

JEFFERSON COUNTY

MISSOURI

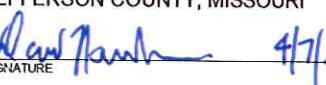
DEPARTMENT OF PUBLIC WORKS

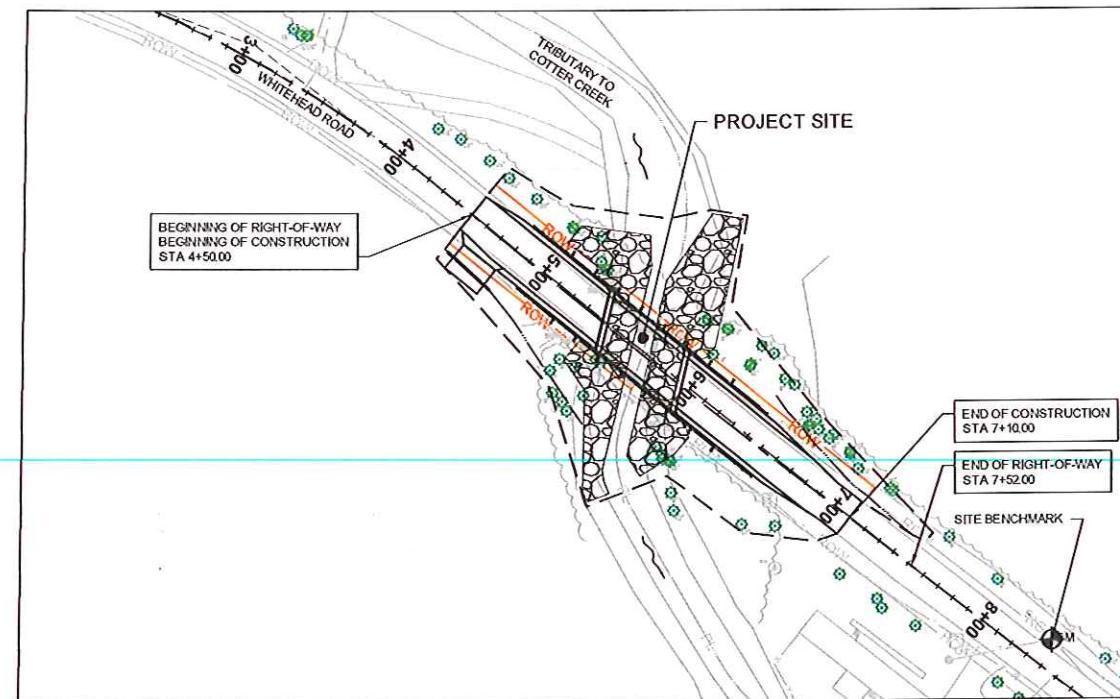
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WHITEHEAD ROAD BRIDGE REPLACEMENT OVER TRIBUTARY TO COTTER CREEK SECTION 16 TOWNSHIP T40N, RANGE 4E PROJECT NO. STP-5403(675) BRIDGE NO. 26400141

LOCAL UTILITY COMPANIES	
ELECTRIC	AMEREN MISSOURI
DON KNOTTS	6450 HWY MM
HOUSE SPRINGS, MO 63061	636-671-6112
TELEPHONE	AT&T DISTRIBUTION
JEREMIAH KNEALY	122 NORTH SECOND STREET
FESTUS, MO 63028	314-510-9468
NOTE NO OTHER KNOWN UTILITIES. UTILITY LOCATE: 1-800-DIG-RITE	

APPROVED BY JEFFERSON COUNTY, MISSOURI
 4/7/20
JASON JONAS, P.E. DIRECTOR OF PUBLIC WORKS



PROJECT SITE MAP
SCALE: 1' = 50'

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

DESIGN CRITERIA

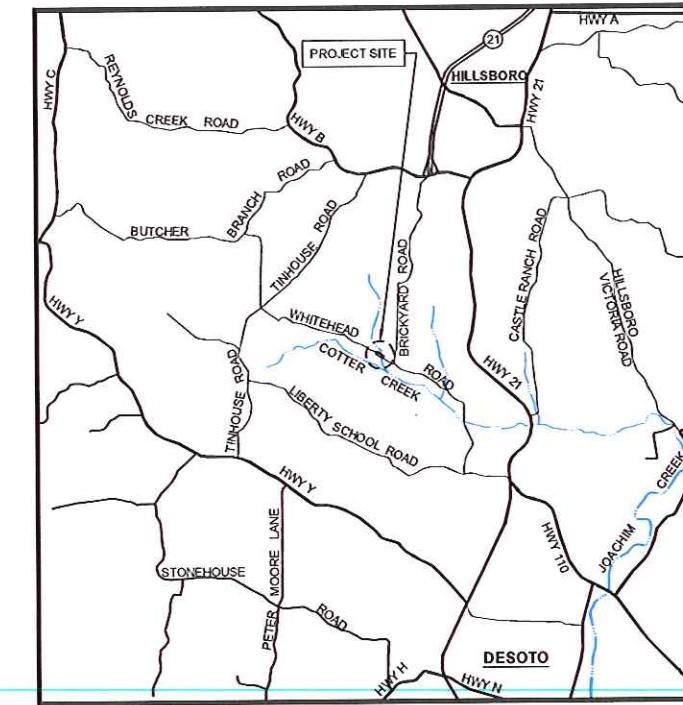
1. A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (AASHTO "GREEN BOOK" EDITION 2016)
2. 2019 MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
3. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) EDITION 2009
4. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
5. MODOT ENGINEERING POLICY GUIDE

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

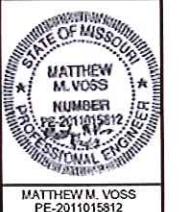
BEGINNING STATION	4+50
ENDING STATION	7+10
APPARENT LENGTH	260 FEET
EQUATION AND EXCEPTION	NONE
TOTAL CORRECTIONS	NONE
NET LENGTH OF PROJECT	260 FEET (0.05 M)



VICINITY MAP
NOT TO SCALE



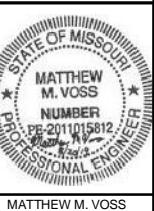
DEPARTMENT
OF
PUBLIC WORKS



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



Mvoss
March 29, 2019

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

GENERAL NOTES:

- REMOVE ALL WASTE MATERIALS, INCLUDING EXCAVATED MATERIAL, TRASH, AND DEBRIS, AND DISPOSE OF IT PROPERLY OFF-SITE.
- CONTRACTOR SHALL REPLACE ALL FENCES, SIGNS, ETC. DAMAGED BY THIS CONSTRUCTION AND PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING CONDITIONS, TREES, ETC.
- CONTRACTOR SHALL COORDINATE AND COOPERATE WITH OTHER CONTRACTORS AND COUNTY MAINTENANCE CREWS PERFORMING ROAD WORK FOR THE COUNTY.
- 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.
- CATCHLINES APPROXIMATE LIMITS OF DISTURBANCE.
- SAWCUT EXISTING PAVEMENT (FULL DEPTH) AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS WITH 1' MAXIMUM OVERDIG. (COST INCIDENTAL TO OTHER ITEMS).

INFORMATION ON SITE CONDITIONS:

- 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.

- 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:

- CONTRACTOR TO NOTIFY AND COORDINATE WITH UTILITY COMPANIES TWO WEEKS PRIOR TO COMMENCEMENT OF PROJECT.
- 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.
- CONTRACTOR TO VERIFY LOCATIONS OF ALL GAS AND WATER SERVICE VALVES, SEWER VENTS, AND WATER METERS BEFORE BEGINNING WORK.
- CONTRACTOR TO VERIFY THE EXISTENCE OF ANY CABLE AND ALL OTHER UTILITY SYSTEMS BEFORE COMMENCING WORK.
- 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.
- ALL POWER POLES WITHIN THE LIMITS OF DISTURBANCE TO BE USED IN PLACE.
- 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.
- 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.
- 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.
- 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:

- 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.
- 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.
- COPIES OF ALL ELECTRONIC DOCUMENTATION SHALL BE PROVIDED TO THE OWNER AND THE ENGINEER.
- 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:

- 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.
- 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.
- 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.
- 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.

- 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:

- TAKE NECESSARY CAUTIONS 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.
- 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.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING IRRIGATION SYSTEMS. SYSTEMS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED WITHIN FIVE (5) DAYS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ELECTRONIC DOG FENCES. FENCES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED WITHIN FIVE (5) DAYS.
- 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.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED AT ALL TIMES. DAMAGED TREES SHALL BE REPAIRED OR REPLACED IN ACCORDANCE WITH COUNTY INSTRUCTIONS.
- 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.
- 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:

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

RESTORATION NOTES:

- CONTRACTOR SHALL SELL 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.
- RESTORATION OF THE SITE SHALL BE MADE WITH "IN KIND" MATERIALS.
- DAMAGED COUNTY OR PRIVATE PROPERTY SHALL BE REPAIRED OR REPLACED TO MATCH PRECONSTRUCTION CONDITIONS.
- CLEAN UP OF JOB SITE @ END OF EACH DAY.
- MAINTAIN PROPER STORAGE OF HAZARDOUS MATERIALS, IF ANY, ONSITE.

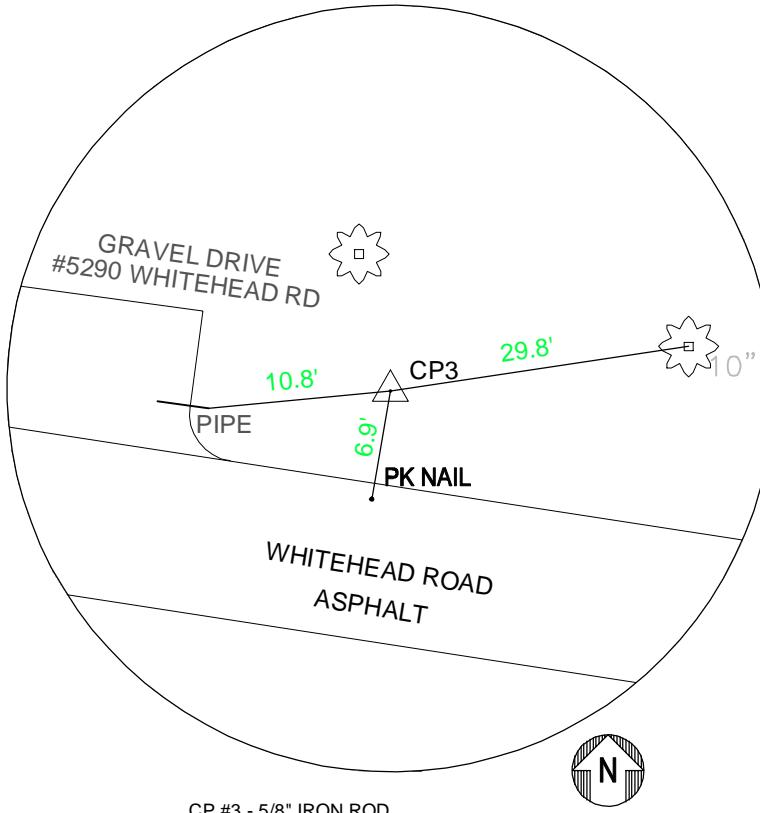
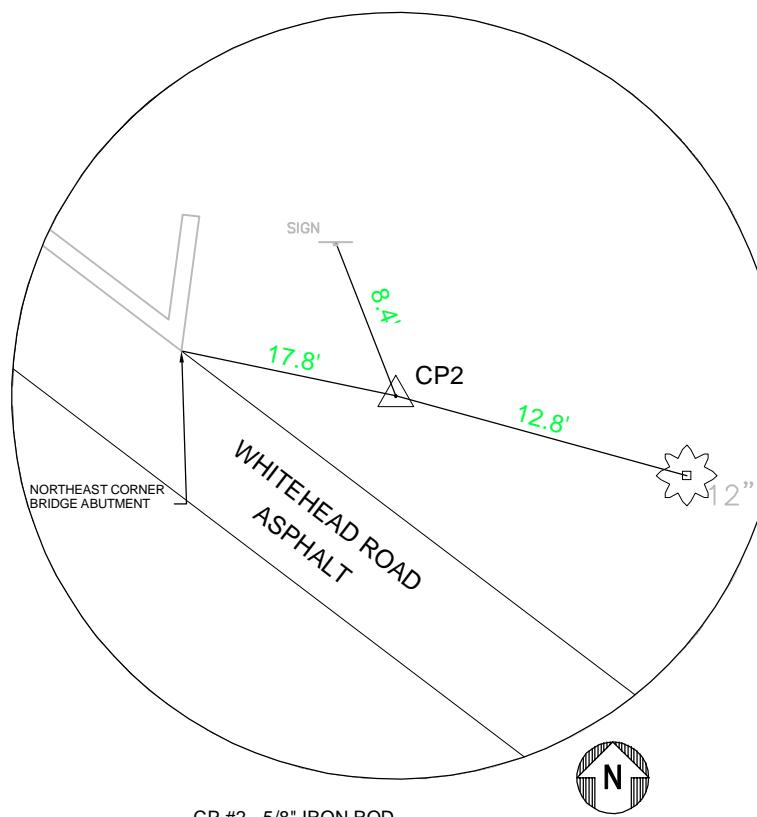
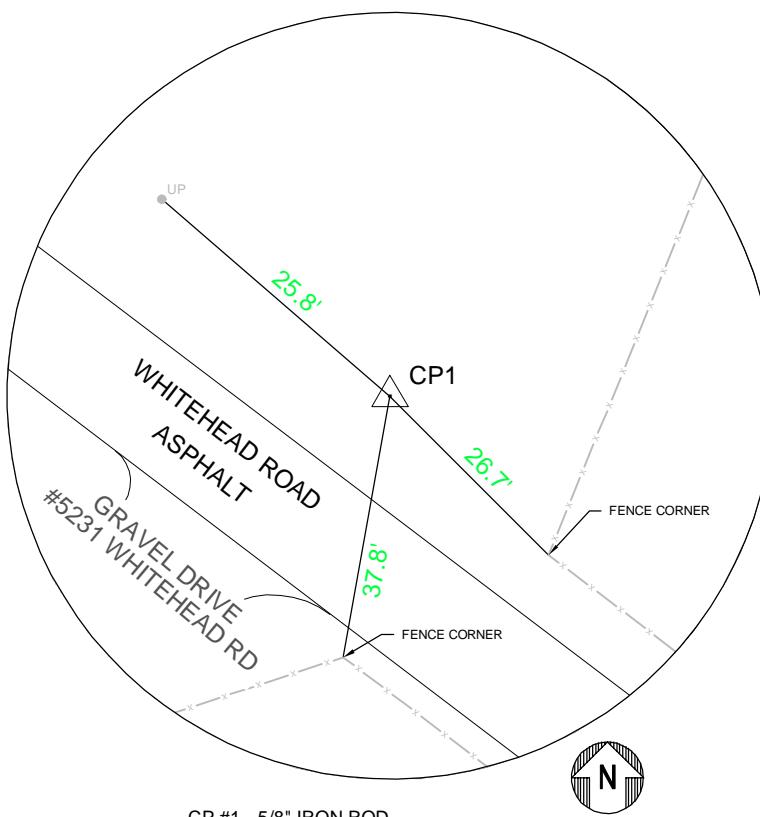
PAVEMENT AND DRIVEWAY NOTES:

- PAVEMENT STRIPING, IF PRESENT, SHALL BE REPLACED TO MATCH PRECONSTRUCTION CONDITIONS UNLESS OTHERWISE INDICATED ON THE PLANS.
- 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.
- THE CONTRACTOR SHALL KEEP ALL PAVEMENTS CLEAN AND FREE OF MUD, ROCK, AND DEBRIS DURING CONSTRUCTION. COST SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS.
- CONTRACTOR SHALL NOTIFY PROPERTY OWNERS (PREFERABLY IN PERSON) 24 HOURS IN ADVANCE OF ANY DISRUPTED ACCESS TO THEIR DRIVEWAY.
- 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.

