

JEFFERSON COUNTY MISSOURI

DEPARTMENT OF PUBLIC WORKS

WHITEHEAD ROAD BRIDGE REPLACEMENT OVER TRIBUTARY TO COTTER CREEK SECTION 16 TOWNSHIP T40N, RANGE 4E PROJECT NO. STP-5403(675) BRIDGE NO. 26400141

SHEET INDEX

DRAWING NUMBER DESCRIPTION

ROADWAY

T-001 COVER SHEET
T-002 GENERAL NOTES
T-003 SURVEY CONTROL
T-004 SUMMARY OF QUANTITIES (2A)
T-005 SUMMARY OF QUANTITIES (2B)
C-101 PLAN & PROFILE
C-201 CROSS-SECTIONS
C-301 TYPICAL SECTIONS & DETAILS
C-401 GRADING PLAN
C-501 DETOUR PLAN
R-101 RIGHT-OF-WAY PLAN

BRIDGE

B-001 GENERAL ELEVATION AND PLAN
B-002 GENERAL NOTES & QUANTITIES
B-003 DETAILS OF END BENT NO.1
B-004 DETAILS OF END BENT NO.1
B-005 DETAILS OF END BENT NO.1
B-006 VERTICAL DRAIN AT END BENTS
B-007 DETAILS OF END BENT NO. 2
B-008 DETAILS OF END BENT NO. 2
B-009 DETAILS OF END BENT NO. 2
B-010 DETAILS OF SPREAD BOX BEAMS
B-011 DETAILS OF SPREAD BOX BEAMS
B-012 DETAILS OF PRESTRESSED PANELS
B-013 CAMBER, HAUNCHING, AND BOTTOM OF SLAB ELEV.
B-014 PLAN OF SLAB SHOWING REINFORCEMENT
B-015 SECTION THRU SLAB
B-016 DETAILS OF CONDUIT SYSTEM
B-017 DETAILS OF SAFETY BARRIER CURB
B-018 DETAILS OF SAFETY BARRIER CURB AT END BENT
B-019 OPTIONAL SLIP-FORM SAFETY BARRIER CURB
B-020 BRIDGE APPROACH SLAB (MINOR ROAD)
B-021 BILL OF REINFORCING STEEL
B-022 BILL OF REINFORCING STEEL
B-023 AS-BUILT PILE DATA

LOCAL UTILITY COMPANIES

ELECTRIC
AMEREN MISSOURI
DON KNOTTS
6450 HWY MM
HOUSE SPRINGS, MO 63061
636-671-6112

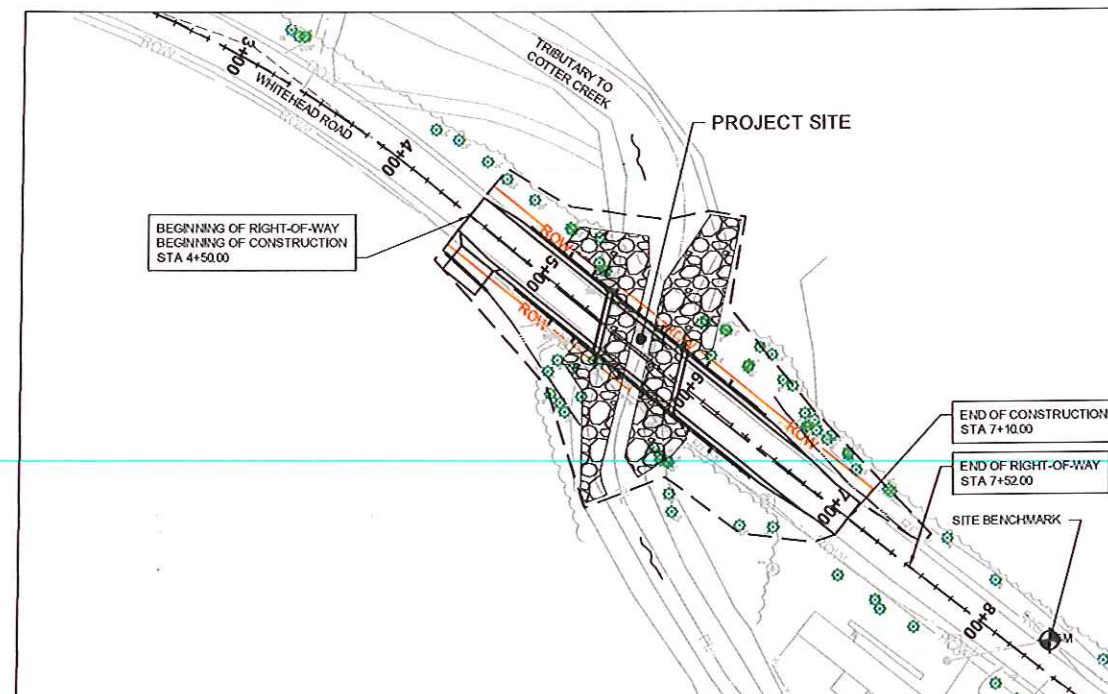
TELEPHONE
AT&T DISTRIBUTION
JEREMIAH KINEALY
122 NORTH SECOND STREET
FESTUS, MO 63028
314-810-9498

NOTE: NO OTHER KNOWN UTILITIES.
UTILITY LOCATE: 1-800-DIG-RITE

APPROVED BY
JEFFERSON COUNTY, MISSOURI

Jason Jonas 4/7/20
SIGNATURE DATE

JASON JONAS, P.E.
DIRECTOR OF PUBLIC WORKS



PROJECT SITE MAP
SCALE: 1" = 50'

PLOT SCALE FACTOR 0.5

DESIGN CRITERIA

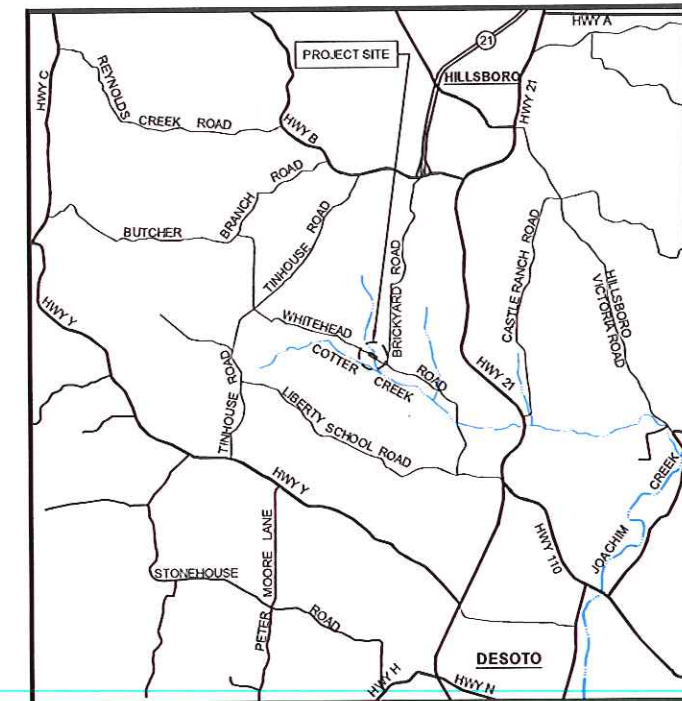
1. A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (AASHTO "GREEN BOOK" EDITION 2018)
2. 2019 MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
3. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) EDITION 2009
4. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
5. MODOT ENGINEERING POLICY GUIDE

DESIGN DESIGNATION

FUNCTIONAL CLASSIFICATION	LOCAL
CURRENT POSTED SPEED	30 MPH
DESIGN SPEED	30 MPH
CURRENT ADT	287 (2015)
FUTURE ADT (EST)	350 (2035)
TRUCK %	21.6%

LENGTH OF PROJECT

BEGINNING STATION	4+50
ENDING STATION	7+10
APPARENT LENGTH	260 FEET
EQUATION AND EXCEPTION	NONE
TOTAL CORRECTIONS	NONE
NET LENGTH OF PROJECT	260 FEET (0.05 MI)



VICINITY MAP
NOT TO SCALE



THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED



DEPARTMENT
OF
PUBLIC WORKS



M. Voss
August 5, 2019

M. Voss
August 5, 2019

COVER SHEET
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

CDG PROJECT NO.

17109

DRAWING NO.

T-001

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\T-002 GENERAL NOTES.dwg Printed by: MVOSS Plot scale = 0.360883 cmccorkle

GENERAL NOTES:

1. REMOVE ALL WASTE MATERIALS, INCLUDING EXCAVATED MATERIAL, TRASH, AND DEBRIS, AND DISPOSE OF IT PROPERLY OFF-SITE.
2. CONTRACTOR SHALL REPLACE ALL FENCES, SIGNS, ETC. DAMAGED BY THIS CONSTRUCTION AND PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING CONDITIONS, TREES, ETC.
3. CONTRACTOR SHALL COORDINATE AND COOPERATE WITH OTHER CONTRACTORS AND COUNTY MAINTENANCE CREWS PERFORMING ROAD WORK FOR THE COUNTY.
4. A COPY OF ALL LOAD TICKETS SHALL BE TURNED IN DAILY TO THE DIRECTOR OF PUBLIC WORKS OR THE DIRECTOR OF PUBLIC WORKS DESIGNATED REPRESENTATIVE.
5. CATCHLINES APPROXIMATE LIMITS OF DISTURBANCE.
6. SAWCUT EXISTING PAVEMENT (FULL DEPTH) AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS WITH 1" MAXIMUM OVERDIG. (COST INCIDENTAL TO OTHER ITEMS).

INFORMATION ON SITE CONDITIONS:

1. GENERAL: INFORMATION OBTAINED BY THE OWNER REGARDING SITE CONDITIONS, TOPOGRAPHY AND SUBSURFACE INFORMATION OBTAINED BY THE ENGINEER'S INVESTIGATION OF SURFACE AND SUBSURFACE CONDITIONS, SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. NEITHER THE ENGINEER NOR THE COUNTY ASSUMES ANY RESPONSIBILITY FOR ITS ACCURACY OR COMPLETENESS OR FOR THE CONTRACTOR'S INTERPRETATION OF SUCH INFORMATION.
2. EXISTING ELEVATIONS: ELEVATIONS ARE EXPECTED TO VARY +/- 0.1 FEET FROM THE ELEVATIONS SHOWN. THE CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS PRIOR TO START OF NEW WORK.

EXISTING UTILITIES AND FACILITIES:

1. CONTRACTOR TO NOTIFY AND COORDINATE WITH UTILITY COMPANIES TWO WEEKS PRIOR TO COMMENCEMENT OF PROJECT.
2. ALL UTILITIES, EITHER SHOWN OR NOT SHOWN, IN DIRECT CONFLICT WITH THIS CONSTRUCTION SHALL BE RELOCATED BY OTHERS (RESPECTIVE UTILITY COMPANY). CONTRACTOR SHALL COORDINATE THE WORK WITH EACH UTILITY COMPANY AFFECTED.
3. CONTRACTOR TO VERIFY LOCATIONS OF ALL GAS AND WATER SERVICE VALVES, SEWER VENTS, AND WATER METERS BEFORE BEGINNING WORK.
4. CONTRACTOR TO VERIFY THE EXISTENCE OF ANY CABLE AND ALL OTHER UTILITY SYSTEMS BEFORE COMMENCING WORK.
5. CONTRACTOR TO COORDINATE THE ADJUSTMENT OF UTILITY MAIN LINE VALVE COVERS WITH THE CORRESPONDING UTILITY OWNER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
6. ALL POWER POLES WITHIN THE LIMITS OF DISTURBANCE TO BE USED IN PLACE.
7. KNOWN UTILITIES AND FACILITIES ADJACENT TO OR WITHIN THE WORK AREA ARE SHOWN ON THE DRAWINGS. THE LOCATIONS SHOWN ARE TAKEN FROM EXISTING RECORDS AND THE BEST INFORMATION AVAILABLE FROM EXISTING UTILITY PLANS; HOWEVER, IT IS EXPECTED THAT THERE MAY BE SOME DISCREPANCIES AND OMISSIONS IN THE LOCATIONS AND QUANTITIES SHOWN. THOSE SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY, AND NO RESPONSIBILITY IS ASSUMED BY EITHER THE OWNER OR THE ENGINEER FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR'S REQUEST FOR ADDITIONAL COMPENSATION OR CONTRACT TIME RESULTING FROM ENCOUNTERING UTILITIES NOT SHOWN WILL NOT BE CONSIDERED.
8. NEITHER OWNER NOR ITS OFFICERS OR AGENTS SHALL BE RESPONSIBLE TO CONTRACTOR FOR DAMAGES AS A RESULT OF CONTRACTOR'S FAILURE TO PROTECT UTILITIES ENCOUNTERED IN THE WORK.
9. CONTRACTOR SHALL EXERCISE REASONABLE CARE AND COORDINATE WITH THE COUNTY AND THE UTILITY COMPANY TO VERIFY LOCATIONS OF UTILITIES AND FACILITIES SHOWN ON THE DRAWINGS AND TO DETERMINE THE PRESENCE OF THOSE NOT SHOWN. IMMEDIATE AND ADJACENT AREAS WHERE EXCAVATIONS ARE TO BE MADE SHALL BE THOROUGHLY CHECKED BY VISUAL EXAMINATION FOR INDICATIONS OF UNDERGROUND FACILITIES, AND ALSO CHECKED WITH ELECTRONIC METAL AND PIPE DETECTION EQUIPMENT. WHERE THERE IS REASONABLE CAUSE TO VERIFY THE PRESENCE OR ABSENCE OF AN UNDERGROUND FACILITY, MAKE EXPLORATORY EXCAVATIONS PRIOR TO PROCEEDING WITH MAJOR EXCAVATION IN THE AREA.
10. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL ASPECTS OF MISSOURI UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION STATUTE RSMO 319.015 TO 319.050. CALL 1-800-DIG-RITE.

PRECONSTRUCTION SURVEY AND MONITORING:

1. AFTER THE CONTRACT IS AWARDED AND BEFORE STARTING THE WORK, THE CONTRACTOR SHALL PERFORM A PRECONSTRUCTION SURVEY OF THE SITE. MAKE A THOROUGH EXAMINATION, PROVIDING COLOR PHOTOGRAPHS AND A COLOR VIDEO OF ALL EXISTING BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS WHICH MIGHT BE DAMAGED BY THE CONTRACTOR'S OPERATIONS. THE EXAMINATION SHALL BE MADE JOINTLY BY REPRESENTATIVES OF THE CONTRACTOR, THE OWNER, AND THE ENGINEER. THE SCOPE OF THE EXAMINATION AND PHOTOGRAPHS SHALL INCLUDE CRACKS IN STRUCTURES, SETTLEMENT, LEAKAGE, AND SIMILAR CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ELECTRONIC DOCUMENTATION OF THE PRECONSTRUCTION SURVEY, INCLUDING VIDEO, PHOTOS, ETC.
2. THE CONTRACTOR SHALL ESTABLISH VERTICAL AND HORIZONTAL SURVEY CONTROL POINTS ON ALL STRUCTURES AND IMPROVEMENTS LOCATED IN THE VICINITY OF THE WORK PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL FURNISH THE COUNTY WITH COPIES OF THE SURVEY NOTES FOR EACH SURVEY AND A COPY OF THE LAYOUT OF THE SURVEY CONTROL POINTS.
3. COPIES OF ALL ELECTRONIC DOCUMENTATION SHALL BE PROVIDED TO THE OWNER AND THE ENGINEER.
4. THE ABOVE RECORDS AND PHOTOGRAPHS ARE INTENDED FOR USE AS EVIDENCE IN ASCERTAINING THE EXTENT OF ANY DAMAGE WHICH MAY OCCUR AS A RESULT OF THE CONTRACTOR'S OPERATIONS AND ARE FOR THE PROTECTION OF THE CONTRACTOR AND THE OWNER. THE RECORDS WILL PROVIDE A MEANS OF DETERMINING WHETHER AND TO WHAT EXTENT DAMAGE MAY HAVE OCCURRED AS A RESULT OF THE CONTRACTOR'S OPERATIONS. THE RECORDS WILL ALSO BE UTILIZED TO GUIDE THE RESTORATION PHASE OF THIS PROJECT.

CONTRACTOR'S RESPONSIBILITIES:

1. WHERE CONTRACTOR'S OPERATIONS COULD CAUSE DAMAGE OR INCONVENIENCE TO RAILWAY OR PUBLIC/PRIVATE UTILITY SYSTEMS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS NECESSARY FOR THE PROTECTION OF THESE UTILITIES AND SERVICES. REPAIR OR REPLACE EXISTING UTILITIES REMOVED OR DAMAGED DURING CONSTRUCTION, UNLESS OTHERWISE PROVIDED FOR IN THESE CONTRACT DOCUMENTS.
2. NOTIFY UTILITY OFFICES THAT ARE AFFECTED BY CONSTRUCTION OPERATIONS AT LEAST 72 HOURS IN ADVANCE. UNDER NO CIRCUMSTANCES SHALL ANY UTILITY BE EXPOSED WITHOUT FIRST OBTAINING PERMISSION FROM THE APPROPRIATE AGENCY. ONCE PERMISSION HAS BEEN GRANTED, LOCATE, EXPOSE, AND PROVIDE TEMPORARY SUPPORT FOR THE UTILITIES AS REQUIRED.
3. CONTRACTOR SHALL BE SOLELY AND DIRECTLY RESPONSIBLE TO OWNER AND OPERATOR OF SUCH PROPERTIES FOR DAMAGE, INJURY, EXPENSE, LOSS, INCONVENIENCE, DELAY, SUITS, ACTIONS, OR CLAIMS OF ANY CHARACTER BROUGHT BECAUSE OF INJURIES OR DAMAGE WHICH MAY RESULT FROM CONSTRUCTION OPERATIONS UNDER THIS CONTRACT.
4. IN EVENT OF INTERRUPTION TO DOMESTIC WATER, SEWER, STORM DRAIN, OR OTHER UTILITY SERVICES AS A RESULT OF ACCIDENTAL DAMAGE DUE TO CONSTRUCTION OPERATIONS, PROMPTLY NOTIFY THE PROPER AUTHORITY. COOPERATE WITH SAID AUTHORITY IN RESTORATION AS PROMPTLY AS POSSIBLE AND PAY FOR REPAIR.
5. IN THE EVENT CONTRACTOR ENCOUNTERS WATER SERVICE LINES THAT INTERFERE WITH TRENCHING, OBTAIN PRIOR APPROVAL OF THE WATER UTILITY, CUT THE SERVICE, DIG THROUGH, AND RESTORE SERVICE TO PREVIOUS CONDITIONS USING EQUAL MATERIALS.

INTERFERING STRUCTURES:

1. TAKE NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO EXISTING STRUCTURES TO REMAIN WHETHER ON THE SURFACE, ABOVEGROUND, OR UNDERGROUND. AN ATTEMPT HAS BEEN MADE TO SHOW MAJOR STRUCTURES ON THE DRAWINGS. WHILE THE INFORMATION HAS BEEN COMPILED FROM THE BEST AVAILABLE SOURCES, ITS COMPLETENESS AND ACCURACY CANNOT BE GUARANTEED.
2. PROTECT EXISTING STRUCTURES TO REMAIN FROM DAMAGE, WHETHER OR NOT THEY LIE WITHIN LIMITS OF EASEMENTS OBTAINED BY THE OWNER. WHERE EXISTING FENCES, GATES, BARNs, SHEDS, BUILDINGS, OR OTHER STRUCTURE MUST BE REMOVED TO PROPERLY CARRY OUT WORK, OR ARE DAMAGED DURING THE WORK, RESTORE THEM TO ORIGINAL CONDITION AND TO THE SATISFACTION OF PROPERTY OWNER.
3. CONTRACTOR MAY REMOVE AND REPLACE IN EQUAL OR BETTER THAN ORIGINAL CONDITION, SMALL STRUCTURES SUCH AS FENCES, AND SIGNPOSTS THAT INTERFERE WITH CONTRACTOR'S OPERATIONS. THIS WORK SHALL BE COORDINATED WITH THE OWNER. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING IRRIGATION SYSTEMS. SYSTEMS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED WITHIN FIVE (5) DAYS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ELECTRONIC DOG FENCES. FENCES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED WITHIN FIVE (5) DAYS.
6. MAILBOXES SHALL BE MOVED TO A NEW LOCATION AND KEPT IN OPERATION DURING CONSTRUCTION. MAILBOXES SHALL BE RESTORED TO THEIR ORIGINAL LOCATION OR A SUITABLE PERMANENT LOCATION AFTER CONSTRUCTION OF NEW PAVEMENT. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK.
7. EXISTING TREES TO REMAIN SHALL BE PROTECTED AT ALL TIMES. DAMAGED TREES SHALL BE REPAIRED OR REPLACED IN ACCORDANCE WITH COUNTY INSTRUCTIONS.
8. ANY EXISTING SIGNS WHICH MAY INTERFERE WITH CONSTRUCTION ACTIVITIES MAY BE REMOVED AND SHALL BE REPLACED AFTER PROJECT COMPLETION AT THE CONTRACTOR'S EXPENSE. SIGNAGE IS TO BE APPROVED BY THE COUNTY.
9. CONTRACTOR IS RESPONSIBLE FOR REMOVAL, PROTECTION, AND FINAL PLACEMENT OF ALL EXISTING SIGNAGE WITHIN THE LIMITS OF THIS PROJECT. ALL EXISTING SIGNAGE SHALL BE RE-ERECTED IN ITS ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY THE COUNTY. SIGNS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO THE COUNTY'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTATION OF CONDITIONS OF SIGNS BEFORE CONSTRUCTION BEGINS. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT.

CONNECTING TO EXISTING FACILITIES:

1. UNLESS OTHERWISE SHOWN OR SPECIFIED, DETERMINE METHODS OF CONNECTING NEW WORK TO EXISTING FACILITIES, AND OBTAIN ENGINEER'S REVIEW AND ACCEPTANCE OF PROPOSED CONNECTIONS.
2. DETERMINE LOCATION, ELEVATION, NATURE, MATERIALS, DIMENSIONS, AND CONFIGURATIONS OF EXISTING FACILITIES WHERE NECESSARY FOR CONNECTING NEW WORK.
3. INSPECT EXISTING RECORD DRAWINGS AND SHOP DRAWINGS, CONDUCT EXPLORATORY EXCAVATIONS AND FIELD INSPECTIONS, AND CONDUCT SIMILAR ACTIVITIES AS NEEDED.
4. SHUTDOWN OF OWNER'S EXISTING FACILITIES PRIOR TO CONNECTION, IF NECESSARY, SHALL BE BY OWNER OR AS SPECIFIED.
5. PRIOR TO BEGINNING CONNECTION WORK, THE CONTRACTOR SHALL MEET ALL STATED, REGULATORY, AND STATUTORY NOTICE REQUIREMENTS.

RESTORATION NOTES:

1. CONTRACTOR SHALL SEED ALL GRASS AREAS DISTURBED BY THE CONSTRUCTION UNLESS OTHERWISE SPECIFIED, (SEE PLANS AND SPECIFICATION FOR DETAILS). AREA OF DISTURBANCE SHALL BE MINIMIZED TO REDUCE SEEDING.
2. RESTORATION OF THE SITE SHALL BE MADE WITH "IN KIND" MATERIALS.
3. DAMAGED COUNTY OR PRIVATE PROPERTY SHALL BE REPAIRED OR REPLACED TO MATCH PRECONSTRUCTION CONDITIONS.
4. CLEAN UP OF JOB SITE @ END OF EACH DAY.
5. MAINTAIN PROPER STORAGE OF HAZARDOUS MATERIALS, IF ANY, ONSITE.

PAVEMENT AND DRIVEWAY NOTES:

1. PAVEMENT STRIPING, IF PRESENT, SHALL BE REPLACED TO MATCH PRECONSTRUCTION CONDITIONS UNLESS OTHERWISE INDICATED ON THE PLANS.
2. ALL PAVEMENT REMOVED OR DAMAGED BY THIS CONSTRUCTION IN EXCESS OF THAT INDICATED ON THE PLANS SHALL BE REPLACED, "IN KIND" AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL KEEP ALL PAVEMENTS CLEAN AND FREE OF MUD, ROCK, AND DEBRIS DURING CONSTRUCTION. COST SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS.
4. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS (PREFERABLY IN PERSON) 24 HOURS IN ADVANCE OF ANY DISRUPTED ACCESS TO THEIR DRIVEWAY.
5. CONTRACTOR SHALL NOT DISRUPT ACCESS TO A RESIDENT'S DRIVEWAY FOR MORE THAN ONE (1) DAY NOR FOR A TOTAL OF SIX (6) DAYS THROUGHOUT THE LIFE OF THE PROJECT. ONE DAY SHALL BE CONSIDERED A PERIOD OF TIME OF EIGHT (8) CONSECUTIVE HOURS TO 24 CONSECUTIVE HOURS.

