A TEST CUP. THE SAMPLE SHALL BE MONITORED TO ENSURE THAT THE CURE TIME IS IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS. IF THE SAMPLES DO NOT CURE IN THE SPECIFIED TIME THEN THE EQUIPMENT USED TO PRODUCE THE SAMPLE SHALL NOT BE USED UNTIL THE PROBLEM IS CORRECTED.

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK. THE CONTRACTOR SHALL TAKE ONE (1) ONE (1) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY THIRD REPAIR LOCATION AFTERWARDS. WORK SHALL NOT PROCEED UNTIL THE CORE SAMPLE IS TAKEN AND ACCEPTED. ALL CORE SAMPLES AND HOLES SHALL BE INDEXED FOR FUTURE REFERENCE. THE ENGINEER SHALL DESIGNATE ALL LOCATIONS TO BE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK.

THE INITIAL CORE WILL ALSO SERVE TO QUALIFY THE FOREMAN FOR THIS WORK. IF AT ANY TIME A NEW FOREMAN IS USED, HE SHALL BE QUALIFIED WITH A CORE SAMPLE.

THE CONTRACTOR, AT HIS EXPENSE, SHALL REPAIR ALL CORE HOLES WITH AN APPROVED CEMENTITIOUS PATCHING MATERIAL.

CORE SAMPLES SHALL BE VISUALLY INSPECTED TO CONFIRM THAT CRACKS ARE COMPLETELY FILLED WITH ADHESIVE. ANY CORE HAVING LESS THAN 95% OF THE CRACK FILLED WITH ADHESIVE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED.

CORE SAMPLES SHALL BE TESTED FOR BOND STRENGTH. SAMPLES MAY BE FRACTURED BY HAMMER BLOW TO CRACK AREA OR THROWN AT A HARD SURFACE. IF ADHESIVE FAILURE OCCURS BEFORE CONCRETE FAILURE, THE CORE SHALL BE CONSIDERED UNACCEPTABLE AND REJECTED.

PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., AND 604-10.58, EPOXY INJECTION (INJECTION), GAL.

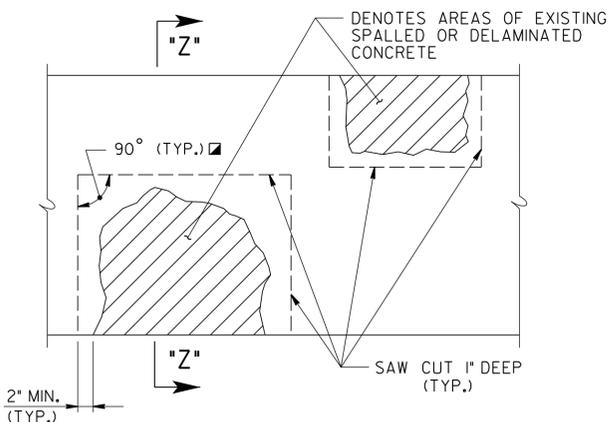
PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REMOVAL OF CAPPING MATERIAL AND PORTS, AND OTHER INCIDENTALS. CRACKS SHALL BE MEASURED FOR PAYMENT ALONG THE LENGTH OF THE VISIBLE SURFACE CRACK.

PRICE BID FOR ITEM NUMBER 604-10.58, EPOXY INJECTION (INJECTION), GAL., SHALL INCLUDE COST FOR ADHESIVE MATERIAL INJECTED ONLY.

NO PAYMENT SHALL BE MADE FOR REWORK DEEMED NECESSARY BY FAILURE OF ADHESIVE SAMPLES OR CORE SAMPLES.

ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED AT LEAST THREE (3) DAYS IN ADVANCE OF WORK TO BE DONE. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE SCHEDULE A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE OF CHANGE.

DESIGNED BY M. JONES DATE 12/13
 DRAWN BY M. JONES DATE 12/13
 SUPERVISED BY L. BILBREY DATE 12/13
 CHECKED BY J. ECKEL DATE 12/13



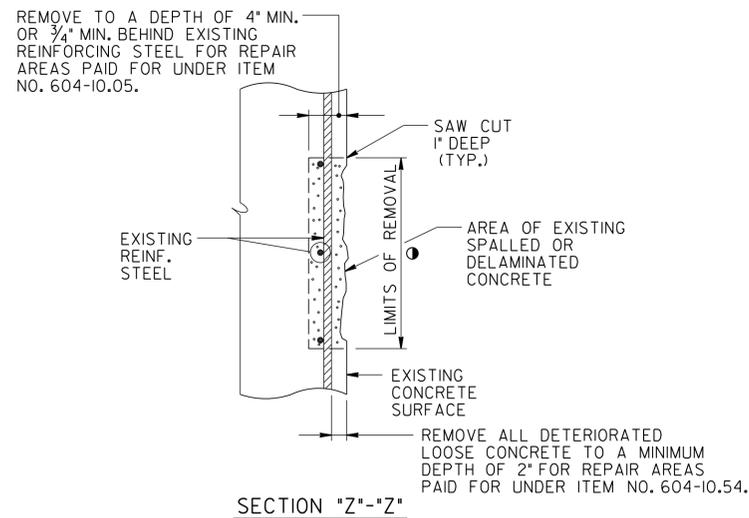
DETAIL SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED

- DENOTES: LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
- ◻ DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

NOTE: EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED OR DELAMINATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED EXISTING REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE AND INCORPORATED INTO THE NEW CONSTRUCTION. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALLED OR DELAMINATED AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 OR 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 T.D.O.T. QUALIFIED PRODUCTS LIST 13, SECTION B.6.

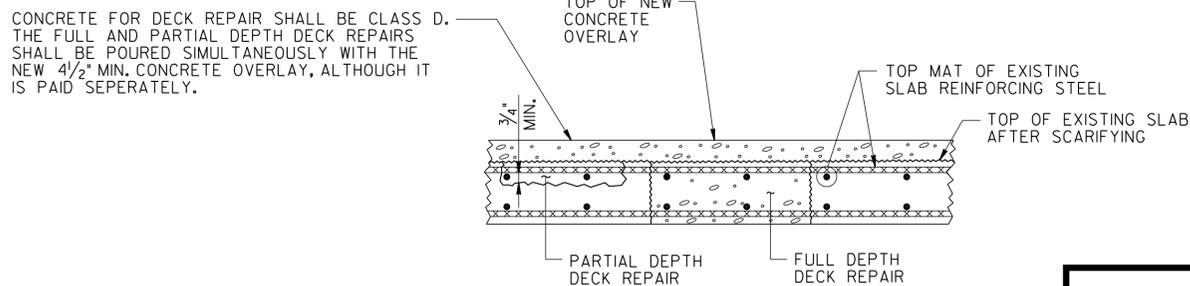
NOTE: PNEUMATICALLY PLACED CONCRETE IS NOT ALLOWED.



COST OF SAW CUTTING, REMOVING SPALLED OR DELAMINATED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. OR ITEM NO. 604-10.05, CONCRETE, S.F.

THE ENGINEER SHALL DESIGNATE ALL SPALLED OR DELAMINATED CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE. ITEM NO. 604-10.05 AND 604-10.54 SHALL BE BID WITH THE CONTINGENCY THAT THEY MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.

POWER HAND DRIVEN TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:
 1. PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED.
 2. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.



DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

NOTE: REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF 3/4" 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 SHALL BE SCHEDULED WITH THE BRIDGE REPAIR OFFICE AT LEAST THREE (3) DAYS IN ADVANCE. DECK REPAIR WILL BE PAID FOR UNDER ITEM NO. 604-10.50, BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB), AND ITEM NO 604-10.30 BRIDGE DECK REPAIR (FULL DEPTH OF SLAB). DURING PARTIAL DEPTH REPAIRS, SHOULD DETERIORATED CONCRETE BE ENCOUNTERED WHICH APPEARS TO RUN FULL DEPTH IN THE SLAB, THE ENGINEER MAY DESIGNATE THESE AREAS TO BE REPAIRED UNDER ITEM NO. 604-10.30. POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL AND FULL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:
 1) PNEUMATIC HAMMERS FOR 1) PARTIAL DEPTH REPAIR AREAS, FULL DEPTH REPAIR AREAS, AND ALL DECK REPAIR AREAS OVER BEAMS WILL BE RESTRICTED TO 60 POUND CLASS.
 2) CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

NOTE: CONCRETE FOR FULL AND PARTIAL DEPTH DECK REPAIR SHALL BE POURED WHEN POURING THE NEW 4 1/2" MIN. CONCRETE OVERLAY. THE COST OF THE CONCRETE BELOW THE SCARIFICATION LEVEL TO BE PAID UNDER ITEM NO. 604-10.50 FOR PARTIAL DEPTH REPAIRS AND ITEM NO. 604-10.30 FOR FULL DEPTH REPAIRS.

NOTE: ITEM NOS. 604-10.30 AND 604-10.50 SHALL BE BID WITH THE CONTINGENCY THAT THIS ITEM MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.

PROJECT NO.	YEAR	SHEET NO.	
86001-4218-04	2014		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

UNOFFICIAL SET
NOT FOR BIDDING



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS REPAIR DETAILS
STATE ROUTE 36 OVER
WATTS BRANCH
BRIDGE NO. 86-SR036-04.20
UNICOI COUNTY
2014