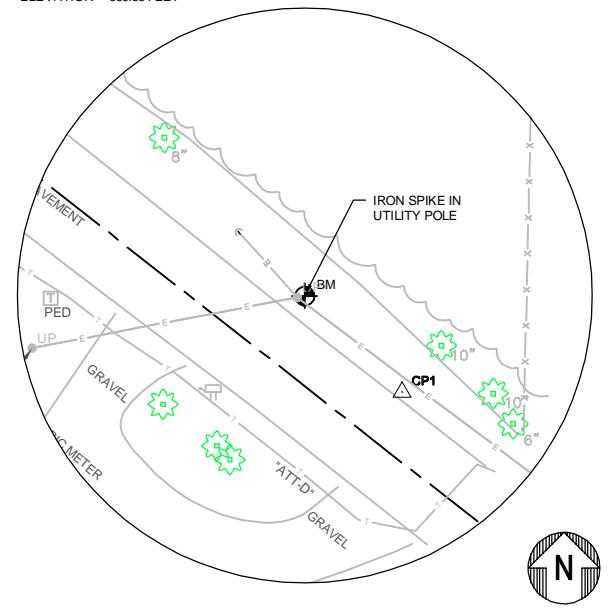
LEGEND:

	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
	REINFORCED CONCRETE PIPE	LHF	LEFT HAND FORWARD
	ROADWAY	LF	LINEAR FEET
	RIGHT HAND FORWARD	LPA	LOCAL PUBLIC AGENCY
	MAINLINE	LT	LEFT
	NORTHING	ML	MAINLINE
	N/F	N	NORTHING
	O/D.	O/S	OUTSIDE DIAMETER
	POINT OF CURVE	O/S	OFFSET
	PERMANENT DRAINAGE EASEMENT	PC	POINT OF CURVE
	PAGE	PDE	PERMANENT ROAD EASEMENT
	POINT OF TANGENT	PG	PAGE
	FLOW (CFS)	PI	POINT OF INTERSECTION
	PROPERTY LINE	PL	PROPERTY LINE
	PERMANENT ROAD EASEMENT	PRE	PERMANENT ROAD EASEMENT
	POINT OF TANGENT	PT	POINT OF TANGENT
	RIGHT HAND FORWARD	Q	FLOW (CFS)
	RIGHT-OF-WAY	RCP	REINFORCED CONCRETE PIPE
	RIGHT-OF-WAY	RDWY	ROADWAY
	RIGHT-OF-WAY	RHF	RIGHT HAND FORWARD
	RIGHT-OF-WAY	ROW, R/W	RIGHT-OF-WAY
	RIGHT-OF-WAY	RT	RIGHT
	STATION	STA	STATION
	TO BE ABANDONED	TBA	TO BE ABANDONED
	TEMPORARY CONSTRUCTION EASEMENT	TCE	TEMPORARY CONSTRUCTION EASEMENT
	TO BE PROTECTED	TBP	TO BE PROTECTED
	TO BE REMOVED & RELOCATED	TBR&R	TO BE REMOVED & RELOCATED
	TYPICAL	TYP	TYPICAL
	USE IN PLACE	UIP	USE IN PLACE
	UTILITY POLE	U.P.	UTILITY POLE
	UNLESS NOTED OTHERWISE	UNO	UNLESS NOTED OTHERWISE
	VERTICAL	VERT	VERTICAL
	VERTICAL POINT OF CURVE	VPC	VERTICAL POINT OF CURVE
	VERTICAL POINT OF INTERSECTION	VPI	VERTICAL POINT OF INTERSECTION
	VERTICAL POINT OF TANGENT	VPT	VERTICAL POINT OF TANGENT
	RIGHT OF WAY LINE (EXISTING)		
	RIGHT OF WAY LINE (PROPOSED)		

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.

SURVEY CONTROL**SITE BENCHMARK**

ELEVATION = 569.86 FEET

**BENCHMARK DATA**

SITE BENCHMARK "A"

IRON SPIKE
ELEVATION 569.86SET SPIKE IN THE NORTH FACE OF UTILITY POLE #223563
ON THE NORTH SIDE OF WHITEHEAD ROAD; OPPOSITE
OF THE DRIVE FOR ADDRESS #5231 WHITEHEAD ROAD.**LEGAL LAND TIE**

FOUND A STONE MARKER AT SECTION CORNERS OF SECTIONS 16, 17, 20, & 21 OF
TOWNSHIP 40 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN IN JEFFERSON
COUNTY, MISSOURI. BEGINNING AT SOUTHWEST SECTION CORNER OF SECTION 16
THENCE NORTH 00 DEGREES 31 MINUTES 01 SECONDS EAST A DISTANCE OF 1081.03
FEET ALONG THE WESTERN SECTION LINE OF 16, THENCE A DISTANCE OF 336.80 FEET
AT A BEARING OF SOUTH 89 DEGREES 28 MINUTES 59 SECONDS EAST TO A POINT ON
THE CENTERLINE OF WHITEHEAD ROAD HAVING A STATION OF 4+50.00.

LAND TIE LOCATED AT A DISTANCE OF 1132.28 FEET AT A BEARING OF S17°49'17"W FROM
STA 4+50.00 TO SW CORNER OF SECTION 16.THE PURPOSE OF THIS DESCRIPTION IS TO CONNECT THE CENTERLINE STATIONING
FOR THIS PROJECT TO THE UNITED STATES PUBLIC LAND SURVEY SYSTEM.**LEGEND:**

- △ = CONTROL POINT; DESCRIPTION AS CALLED OUT
- = SITE BENCHMARK
- N: = NORTHING COORDINATE
- E: = EASTING COORDINATE

VERTICAL CONTROL STATEMENT

BASE OFF OF NAVD 88. ELEVATIONS WERE ESTABLISHED ON
CONTROL POINTS 1 THROUGH 3 USING A CELLULAR EQUIPPED
SPECTRA PRECISION RANGER, AND BASED ON THE MISSOURI
HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION
SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING
REFERENCE STATIONS. FIELD WORK WAS PERFORMED DURING
NOVEMBER AND DECEMBER, 2016.

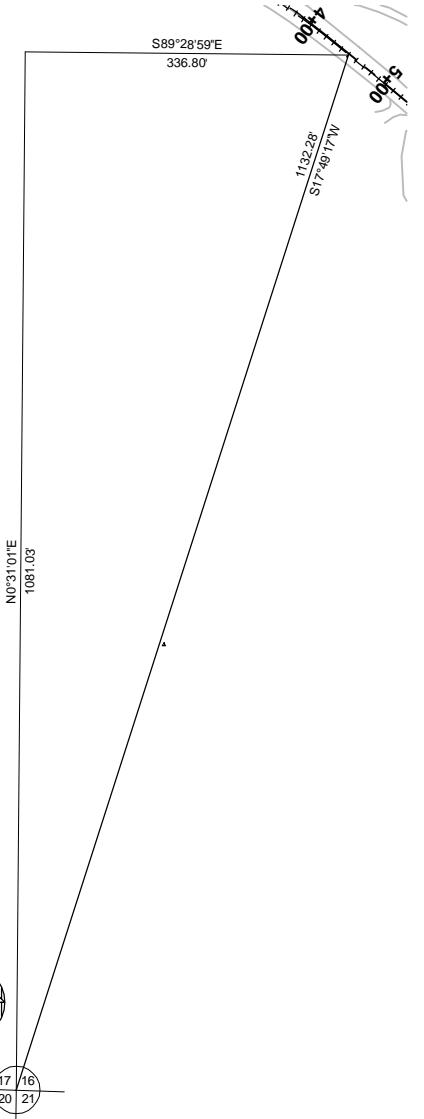
HORIZONTAL CONTROL STATEMENT

STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION
SATELLITE REAL TIME NETWORK FOR CONTINUOUSLY OPERATING REFERENCE
STATIONS DURING JANUARY 2018, AND ARE BASED ON THE MISSOURI COORDINATE
SYSTEM OF 1983, EAST ZONE (NAD83).

THE AVERAGE COMBINED PROJECT GRID FACTOR IS 0.99991200 AS CALCULATED BY
TRIMBLE GEOMATICS OFFICE.

GENERAL NOTES

- EASEMENT SEARCH REPORTS WERE NOT PROVIDED FOR OUR USE.
THESE PROPERTIES ARE SUBJECT TO EASEMENTS AND OTHER
MATTERS OF RECORDS.
- THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM
UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE, TICKET
NUMBER: 173540749 (12/22/2017)
- AMEREN MISSOURI ELECTRIC: "MARKED" PER TICKET CHECK.
ATT-DISTRIBUTION: "MARKED" PER TICKET CHECK.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR
VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND
UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE
FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF
IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE
ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY
SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.



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

CDG PROJECT NO.
17109
DRAWING NO.
T-003

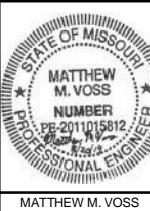
SURVEY CONTROL
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

CDG
ENGINEERS
T. 34781.7770
F. 34781.0765
One Campbell Plaza
St. Louis, Missouri 63129
Missouri State Certificate of Authority #1271

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
8051000A	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



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

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

QUANTITY SUMMARY (2B) TABLE:

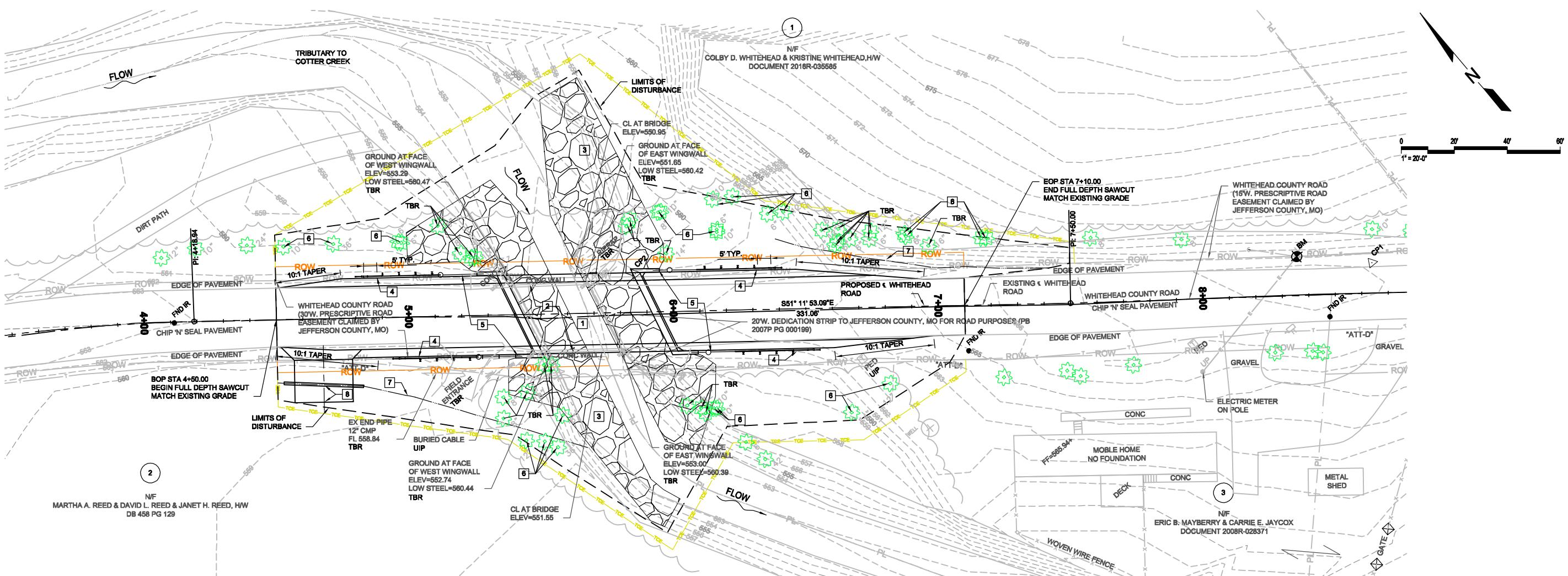
ITEM NO.	BID ITEM	DESCRIPTION	SHEET	STATION	LOCATION	QUANTITY	UNIT
Roadway							
1	2013000	Clearing and Grubbing	C-101	4+50 - 7+52	LT & RT	0.3	AC
TOTAL						0.3	AC
2	2022010	Removal of Improvements				1	LS
TOTAL						1	LS
3	2035000	Unclassified Excavation	C-101	4+50 - 7+52	LT & RT	280	CY
TOTAL						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

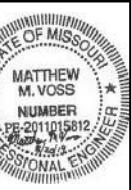
* SEE B-002 FOR BRIDGE QUANTITIES

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



DEPARTMENT
OF
PUBLIC WORKS



MvoSS
August 5, 2019

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

SEYED NOTES:

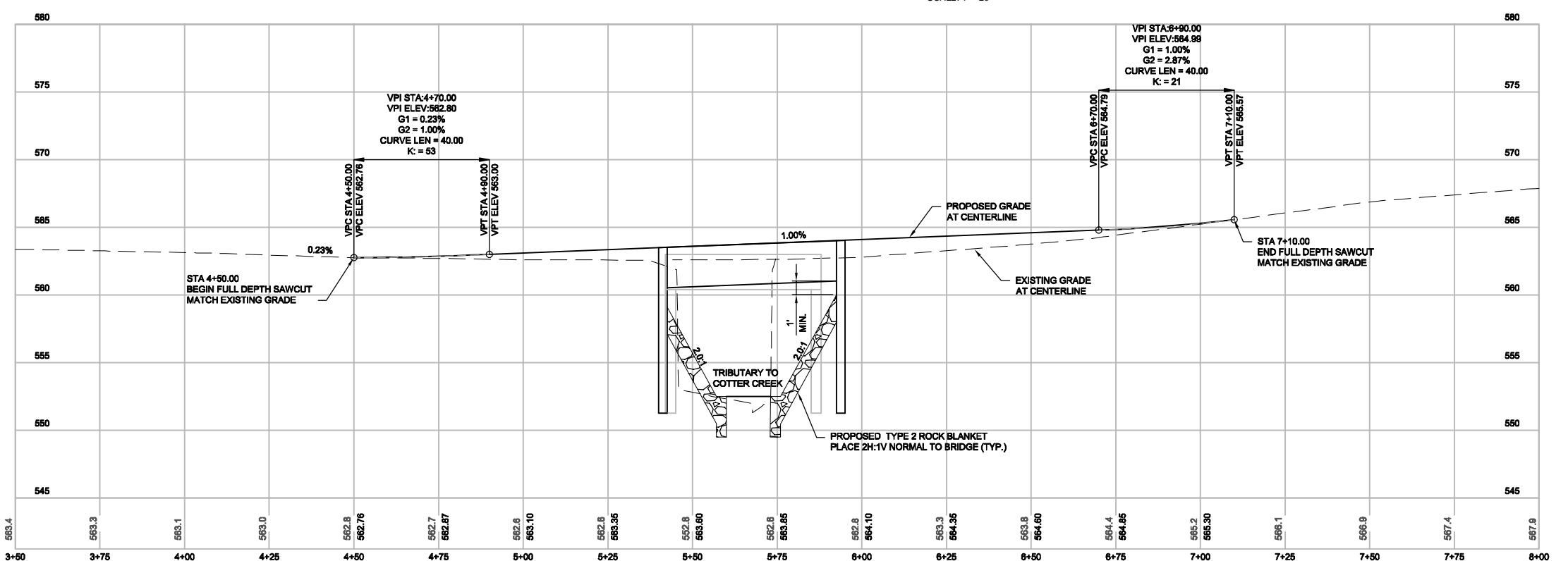
- PROPOSED BRIDGE STRUCTURE (SEE DWG. B-101)
- EXISTING BRIDGE DECK, ABUTMENTS, AND RAILING TBR&R
- PROPOSED TYPE 2 ROCK BLANKET (SEE DWG. C-301)
- PROPOSED TYPE A CRASHWORTHY END TERMINAL - TEST LEVEL 1, 25'-9 1/2" (4 EA)
- PROPOSED BRIDGE ANCHOR SECTION (4 EA) & TRANSITION SECTION (4 EA)
- TO BE PROTECTED,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

GENERAL NOTES:

REMOVED ALL EXISTING ROADBED WITHIN LIMITS OF WORK.

CLEARING & GRUBBING / SEEDING & MULCHING SHALL OCCUR AND BE MINIMIZED WITHIN THE CONSTRUCTION EASEMENTS AND PROPOSED RIGHT-OF-WAY AREAS.

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.