LEGEND:

	EXISTING TREE	ADT	AVERAGE DAILY TRAFFIC
	BENCHMARK	BOP	BEGINNING OF PROJECT
	CRASHWORTHY END TERMINAL	BK	BOOK
	MAILBOX	BM	BENCHMARK
	POWER POLE	BRG	BEARING
	POWER POLE & GUY WIRE	CL	CENTERLINE
	ROAD SIGN (EXISTING)	CMP	CORRUGATED METAL PIPE
	ROAD SIGN (PROPOSED)	CP	CONTROL POINT
	STREET SIGN	D	DIAMETER
	TELEPHONE BOX	d	DEPTH
	PROPOSED CULVERT	DWG	DRAWING
	ASPHALT ACC	E	EASTING
	CONCRETE PCC	EOP	END OF PROJECT
	EXISTING ASPHALTIC SURFACE	EL, ELEV	ELEVATION
	EXISTING BUILDING	FND	FOUND
	TURF REINFORCEMENT MAT	HGL	HYDRAULIC GRADE LINE
	GRAVEL/CRUSHED STONE	HORIZ	HORIZONTAL
	ROCK BLANKET	INCR	INCREASING
	SURFACE ROCK	INT	INTERMEDIATE
	CABLE LINE	LHF	LEFT HAND FORWARD
	CENTER LINE	LF	LINEAR FEET
	EXISTING CONTOUR	LPA	LOCAL PUBLIC AGENCY
	EXISTING FENCE LINE	LT	LEFT
	HYDRAULIC GRADE LINE	ML	MAINLINE
	HYDRAULIC GRADE LINE	N	NORTHING
	LIMITS OF DISTURBANCE	N/F	NOW OR FORMALLY
	OVERHEAD ELECTRIC LINE	O.D.	OUTSIDE DIAMETER
	PROPERTY LINE	O/S	OFFSET
	PROPOSED CONTOURS	PC	POINT OF CURVE
	PROPOSED FENCE LINE	PDE	PERMANENT DRAINAGE EASEMENT
	TEMPORARY CONSTRUCTION	PG	PAGE
	TREELINE	PI	POINT OF INTERSECTION
	SECTION LINE	PL	PROPERTY LINE
	RIGHT OF WAY LINE (EXISTING)	PRE	PERMANENT ROAD EASEMENT
	RIGHT OF WAY LINE (PROPOSED)	PT	POINT OF TANGENT
		Q	FLOW (CFS)
		RCP	REINFORCED CONCRETE PIPE
		RDWY	ROADWAY
		RHF	RIGHT HAND FORWARD
		ROW, R/W	RIGHT-OF-WAY
		RT	RIGHT
		STA	STATION
		TBA	TO BE ABANDONED
		TCE	TEMPORARY CONSTRUCTION EASEMENT
		TBP	TO BE PROTECTED
		TBR	TO BE REMOVED
		TBR&R	TO BE REMOVED & RELOCATED
		TYP	TYPICAL
		UIP	USE IN PLACE
		U.P.	UTILITY POLE
		UNO	UNLESS NOTED OTHERWISE
		VERT	VERTICAL
		VPC	VERTICAL POINT OF CURVE
		VPI	VERTICAL POINT OF INTERSECTION
		VPT	VERTICAL POINT OF TANGENT

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE		DESCRIPTION	APPROVED



ENGINEERS



One Campbell Plaza
St. Louis, Missouri 63139
Missouri State Certificate of Authority # 1271

DEPARTMENT
OF
PUBLIC WORKS



JEFFERSON COUNTY



STATE OF MISSOURI
MATTHEW M. VOSS
NUMBER
PE-2011015812
PROFESSIONAL ENGINEER

MATTHEW M. VOSS
PE-2011015812

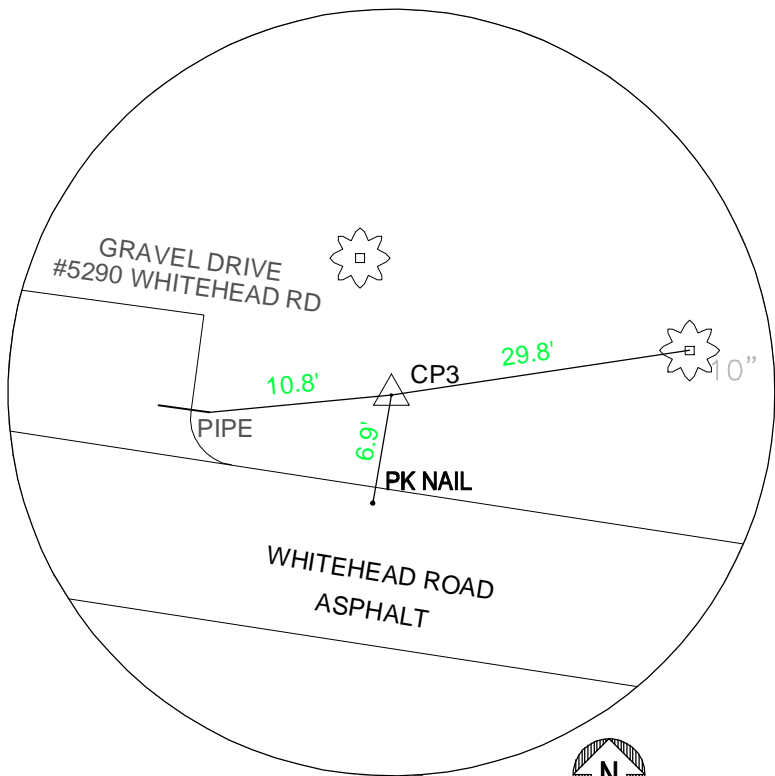
GENERAL NOTES
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

CDG PROJECT NO.
17109

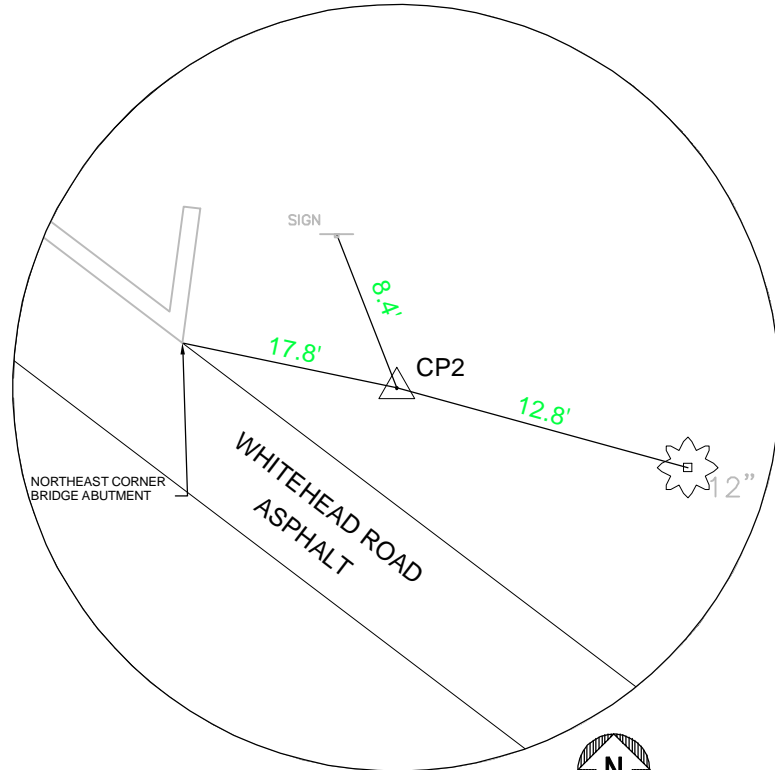
DRAWING NO.
T-002

[illegible]

N: 859726.986
E: 794006.826
Elev: 567.49

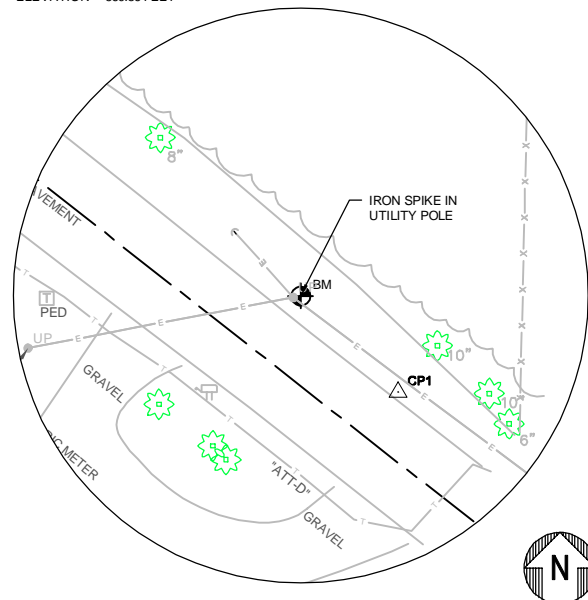


N: 860125.259
E: 793451.140
Elev: 563.59



N: 859902.555
E: 793790.985
Elev: 561.65

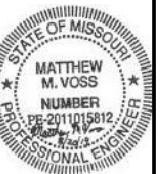
ELEVATION = 569.86 FEET



PLOT SCALE FACTOR 0.5

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED



MATTHEW M. VOSS
PE-2011015812

Mvoss
July 30, 2019

SURVEY CONTROL
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

CDG PROJECT NO.

7109

DRAWING NO.

-003

QUANTITY SUMMARY (2A) TABLE:

MODOT BID ITEM	ITEM DESCRIPTION	QTY	UNIT
ROADWAY SUBTOTAL			
2013000	Clearing and Grubbing	0.3	AC
2022010	Removal of Improvements	1	LS
2035000	Unclassified Excavation	280	CY
2035500	Embankment in Place	388	CY
2036000	Compacting Embankment	388	CY
2051010	Modified Subgrade	20	SY
3040504	Type 5 Aggregate for Base (4" Thick) (Roadway)	683	SY
3040514	Type 5 Aggregate for Base (14" Thick) (Shoulders)	151	SY
4011209	Bituminous Pavement Mixture PG64-22, (BP-1) (Roadway & Shoulders, Entrance)	59.9	TON
4013000	Bituminous Pavement Mixture PG64-22, (Base) (Roadway & Shoulders, Entrance)	258.0	TON
4071005	Tack Coat	20	Gal
6062100	Bridge Anchor Section, 6.5 Ft. Posts	4	EA
6062300A	Transition Section, 6.5 Ft. Posts	4	EA
6063014	Type A Crashworthy End Terminal (MASH) (TL-1, 25'-9 1/2")	4	EA
6113020	Furnishing Type 2 Rock Blanket	592	CY
6113040	Placing Type 2 Rock Blanket	592	CY
6161005	Constructions Signs	190	SF
6161031	Type III Moveable Barricade with Light	6	EA
6161098A	Changeable Message Sign	2	EA
6181000	Mobilization	1	LS
6274000	Contractor Furnished Surveying and Staking (MoDOT Spec.)	1	LS
7250315A	15" Corrugated Metal Pipe	30	LF
8061000A	Seeding - Cool Season Mixtures	0.2	AC
8061005	Rock Ditch Check	5	LF
8061019	Silt Fence	545	LF
8061016	Sediment Removal	20	CY
8065599	SWPPP Design, Installation, Maintenance, & Removal	1	LS

* SEE B-002 FOR BRIDGE QUANTITIES

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\T-004 SUMMARY OF QUANTITIES (2A).dwg Printed by: MVOSS Plot scale = 0.368863

PLOT SCALE FACTOR 0.5

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.				
	REV.	DATE	DESCRIPTION	APPROVED



One Campbell Plaza
St. Louis, Missouri 63139

T. 314.781.7770
F. 314.781.9075

Missouri State Certificate of Authority # 1271

DEPARTMENT
OF
PUBLIC WORKS





MATTHEW M. VOSS
PE-2011015812

Mvoss
August 6, 2019

SUMMARY OF QUANTITIES (2A)
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

CDG PROJECT NO.
17109

DRAWING NO.
T-004

QUANTITY SUMMARY (2B) TABLE:

ITEM NO.	BID ITEM	DESCRIPTION	SHEET	STATION	LOCATION	QUANTITY	UNIT
ROADWAY							
1	2013000	Clearing and Grubbing	C-101	4+50 - 7+52	LT & RT	0.3	AC
TOTAL						0.3	AC
2	2022010	Removal of Improvements				1	LS
TOTAL						1	LS
3	2035000	Unclassified Excavation	C-101	4+50 - 7+52	LT & RT	280	CY
TOTAL						280	CY
4	2035500	Embankment in Place	C-101	4+50 - 7+52	LT & RT	388	CY
TOTAL						388	CY
5	2036000	Compacting Embankment	C-101	4+50 - 7+52	LT & RT	388	CY
TOTAL						388	CY
6	2051010	Modified Subgrade	C-101	4+50 - 7+52	LT & RT	20	SY
TOTAL						20	SY
7	3040504	Type 5 Aggregate for Base (4" Thick) (Roadway)	C-101	4+50 - 5+40	LT & RT	312	SY
7	3040504	Type 5 Aggregate for Base (4" Thick) (Roadway)	C-101	5+95 - 7+10	LT & RT	371	SY
TOTAL						683	SY
8	3040514	Type 5 Aggregate for Base (14" Thick) (Shoulders)	C-101	4+50 - 5+40	LT & RT	72	SY
8	3040514	Type 5 Aggregate for Base (14" Thick) (Shoulders)	C-101	5+95 - 7+10	LT & RT	79	SY
TOTAL						151	SY
9	4011209	Bituminous Pavement Mixture PG64-22, (BP-1) (Roadway & Shoulders, Entrance)	C-101	4+50 - 5+40	LT & RT	26.8	TON
9	4011209	Bituminous Pavement Mixture PG64-22, (BP-1) (Roadway & Shoulders, Entrance)	C-101	5+95 - 7+10	LT & RT	33.1	TON
TOTAL						59.9	TON
10	4013000	Bituminous Pavement Mixture PG64-22, (Base) (Roadway & Shoulders, Entrance)	C-101	4+50 - 5+40	LT & RT	115.4	TON
10	4013000	Bituminous Pavement Mixture PG64-22, (Base) (Roadway & Shoulders, Entrance)	C-101	5+95 - 7+10	LT & RT	142.6	TON
TOTAL						258.0	TON
11	4071005	Tack Coat	C-101	4+50 - 5+40	LT & RT	10	Gal
11	4071005	Tack Coat	C-101	5+95 - 7+10	LT & RT	10	Gal
TOTAL						20	Gal
12	6062100	Bridge Anchor Section, 6.5 Ft. Posts	C-101	@ Bridge	SW / RT	1	EA
12	6062100	Bridge Anchor Section, 6.5 Ft. Posts	C-101	@ Bridge	NW / LT	1	EA
12	6062100	Bridge Anchor Section, 6.5 Ft. Posts	C-101	@ Bridge	SE / RT	1	EA
12	6062100	Bridge Anchor Section, 6.5 Ft. Posts	C-101	@ Bridge	NE / LT	1	EA
TOTAL						4	EA
13	6062300A	Transition Section, 6.5 Ft. Posts	C-101	@ Bridge	SW / RT	1	EA
13	6062300A	Transition Section, 6.5 Ft. Posts	C-101	@ Bridge	NW / LT	1	EA
13	6062300A	Transition Section, 6.5 Ft. Posts	C-101	@ Bridge	SE / RT	1	EA
13	6062300A	Transition Section, 6.5 Ft. Posts	C-101	@ Bridge	NE / LT	1	EA
TOTAL						4	EA
14	6063014	Type A Crashworthy End Terminal (MASH) (TL-1, 25'9 1/2")	C-101	@ Bridge	SW / RT	1	EA
14	6063014	Type A Crashworthy End Terminal (MASH) (TL-1, 25'9 1/2")	C-101	@ Bridge	NW / LT	1	EA
14	6063014	Type A Crashworthy End Terminal (MASH) (TL-1, 25'9 1/2")	C-101	@ Bridge	SE / RT	1	EA
14	6063014	Type A Crashworthy End Terminal (MASH) (TL-1, 25'9 1/2")	C-102	@ Bridge	NE / LT	1	EA
TOTAL						4	EA
15	6113020	Furnishing Type 2 Rock Blanket	C-401	Varies	LT & RT	592	CY
TOTAL						592	CY
16	6113040	Placing Type 2 Rock Blanket	C-401	5+00 - 6+01	LT & RT	276	CY
16	6113040	Placing Type 2 Rock Blanket	C-401	5+54 - 6+16	LT & RT	316	CY
TOTAL						592	CY
17	6161005	Constructions Signs	C-501	Varies	Varies	190	SF
TOTAL						190	SF
18	6161031	Type III Moveable Barricade with Light	C-501	Varies	Varies	6	EA
TOTAL						6	EA
19	6161098A	Changeable Message Sign	C-501	Varies	Varies	2	EA
TOTAL						2	EA

ITEM NO.	BID ITEM	DESCRIPTION	SHEET	STATION	LOCATION	QUANTITY	UNIT
20	6181000	Mobilization	C-101			1	LS
TOTAL						1	LS
21	6274000	Contractor Furnished Surveying and Staking (MoDOT Spec.)	C-101			1	LS
TOTAL						1	LS
22	7250315A	15" Corrugated Metal Pipe	C-101	4+67	RT	30	LF
TOTAL						30	LF
23	8051000A	Seeding - Cool Season Mixtures	C-101	4+50 - 7+52	LT & RT	0.2	AC
TOTAL						0.2	AC
24	8061005	Rock Ditch Check	C-401	6+45	LT	5	LF
TOTAL						5	LF
25	8061019	Silt Fence	C-401	4+50 - 7+52	LT & RT	545	LF
TOTAL						545	LF
26	8061016	Sediment Removal	C-401	6+45	LT	20	CY
TOTAL						20	CY
27	8065599	SWPPP Design, Installation, Maintenance, & Removal	C-101		LT & RT	1	LS
TOTAL						1	LS

* SEE B-002 FOR BRIDGE QUANTITIES

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED	

PLOT SCALE FACTOR 0.5

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\T-005 SUMMARY OF QUANTITIES (2B).dwg Printed by: MVOSS Plot scale = 0.388883

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\T-005 SUMMARY OF QUANTITIES (2B).dwg
mvoss
08/06/19-08:44

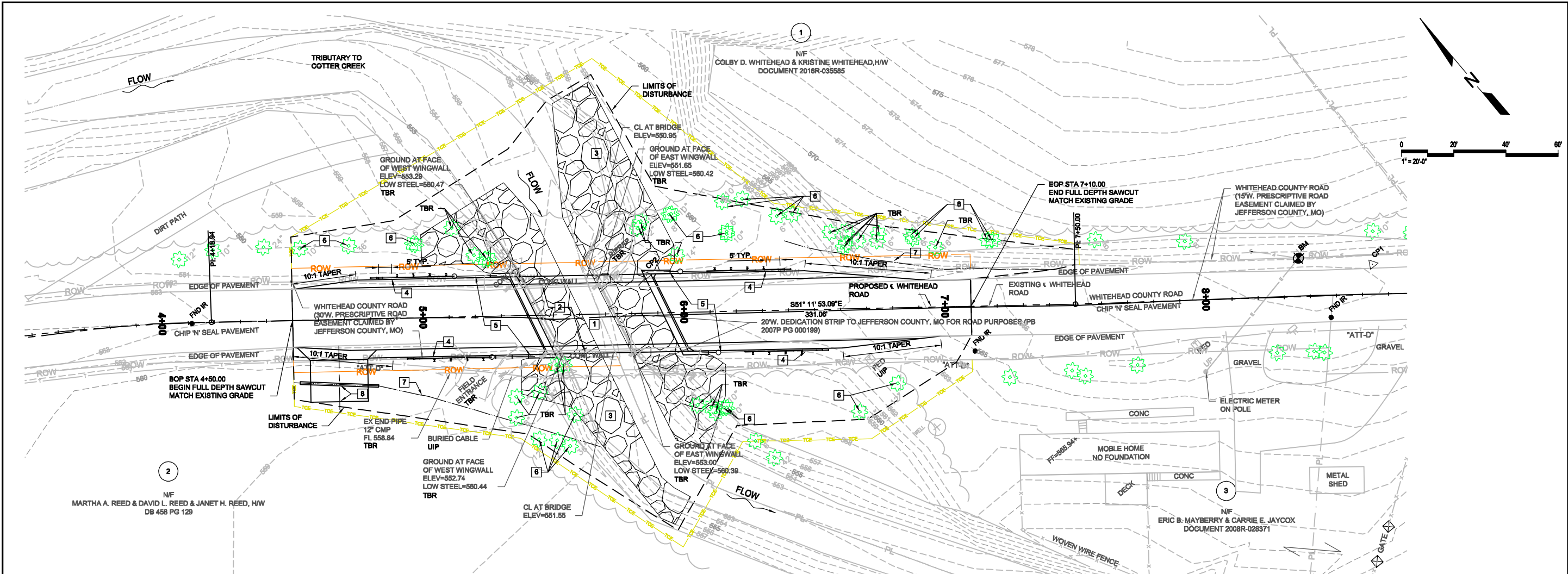


SUMMARY OF QUANTITIES (2B)
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

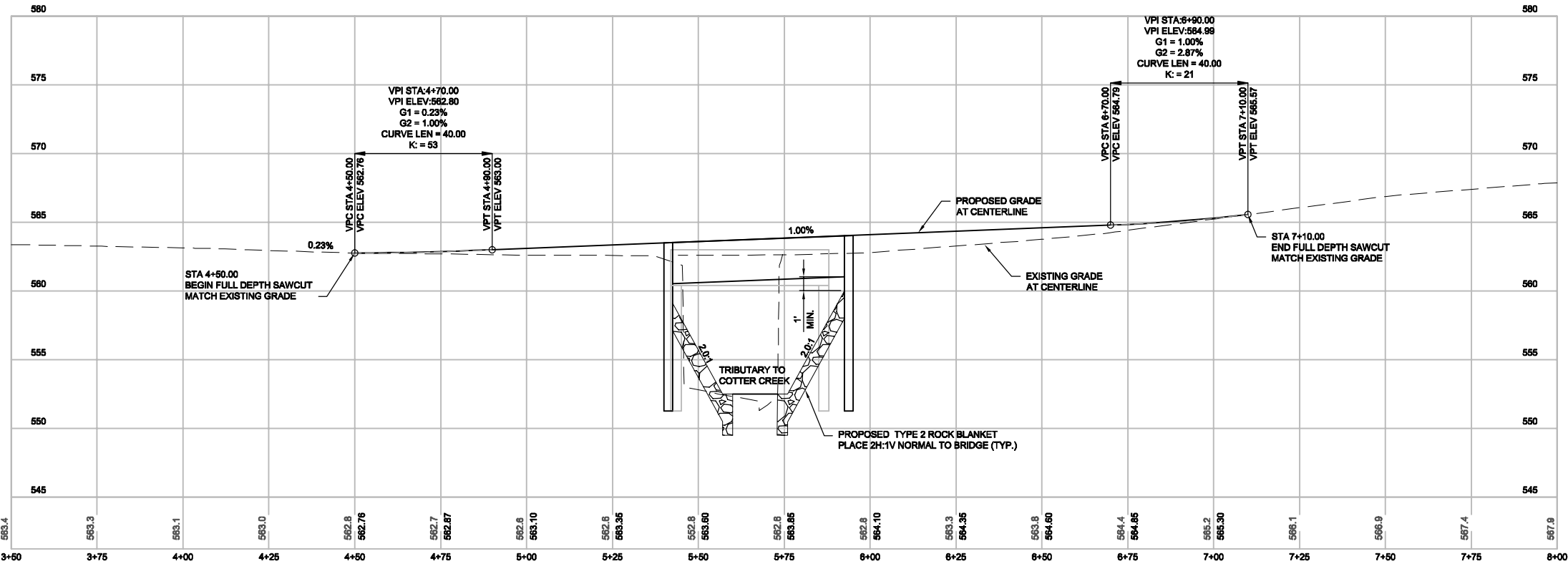
CDG PROJECT NO.
17109

DRAWING NO.
T-005

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\C-101 PLAN & PROFILE.dwg Printed by: MVSSS Plot scale = 0.388983



PLAN
SCALE: 1" = 20'



PROFILE
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

KEYED NOTES:

- 1 PROPOSED BRIDGE STRUCTURE (SEE DWG. B-101)
- 2 EXISTING BRIDGE DECK, ABUTMENTS, AND RAILING TBR&R
- 3 PROPOSED TYPE 2 ROCK BLANKET (SEE DWG. C-301)
- 4 PROPOSED TYPE A CRASHWORTHY END TERMINAL - TEST LEVEL 1, 25'-9 1/2" (4 EA)
- 5 PROPOSED BRIDGE ANCHOR SECTION (4 EA) & TRANSITION SECTION (4 EA)
- 6 TO BE PROTECTED, TBR
- 7 PROPOSED DRAINAGE DITCH, GRADE TO DRAIN
- 8 PROPOSED FIELD ENTRANCE (STA 4+67 RIGHT) WITH 15' CMP (30 LF). CULVERT FLOWLINES TO MEET PROPOSED DITCH GRADES. (SEE DWG. C-301 FOR 'ENTRANCE' DETAIL)