PROFILE

VERTICAL SCALE : 1 = 5

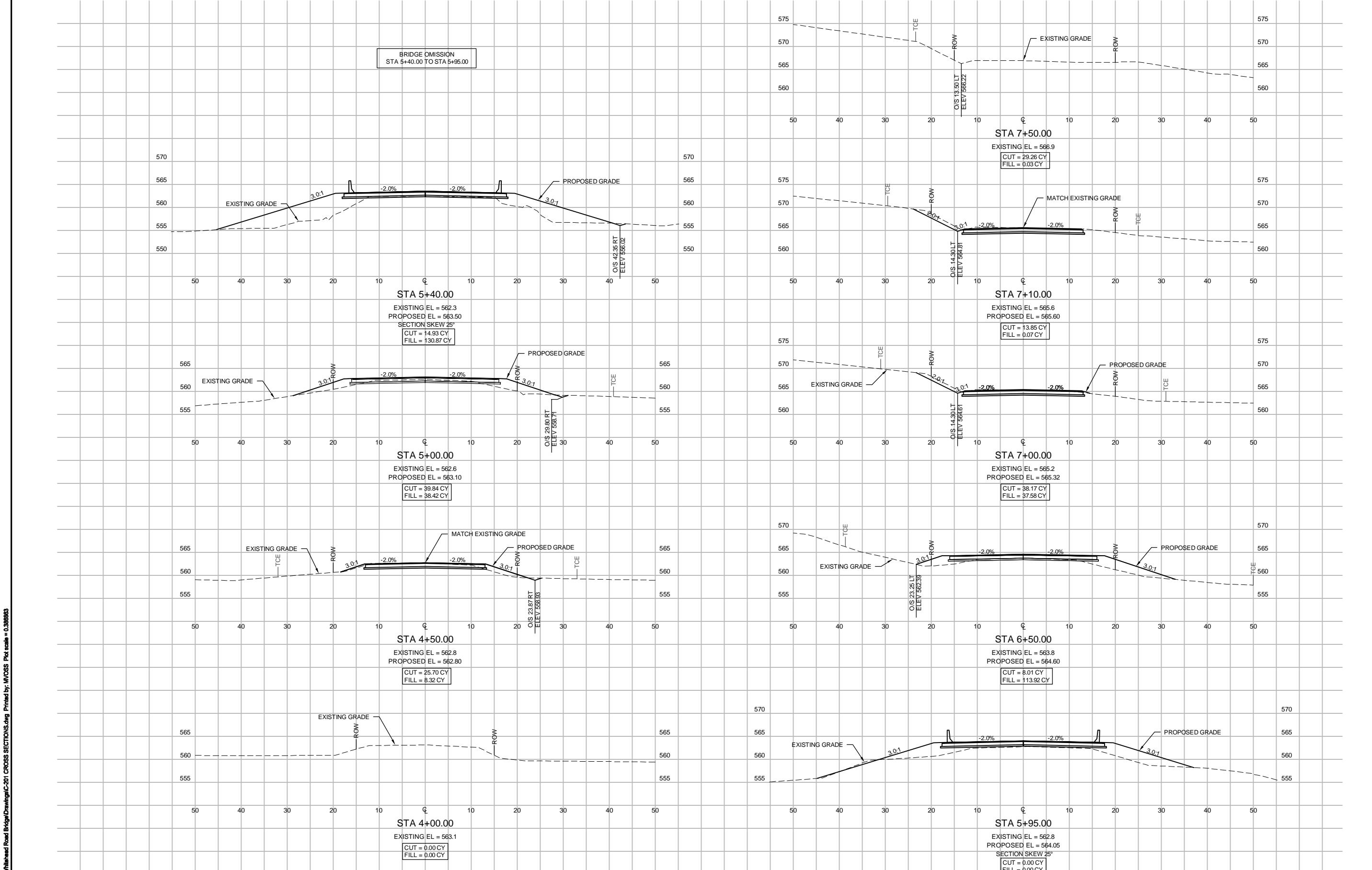
PLOT SCALE FACTOR 0.5

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.

PROJECT NO.

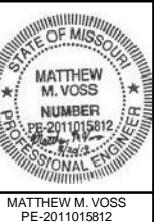
WINC NO.

C-101



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.

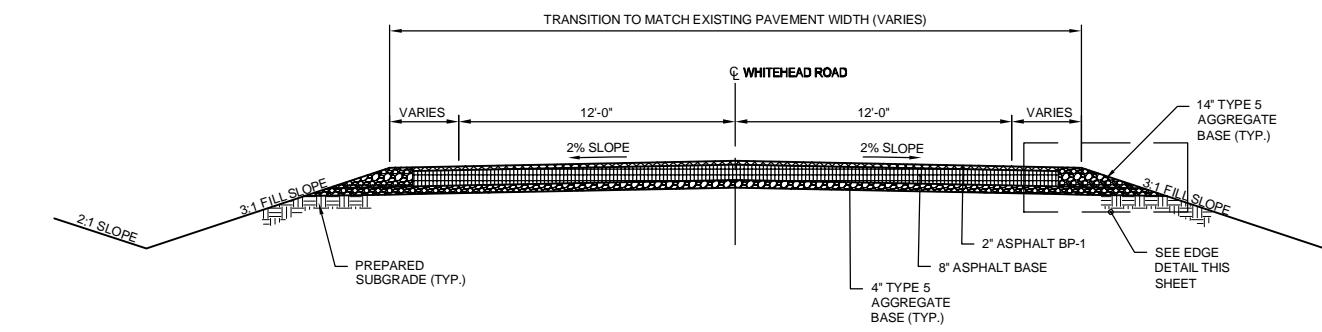
REV.	DATE	DESCRIPTION	APPROVED



Mvoss
July 30, 2019

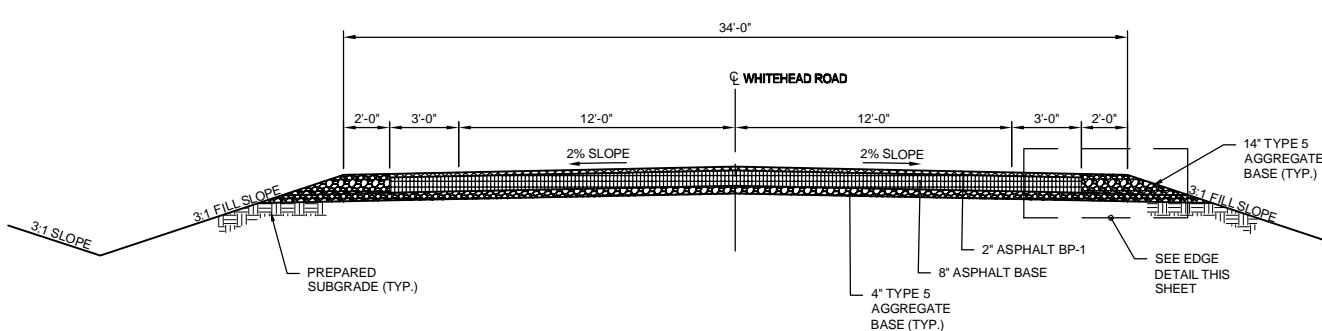
CROSS SECTIONS
BRIDGE #26400141
FEDERAL PROJECT NO. STP-5403(675)
JEFFERSON CO. WHITEHEAD RD. BRIDGE REPL.

CDG PROJECT NO.
17109
DRAWING NO.
C-201



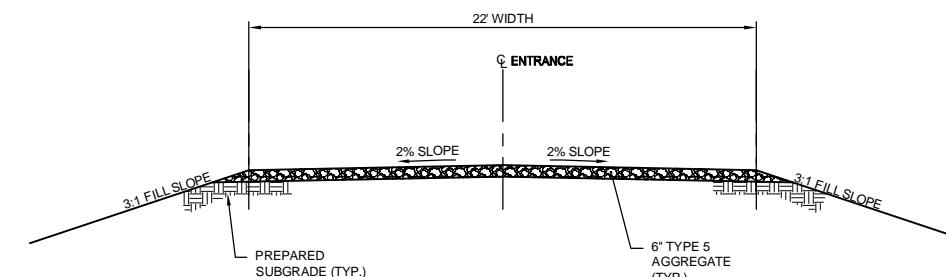
TYPICAL SECTION - TAPER
SCALE: 1" = 4'-0"

STA 4+50 THRU 4+80
STA 6+55 THRU 7+10

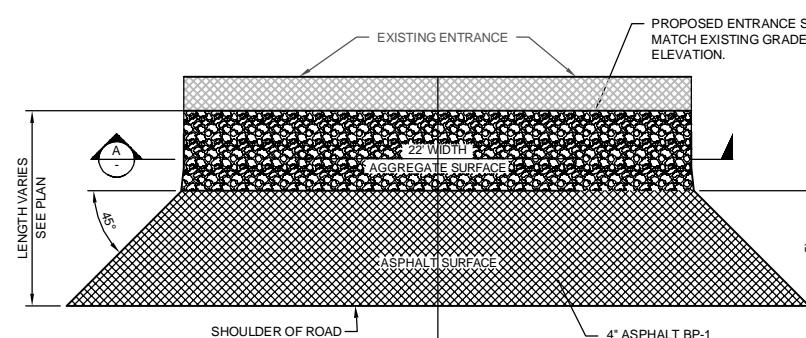


TYPICAL SECTION - NORMAL
SCALE: 1" = 4'-0"

STA 4+80 THRU 6+55

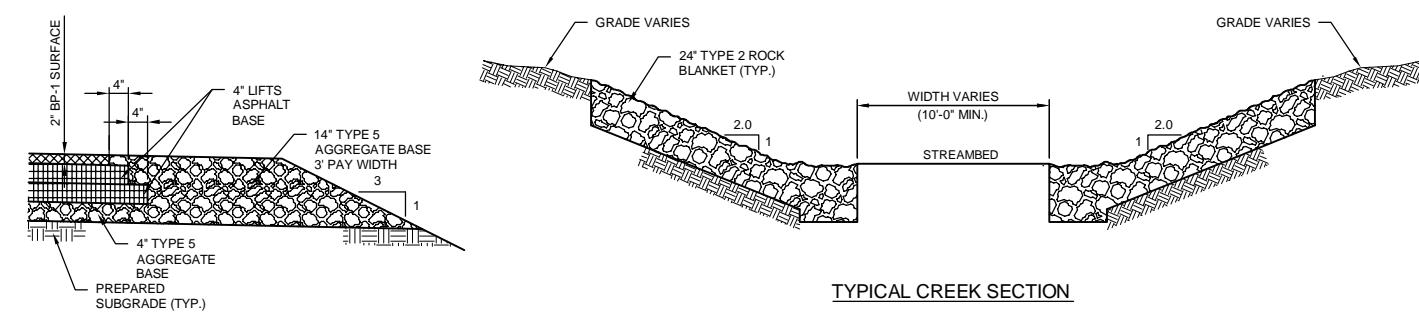


TYPICAL SECTION - ENTRANCE
SCALE: 1" = 4'-0"



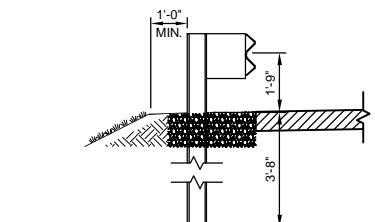
TYPICAL PLAN - ENTRANCE
SCALE: 1" = 4'-0"

MAINLINE STA 4+67 RIGHT



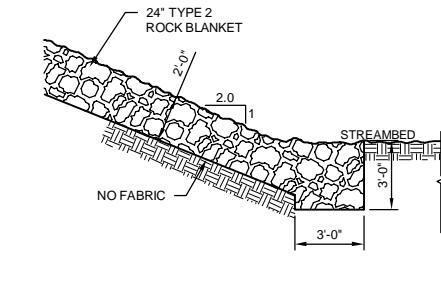
TYPICAL CREEK SECTION

TYPICAL PAVEMENT - EDGE DETAIL
NOT TO SCALE



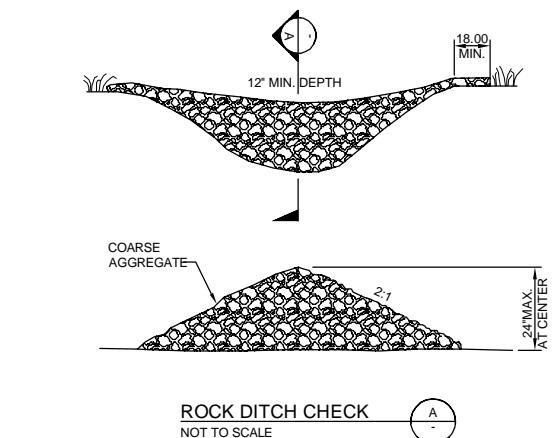
GUARD RAIL NOTES:
1. INSTALL GUARDRAIL PER MANUFACTURERS' SPECIFICATIONS.
2. INSTALL POST PER MANUFACTURERS' SPECIFICATIONS.

TYPICAL DETAIL - GUARDRAIL
NOT TO SCALE

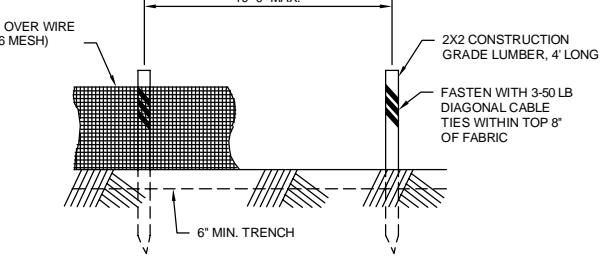


SLOPE/TOE-IN DETAIL

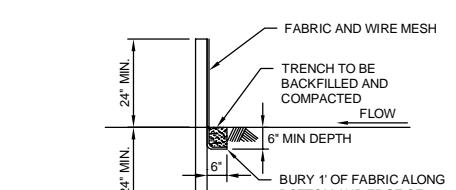
TYPICAL SECTION - TYPE 2 ROCK BLANKET - CREEK BANKS
NOT TO SCALE



ROCK DITCH CHECK
NOT TO SCALE



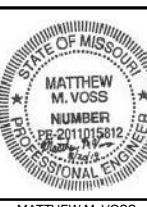
ELEVATION



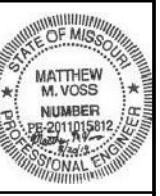
SECTION

SILT FENCE DETAIL
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.

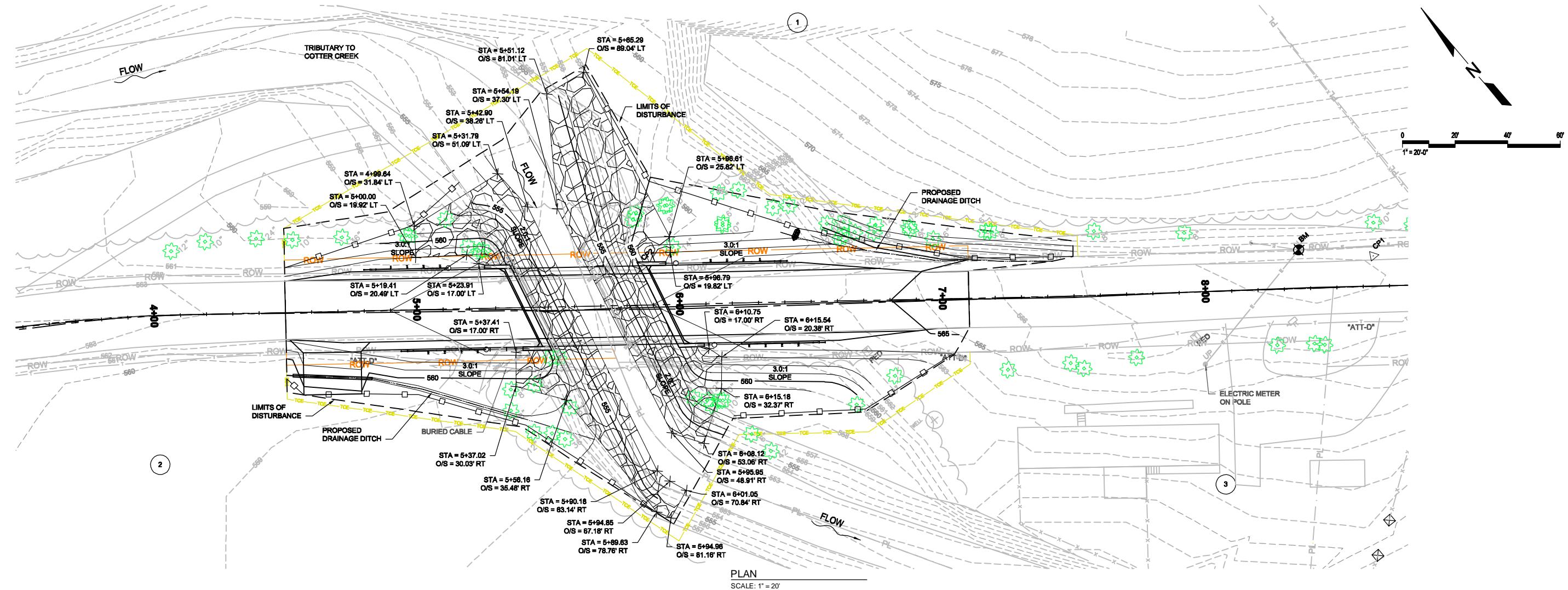


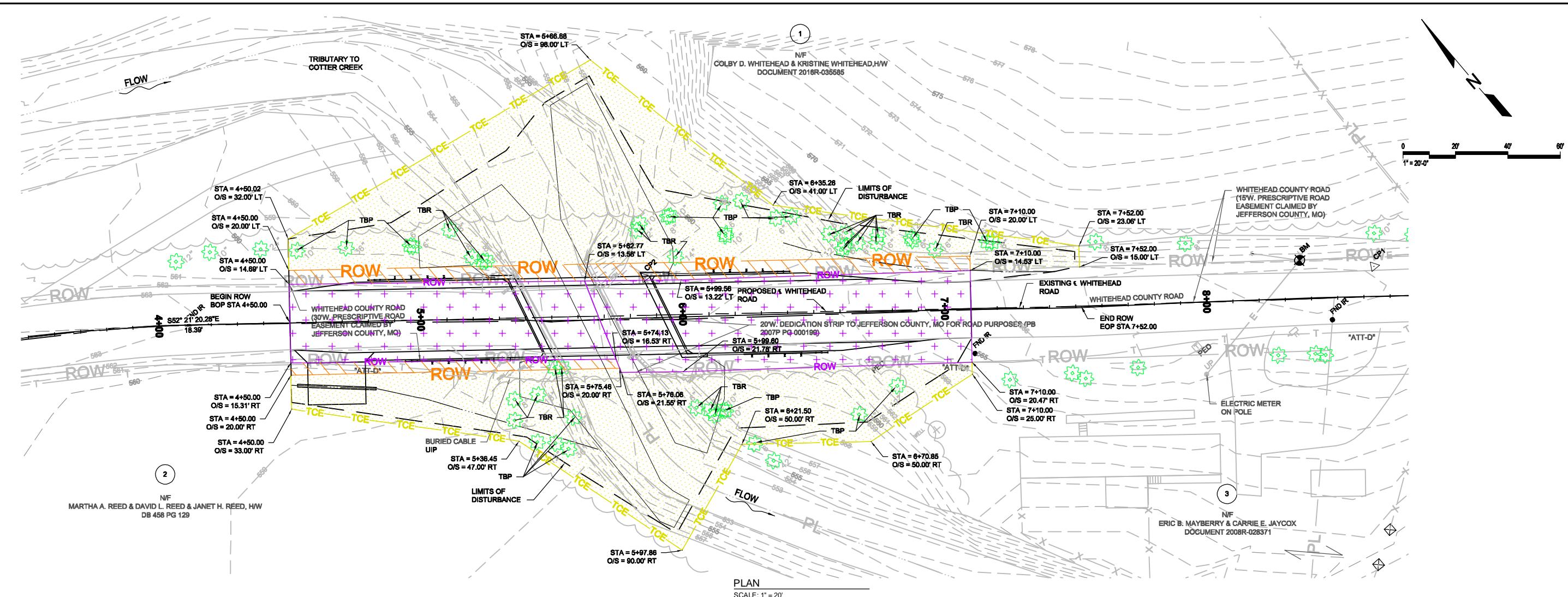
Mvoss
August 5, 2019



Mvoss
August 5, 2019

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





LEGEND:



GENERAL NOTES:

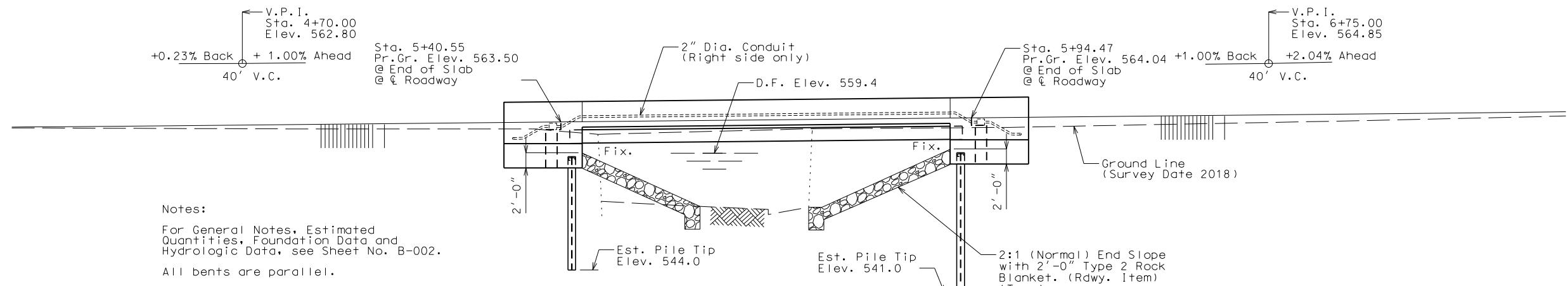
1. CLEARING & GRUBBING / SEEDING & MULCHING SHALL OCCUR AND BE MINIMIZED WITHIN THE CONSTRUCTION EASEMENTS AND PROPOSED RIGHT-OF-WAY AREAS.

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

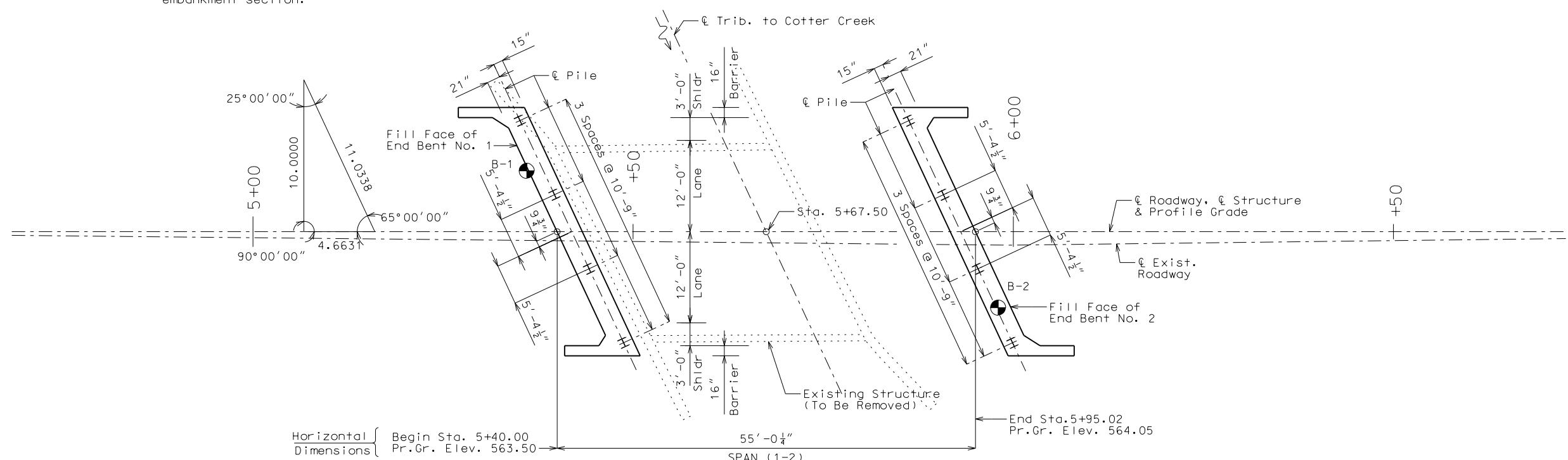
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REV.	DATE	DESCRIPTION	APPROVED

51' PRESTRESSED CONCRETE SPREAD BOX BEAM SPAN



GENERAL ELEVATION



Notice and Disclaimer Regarding Boring Log Data

"●" 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.

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 ELEV. 569.86

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

CDG PROJECT NO.
17109
DRAWING NO.
B-001

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

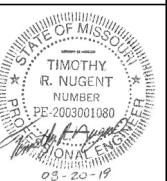
REV.	DATE	DESCRIPTION	APPROVED

CDG
ENGINEERS
T. 314-781-7770
F. 314-781-9075
One Campbell Plaza
St. Louis, Missouri 63139
Missouri State Certificate of Authority #1721



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

DRAWN BY
DB
CHECKED BY
TRN
DATE
August 20, 2019



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

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

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.

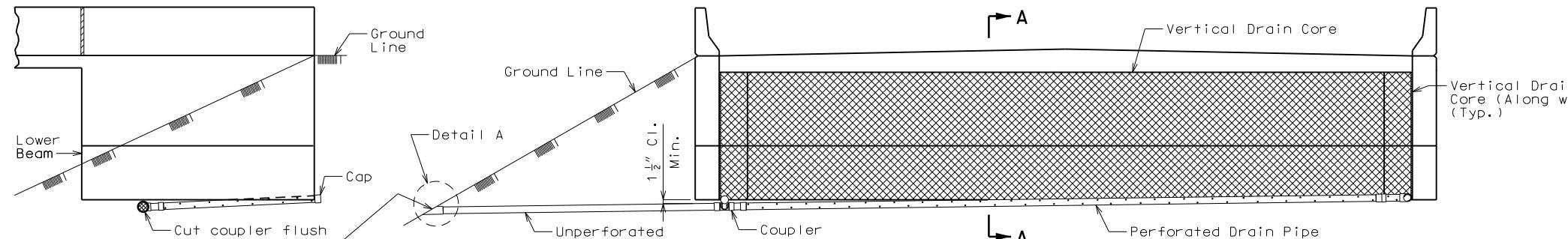
Hydrologic Data	
Drainage Area	1.5 (sq. mi.)
Design Flood Frequency	100 years
Design Flood Discharge	1630 cfs
Design Flood (D.F.) Elevation	559.4
Base Flood (100-year)	
Base Flood Elevation	559.4
Base Flood Discharge	1630 cfs
Estimated Backwater	0.14 ft
Average Velocity thru Opening	6.7 ft/s
Freeboard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

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

REV.	DATE	DESCRIPTION	APPROVED

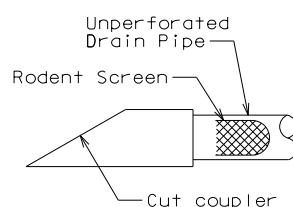
GENERAL NOTES & QUANTITIES
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109
DRAWING NO.
B-002

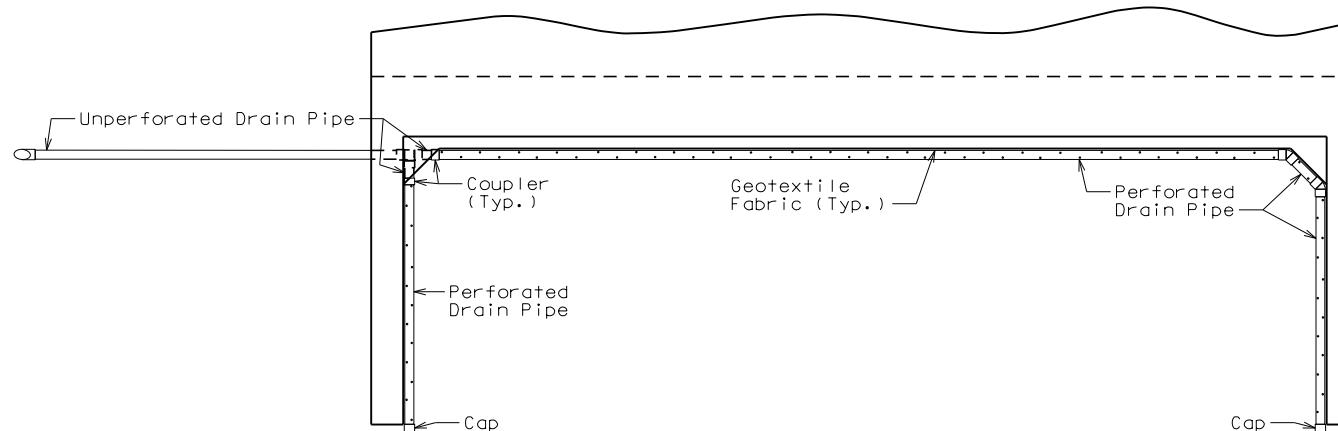


ELEVATION OF WING

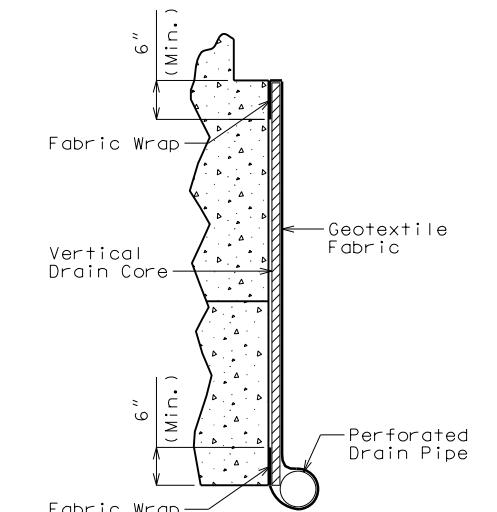
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT

PART SECTION A-A
(Section thru wing similar)

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

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

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

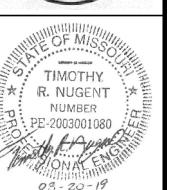
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MO# PE-2003001080

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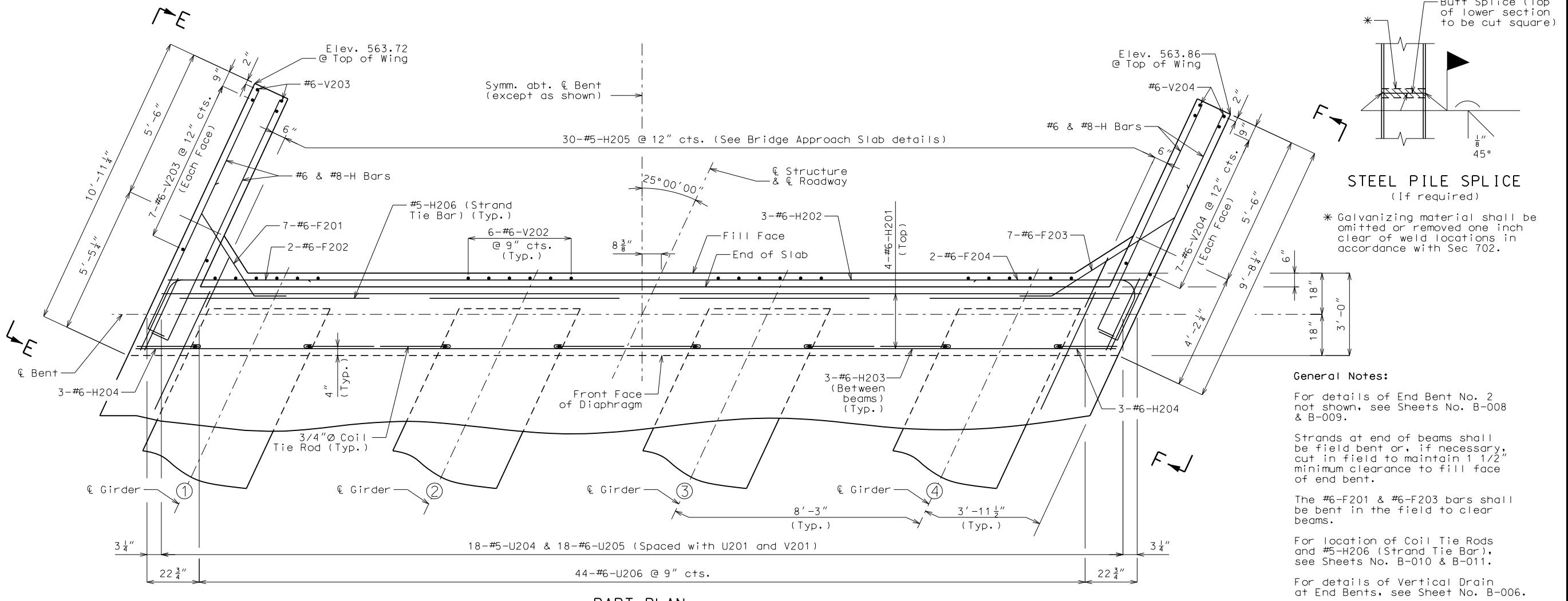


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MD# PE-2003001080

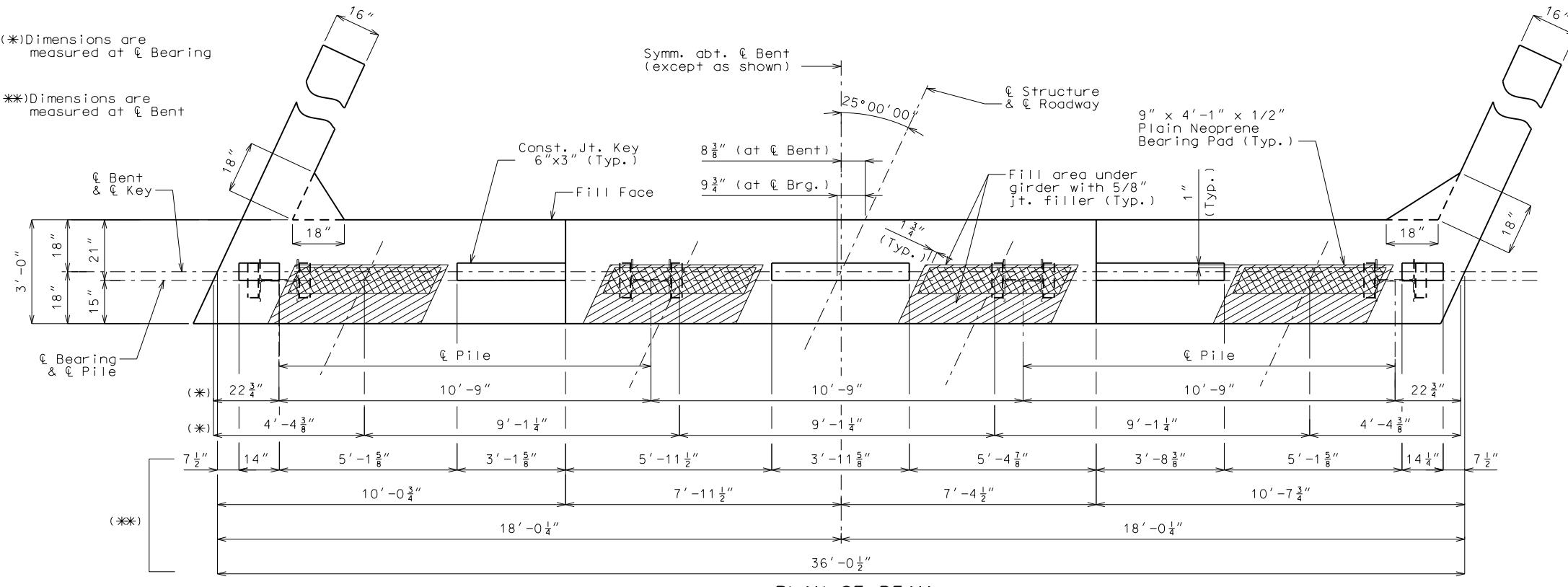
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DETAILS OF END BENT NO. 2
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109
DRAWING NO.
B-007