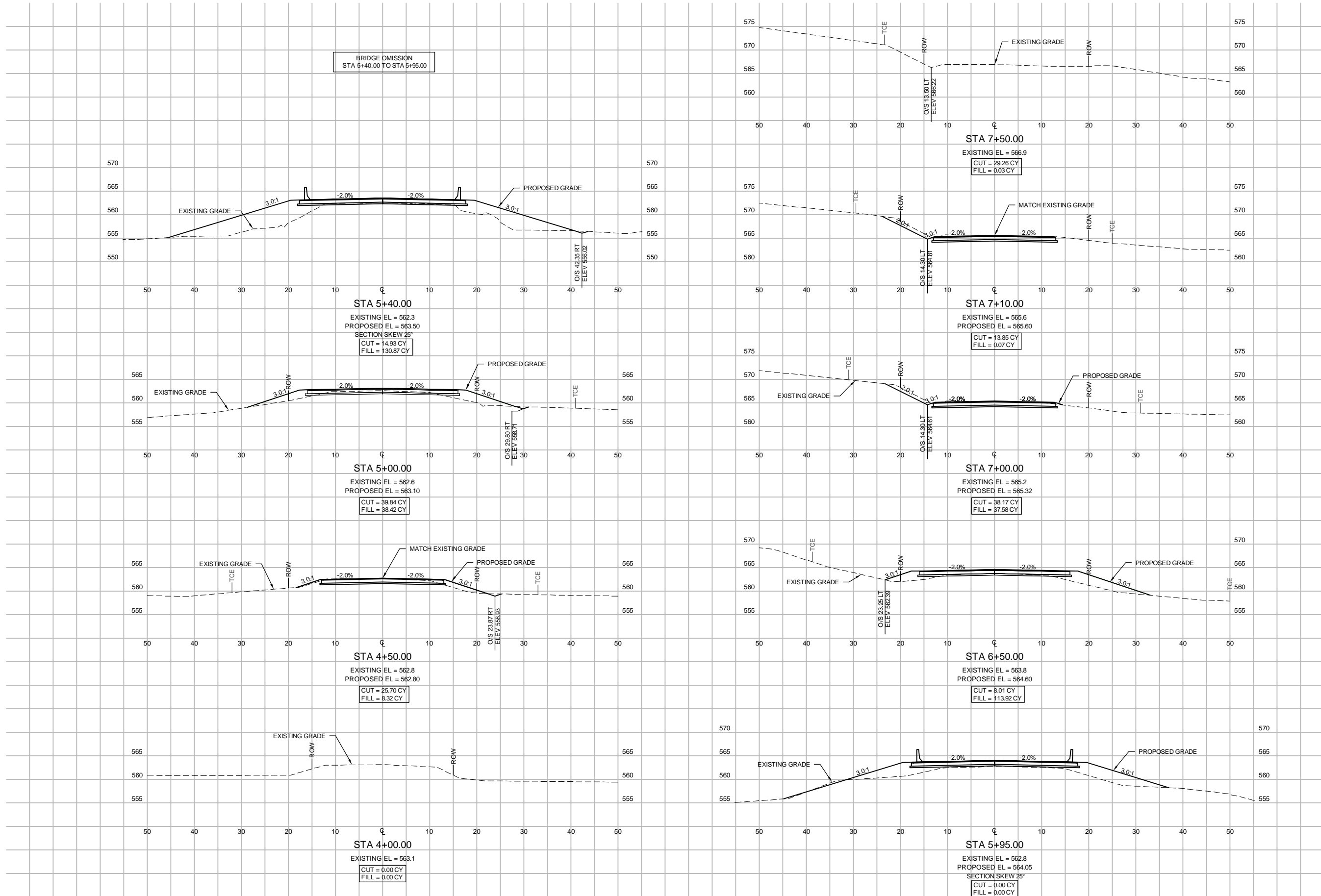
GENERAL NOTES:

1. REMOVED ALL EXISTING ROADBED WITHIN LIMITS OF WORK.
2. CLEARING & GRUBBING / SEEDING & MULCHING SHALL OCCUR AND BE MINIMIZED WITHIN THE CONSTRUCTION EASEMENTS AND PROPOSED RIGHT-OF-WAY AREAS.
3. CONTRACTOR TO TAKE CAREFUL MEASURES THAT TREES IDENTIFIED AS "TO BE PROTECTED" ARE NOT TO BE DAMAGED DURING CONSTRUCTION ACTIVITIES. PROTECTED TREES ARE SUITABLE HABITATS AND/OR PROTECT AGAINST BANK SCOURING.

REV.	DATE	DESCRIPTION	APPROVED

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\IC-201 CROSS SECTIONS.dwg Printed by: MVOSS Plot scale = 0.388933

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\IC-201 CROSS SECTIONS.dwg
mvoSS 07/31/19-09:00

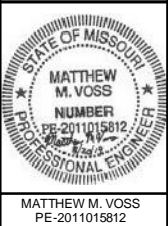


THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED



DEPARTMENT
OF
PUBLIC WORKS

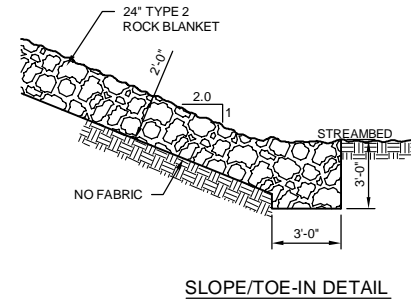
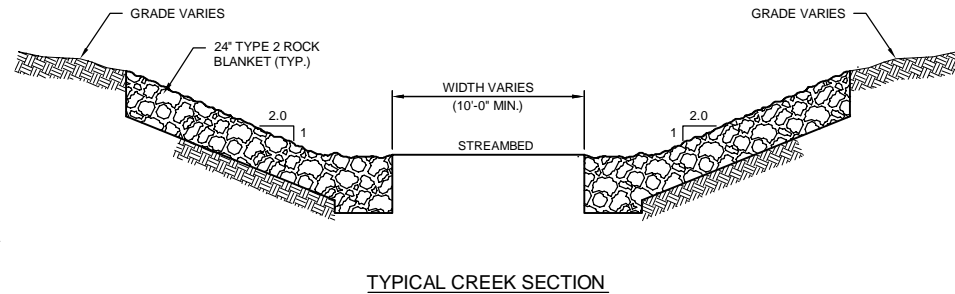
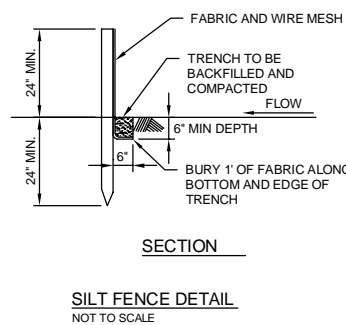
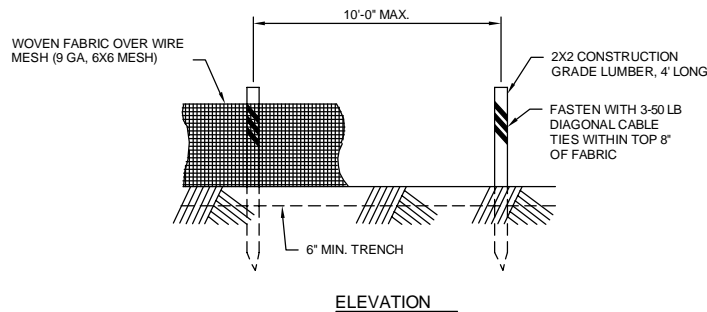
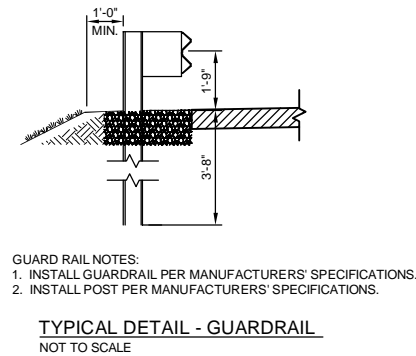
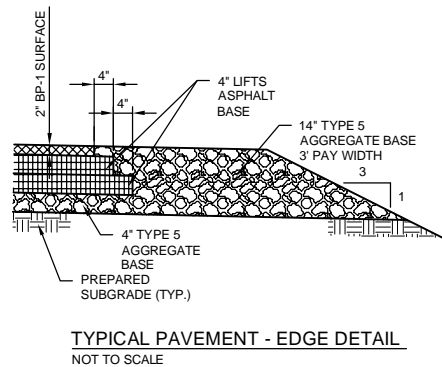
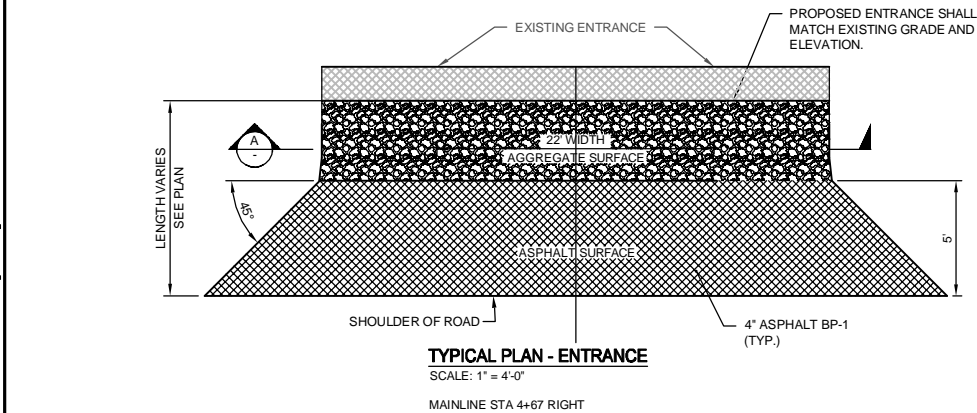
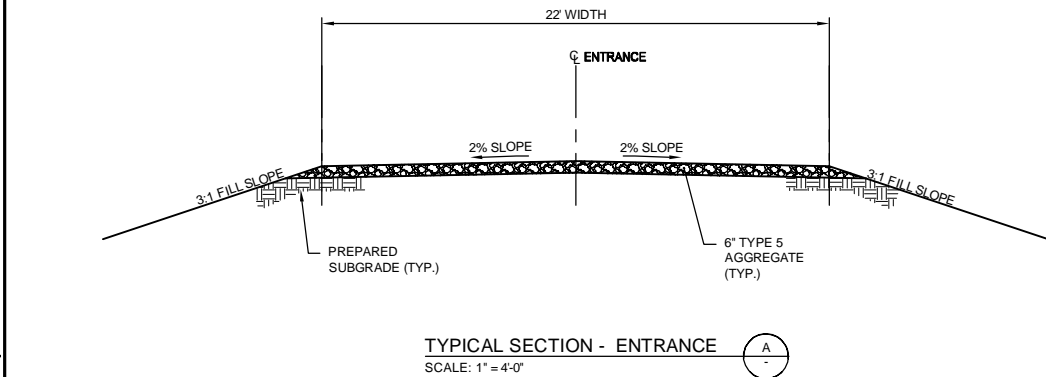
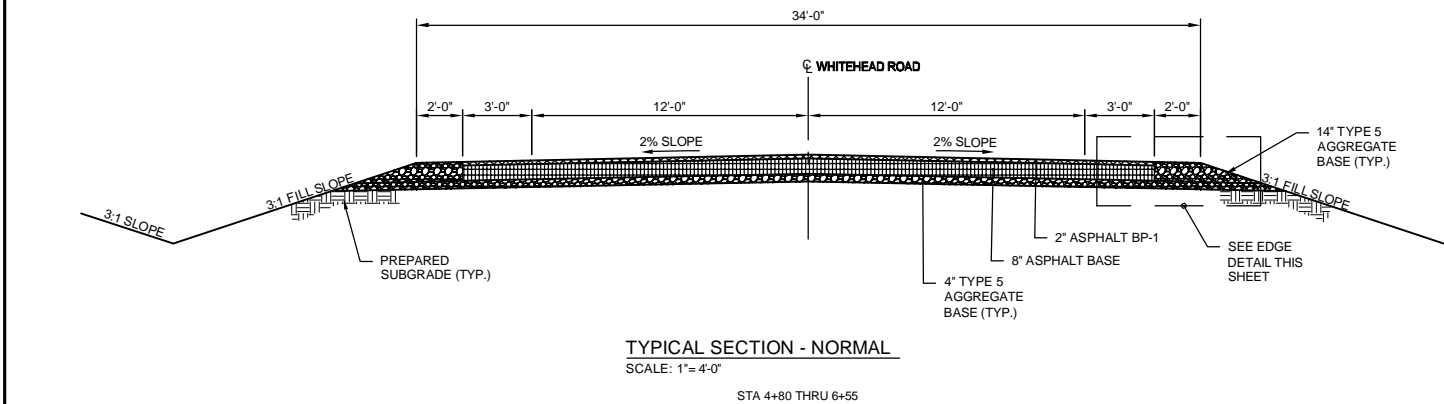
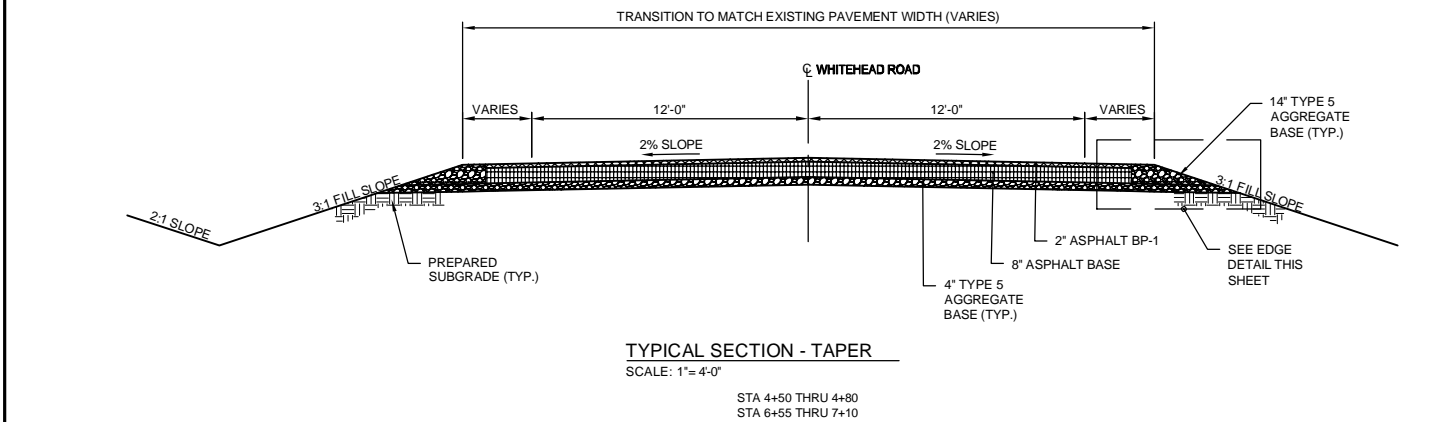


MVOSS
July 30, 2019

CROSS SECTIONS
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

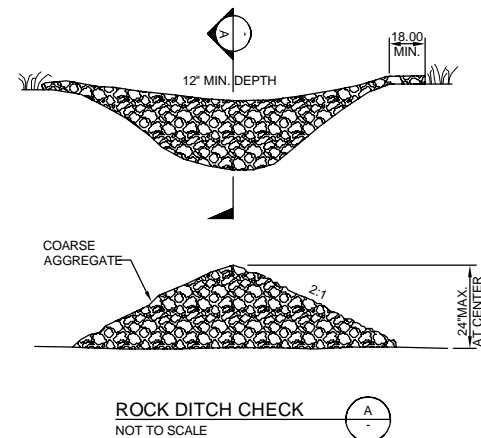
CDG PROJECT NO.
17109
DRAWING NO.
C-201

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\IC-301 TYPICAL SECTIONS & DETAILS.dwg Printed by: MVOSS Plot scale = 0.388933



TYPICAL SECTION - TYPE 2 ROCK BLANKET - CREEK BANKS

NOT TO SCALE

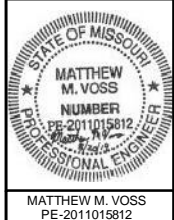


GENERAL NOTES:

1. THE DESIGN GUIDE FOR THE WIDTH OF RIGHT OF WAY FOR THIS PROJECT WILL BE 40 FEET MORE OR LESS RIGHT OF WAY, AS WELL AS OTHER PROPERTY INTERESTS, MAY BE SECURED TO SATISFY THE REQUIREMENTS OF THE DESIGN FEATURES OF THIS PROJECT.

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED



Mvoss
August 5, 2019

TYPICAL SECTIONS & DETAILS
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

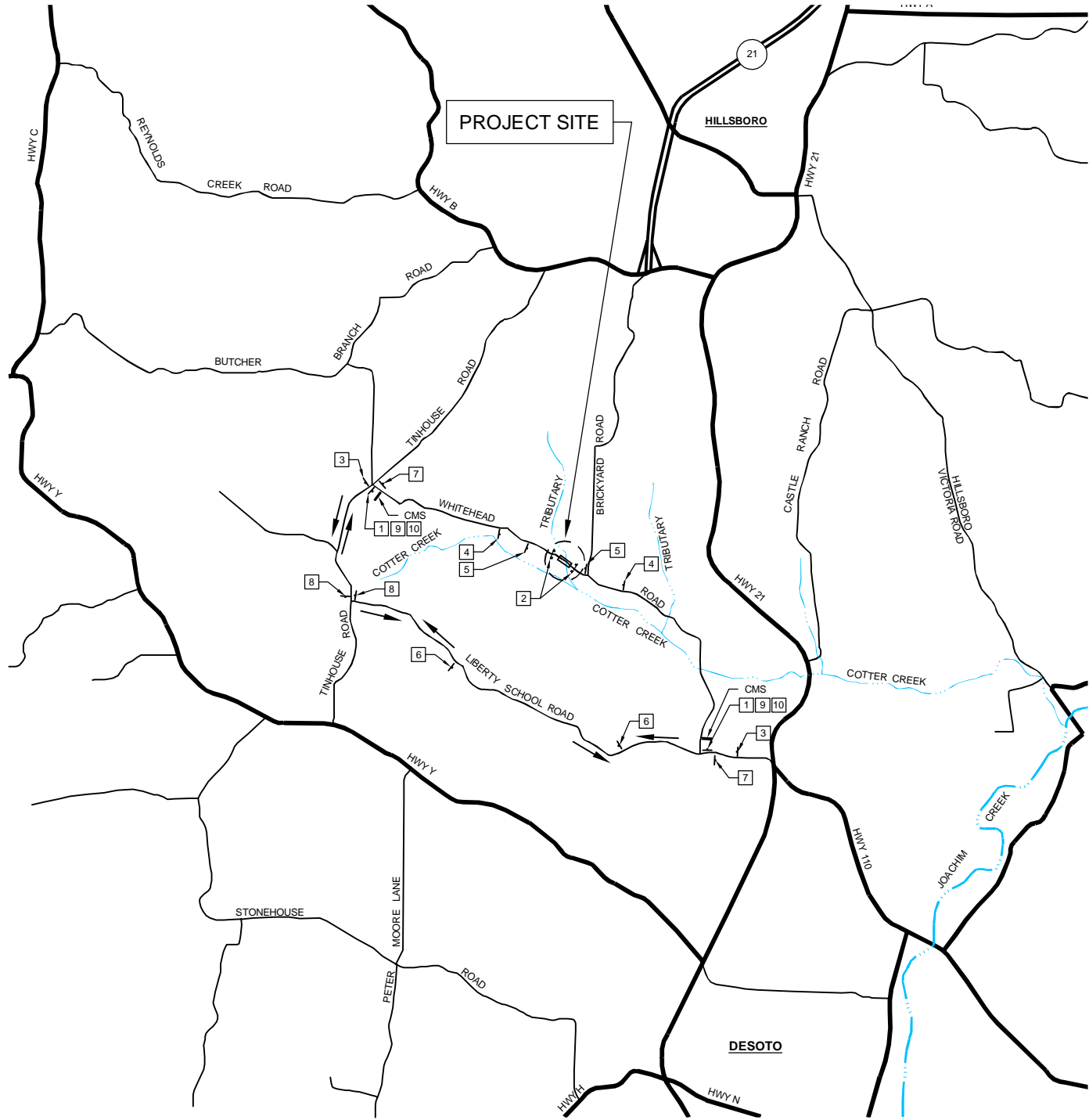
CDG PROJECT NO.
17109
DRAWING NO.
C-301

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\C-501 DETOUR PLAN.dwg Printed by: MVOSS Plot scale = 0.388883

T:\Working\17109 - Jeff Co - Whitehead Road Bridge\Drawings\C-501 DETOUR PLAN.dwg
mvoss 07/30/19-12:22

LEGEND:

- TEMPORARY TRAFFIC BARRICADE
TRAFFIC DETOUR DIRECTION
TEMPORARY DETOUR SIGN
CHANGEABLE MESSAGE SIGN (CMS)

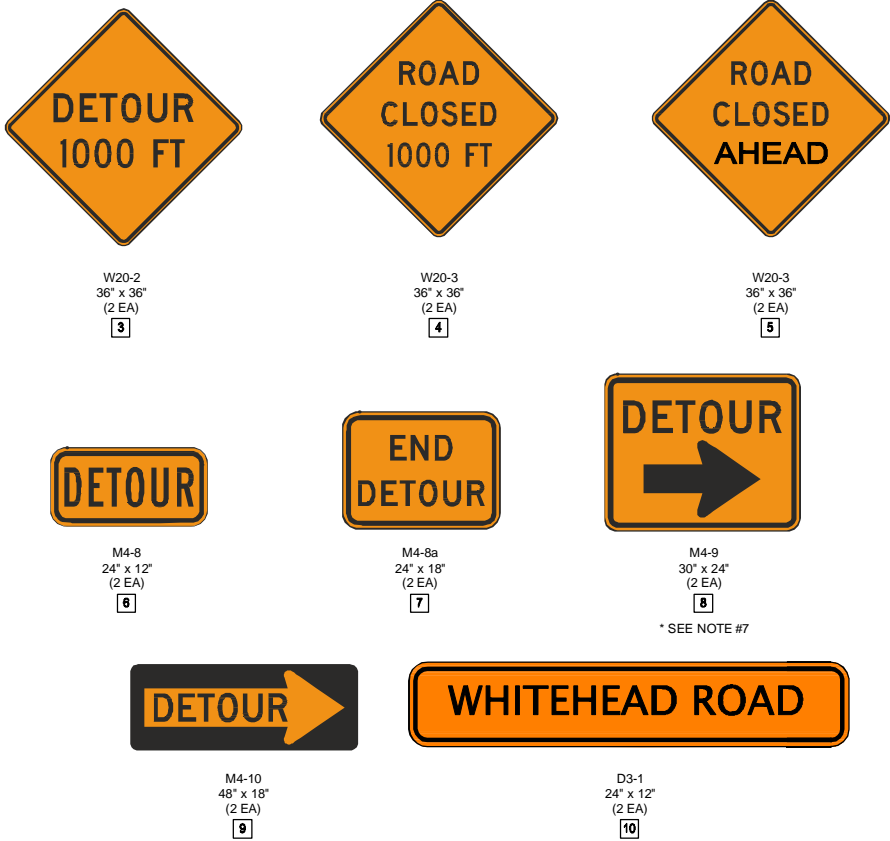
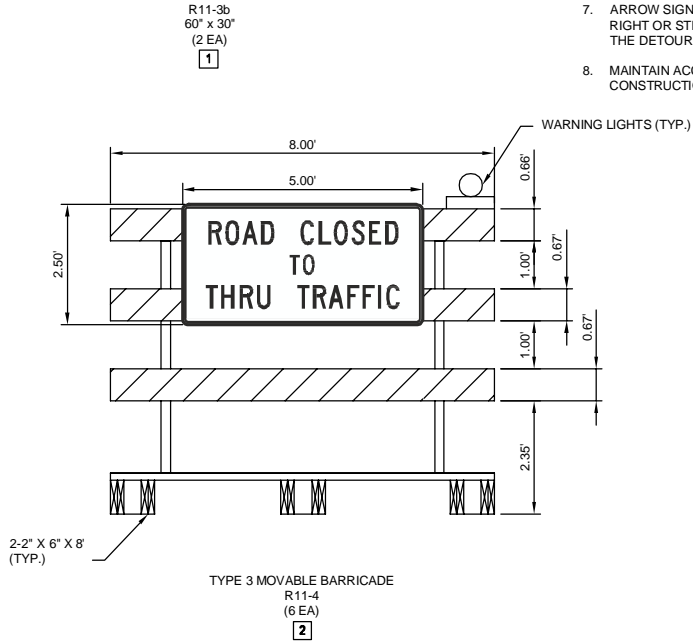


PLAN
NOT TO SCALE



PLOT SCALE FACTOR 0.5

BRIDGE OUT
XX MILES AHEAD
LOCAL TRAFFIC ONLY



THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

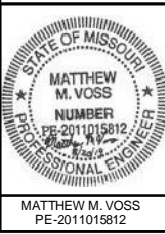
REV.	DATE	DESCRIPTION	APPROVED

GENERAL NOTES:

- CONTRACTOR TO MAINTAIN TRAFFIC CONTROL DURING CONSTRUCTION.
- TRAFFIC CONTROL MAY BE REVISED PER JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT APPROVAL.
- LOCAL RESIDENTS SHALL HAVE ACCESS TO THEIR DRIVEWAY THROUGHOUT CONSTRUCTION.
- ALL SIGNS SHALL BE SIZED FOR CONVENTIONAL ROAD, UNLESS NOTED OTHERWISE.
- ALL SIGNS SHALL CONFORM TO THE CURRENT EDITION OF THE MUTCD.
- CONTRACTOR TO COORDINATE WITH COUNTY BEFORE SIGN PLACEMENT. DISTANCES FOR R11-3b SIGN TO BE DETERMINED BEFORE SIGN PLACEMENT.
- ARROW SIGNS (M4-9 & M4-10) SHALL BE SELECTED (LEFT OR RIGHT OR STRAIGHT AHEAD) IN THE CORRECT DIRECTION OF THE DETOUR ROUTE.
- MAINTAIN ACCESS FOR ALL LOCAL PROPERTY OWNERS DURING CONSTRUCTION.



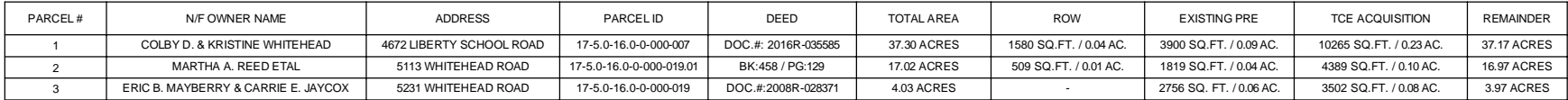
DEPARTMENT
OF
PUBLIC WORKS



Mvoss
August 5, 2019

DETOUR PLAN
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

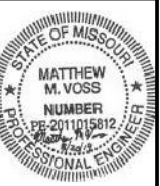
CDG PROJECT NO.
17109
DRAWING NO.
C-501



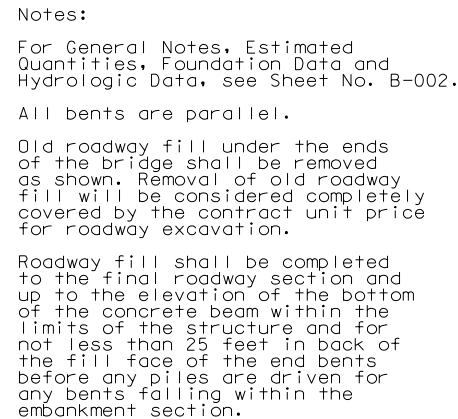
PARCEL #	N/F OWNER NAME	ADDRESS	PARCEL ID	DEED	TOTAL AREA	ROW	EXISTING PRE	TCE ACQUISITION	REMAINDER
1	COLBY D. & KRISTINE WHITEHEAD	4672 LIBERTY SCHOOL ROAD	17-5.0-16.0-0-000-007	DOC.#: 2016R-035585	37.30 ACRES	1580 SQ.FT. / 0.04 AC.	3900 SQ.FT. / 0.09 AC.	10265 SQ.FT. / 0.23 AC.	37.17 ACRES
2	MARTHA A. REED ETAL	5113 WHITEHEAD ROAD	17-5.0-16.0-0-000-019.01	BK:458 / PG:129	17.02 ACRES	509 SQ.FT. / 0.01 AC.	1819 SQ.FT. / 0.04 AC.	4389 SQ.FT. / 0.10 AC.	16.97 ACRES
3	ERIC B. MAYBERRY & CARRIE E. JAYCOX	5231 WHITEHEAD ROAD	17-5.0-16.0-0-000-019	DOC.#:2008R-028371	4.03 ACRES	-	2756 SQ. FT. / 0.06 AC.	3502 SQ.FT. / 0.08 AC.	3.97 ACRES

THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL LOCATE THE UTILITIES IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION IMPROVEMENTS.

REV.	DATE	DESCRIPTION	APPROVED



T:\Working\15080 - Wildwood - Strecker Road Bridge\Drawings\Bridge\CNG Bridge template.dwg



"" Indicates location of borings.

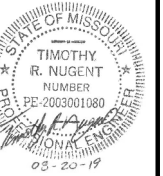
The locations of all subsurface borings for this structure are shown on the bridge plan for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by Geotechnology, Inc. for the design of the project, are included in the project specifications. No greater significance or weight should be given to the boring data depicted in the project specifications than subsurface data available from Geotechnology, Inc. or elsewhere.

The County does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted or on any other documentation not expressly warranted, which the contractor may obtain from the County.

Note: This drawing is not to scale. Follow dimensions.

SITE BENCHMARK: BM "A" IRON SPIKE IN NORTH FACE
OF UTILITY POLE NO. 223563 ON THE NORTH SIDE OF
WHITEHEAD ROAD OPPOSITE DRIVE AT ADDRESS NO. 5231
WHITEHEAD ROAD.
ELEV. 569.86

REV.	DATE	DESCRIPTION	APPROVED

DEPARTMENT
OF
PUBLIC WORKS

mothy Nugent, P.E.
ID# PE-2003001080

DRAWN BY
OB

CHECKED BY
RN

DATE
August 20, 2019

GENERAL ELEVATION AND PLAN

BRIDGE NO. 26400141

PROJECT NO. SIP-5403 (6/75)

WHILE AHEAD ROAD BRIDGE REPLACEMENT

OG PROJECT NO.

17109

DRAWING NO.

B-001

T:\Working\15080 - Wildwood - Stecker Road Bridge Drawings\Bridge\CDG_Bridge_Template.dgn

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation		cu. yard	70.0	70.0
Removal of Bridges		lump sum		1
Bridge Approach Slab (Minor Road)		sq. yard	138	138
Galvanized Structural Steel Piles (14 in.)		linear foot	136	136
Pre-Bore for Piling		linear foot	124	124
Pile Point Reinforcement		each	8	8
Class B Concrete (Substructure)		cu. yard	30.0	30.0
* Safety Barrier Curb		linear foot	138	138
Slab on Concrete Beam		sq. yard	196	196
21 in. Prestressed Concrete Spread Box Beam		linear foot	209	209
Conduit System on Structure		lump sum		1
Vertical Drain at End Bents		each		2
Plain Neoprene Bearing Pad		each	8	8

* Safety barrier curb shall be cast-in-place option or slip-form option.

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete Beam.

Cost of 4x4 ASTM A709 Grade 36 HP pile anchors and 3/4-inch diameter ASTM F3125 Grade A325 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Piles (14 in.).

Foundation Data				
Type	Design Data	Bent Number		
		1	2	
Load Bearing Pile	Pile Type and Size	HP 14x73	HP 14x73	
	Number	ea	4	4
	Approximate Length per Each	ft	15	19
	Pile Point Reinforcement	ea	All	All
	Min. Galvanized Penetration (Elev.) ft	Full Length	Full Length	
	Pile Driving Verification Method	*	*	
	Minimum Nominal Axial Compressive Resistance	kip	421	421

* All piles at Bents No. 1 and 2 shall bear on rock. Piles shall be placed in pre-bored holes, then seated on rock, not rubble, and struck with a hammer to ensure refusal on rock.

All piles shall be galvanized full length.

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

Prebore for Piles at Bents No. 1 and 2 to Elevations 544.0 and 541.0, respectively.

Prebore shall be no higher than the elevation specified or 2' into competent rock.

ESTIMATED QUANTITIES FOR SLAB ON CONCRETE BEAM		
Item		Total
Class B-2 Concrete	cu. yard	58.8
Reinforcing Steel (Epoxy Coated)	pound	16,410

The table of Estimated Quantities for Slab on Concrete Beam represents the quantities used by the County in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

The Estimated Quantities for Slab on Concrete Beam are based on skewed precast prestressed end panels.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete Beam.

General Notes:

Design Specifications:

2012 AASHTO LRFD Bridge Design Specifications (6th Ed.) and
2013 Interim Revisions
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design
(2nd Ed.) and 2014 Interim Revisions (Seismic Details)
Seismic Design Category = B

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply-supported, Non-composite for dead load.
Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi
Class B-2 Concrete (Superstructure, except
Prestressed Beams and Safety Barrier Curb) f'c = 4,000 psi
Class B-1 Concrete (Safety Barrier Curb) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi
Steel Pile (ASTM A709 Grade 50) fy = 50,000 psi

For precast prestressed panel stresses, see Sheet No. B-012.
For prestressed box beam stresses, see Sheets No. B-010 & B-011.

Neoprene Pads:

Plain Neoprene Bearing Pads shall be 60 durometer and shall be
in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed
sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless
otherwise shown.

Traffic Handling:

Structure to be closed during construction. Traffic to be maintained
on other routes during construction. See roadway plans for traffic
control.

Miscellaneous:

Outline of old work is indicated by light dashed lines. Heavy lines
indicate new work.

"Sec" refers to the sections in the Missouri Standard and Supplemental
Specifications unless specified otherwise.

Construction Specifications:

The 2019 Edition of the Missouri Highway Department of Transportation's
"Missouri Standard Specifications for Highway Construction" and the job
specifications shall govern.

Hydrologic Data
Drainage Area = 1.5 (sq. mi.)
Design Flood Frequency = 100 years
Design Flood Discharge = 1630 cfs
Design Flood (D.F.) Elevation = 559.4
Base Flood (100-year)
Base Flood Elevation = 559.4
Base Flood Discharge = 1630 cfs
Estimated Backwater = 0.14 ft
Average Velocity thru Opening = 6.7 ft/s
Freeboard (50-year)
Freeboard = 1.7 ft
Roadway Overtopping
Overtopping Flood Discharge = N/A
Overtopping Flood Frequency = > 500 years
500 Year Flood Elevation = 560.2



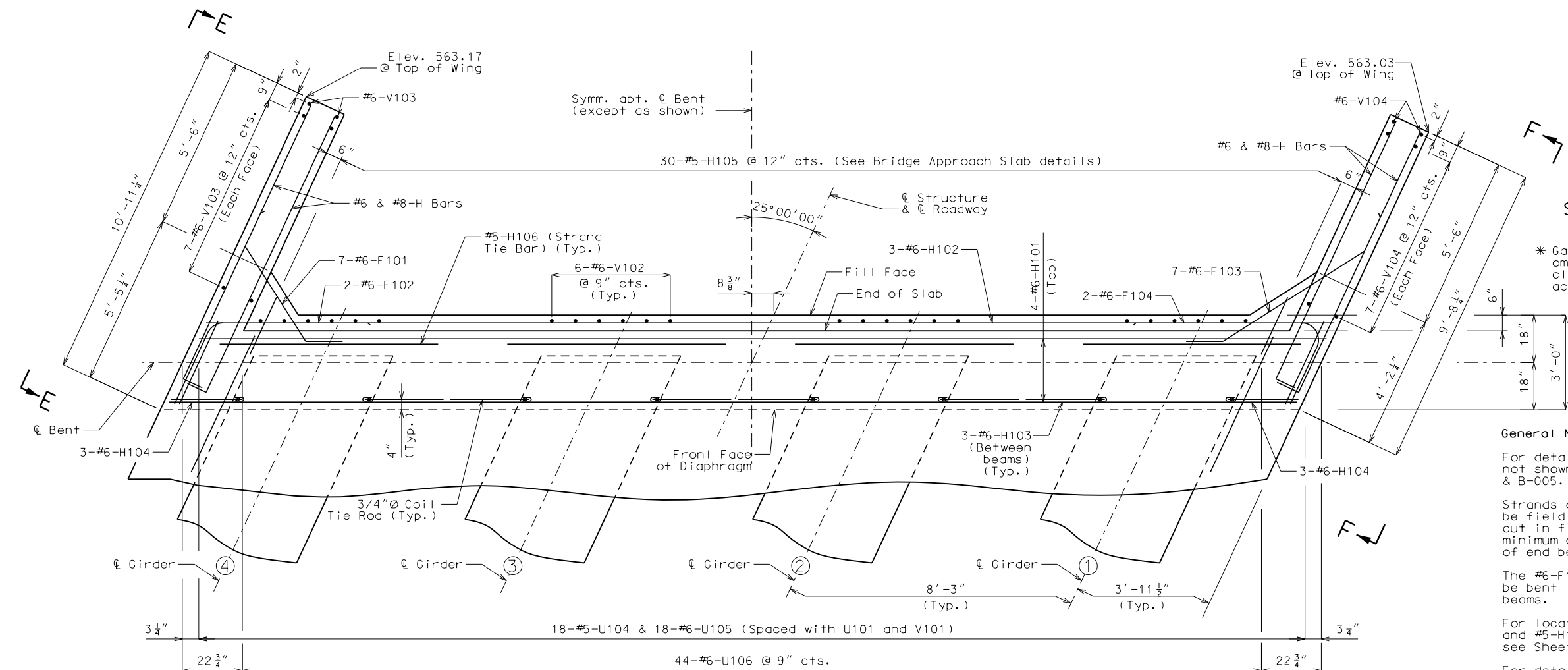
DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

GENERAL NOTES & QUANTITIES BRIDGE NO. 26400141 PROJECT NO. STP-5403 (675) WHITEHEAD ROAD BRIDGE REPLACEMENT

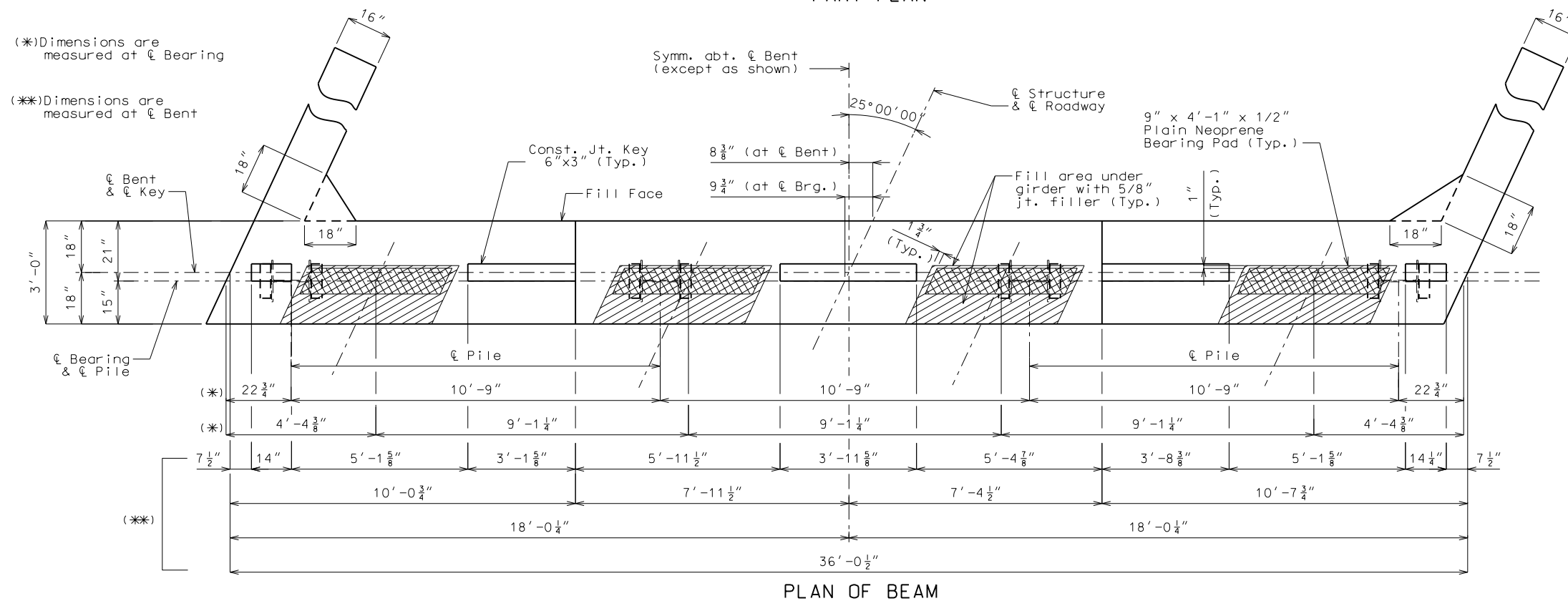
CDG PROJECT NO. 17109
DRAWING NO. B-002

REV.	DATE	DESCRIPTION	APPROVED

Note: This drawing is not to scale. Follow dimensions.

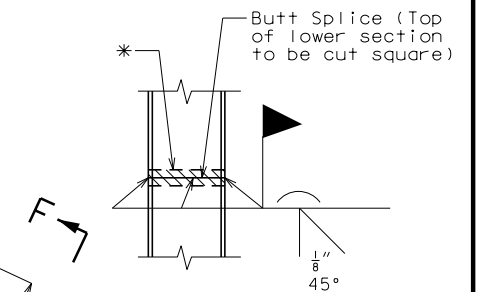


PART PLAN



PLAN OF BEAM

Note: This drawing is not to scale. Follow dimensions.



STEEL PILE SPLICE
(If required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:

For details of End Bent No. 1
not shown, see Sheets No. B-004
& B-005.

Strands at end of beams shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

The #6-F101 & #6-F103 bars shall be bent in the field to clear beams.

For location of Coil Tie Rods
and #5-H106 (Strand Tie Bar),
see Sheets No. B-010 & B-011.

For details of Vertical Drain
at End Bents, see Sheet No. B-006.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

All U-bars, Prs.-V-bars and #5-H105 shall be placed parallel to C Roadway.

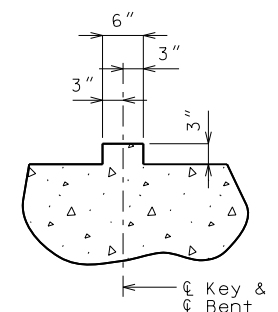
For Elevations E-E & F-F, see
Sheet No. B-005.

For reinforcement of the Safety
Barrier Curb, see Sheet No. B-018.

For details of Bridge Approach Slab,
see Sheet No. B-020.

For details of Conduit System, see
Sheet No. B-016.

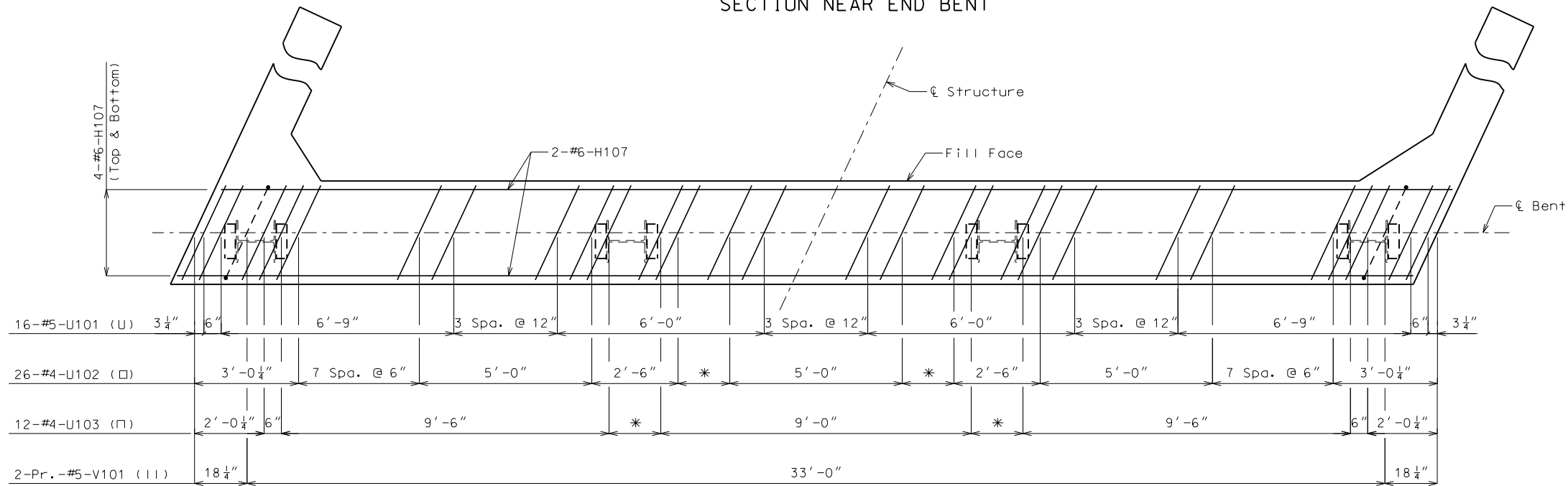
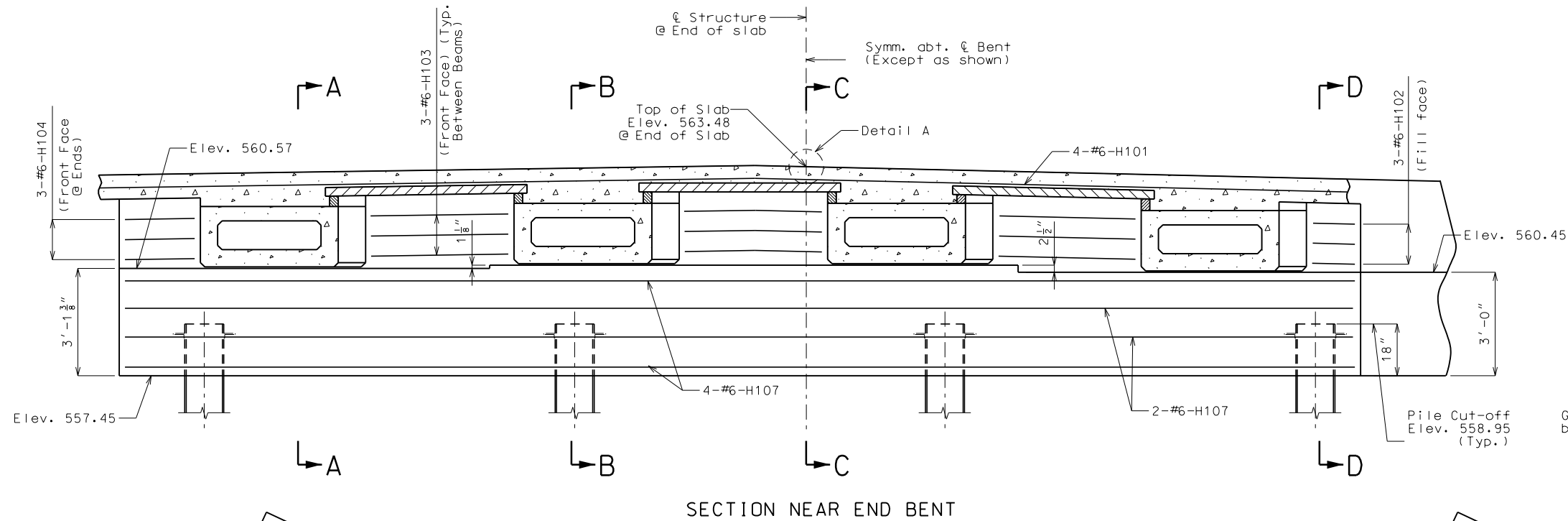
For details of HP Pile Anchors & Plan of Bearing, see Sheet No. B-004.



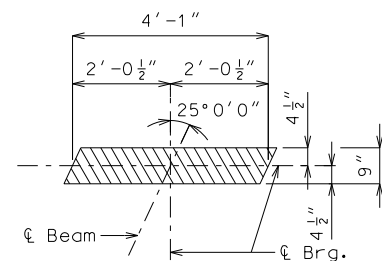
SECTION THRU KEY

REV.	DATE	DESCRIPTION	APPROVED

T:\Working\15080 - Wildwood - Strecker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn



* 3 Spa. @ 6"

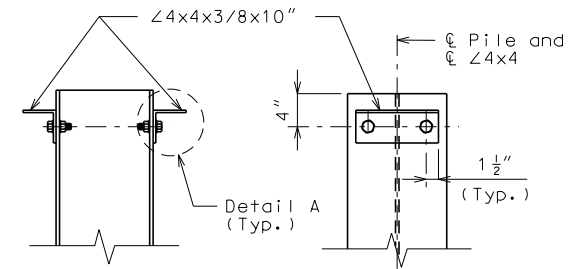


PLAN OF BEARING

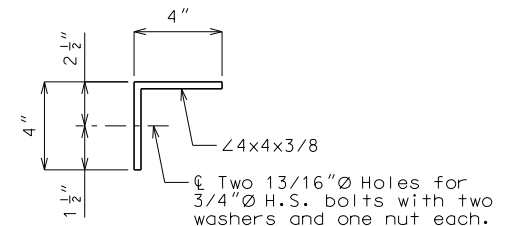
PLAN OF BEAM SHOWING REINFORCEMENT

Note: Keys and steps not shown for clarity.

Note: This drawing is not to scale. Follow dimensions.



DETAILS OF HP PILE ANCHORS



DETAIL A

Galvanizing 4x4, 3/4" diameter high strength bolts, washers and nuts will not be required.