PART PLAN

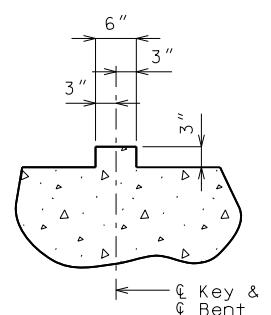


PLAN OF BEAM

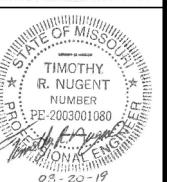
Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

SECTION THRU KEY



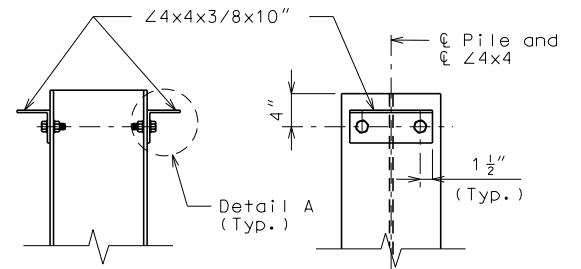
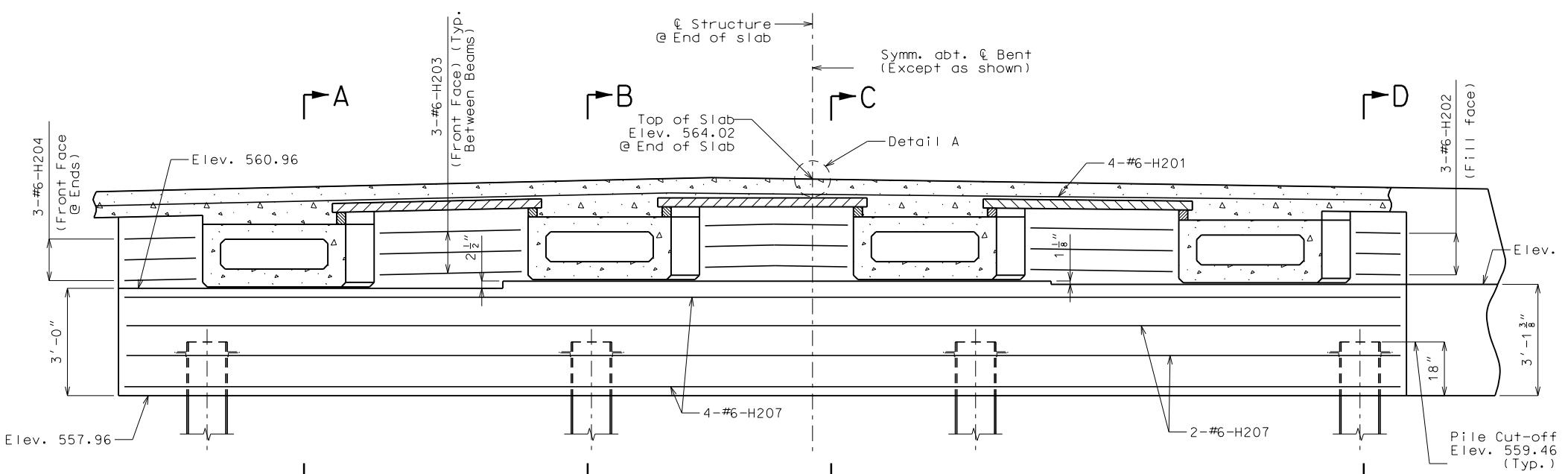
REV.	DATE	DESCRIPTION	APPROVED



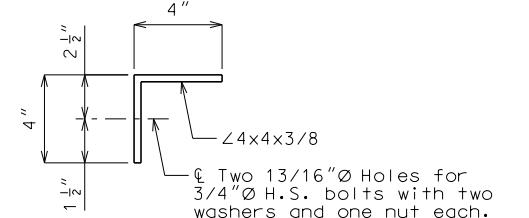
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DETAILS OF END BENT NO. 2
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT



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.

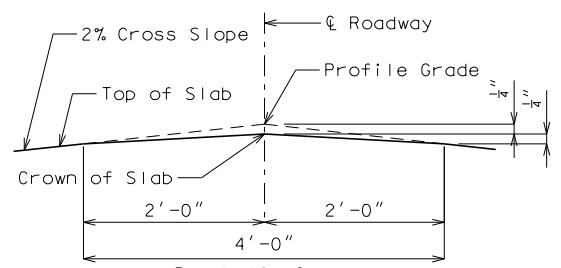
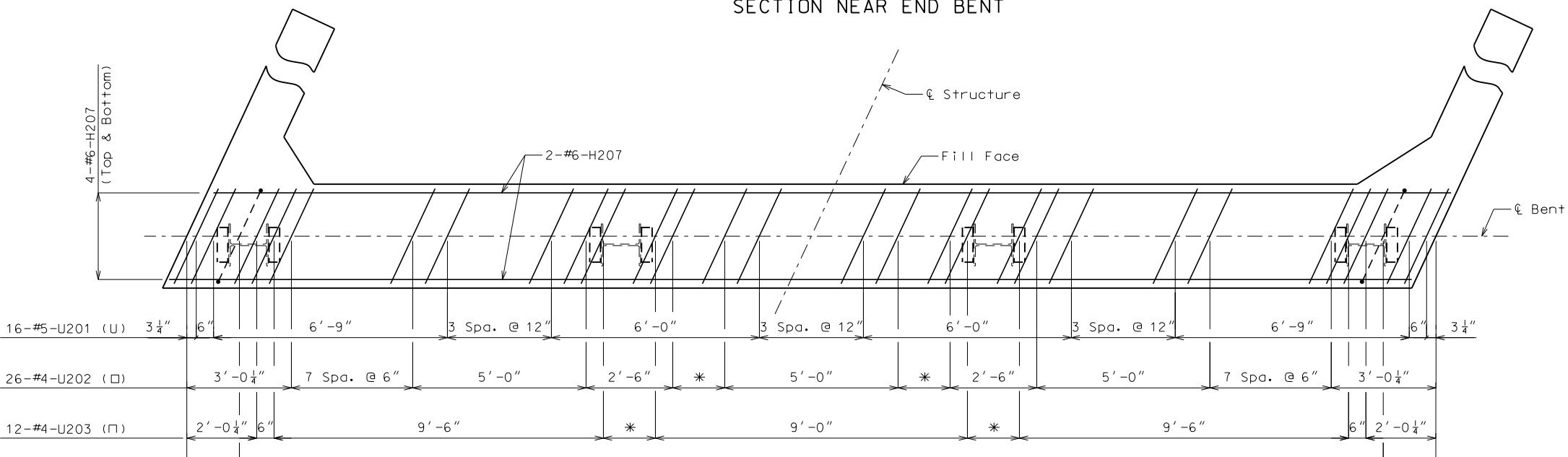
All U-bars, Pr.-V-bars and #5-H205 shall be placed parallel to the Roadway.

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".

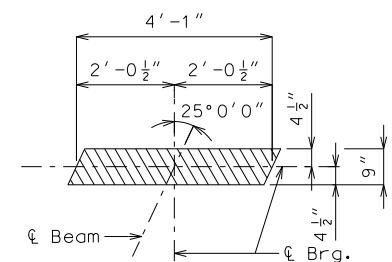
T:\Working\15080 - Whitehead - Steecker Road\Drawings\Detailed\CDG\Bridge template.dwg



DETAIL A

PLAN OF BEAM SHOWING REINFORCEMENT

Note: Keys and steps not shown for clarity.



PLAN OF BEARING

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

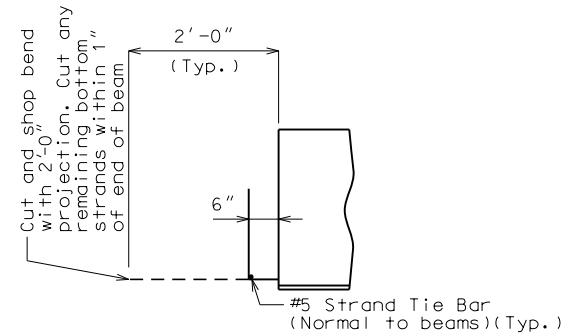
Substructure Quantity Table for Bent No. 2	
Item	Quantity
Class 1 Excavation	cu. yard
Galvanized Structural Steel Pile (14 in.)	linear foot
Pre-Bore for Piling	linear foot
Pile Point Reinforcement	each
Class B Concrete (Substructure)	cu. yard
	15.0

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

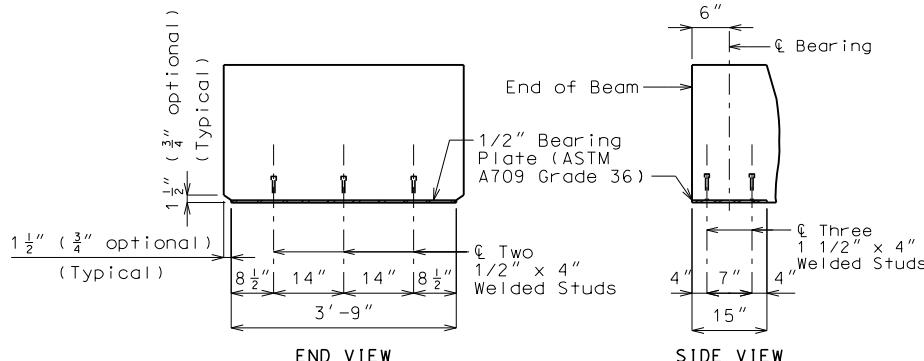
REV.	DATE	DESCRIPTION	APPROVED

CDG PROJECT NO.
17109

DRAWING NO.
B-008



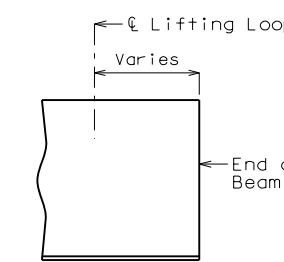
STRAND DETAILS AT BEAM ENDS
(See Table of Strand Instructions)



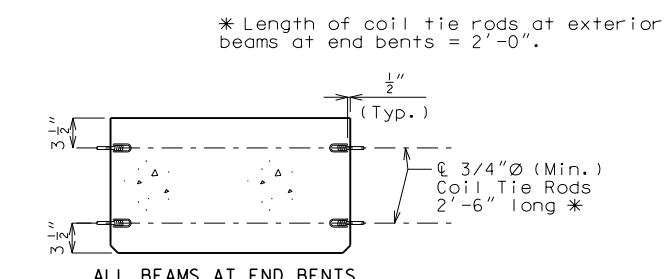
BEARING PLATE DETAILS

Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

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.



LOCATION OF LIFTING LOOPS

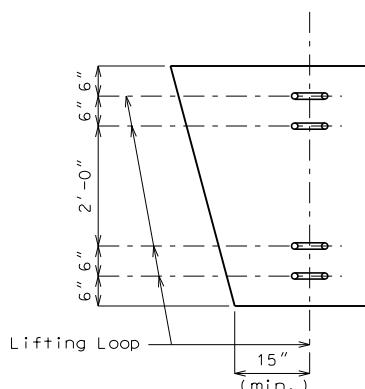


DETAILS OF COIL TIES
(Strands and reinforcement not shown for clarity)

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete Spread Box Beam.

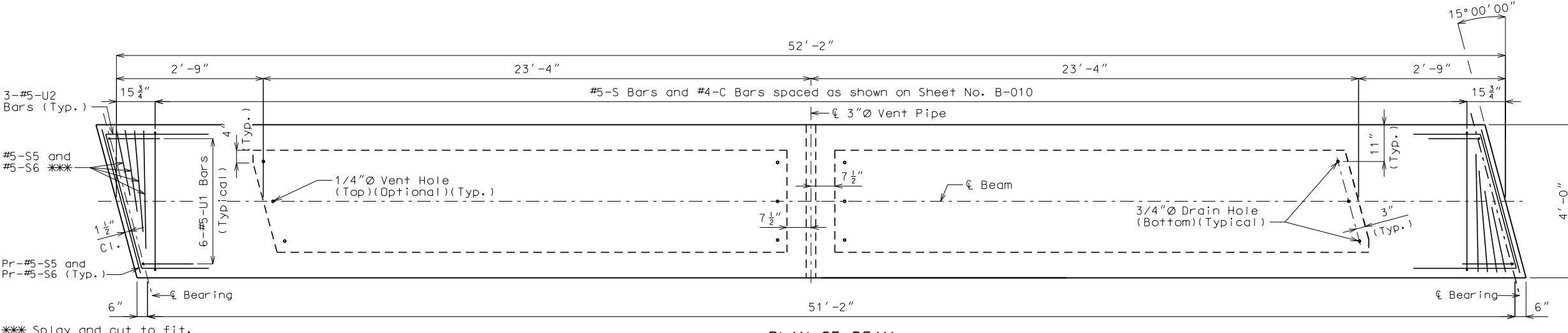
Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting thru forms. Studs are to be left in place or replaced with temporary plugs until beams are erected, then replaced by coil tie rods.

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



PART PLAN SHOWING LOCATION OF LIFTING LOOPS

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



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

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

DETAILS OF SPREAD BOX BEAMS

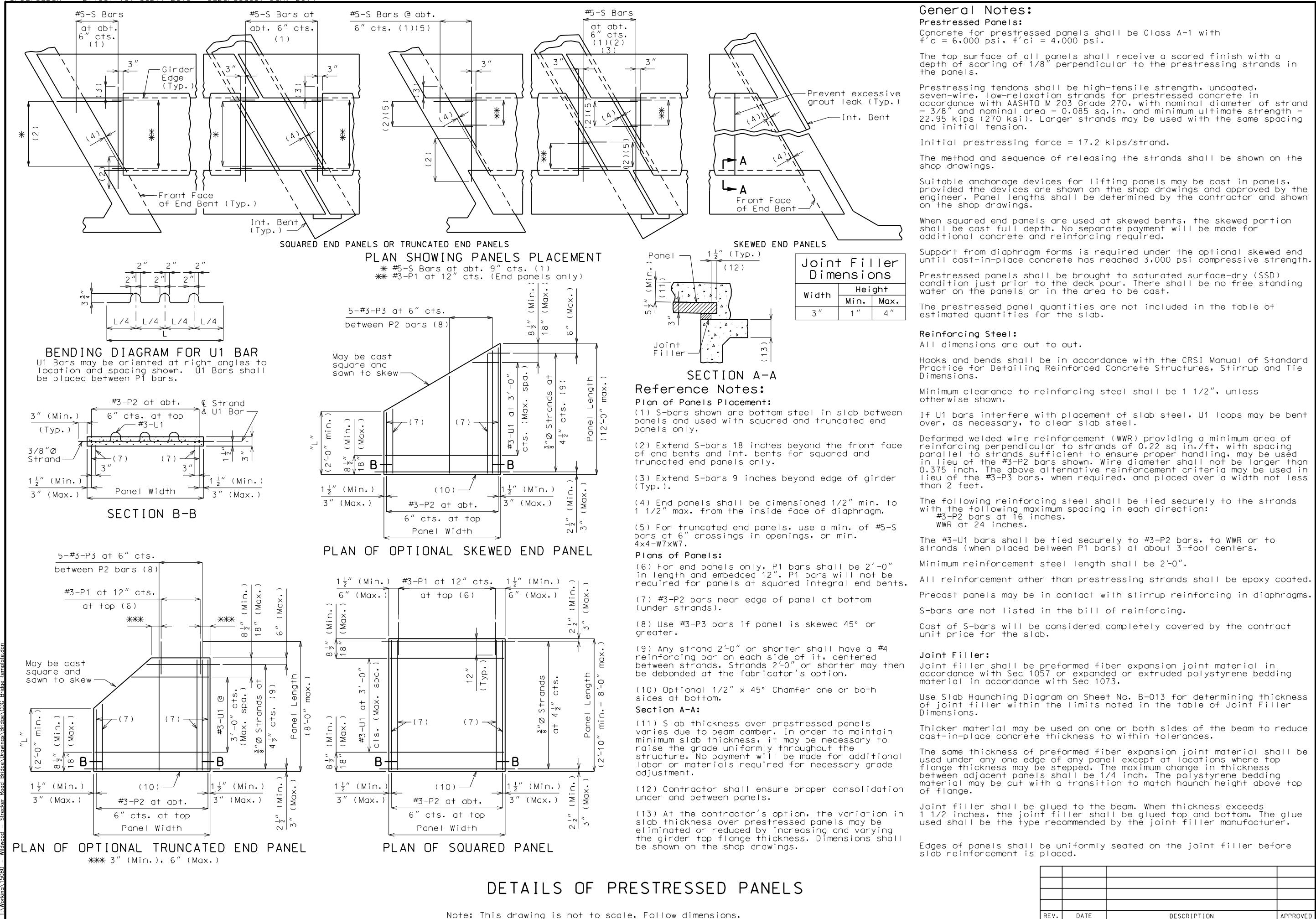
Note: This drawing is not to scale. Follow dimensions.

REV.	DATE	DESCRIPTION	APPROVED

DETAILS OF SPREAD BOX BEAMS
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

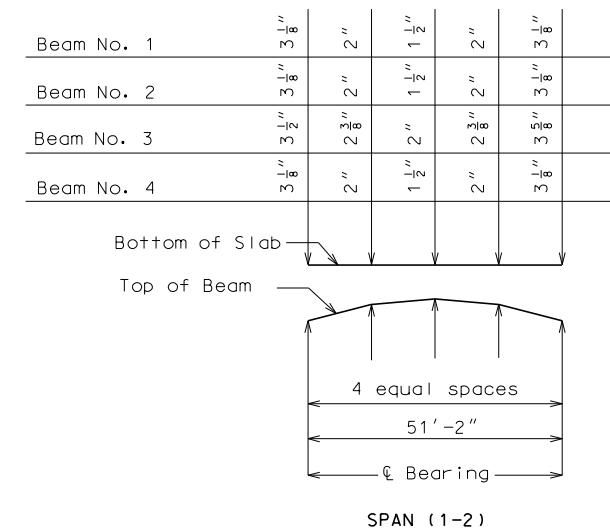
CDG PROJECT NO.
17109
DRAWING NO.
B-011

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Missouri State Certificate of Authority #4721

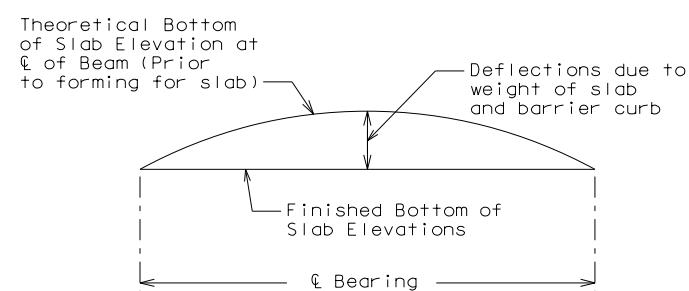


BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO. 17109
DRAWING NO. B-012



THEORETICAL SLAB HAUNCHING DIAGRAM
(ESTIMATED AT 90 DAYS)

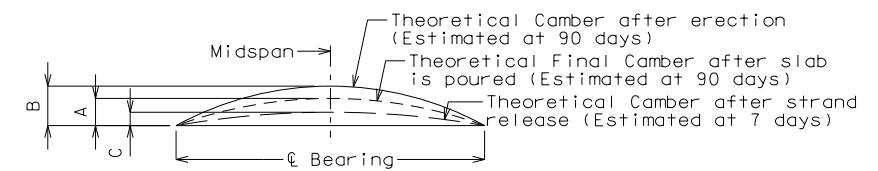


TYPICAL SLAB ELEVATIONS DIAGRAM

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.

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



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

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

$$0.25 \text{ pt.} = 0.7125 \times 0.5 \text{ pt.}$$

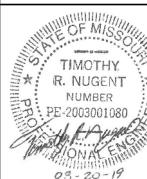
BEAM CAMBER DIAGRAM

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.

DEPARTMENT OF PUBLIC WORKS



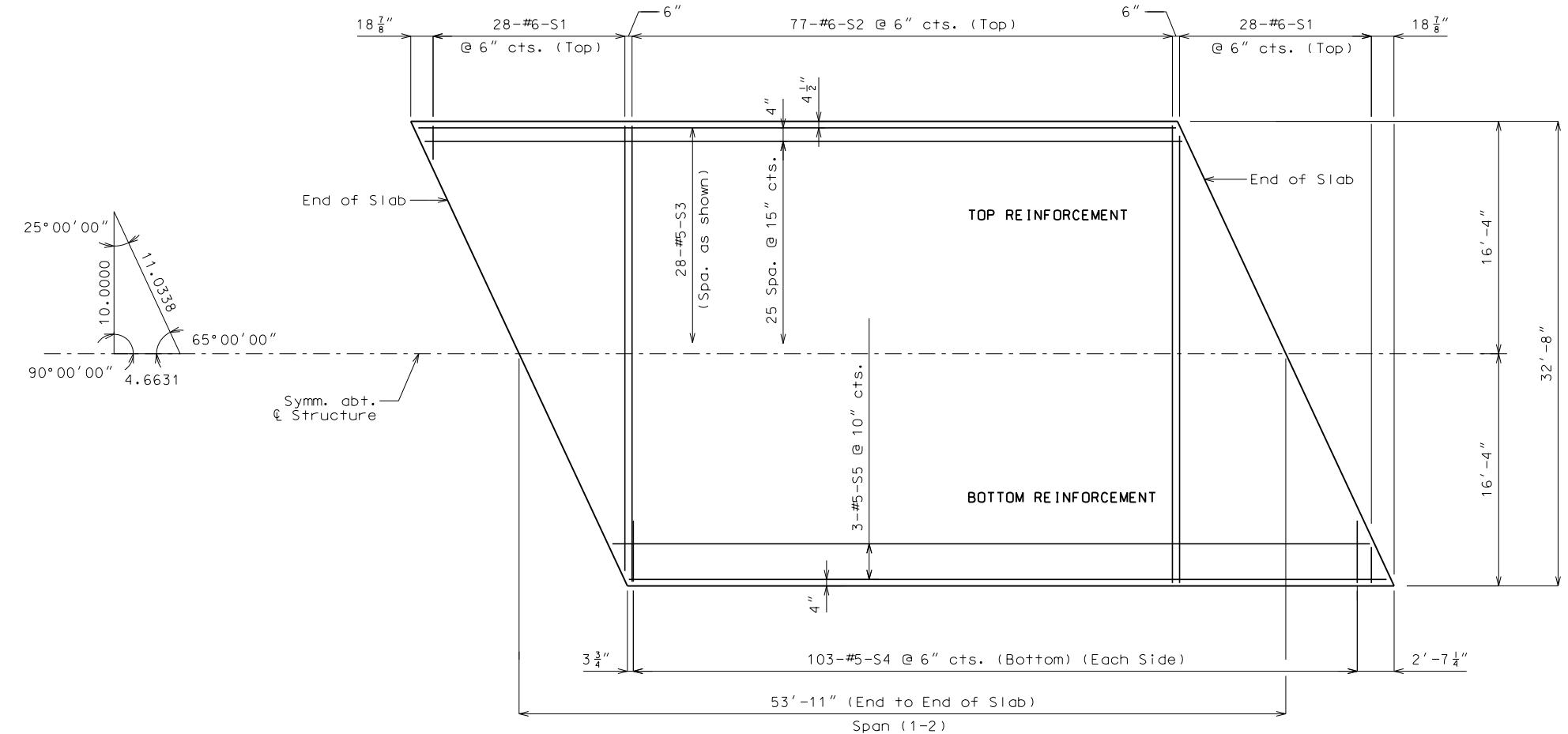
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CAMBER, HAUNCHING & BOTTOM OF SLAB ELEV.
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109
DRAWING NO.
B-013
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St. Louis, Missouri 63139
Missouri State Certificate of Authority #1721

**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.

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

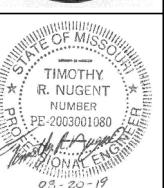
Note: This drawing is not to scale. Follow dimensions.

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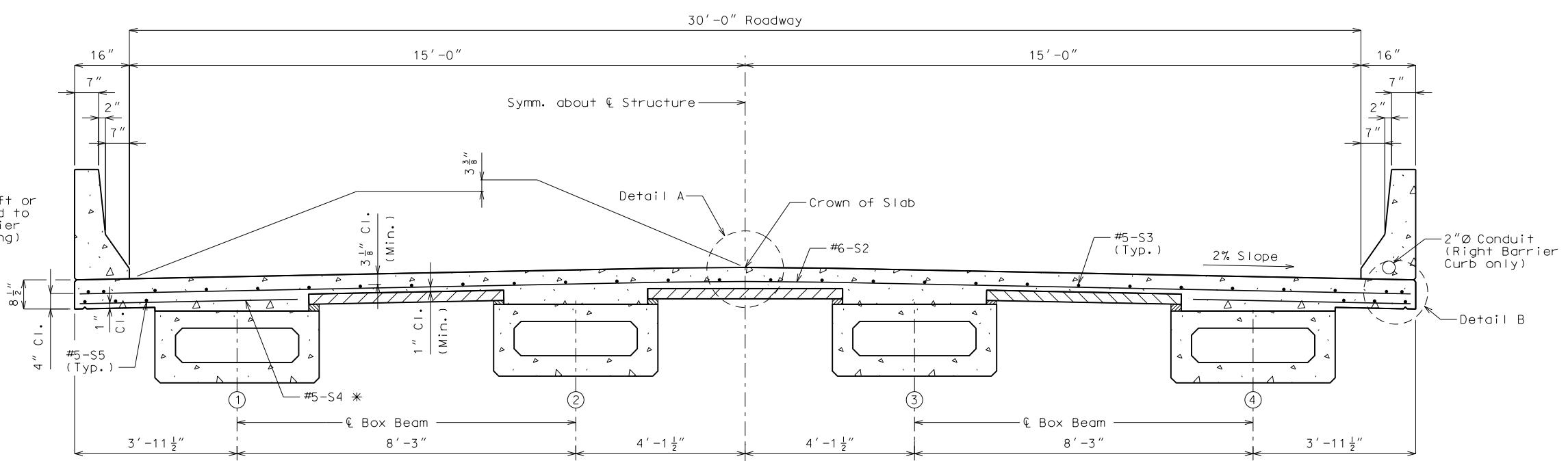
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SECTION THRU SLAB
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

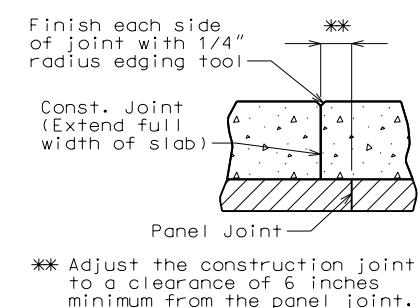
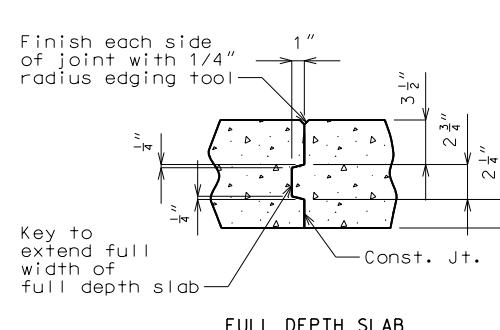
Contractor may shift bar as needed to tie R3 bar in barrier
Contractor may shift or swap bars as needed to tie R4 bar in barrier (4" min. bar spacing)

OPTIONAL SHIFTING TOP BARS AT BARRIER

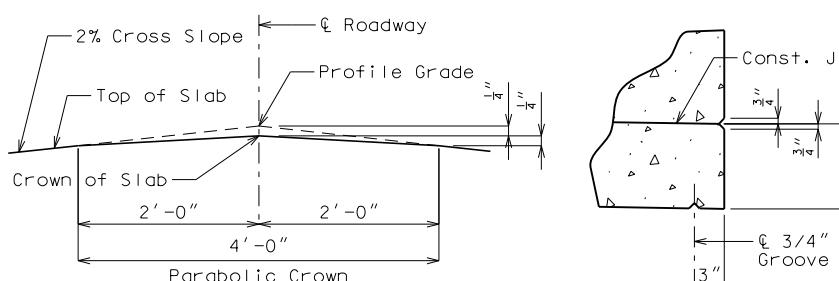


* Alternate bar shape available, see Safety Barrier Curb sheet.

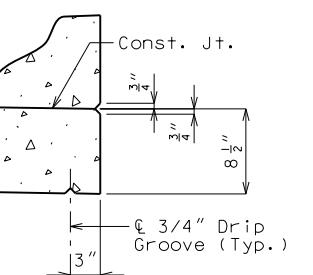
SECTION THRU SLAB



SLAB CONSTRUCTION JOINT



DETAIL A



DETAIL B

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.

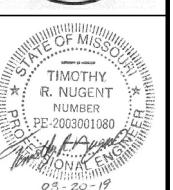
The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 25 cubic yards per hour.

Bridge slab shall be poured upgrade.

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

REV.	DATE	DESCRIPTION	APPROVED

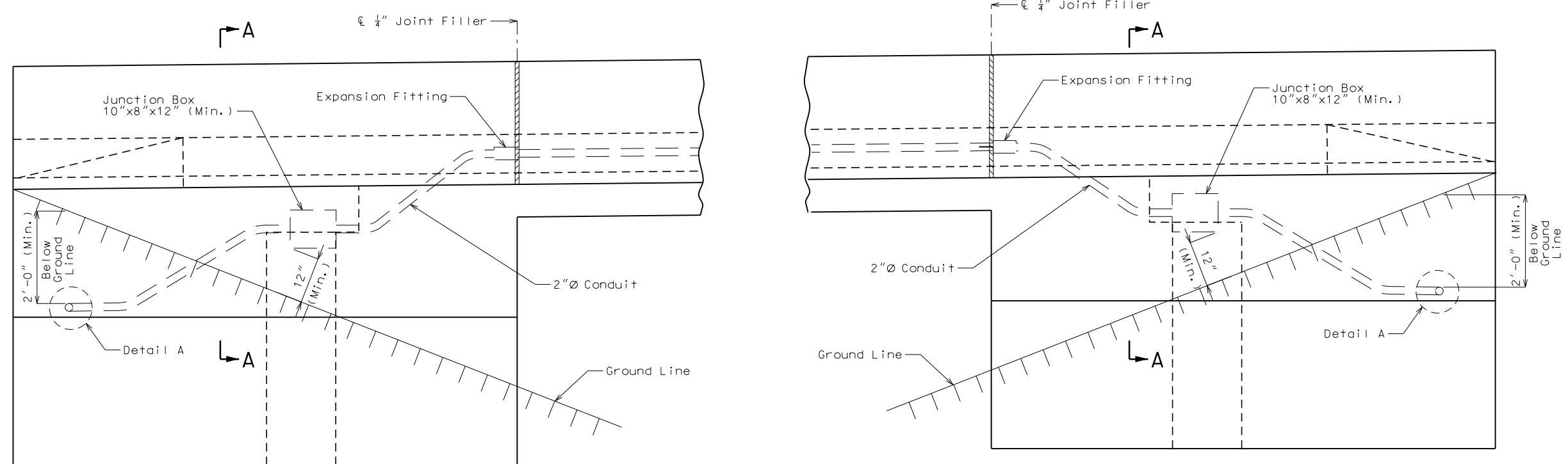
Note: This drawing is not to scale. Follow dimensions.



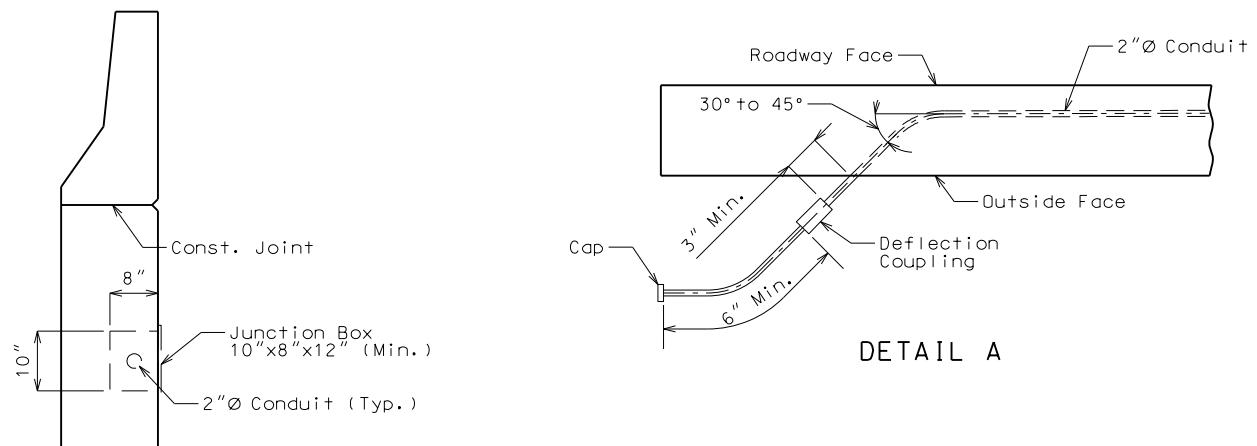
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DETAILS OF CONDUIT SYSTEM
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT



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.