General Notes:

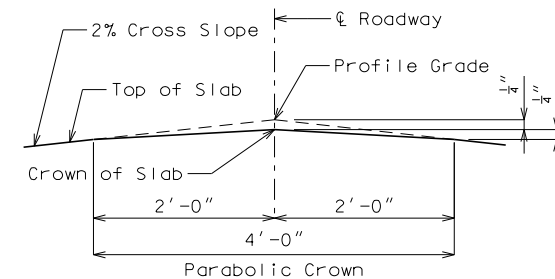
For details of End Bent No. 1 not shown, see Sheets No. B-003 & B-005.

All U-bars, Pr. V-bars and #5-H105 shall be placed parallel to Roadway.

For details of Vertical Drain at End Bents, see Sheet No. B-006.

For Sections A-A, B-B, C-C & D-D see Sheet No. B-005.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".



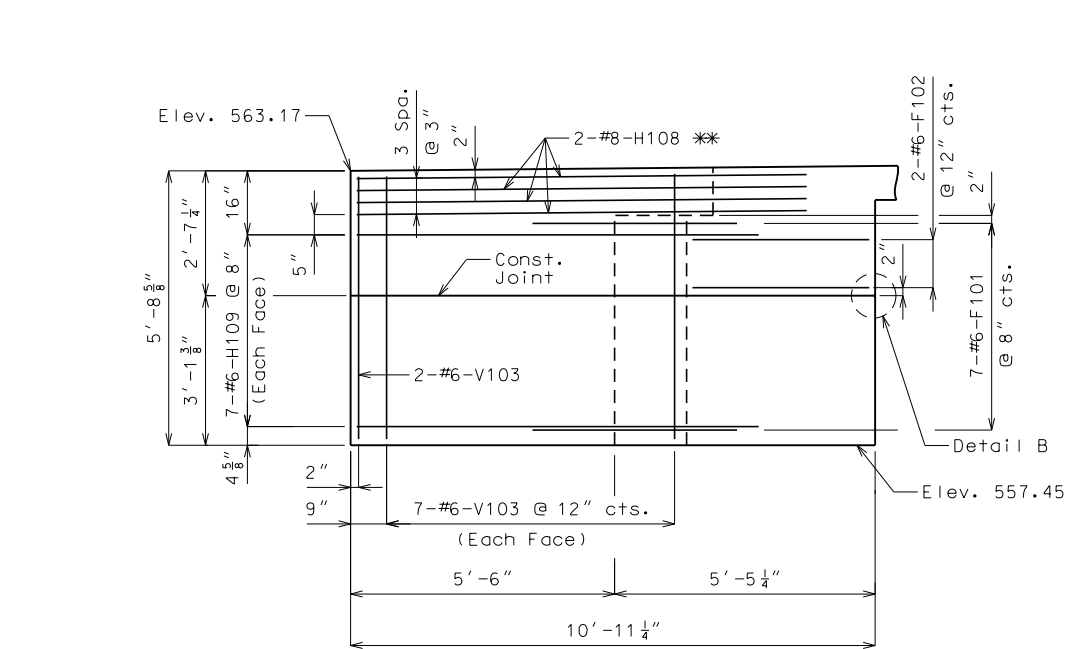
DETAIL A

Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class 1 Excavation	cu. yard	35
Galvanized Structural Steel Pile (14 in.)	linear foot	60
Pre-Bore for Piling	linear foot	56
Pile Point Reinforcement	each	4
Class B Concrete (Substructure)	cu. yard	15.0

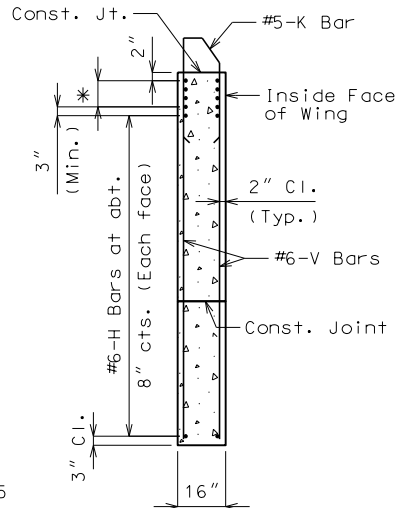
These quantities are included in the Estimated Quantities table on Sheet No. B-002.

REV.	DATE	DESCRIPTION	APPROVED

T:\Working\15080 - Wildwood - Stecker Road Bridge\Drawings\Bridge\CDG Bridge Template.dgn

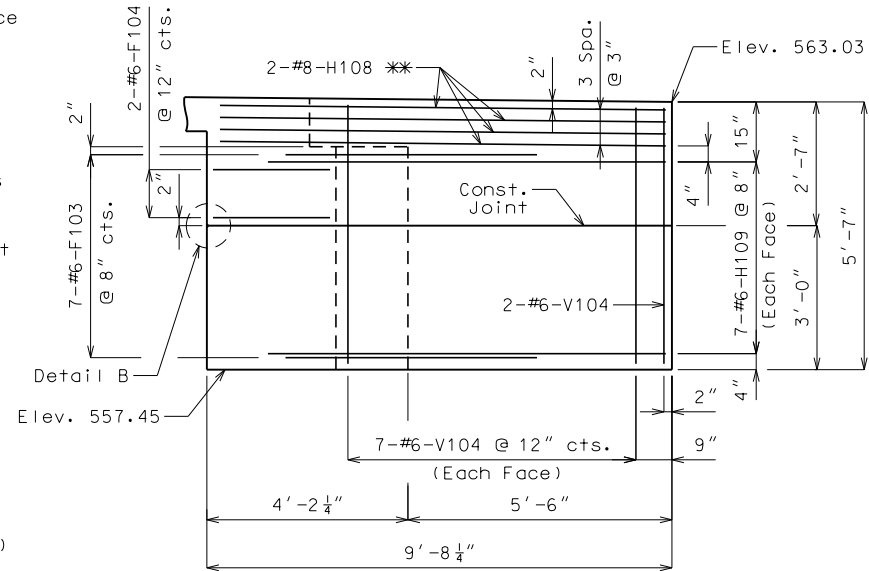


ELEVATION E-E

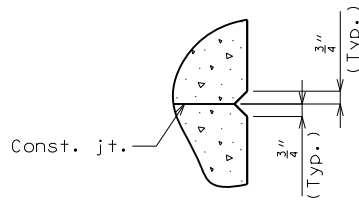


TYPICAL SECTION THRU WING

- * #8-H Bars at 3" cts. (Each face)(Place with grade)
- ** Placed with grade



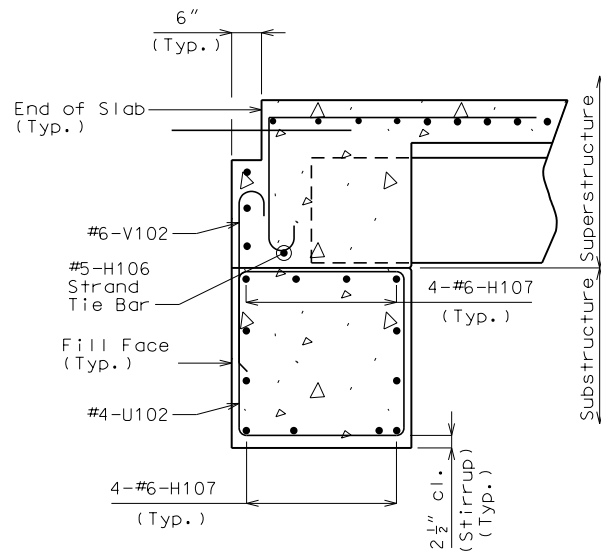
ELEVATION F-F



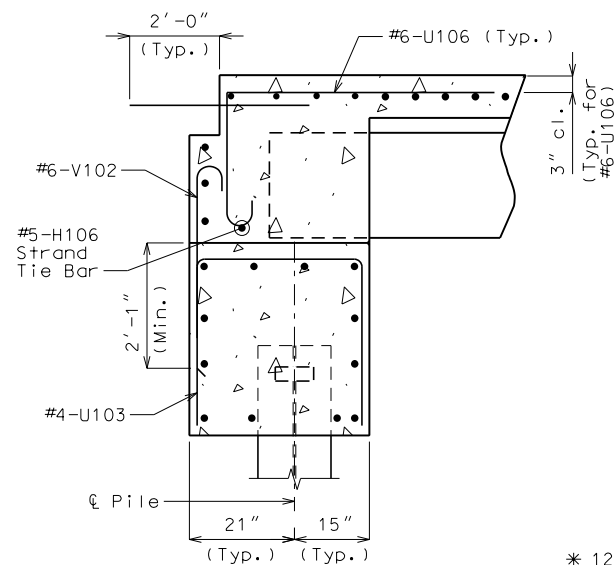
DETAIL B

General Notes:

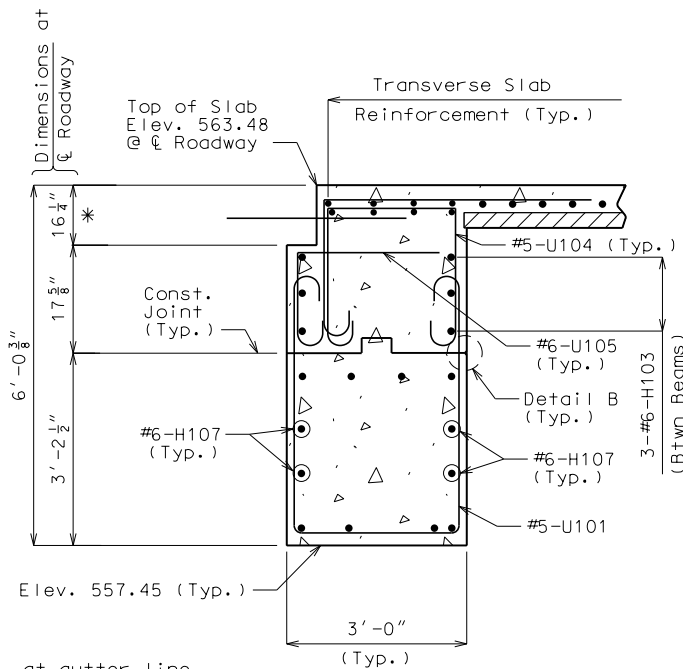
- For details of End Bent No. 1 not shown, see Sheets No. B-003 & B-004.
- Bend #6-F101 & #6-F103 bars in field to clear beams.
- For details and reinforcement of the Safety Barrier Curb, see Sheet No. B-018.
- For details of Vertical Drain at End Bents, see Sheet No. B-006.
- For location of #5-H106 (Strand Tie Bar), see Sheets No. B-010 & B-011.
- For location of Elevations E-E & F-F, see Sheet No. B-003.
- For location of Sections A-A, B-B, C-C & D-D, see Sheet No. B-004.
- For details of Bridge Approach Slab, see Sheet No. B-020.
- For details of Conduit System, see Sheet No. B-016.
- Rotate #8-H108 & #6-H109 bars in field so end hooks clear beams.



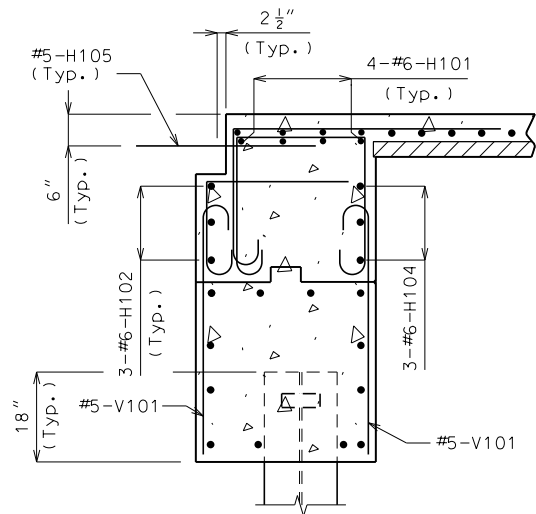
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Note: All rebar is included in Slab on Concrete Beam (see Sheet B-002).

* 12" min. at gutter line

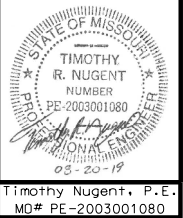
Note: Longitudinal slab reinforcement not shown for clarity.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



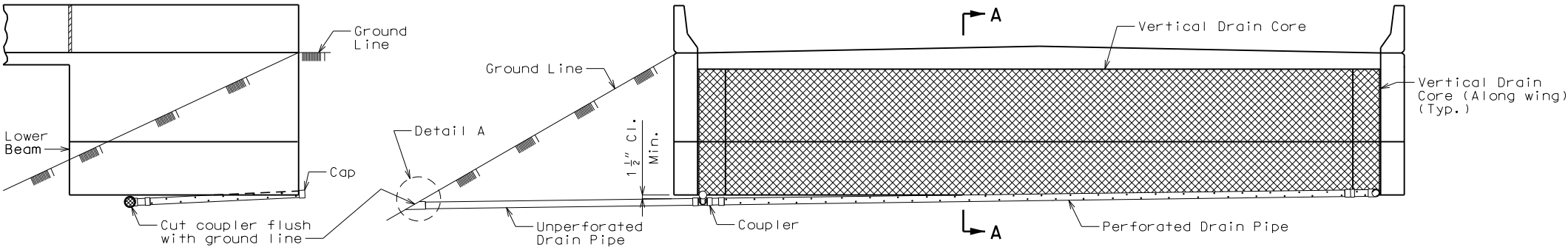
DEPARTMENT OF PUBLIC WORKS



DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

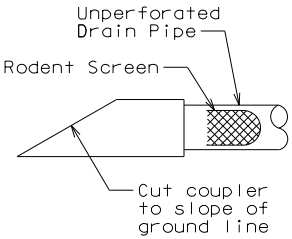
DETAILS OF END BENT NO. 1
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO. 17109
DRAWING NO. B-005

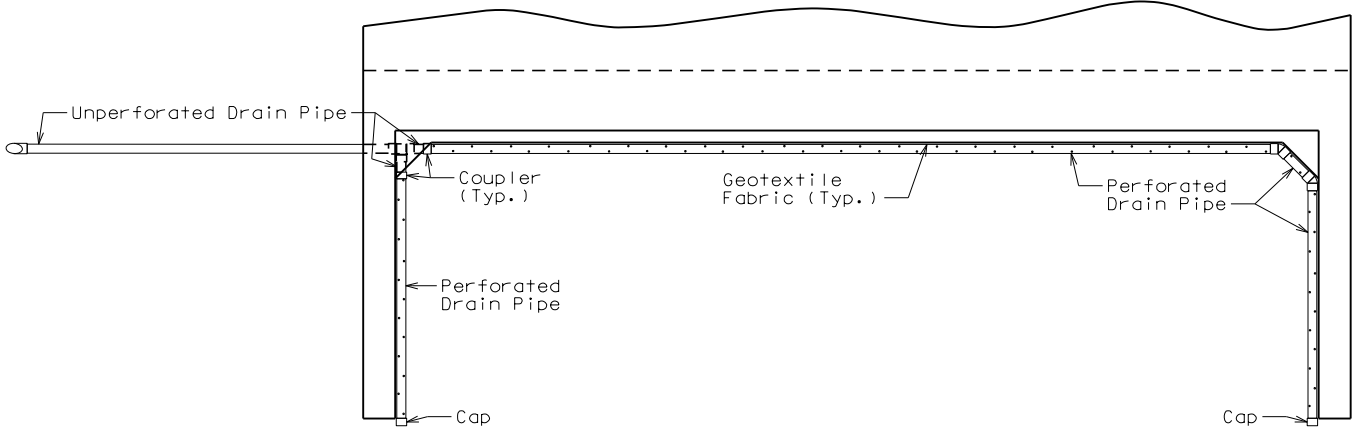


ELEVATION OF WING

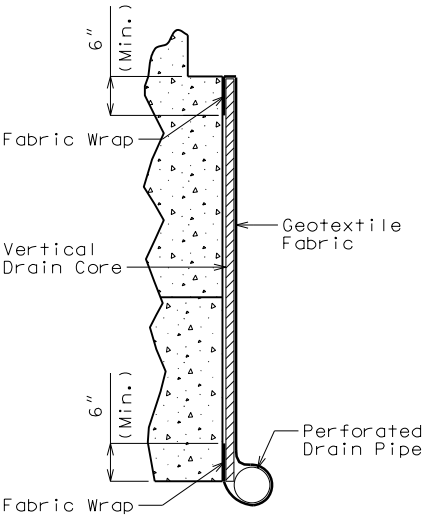
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)

General Notes:

- All drain pipe shall be sloped 1 to 2 percent.
- Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.
- Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.
- Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

REV.	DATE	DESCRIPTION	APPROVED

VERTICAL DRAIN AT END BENTS
(Squared end bent shown, skewed end bent similar)

Note: This drawing is not to scale. Follow dimensions.

**CDG
ENGINEERS**

One Campbell Plaza
St. Louis, Missouri 63139
T. 314.781.7770
F. 314.781.9075
Missouri State Certificate of Authority # 1721

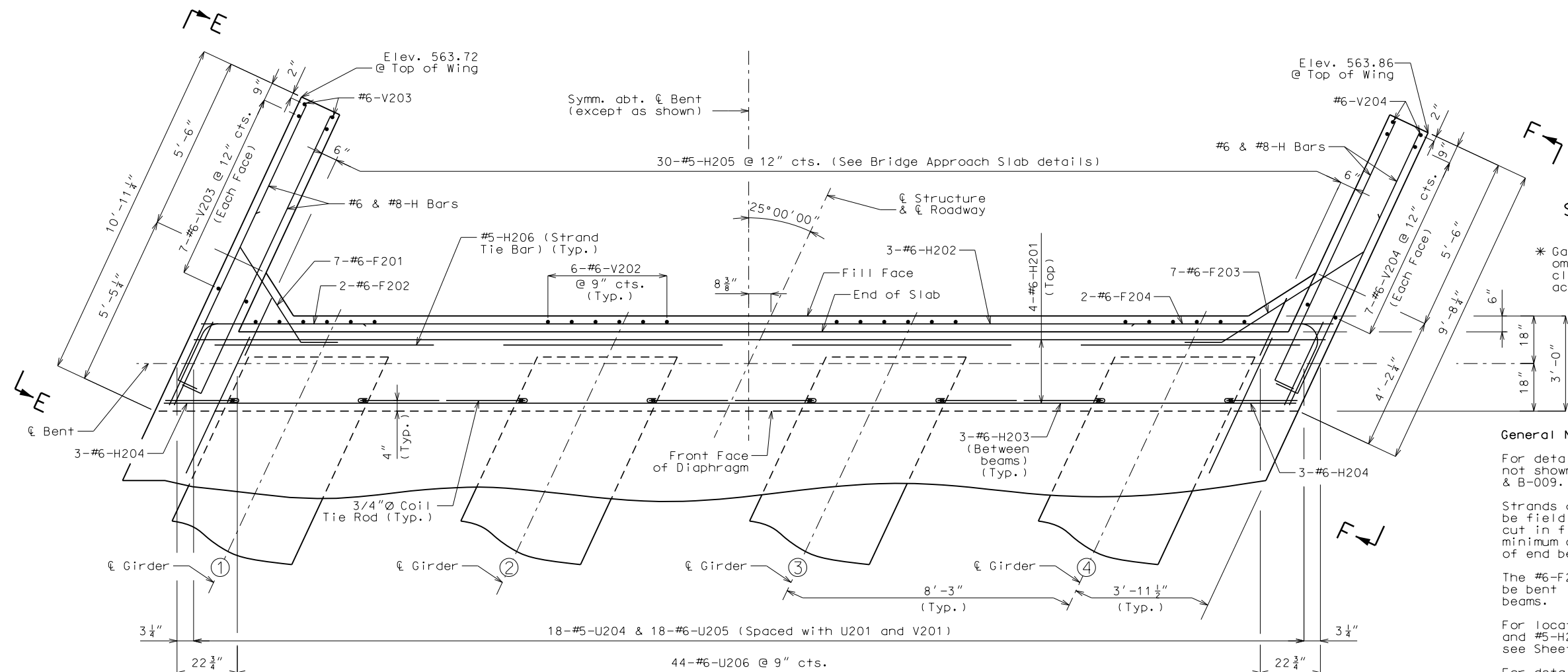
**DEPARTMENT
OF
PUBLIC WORKS**

Timothy Nugent, P.E.
MO# PE-2003001080

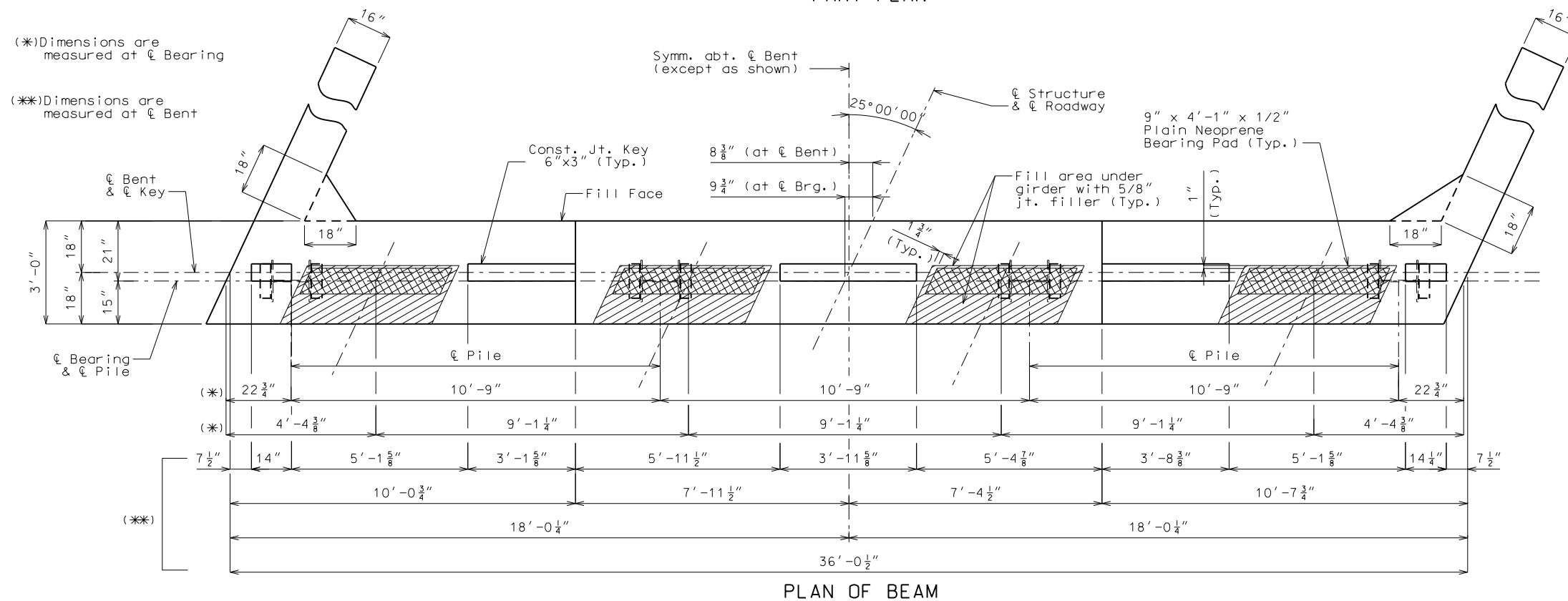
DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

VERTICAL DRAIN AT END BENTS
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO. 17109
DRAWING NO. B-006

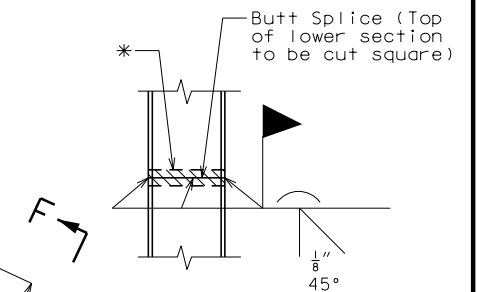


PART PLAN



PLAN OF BEAM

Note: This drawing is not to scale. Follow dimensions.



STEEL PILE SPLICE
(If required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:

For details of End Bent No. 2
not shown, see Sheets No. B-008
& B-009.

Strands at end of beams shall be field bent or, if necessary, cut in field to maintain 1 1/2" minimum clearance to fill face of end bent.

The #6-F201 & #6-F203 bars shall be bent in the field to clear beams.

For location of Coil Tie Rods
and #5-H206 (Strand Tie Bar),
see Sheets No. B-010 & B-011.

For details of Vertical Drain
at End Bents, see Sheet No. B-006.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

All U-bars, Prs.-V-bars and #5-H205 shall be placed parallel to C Roadway.

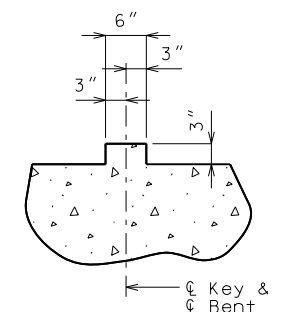
For Elevations E-E & F-F, see
Sheet No. B-009.

For reinforcement of the Safety
Barrier Curb, see Sheet No. B-018.

For details of Bridge Approach Slab,
see Sheet No. B-020.

For details of Conduit System, see
Sheet No. B-016.