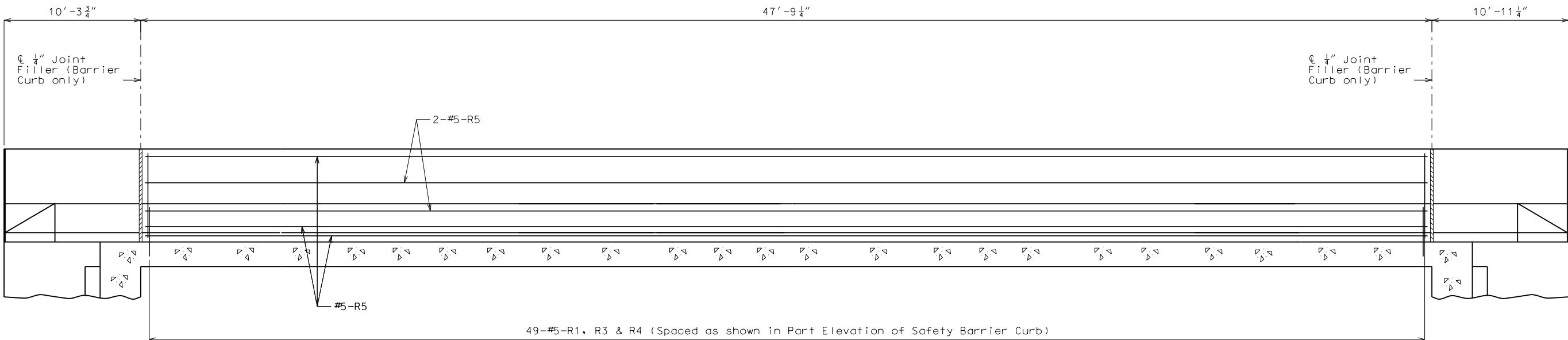
Junction box size shown on plan may require special order. No other size may be substituted.

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.

REV.	DATE	DESCRIPTION	APPROVED

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



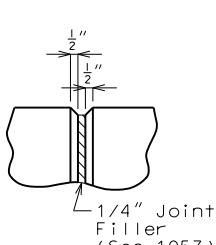
49-#5-R1, R3 & R4 (Spaced as shown in Part Elevation of Safety Barrier Curb)

Span (1-2)

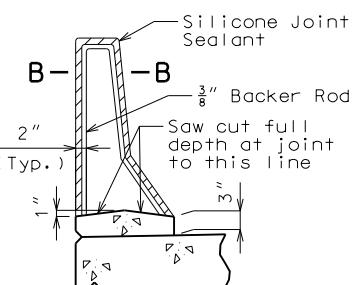
ELEVATION OF SAFETY BARRIER CURB

(Left barrier curb shown, right barrier curb similar)

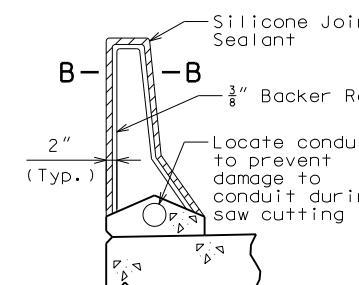
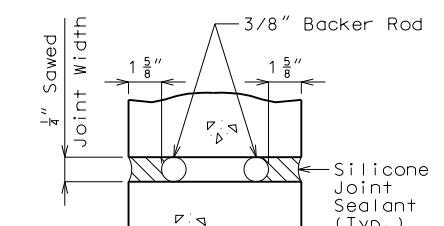
Longitudinal dimensions are horizontal.



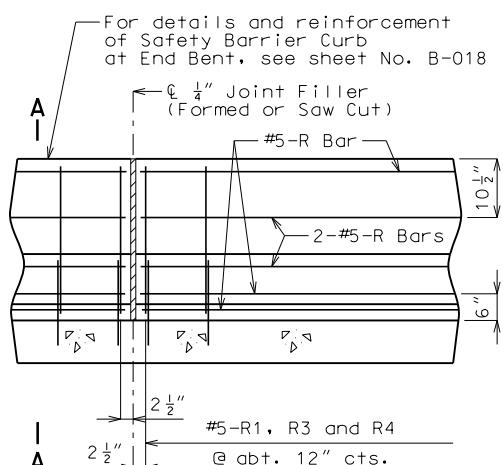
PART ELEVATION AT FORMED JOINT



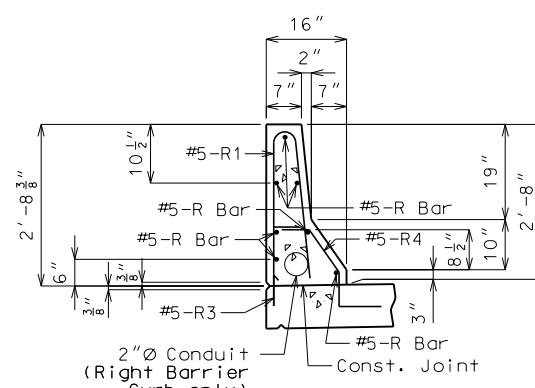
SECTION THRU SAW CUT JOINT

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

SECTION B-B



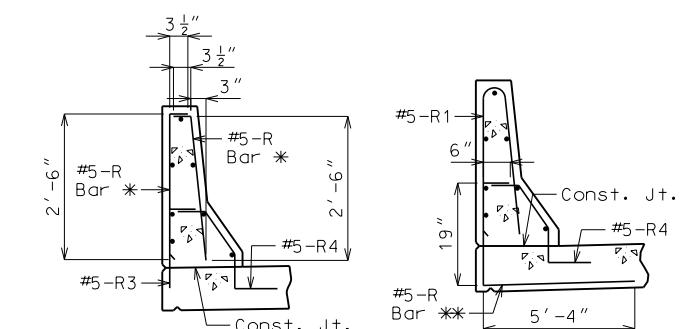
PART ELEVATION OF SAFETY BARRIER CURB



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.

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.

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

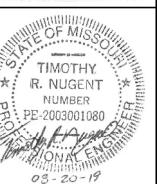
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CONVENTIONAL-FORMED SAFETY BARRIER CURB

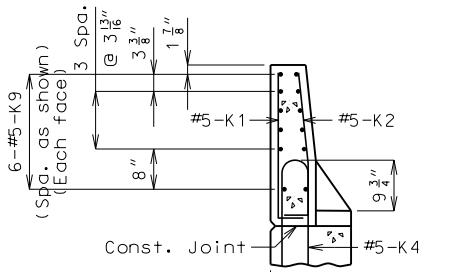
Note: This drawing is not to scale. Follow dimensions.



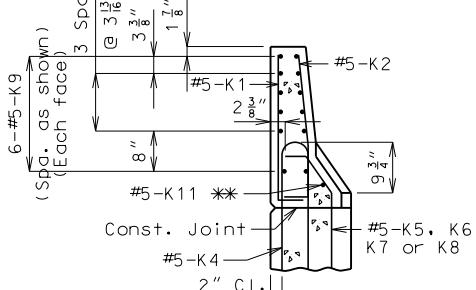
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PUBLIC WORKS

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MO# PE-2003001080

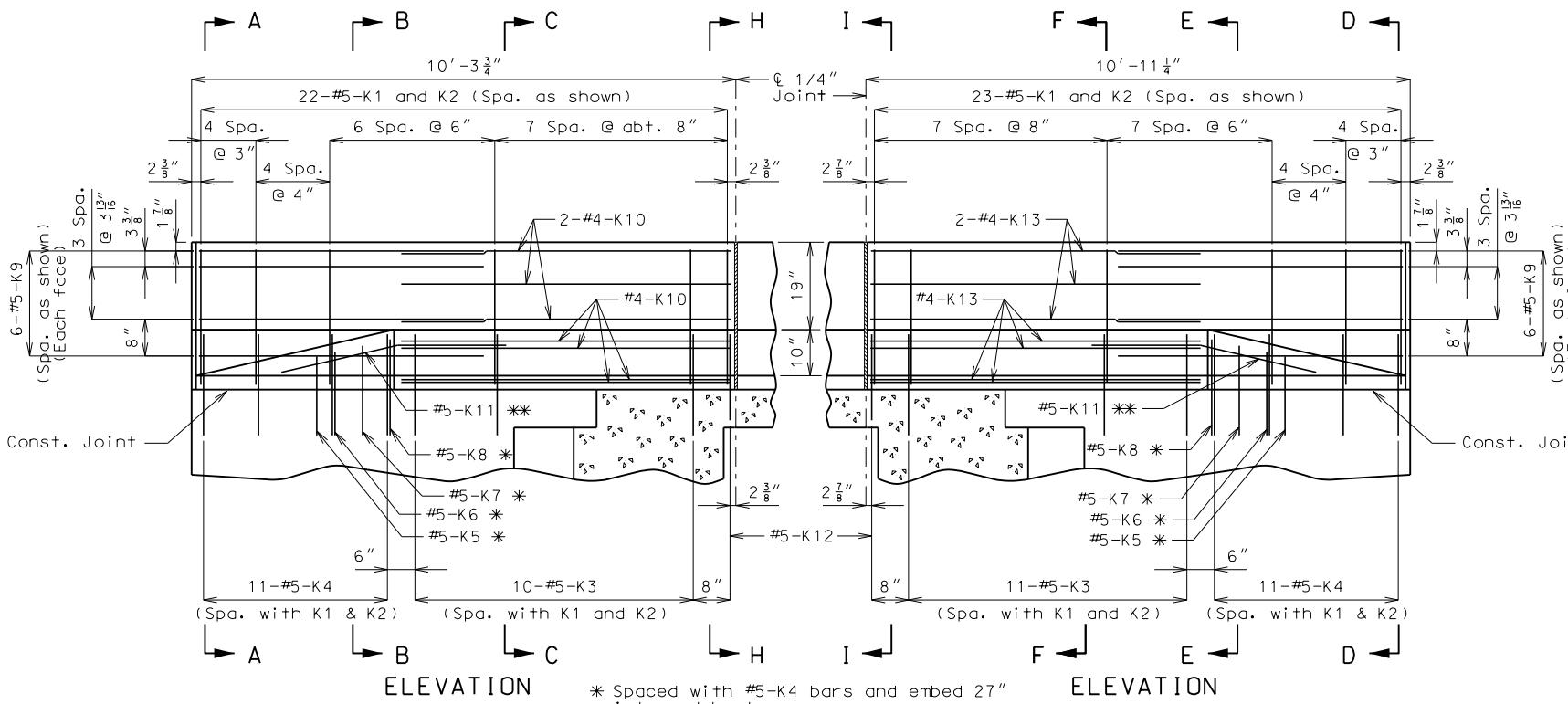
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DATE
August 20, 2019



SECTION A-A

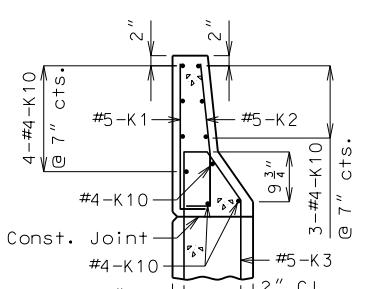


SECTION B-B

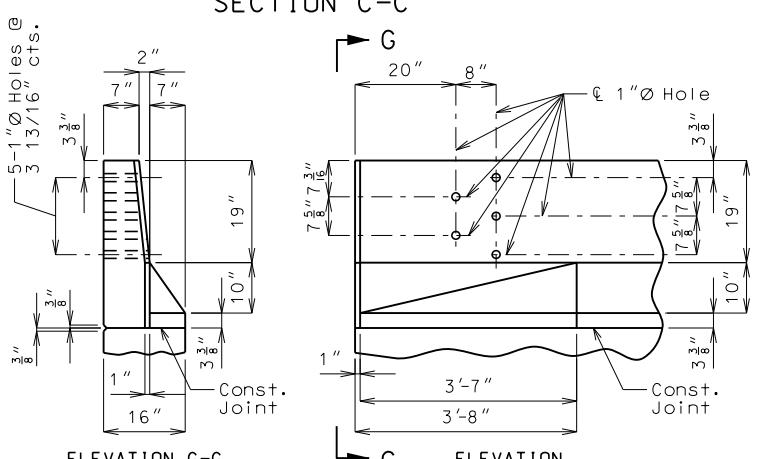


ELEVATION

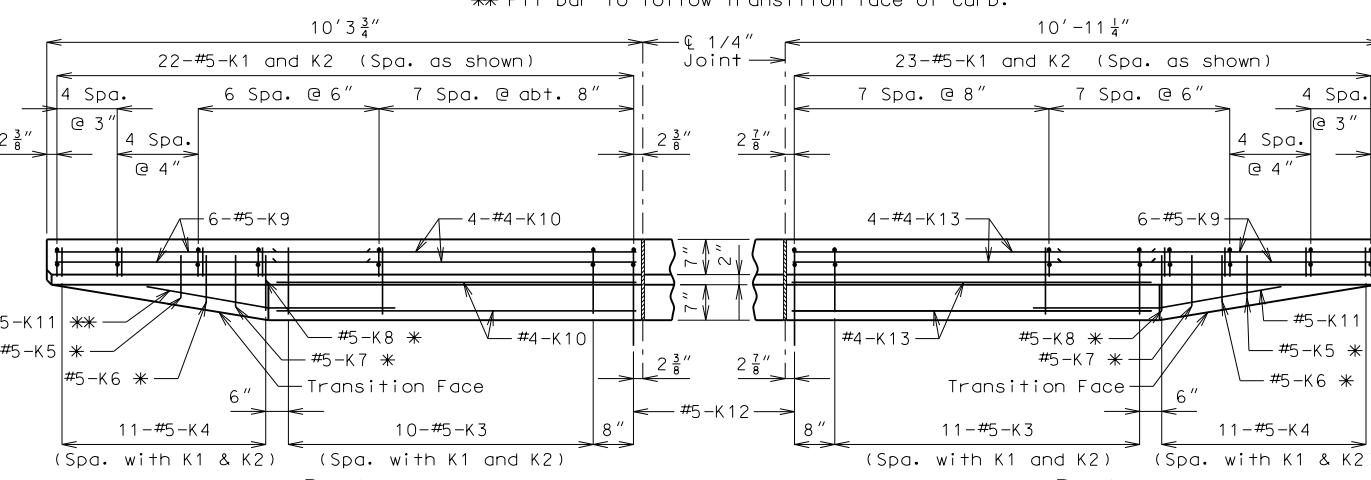
* Spaced with #5-K4 bars and embed 27" into end bent.
** Fit bar to follow transition face of curb.



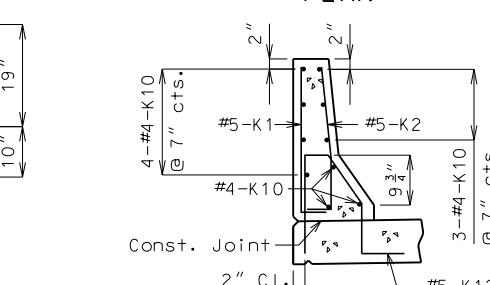
SECTION C-C



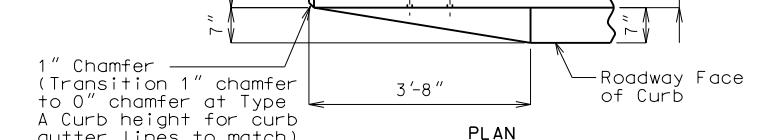
ELEVATION G-G



PLAN



SECTION H-H



DETAILS OF GUARD RAIL ATTACHMENT

General Notes

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.

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

Reinforcing Steel:

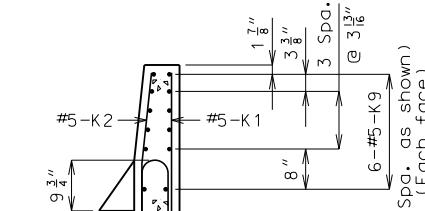
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

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

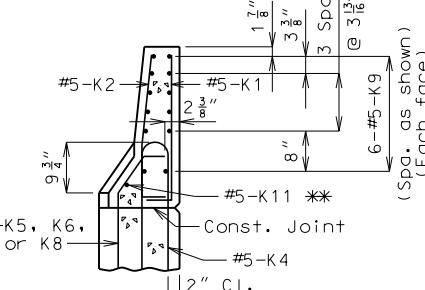
CONVENTIONAL-FORMED SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)

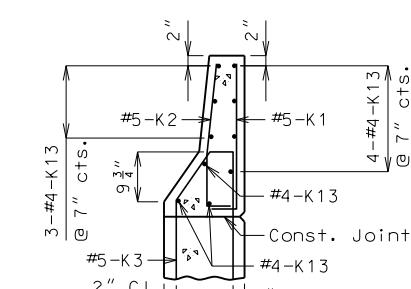
Note: This drawing is not to scale. Follow dimensions.