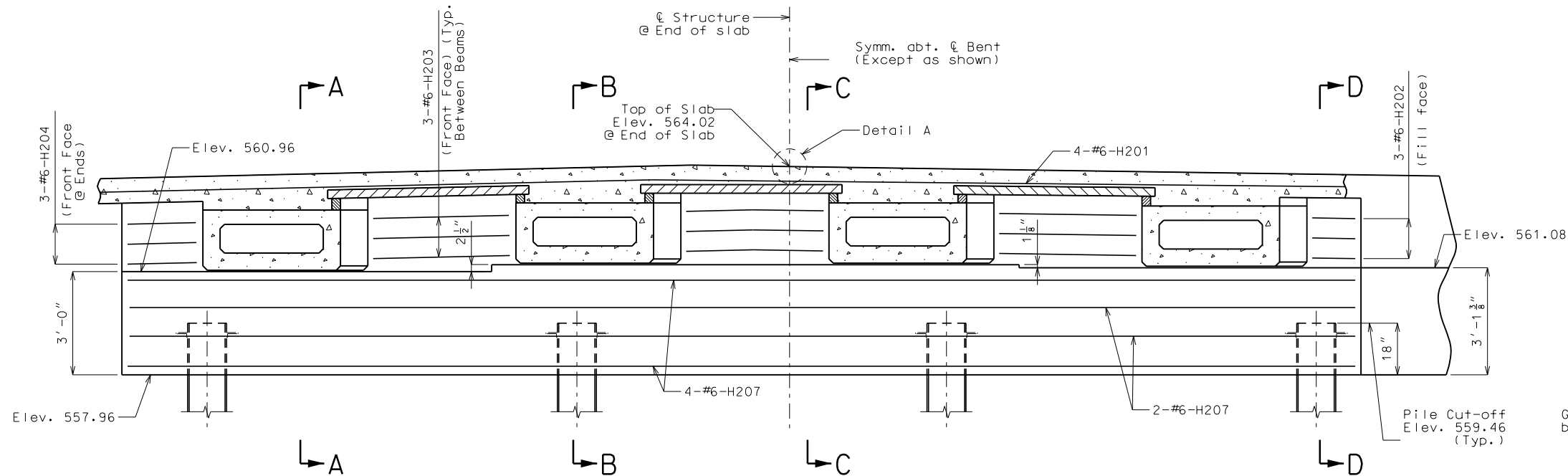
For details of HP Pile Anchors & Plan of Bearing, see Sheet No. B-008.



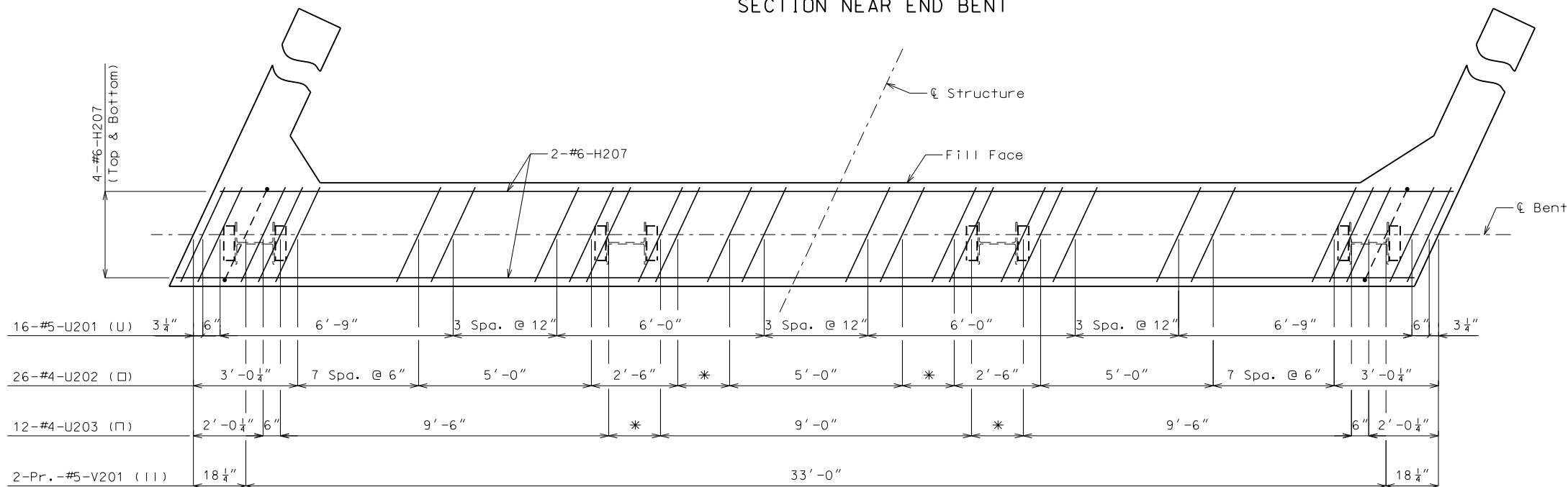
SECTION THRU KEY

REV.	DATE	DESCRIPTION	APPROVED

T:\Working\15080 - Wildwood - Strecker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn



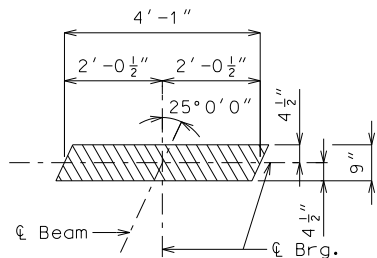
SECTION NEAR END BENT



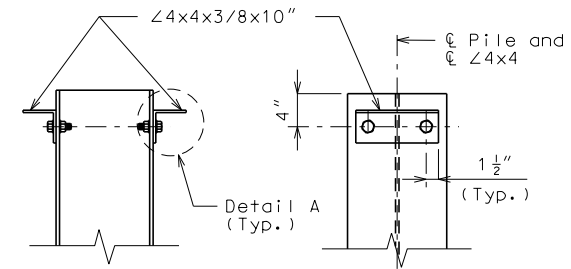
* 3 Spa. @ 6"

PLAN OF BEAM SHOWING REINFORCEMENT

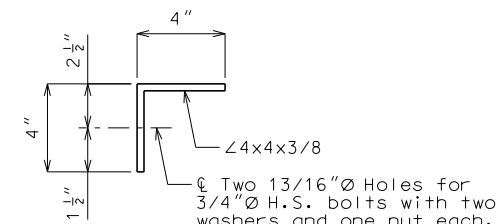
Note: Keys and steps not shown for clarity.



PLAN OF BEARING



DETAILS OF HP PILE ANCHORS



DETAIL A

Galvanizing 4x4, 3/4" diameter high strength bolts, washers and nuts will not be required.

General Notes:

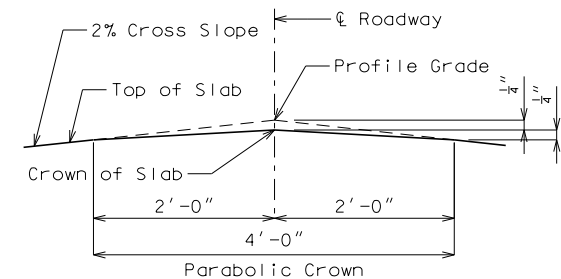
For details of End Bent No. 2 not shown, see Sheets No. B-007 & B-009.

All U-bars, Pr.-V-bars and #5-H205 shall be placed parallel to ℓ Roadway.

For details of Vertical Drain at End Bents, see Sheet No. B-006.

For Sections A-A, B-B, C-C & D-D see Sheet No. B-009.

All vertical reinforcing bars in the substructure beams or caps shall be field adjusted to clear piles by at least 1 1/2".

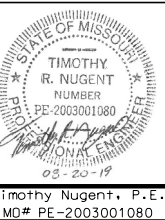


DETAIL A

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Class 1 Excavation	cu. yard	35
Galvanized Structural Steel Pile (14 in.)	linear foot	76
Pre-Bore for Piling	linear foot	68
Pile Point Reinforcement	each	4
Class B Concrete (Substructure)	cu. yard	15.0

These quantities are included in the Estimated Quantities table on Sheet No. B-002.

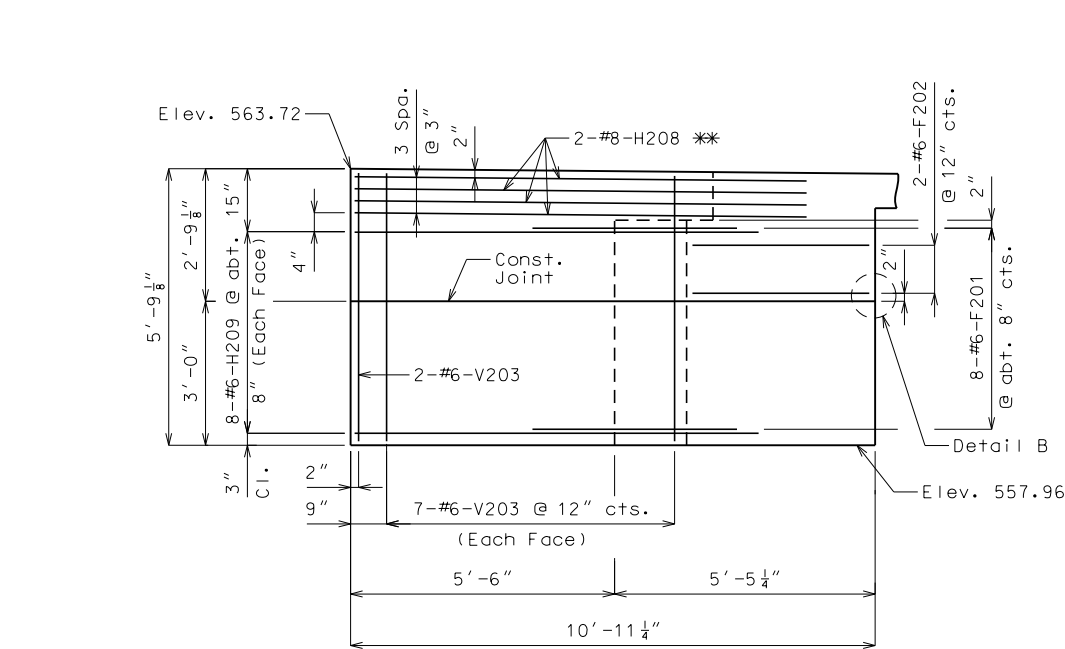
REV.	DATE	DESCRIPTION	APPROVED



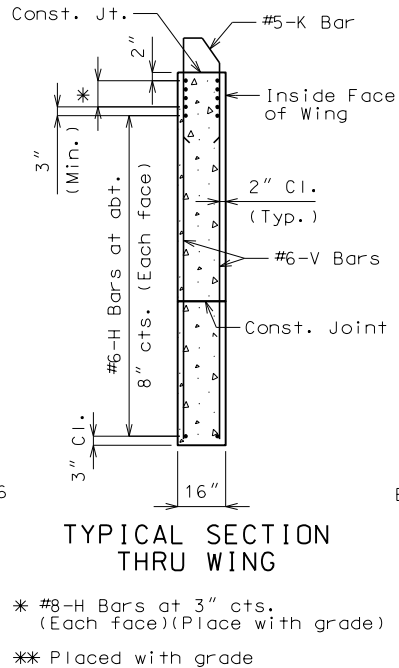
DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

Note: This drawing is not to scale. Follow dimensions.

T:\Working\15080 - Wildwood - Stecker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn

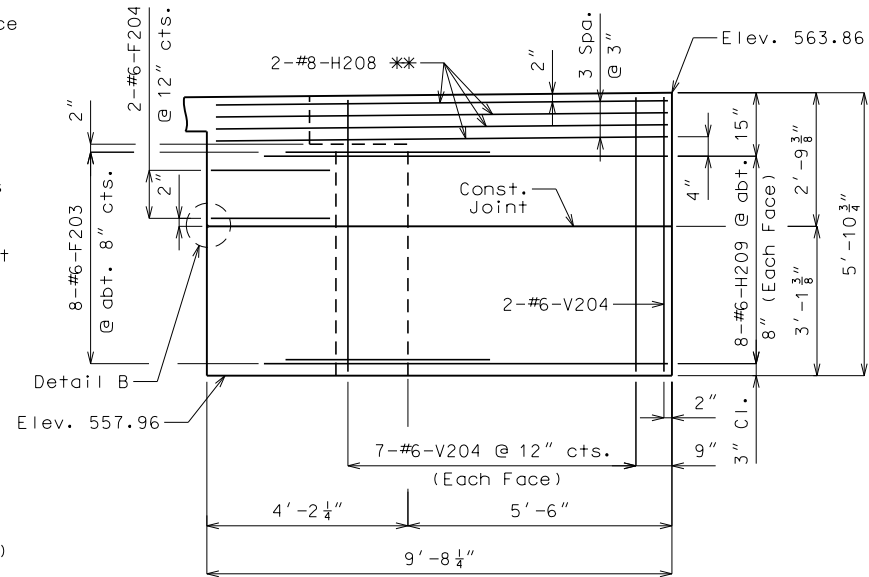


ELEVATION E-E



TYPICAL SECTION
THRU WING

* #8-H Bars at 3" cts.
(Each face)(Place with grade)
** Placed with grade



ELEVATION F-F

General Notes:

For details of End Bent No. 2 not shown, see Sheets No. B-007 & B-008.

Bend #6-F201 & #6-F203 bars in field to clear beams.

For details and reinforcement of the Safety Barrier Curb, see Sheet No. B-018.

For details of Vertical Drain at End Bents, see Sheet No. B-006.

For location of #5-H206 (Strand Tie Bar), see Sheets No. B-010 & B-011.

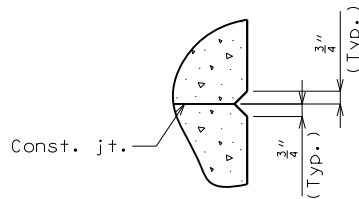
For location of Elevations E-E & F-F, see Sheet No. B-007.

For location of Sections A-A, B-B, C-C & D-D, see Sheet No. B-008.

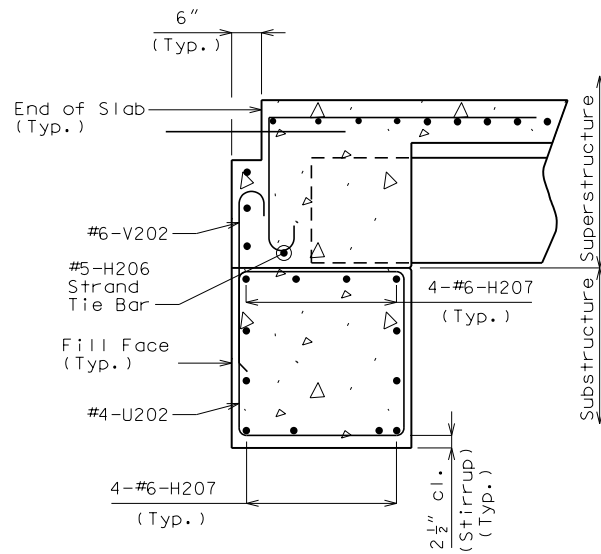
For details of Bridge Approach Slab, see Sheet No. B-020.

For details of Conduit System, see Sheet No. B-016.

Rotate #8-H208 & #6-H209 bars in field so end hooks clear beams.

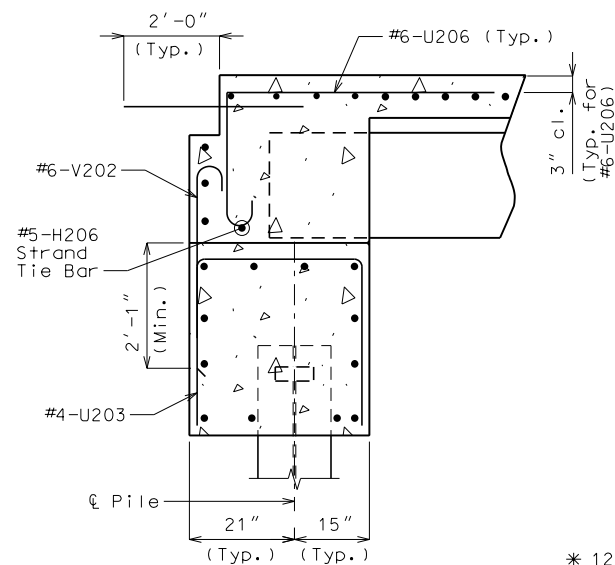


DETAIL B

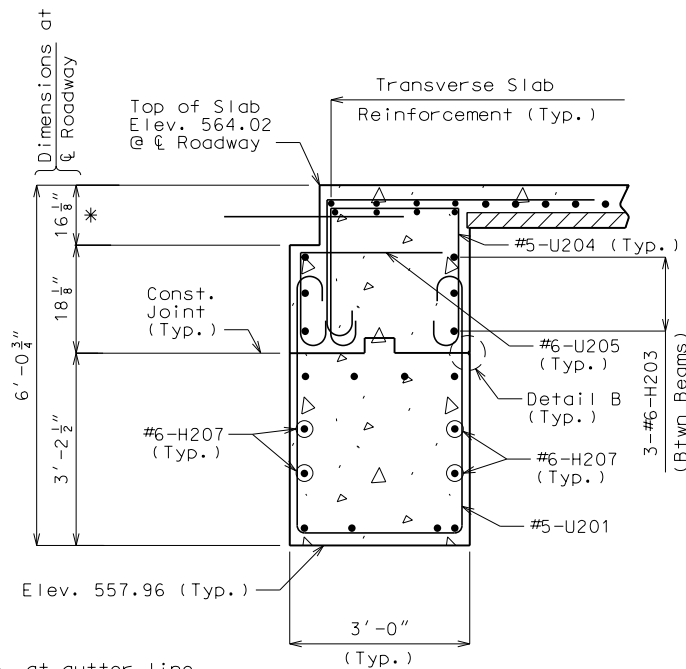


Note: All rebar is included in Slab on Concrete Beam (see Sheet B-002).

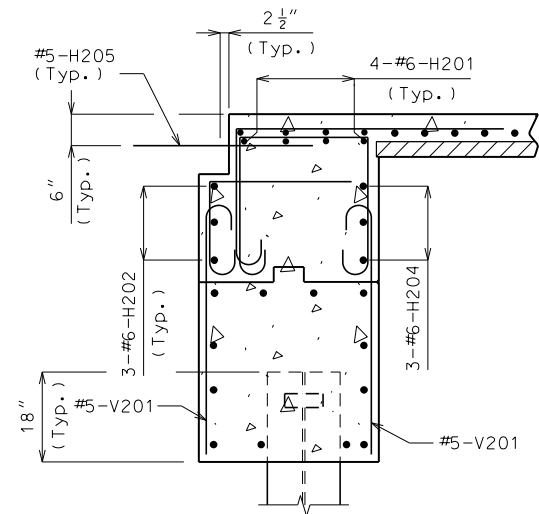
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Note: Longitudinal slab reinforcement not shown for clarity.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED





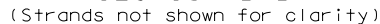
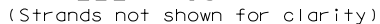
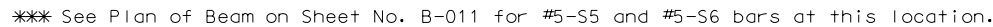
* Beam top flange shall be steel troweled to a smooth finish for 9" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

All strands are fully bonded unless otherwise shown.

At the contractor's option, the location for bent-up strands may be varied from that shown. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

All S4 bars shall be epoxy coated.

Note: Work this sheet with Sheet No. B-011.



Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed box beam will be considered completely covered by the contract unit price for Prestressed Concrete Spread Box Beam.



Fabricator shall be responsible for location and design of lifting devices.



PLAN OF BEAM
(S bars, C bars and strands not shown for clarity)



(Strands and reinforcement not shown for clarity)

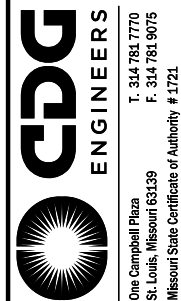
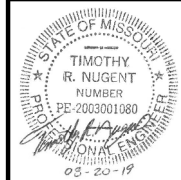
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until beams are erected, then replaced by coil tie rods.

For location of coil ties at concrete bent diaphragms,
see Sheets No. B-003 and B-007.

REV.	DATE	DESCRIPTION	APPROVED

Note: Work this sheet with Sheet No. B-010.

Note: This drawing is not to scale. Follow dimensions.

DEPARTMENT
OF
PUBLIC WORKS

Timothy Nugent, P.E.
MD# PE-2003001080

DRAWN BY
DB

CHECKED BY
TRN

DATE
August 20, 2019

DETAILS OF SPREAD BOX BEAMS

BRIDGE NO. 26400141

PROJECT NO. STP-5403 (675)

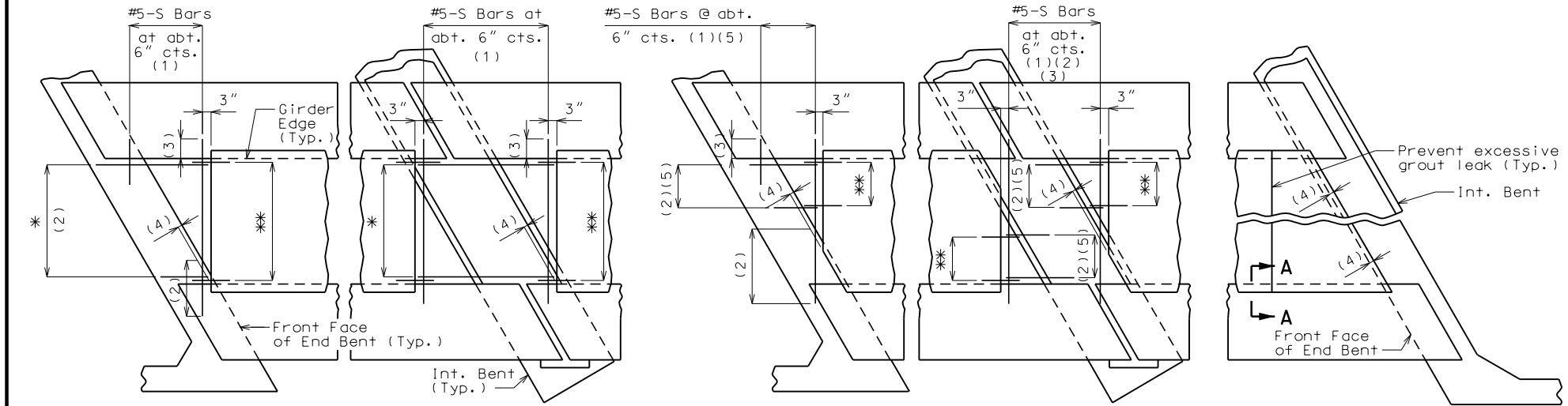
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.

17109

DRAWING NO.

B-011

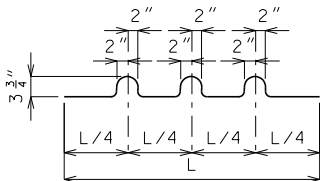


SQUARED END PANELS OR TRUNCATED END PANELS

SKewed END PANELS

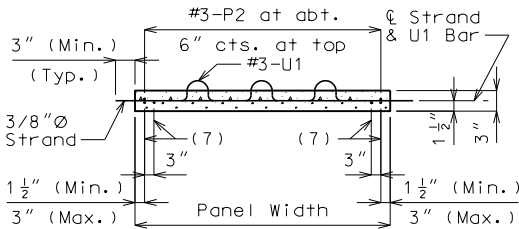
PLAN SHOWING PANELS PLACEMENT

* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)

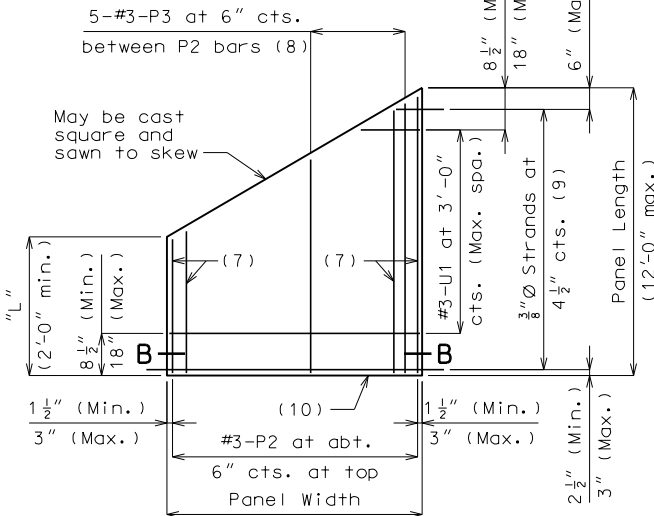


BENDING DIAGRAM FOR U1 BAR

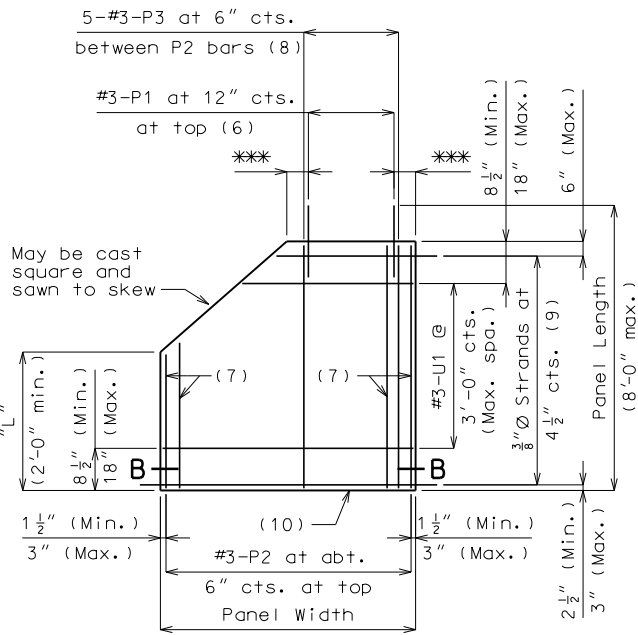
U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.



SECTION B-B

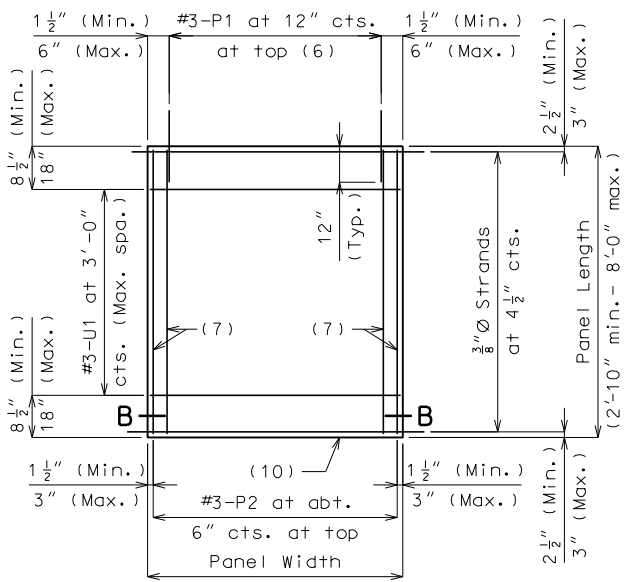


PLAN OF OPTIONAL SKewed END PANEL

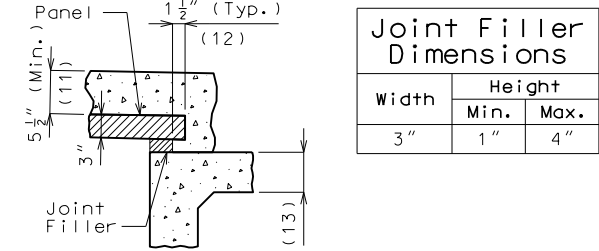


PLAN OF OPTIONAL TRUNCATED END PANEL

*** 3" (Min.), 6" (Max.)



PLAN OF SQUARED PANEL



SECTION A-A

Reference Notes:

Plan of Panels Placement:

(1) S-bars shown are bottom steel in slab between panels and used with squared and truncated end panels only.

(2) Extend S-bars 18 inches beyond the front face of end bents and int. bents for squared and truncated end panels only.

(3) Extend S-bars 9 inches beyond edge of girder (Typ.).

(4) End panels shall be dimensioned 1/2" min. to 1 1/2" max. from the inside face of diaphragm.

(5) For truncated end panels, use a min. of #5-S bars at 6" crossings in openings, or min. 4x4-W7xW7.

Plans of Panels:

(6) For end panels only, P1 bars shall be 2'-0" in length and embedded 12". P1 bars will not be required for panels at squared integral end bents.

(7) #3-P2 bars near edge of panel at bottom (under strands).

(8) Use #3-P3 bars if panel is skewed 45° or greater.

(9) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be debonded at the fabricator's option.

(10) Optional 1/2" x 45° Chamfer one or both sides at bottom.

Section A-A:

(11) Slab thickness over prestressed panels varies due to beam camber. In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.

(12) Contractor shall ensure proper consolidation under and between panels.

(13) At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.

General Notes:

Prestressed Panels:

Concrete for prestressed panels shall be Class A-1 with $f'c = 6,000$ psi, $f'ci = 4,000$ psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq. in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:

All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq in./ft. with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction:

#3-P2 bars at 16 inches.
WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be 2'-0".

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:

Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Sheet No. B-013 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the beam to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any pane except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

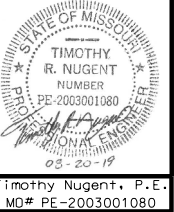
Joint filler shall be glued to the beam. When thickness exceeds 1 1/2 inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

REV.	DATE	DESCRIPTION	APPROVED



DEPARTMENT
OF
PUBLIC WORKS



DRAWN BY
DB
CHECKED BY
TRN
DATE
August 20, 2019

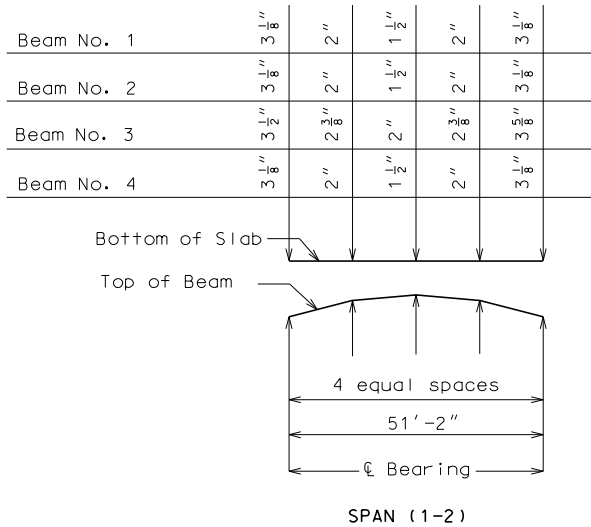
DETAILS OF PRESTRESSED PANELS
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109
DRAWING NO.
B-012

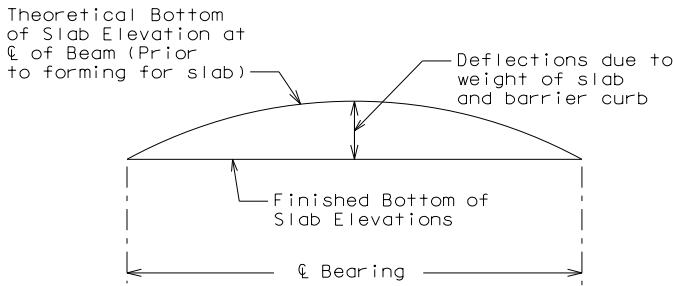
DETAILS OF PRESTRESSED PANELS

Note: This drawing is not to scale. Follow dimensions.

T:\Working\15080 - Widwood - Stecker Road Bridge\Drawings\Bridge\CDG Bridge Template.dgn



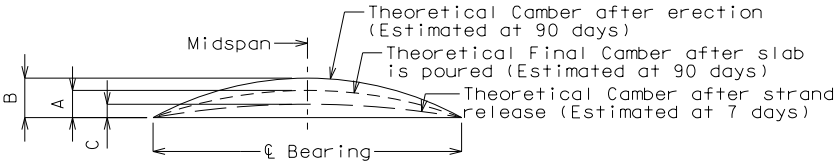
THEORETICAL SLAB HAUNCHING DIAGRAM
(ESTIMATED AT 90 DAYS)



TYPICAL SLAB ELEVATIONS DIAGRAM

Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days)					
Beam Number	Span (1-2) (51'-2" ℄ Brg. - ℄ Brg.)				
	℄ Brg.	.25	.50	.75	℄ Brg.
1	562.50	562.69	562.84	562.95	563.02
2	562.71	562.90	563.05	563.15	563.22
3	562.75	562.93	563.09	563.19	563.26
4	562.62	562.81	562.96	563.06	563.13

Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including precast panel) and barrier curb.



Beam	Span (1 - 2)		
	A	B	C
Exterior	1 1/2"	2 1/2"	1 3/8"
Interior	1 1/2"		

Conversion factors for beam camber (estimated at 90 days):

0.25 pt. = 0.7125 x 0.5 pt.

BEAM CAMBER DIAGRAM

Note:

If beam camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete Beam.

REV.	DATE	DESCRIPTION	APPROVED



**CDG
ENGINEERS**

One Campbell Plaza
St. Louis, Missouri 63139

T. 314.781.7770
F. 314.781.9075
Missouri State Certificate of Authority # 1721

DEPARTMENT
OF
PUBLIC WORKS



Timothy Nugent, P.E.
MO# PE-2003001080

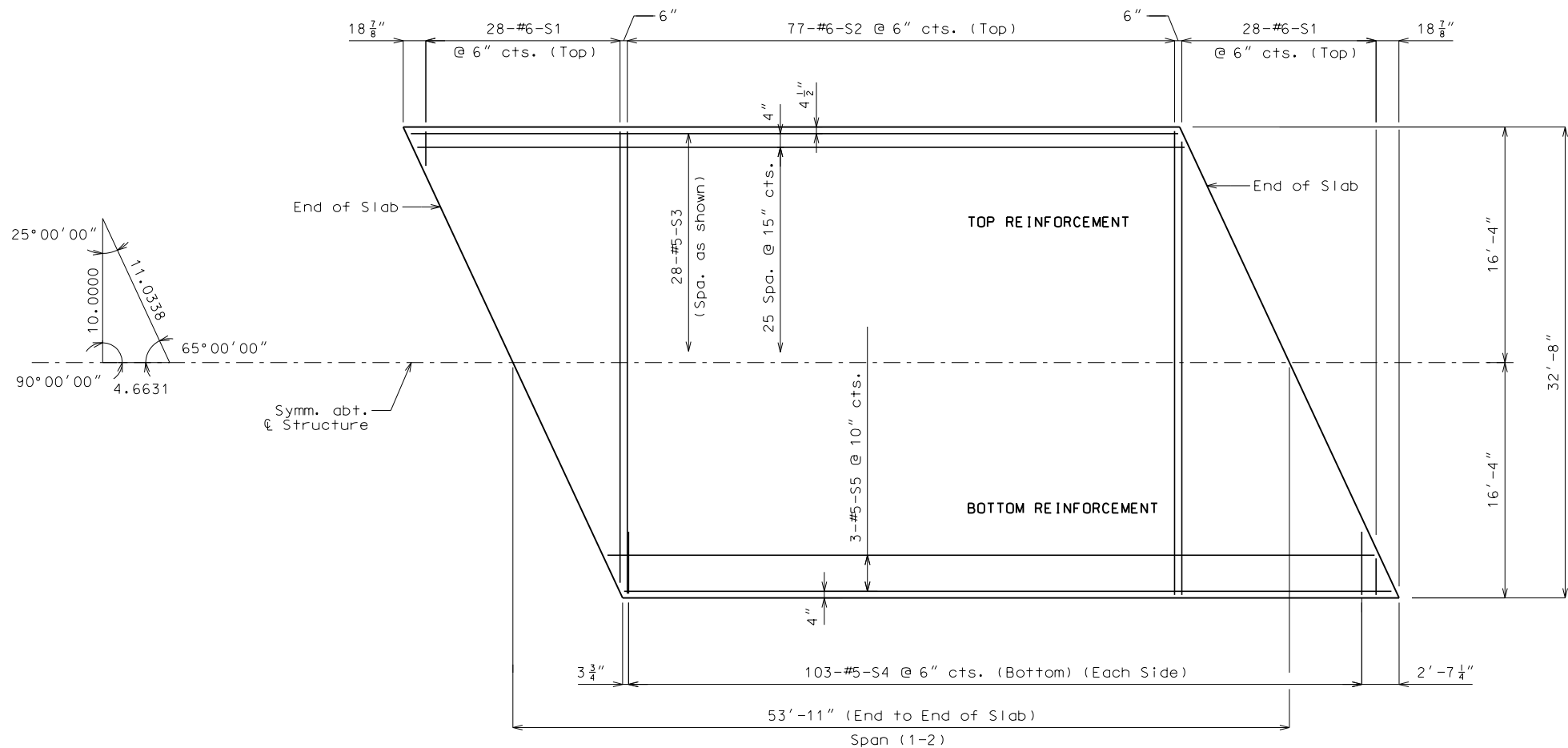
DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

CAMBER, HAUNCHING & BOTTOM OF SLAB ELEV.
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO. 17109
DRAWING NO. B-013

Note: This drawing is not to scale. Follow dimensions.

T:\Working\15080 - Widwood - Stecker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn



PLAN OF SLAB SHOWING REINFORCEMENT

- General Notes:**
- Longitudinal dimensions shown are horizontal.
 - For Section Thru Slab, see Sheet No. B-015.
 - For details and reinforcement of Safety Barrier Curb not shown, see Sheets No. B-017 to B-019.
 - For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. B-013.
 - For details of Precast Prestressed Panels, see Sheet No. B-012.

REV.	DATE	DESCRIPTION	APPROVED

Note: This drawing is not to scale. Follow dimensions.



CDG

ENGINEERS

One Campbell Plaza
St. Louis, Missouri 63139

T. 314.781.7770
F. 314.781.9075
Missouri State Certificate of Authority # 1721

DEPARTMENT
OF
PUBLIC WORKS



Timothy Nugent, P.E.
MO# PE-2003001080

DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

PLAN OF SLAB SHOWING REINFORCEMENT

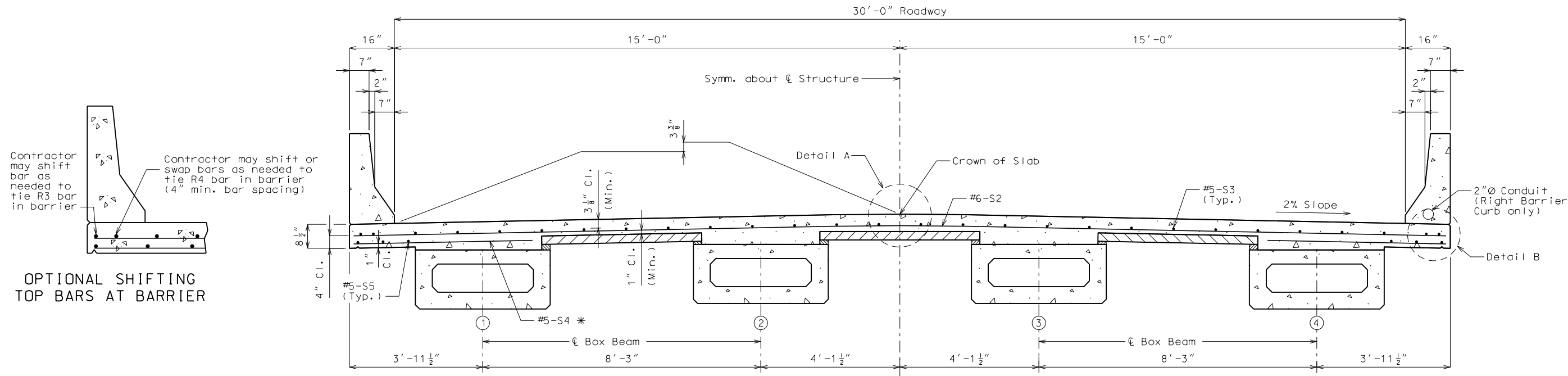
BRIDGE NO. 26400141

PROJECT NO. STP-5403 (675)

WHITEHEAD ROAD BRIDGE REPLACEMENT

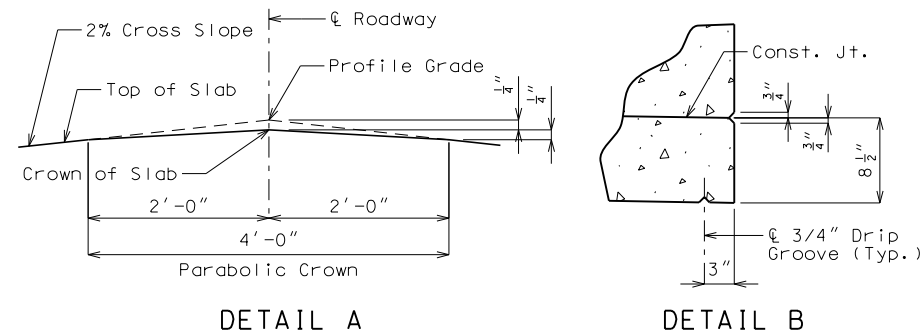
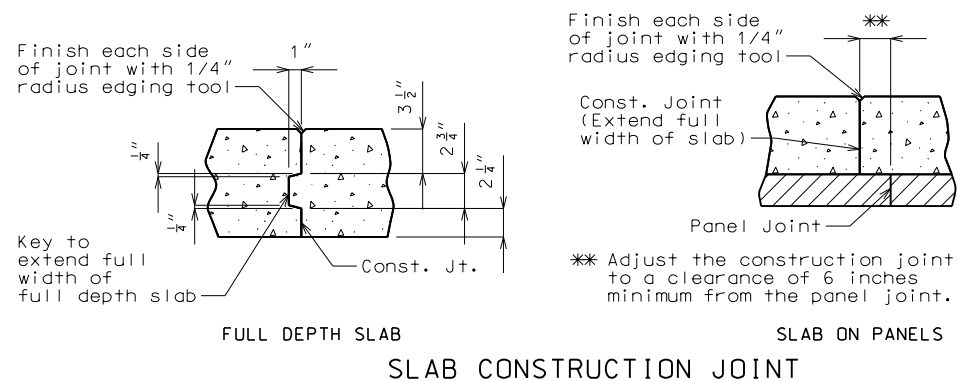
CDG PROJECT NO. 17109
DRAWING NO. B-014

T:\Working\15080 - Widwood - Stocker Road Bridge Drawings\Bridge\CDG Bridge Template.dgn



* Alternate bar shape available,
see Safety Barrier Curb sheet.

SECTION THRU SLAB



Notes:

For details of precast prestressed panels, see Sheet No. B-012.

For reinforcement of Safety Barrier Curb not shown, see Sheets No. B-017 to B-019.

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. B-013.

For Plan of Slab Showing Reinforcement, see Sheet No. B-014.

The concrete diaphragm at the integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

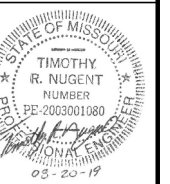
The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 25 cubic yards per hour.

Bridge slab shall be poured upgrade.

For details of Conduit System, see Sheet No. B-016.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



Timothy Nugent, P.E.
MO# PE-2003001080

DRAWN BY
DB

CHECKED BY
TRN

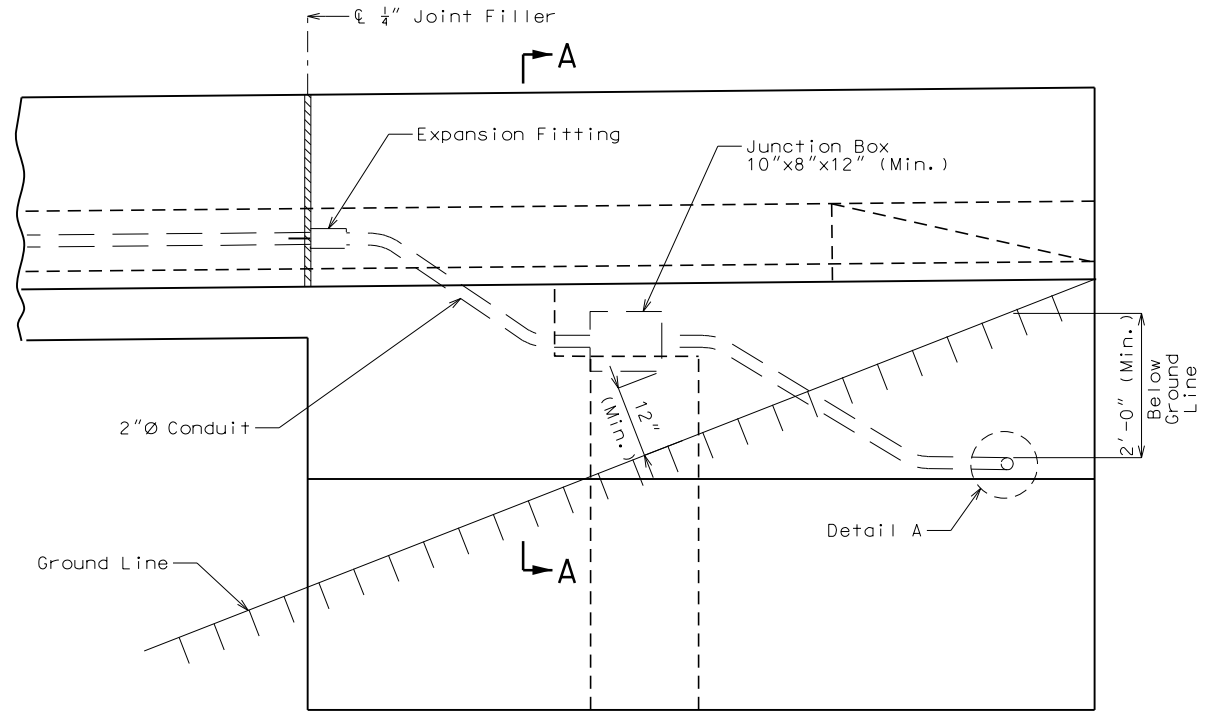
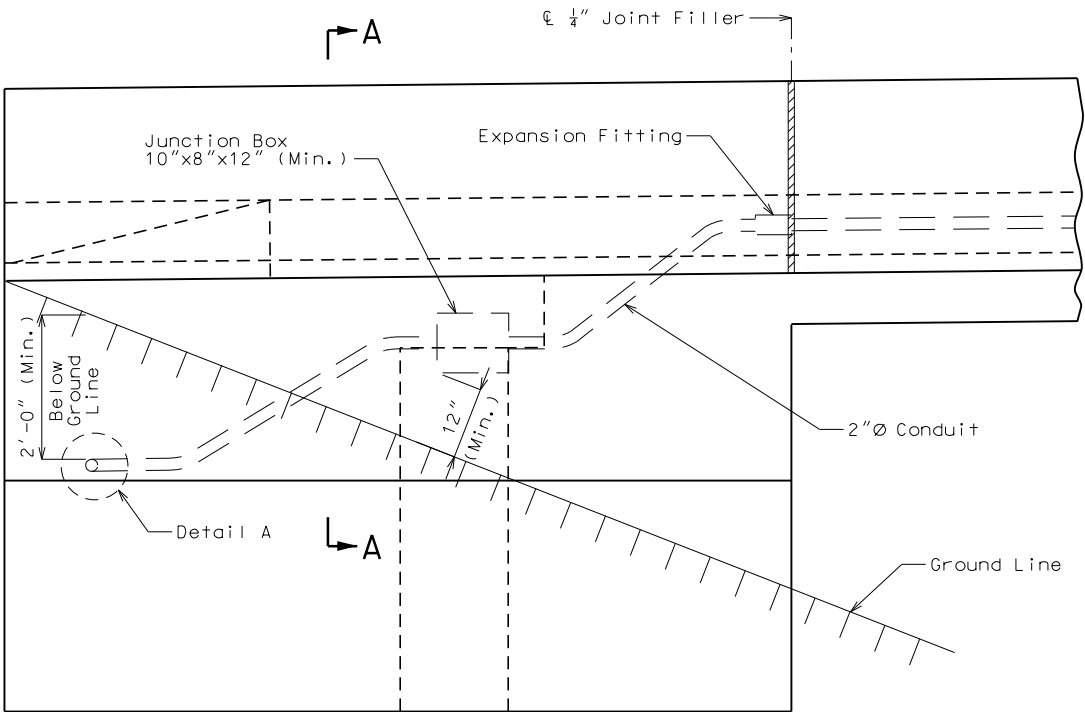
DATE
August 20, 2019

**SECTION THRU SLAB
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT**

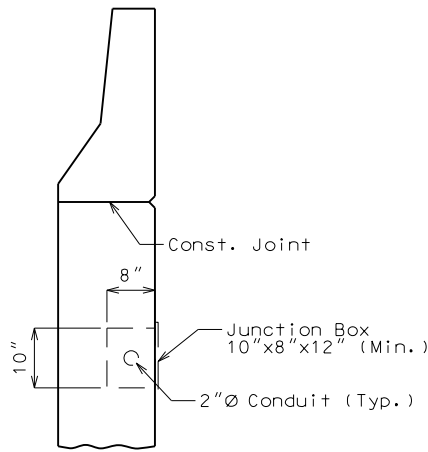
CDG PROJECT NO.
17109

DRAWING NO.
B-015

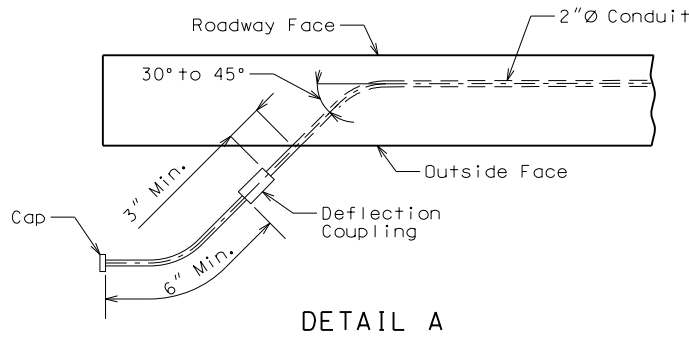
T:\Working\15080 - Widwood - Strecker Road Bridge Drawings\Bridge\CDG_Bridge_Template.dgn



PART ELEVATION OF RIGHT BARRIER CURB AND WINGWALLS
SHOWING CONDUIT SYSTEM



PART SECTION A-A



Notes:

All conduits shall be rigid non-metallic Schedule 40 heavy wall polyvinyl chloride (PVC) with 3" minimum cover in concrete. Each section of conduit shall bear the Underwriters Laboratories (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall provide a minimum movement in either direction of 1" at filled joints.

All end bent junction boxes shall be PVC molded in accordance with Sec 1062 and designed for flush mounting. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Drainage shall be provided at low points or other critical locations of the conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

Junction box size shown on plan may require special order. No other size may be substituted.

County Construction Personnel: Indicate in field and on bridge plans for future work, the exact location of buried conduit at ends of bridge that are capped and not immediately used.

Payment for furnishing and installing Conduit System, complete in place, will be considered completely covered by the contract lump sum price for Conduit System on Structure.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



DEPARTMENT
OF
PUBLIC WORKS

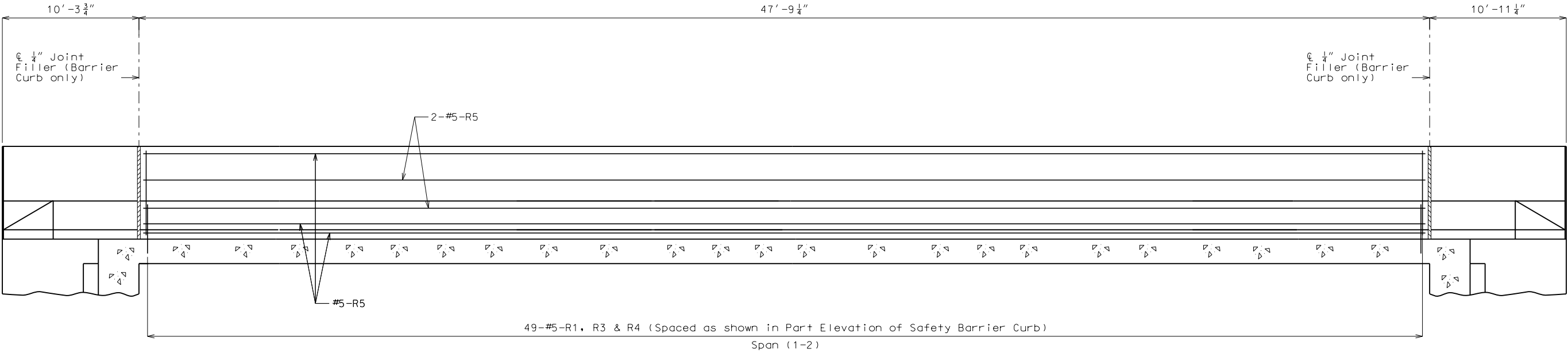


Timothy Nugent, P.E.
MO# PE-2003001080

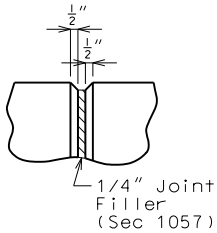
DRAWN BY
DB
CHECKED BY
TRN
DATE
August 20, 2019

DETAILS OF CONDUIT SYSTEM
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

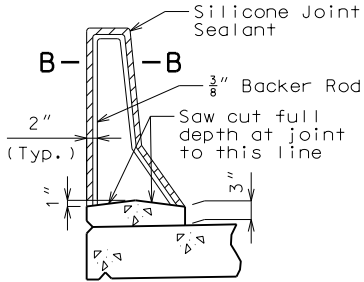
CDG PROJECT NO.
17109
DRAWING NO.
B-016



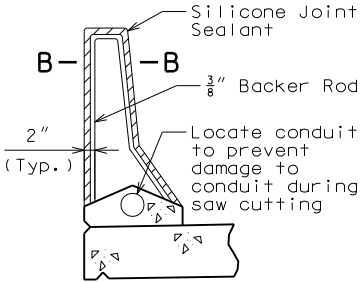
ELEVATION OF SAFETY BARRIER CURB
(Left barrier curb shown, right barrier curb similar)
Longitudinal dimensions are horizontal.



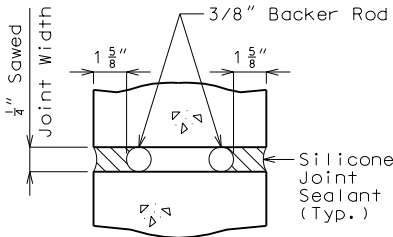
PART ELEVATION AT FORMED JOINT



SECTION THRU SAW CUT JOINT



SECTION THRU SAW CUT JOINT
(Use when conduit is required)



SECTION B-B

General Notes

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

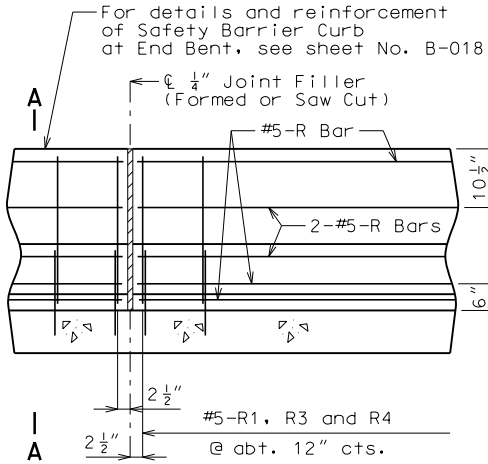
Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

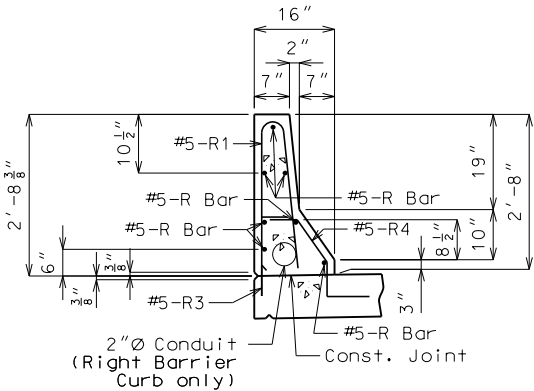
Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

Conduit shall be provided in right barrier curb only.

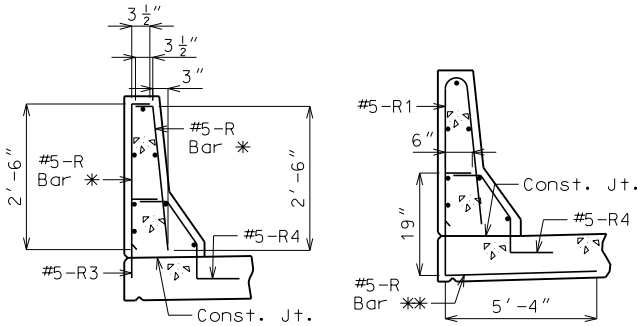


PART ELEVATION OF SAFETY BARRIER CURB



SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal safety barrier curb bars.
The cross-sectional area above the slab = 2.27 sq. ft.



R-BAR PERMISSIBLE ALTERNATE SHAPE

- * The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)
- ** The R3 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.

CONVENTIONAL-FORMED SAFETY BARRIER CURB

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED



**CDG
ENGINEERS**

One Campbell Plaza
St. Louis, Missouri 63139
T. 314.781.7770
F. 314.781.9075
Missouri State Certificate of Authority # 1721

**DEPARTMENT
OF
PUBLIC WORKS**



Timothy Nugent, P.E.
MO# PE-2003001080

DRAWN BY
DB

CHECKED BY
TRN

DATE
August 20, 2019

DETAILS OF SAFETY BARRIER CURB

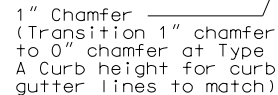
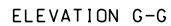
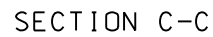
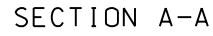
BRIDGE NO. 26400141

PROJECT NO. STP-5403 (675)

WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109

DRAWING NO.
B-017

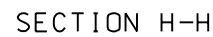


DETAILS OF GUARD RAIL ATTACHMENT



* Spaced with #5-K4 bars and embed 27" into end bent.

✱✱ Fit bar to follow transition face of curb.



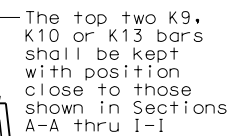
Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

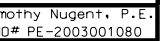
(Left barrier curb shown, right barrier curb similar)

SECTION I-I

The K1 and K2 bar combination may be furnished as one bar as shown, at the contractor's option.



REV.	DATE	DESCRIPTION	APPROVED



August 20, 20

B

NE

3 A

FOI

三

AR

Y =

14

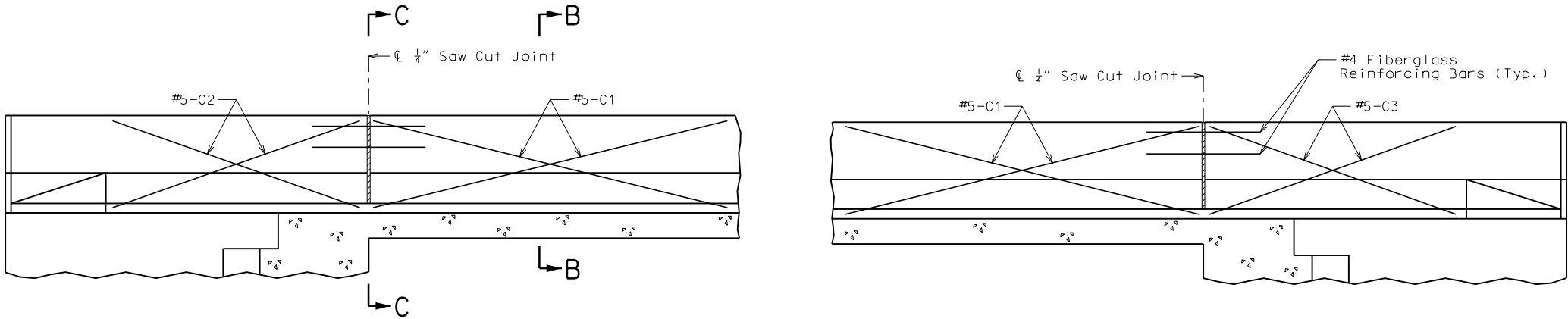
+

S

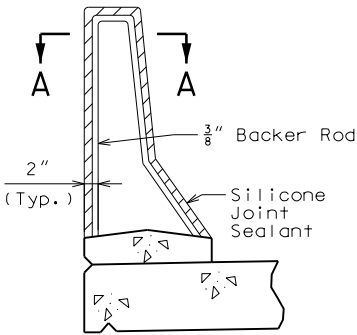
11

1

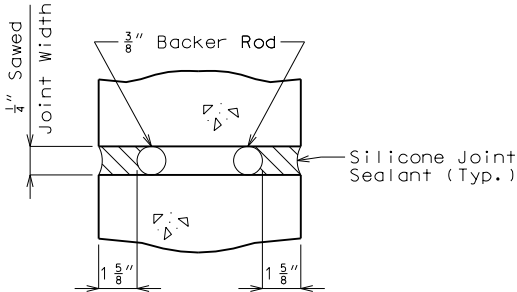
1



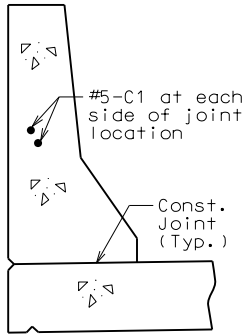
TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS



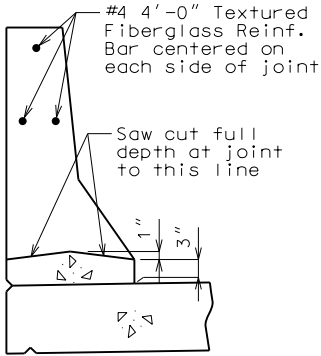
SECTION THRU
SAW CUT JOINT



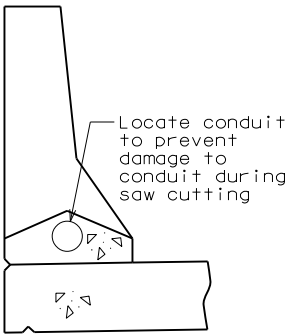
SECTION A-A



SECTION B-B



SECTION C-C



SECTION C-C
(Use when conduit is required)

General Notes:

Top of safety barrier curb shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of safety barrier curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Safety Barrier Curb per linear foot.

Concrete in the safety barrier curb shall be Class B-1.

Measurement of safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, all sides of the safety barrier curb shall have a vertically broomed finish and the curb top shall have a transversely broomed finish.

For details of Conduit System (right Barrier Curb only), see Sheet No. B-016.

OPTIONAL SLIP-FORMED SAFETY BARRIER CURB

Use R bars and K bars similarly as shown for conventional-formed safety barrier curb.

Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

CDG
ENGINEERS

One Campbell Plaza
St. Louis, Missouri 63139
Missouri State Certificate of Authority # 1721

T. 314.781.7770
F. 314.781.9075

DEPARTMENT
OF
PUBLIC WORKS


TIMOTHY R. NUGENT
NUMBER PE-2003001080
03-20-19
Timothy Nugent, P.E.
MO# PE-2003001080

DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

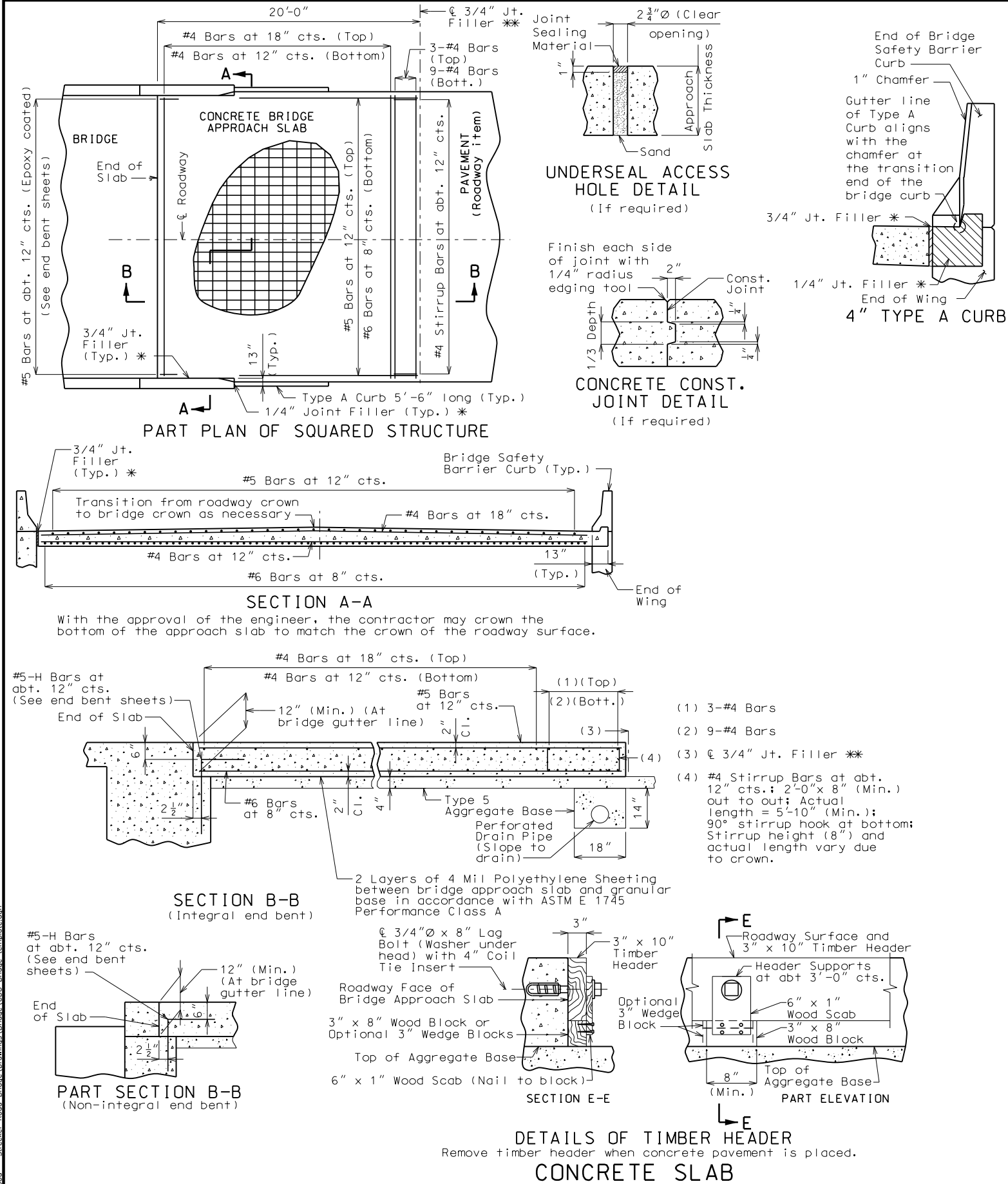
OPTIONAL SLIP-FORM SAFETY BARRIER CURB

BRIDGE NO. 26400141

PROJECT NO. STP-5403 (675)

WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO. 17109
DRAWING NO. B-019



Notes For Concrete Slab Only:

All concrete for the bridge approach slab shall be in accordance with Sec 503 ($f'c = 4,000$ psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with $f_y = 60,000$ psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 11#2", unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

Payment for furnishing all materials, labor and excavation necessary to construct the concrete bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler, and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.

See Missouri Standard Plans Drawing 609.00 for details of Type A Curb.

* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

** Except not allowed with asphalt pavement.

General Notes:

Bridge Approach Slab shall be concrete slab. Asphalt slab is not allowed on this project.

The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

CDG
ENGINEERS

One Campbell Plaza
St. Louis, Missouri 63139
T. 314.781.7770
F. 314.781.9075
Missouri State Certificate of Authority # 1721

DEPARTMENT
OF
PUBLIC WORKS

Timothy Nugent, P.E.
MO# PE-2003001080

DRAWN BY	DB
CHECKED BY	TRN
DATE	August 20, 2019

BRIDGE APPROACH SLAB (MINOR ROAD)
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.	17109
DRAWING NO.	B-020

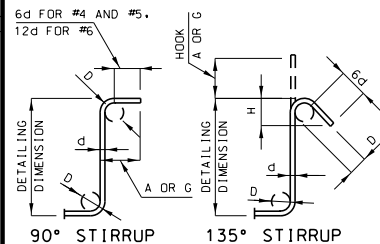
REV.	DATE	DESCRIPTION	APPROVED

Note: This drawing is not to scale. Follow dimensions.

NOTE: ASPHALT APPROACH SLAB OPTION IS NOT ALLOWED.

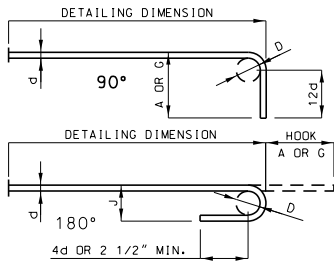
T:\Working\15080 - Wildwood - Stecker Road Bridge Drawings\Bridge\CDG Bridge template.dgn

BILL OF REINFORCING STEEL																									
NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
									B		C		D		E		F		H					K	
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.
		SUPERSTRUCTURE																							
		END BENT 1																							
7	6 F101	WING	E	15	S				14.000	3	9.000	14.000	11.750	7.500	11.750	7.500	6	1	6	0	63				
2	6 F102	DIAPHRAGM	E	21	S				2	10.000		6	5.000		2	6.875	14.375	9	3	9	2	28			
7	6 F103	WING	E	15	S				14.000	5	8.000	14.000	7.500	11.750	7.500	11.750	8	0	7	11	83				
2	6 F104	DIAPHRAGM	E	21	S				2	10.000	6	5.000			2	6.875	14.375	9	3	8	11	27			
4	6 H101	SLAB	E	20					35	9.000							35	9	35	9	215				
3	6 H102	DIAPHRAGM	E	20					35	9.000							35	9	35	9	161				
9	6 H103	DIAPHRAGM	E	20					4	5.000							4	5	4	5	60				
6	6 H104	DIAPHRAGM	E	20					22.000								1	10	1	10	17				
30	5 H105	APPR SLAB	E	20					4	0.000							4	0	4	0	125				
4	5 H106	STRAND TIE	E	20					7	0.000							7	0	7	0	29				
12	6 H107	BEAM	E	20					35	9.000							35	9	35	9	644				
16	8 H108	WING	E	6						9	5.000	16.000					10	9	10	9	459				
28	6 H109	WING	E	6						8	9.000	12.000					9	9	9	9	410				
16	5 U101	BEAM	E	31	S				4	4.000	3	0.000	4	4.000			12	7	12	5	207				
26	4 U102	BEAM	E	13	S				3	0.000	2	8.000	3	0.000	2	8.000	12	1	11	10	206				
12	4 U103	BEAM	E	10	S					2	8.000	3	0.000				8	4	8	2	65				
18	5 U104	DIAPHRAGM	E	31	S				2	2.000	2	5.000	2	2.000			7	8	7	6	141				
18	6 U105	DIAPHRAGM	E	31	S					14.000	3	0.000					4	10	4	8	126				
44	6 U106	DIAPHRAGM	E	31	S				2	3.000	5	4.000					8	3	8	1	534				
4	5 V101	BEAM	E	17					4	4.000							4	11	4	11	21				
24	6 V102	BEAM	E	17					3	9.000							4	5	4	5	159				
16	6 V103	WING	E	20					5	6.000							5	6	5	6	132				
16	6 V104	WING	E	20					5	4.000							5	4	5	4	128				
																TOTAL END BENT 1 =				4040					



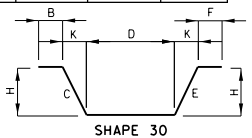
STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK		135° HOOK
		HOOK A OR G	HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

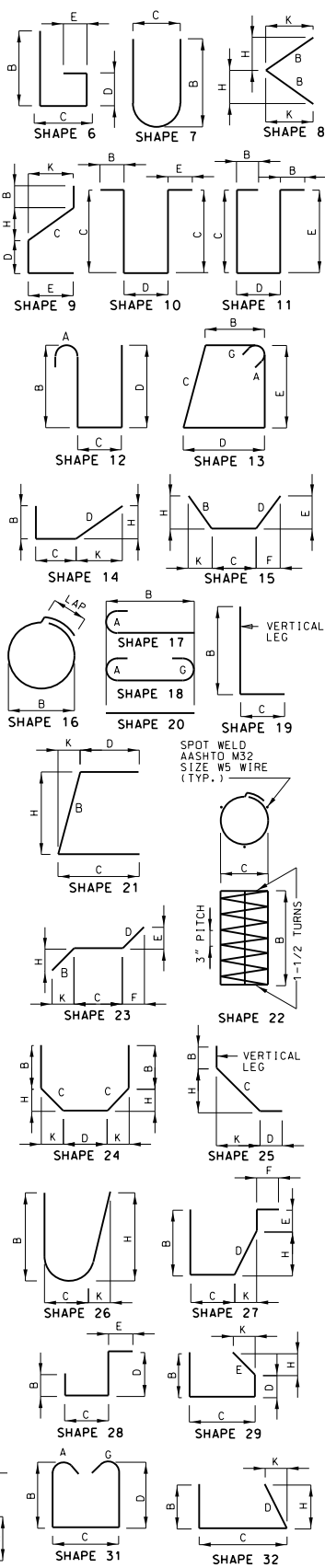


END HOOK DIMENSIONS				
BAR SIZE	D (IN.)	ALL GRADES		
		180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) F_y = 60,000 PSI.



BENDING DIAGRAMS



REV.	DATE	DESCRIPTION	APPROVED

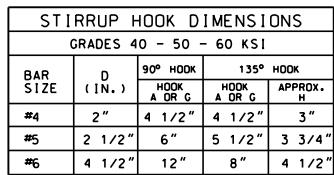


DRAWN BY DB
CHECKED BY TRN
DATE August 20, 2019

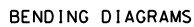
BILL OF REINFORCING STEEL
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109
DRAWING NO.
B-021

Note: This drawing is not to scale. Follow dimensions.

[illegible]

END HOOK DIMENSIONS					
BAR SIZE	D (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A OR G	J	A OR G	
#3	2 1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3 3/4"	7"	5"	10"	
#6	4 1/2"	8"	6"	12"	
#7	5 1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9 1/2"	15"	11 3/4"	19"	
#10	13 3/4"	17"	13 1/4"	22"	
#11	12"	19"	14 3/4"	2'-0"	
#14	18 1/4"	2'-3"	21 3/4"	2'-7"	

[illegible]

REV.	DATE	DESCRIPTION	APPROVED



Timothy Nugent, P.E.
MO# PE-2003001080

DRAWN BY
DB

CHECKED BY
TRN

DATE
August 20, 2019

BILL OF REINFORCING STEEL
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)

CDG PROJECT NO.

17109

DRAWING NO.

B-022

[illegible][illegible]

REV.	DATE	DESCRIPTION	APPROVED