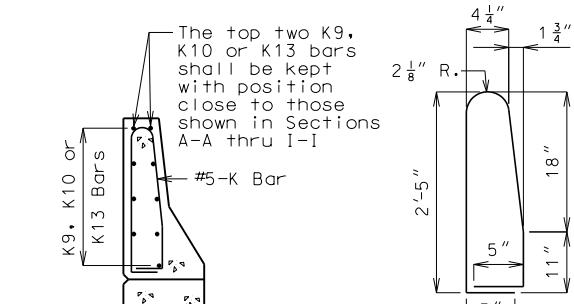
SECTION D-D



SECTION E-E



SECTION F-F



The top two K9, K10 or K13 bars shall be kept with position close to those shown in Sections A-I thru I-I

K1-K2 BAR PERMISSIBLE ALTERNATE SHAPE

(K3 or K4 thru K8 bars not shown for clarity)

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

DETAILS OF SAFETY BARRIER CURB AT END BENT
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109

DRAWING NO.
B-018



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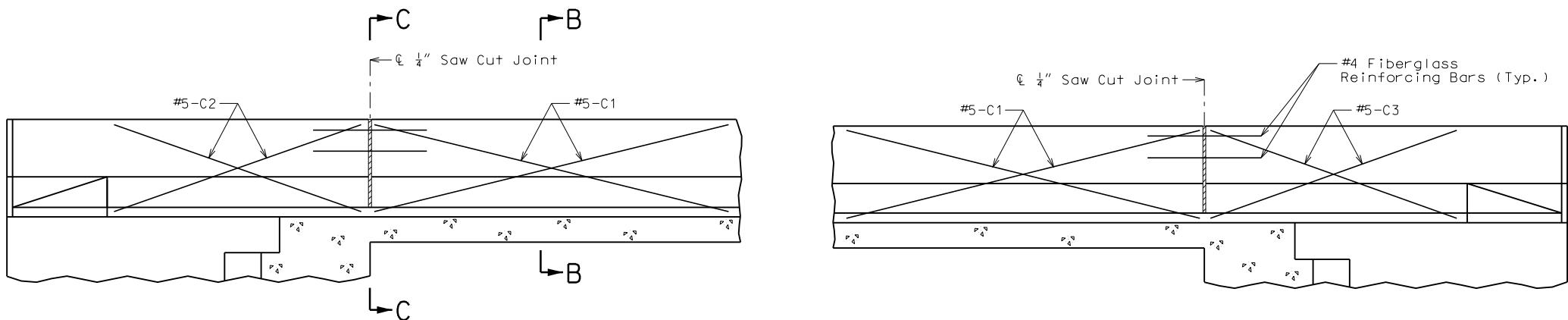


STATE OF MISSOURI
T. 314-781-7770
R. 314-781-9075
F. #1721
One Campbell Plaza
St. Louis, Missouri 63139
Missouri State Certificate of Authority #1721

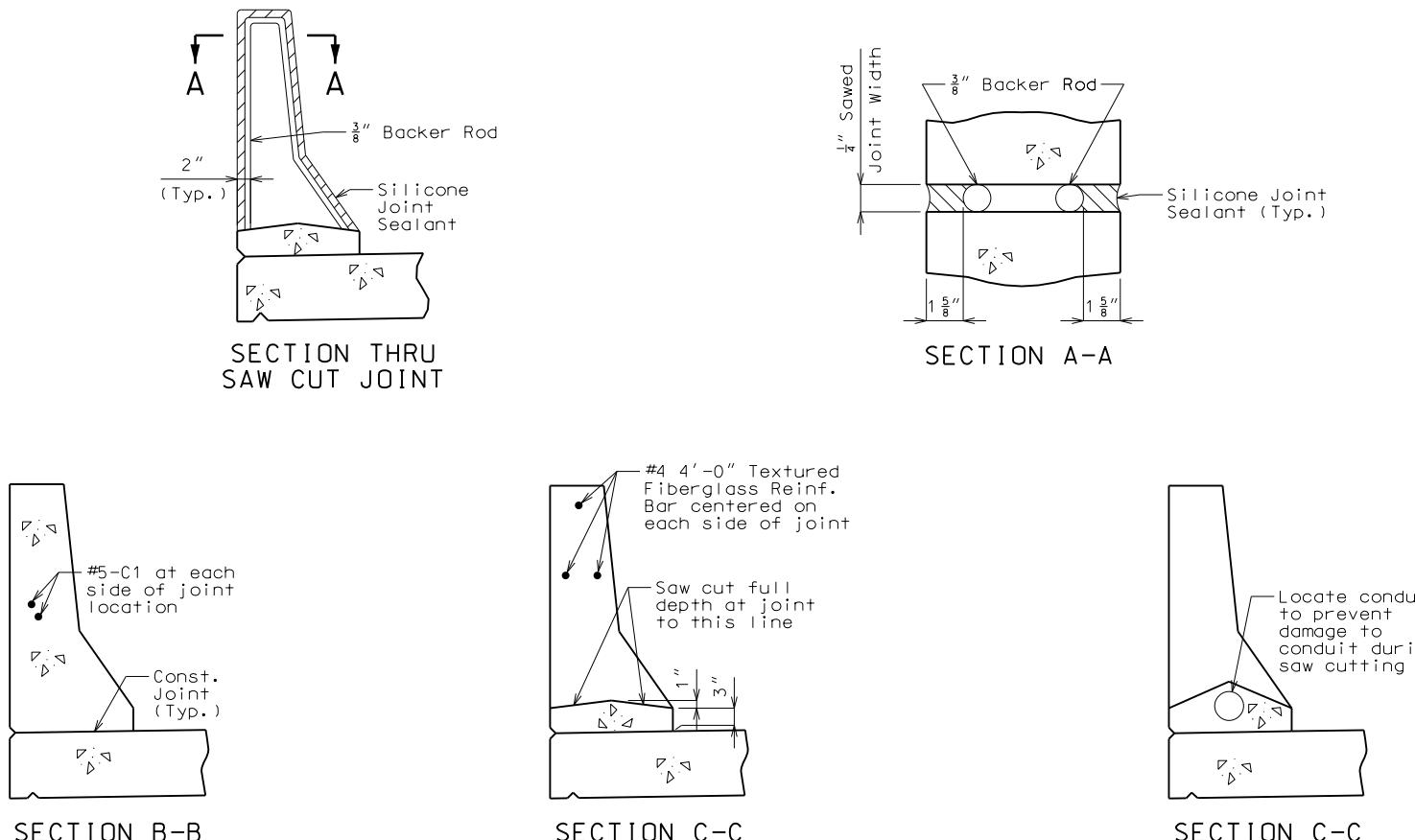
PE-2003001080
Timothy Nugent, P.E.
MD# PE-2003001080

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August 20, 2019

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TYPICAL ELEVATION OF SAFETY BARRIER CURB AT SUPPORT LOCATIONS

**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 $\frac{1}{2}$ -inch radius or a $\frac{3}{8}$ -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 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

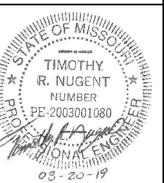
Use R bars and K bars similarly as shown for conventional-formed safety barrier curb.

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

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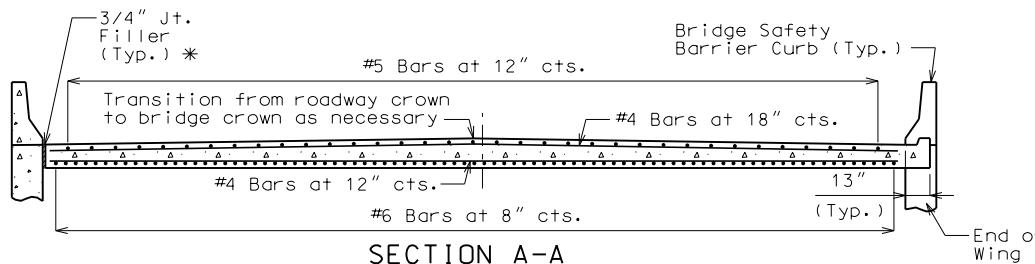
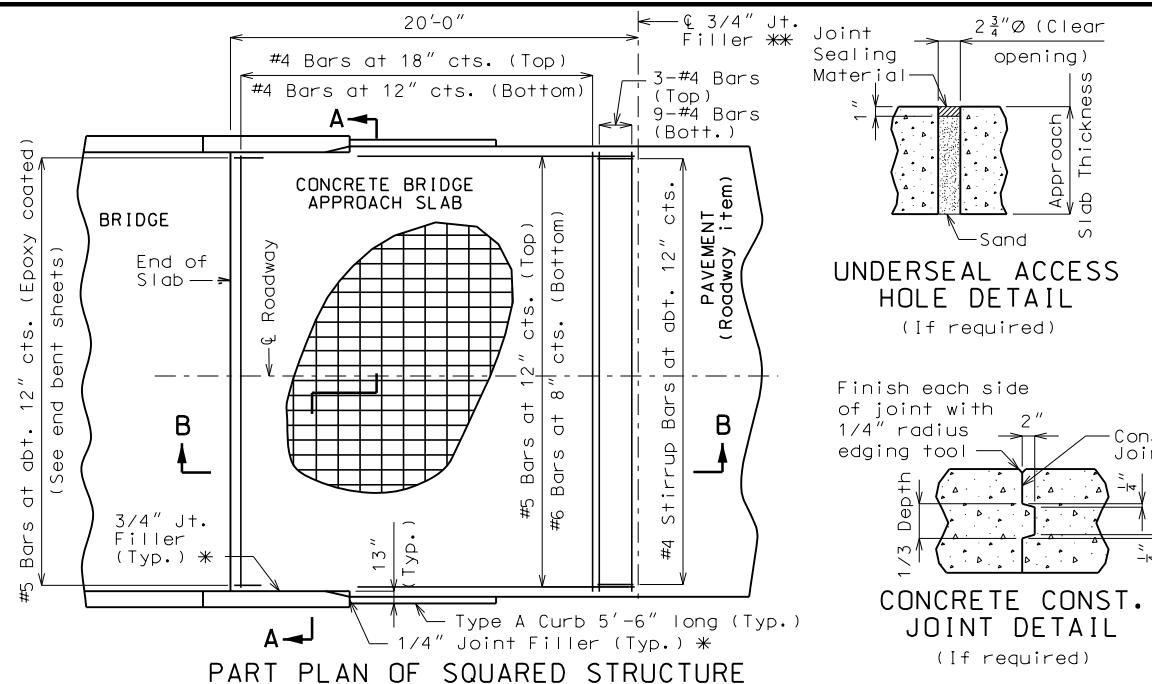


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MO# PE-2003001080

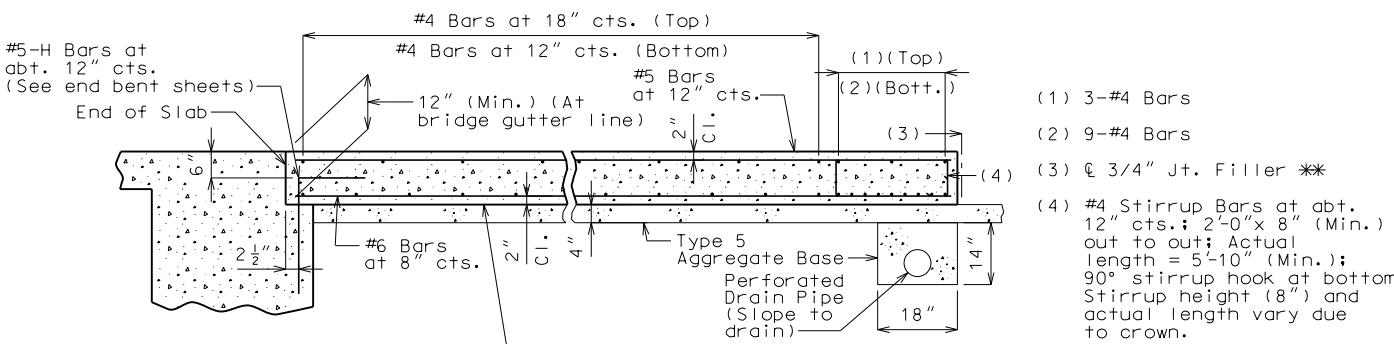
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DATE
August 20, 2019

OPTIONAL SLIP-FORM SAFETY BARRIER CURB
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

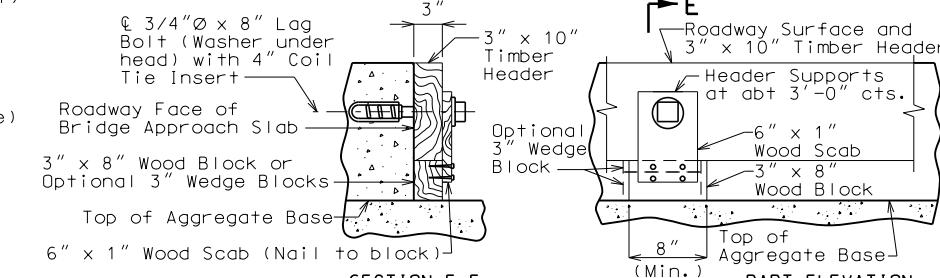
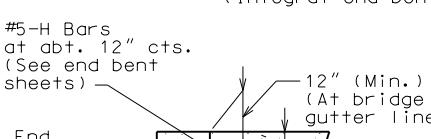
CDG PROJECT NO.
17109
DRAWING NO.
B-019



With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



SECTION B-B
(Integral end bent)



DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.

CONCRETE SLAB

DETAILS OF BRIDGE APPROACH SLAB (MINOR ROAD)

Integral end bents shown, non-integral end bent similar.

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

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 $fy = 60,000$ 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 $11\frac{1}{2}$ " 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".

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

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.

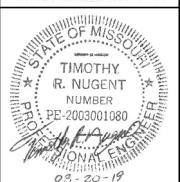
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

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

T-34781770
F-34781975
One Campbell Plaza
St. Louis, Missouri 63139
Missouri State Certificate of Authority #1721

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August 20, 2019

BRIDGE APPROACH SLAB (MINOR ROAD)

BRIDGE NO. 26400141

PROJECT NO. STP-5403 (675)

WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.

17109

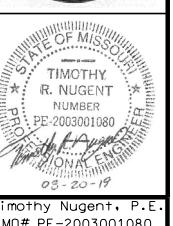
DRAWING NO.

B-020

NOTE: ASPHALT APPROACH SLAB OPTION IS NOT ALLOWED.

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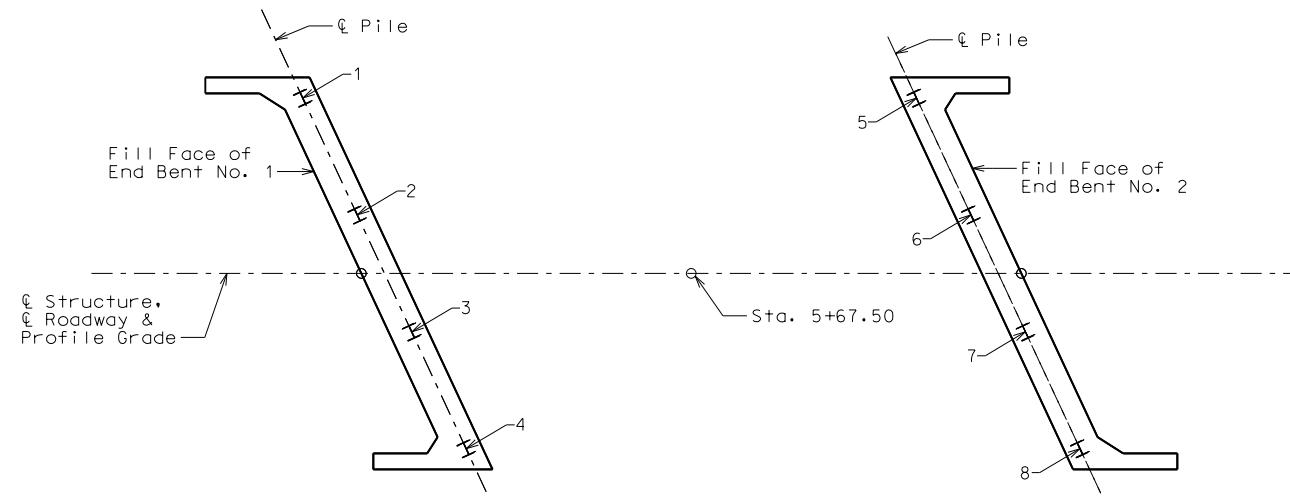
BILL OF REINFORCING STEEL
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACEMENT

CDG PROJECT NO.
17109

DRAWING NO.
B-021

BILL OF REINFORCING STEEL																					
NO. REQ'D.	MARK NO.	LOCATION	DIMENSIONS										WEIGHT								
			EPOXY (E) SHAPE NO.		STIRRUP (S) SUBSTR. (X)		VARIES (V) NO. EACH		B	C	D	E	F	H	K	NOMINAL LENGTH	ACTUAL LENGTH				
FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.			
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	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	9.000						35	9	35	9	215	
3	6 H102	DIAPHRAGM	E	20				35	9	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	
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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	5	5	5	132	
16	6 V104	WING	E	20				5	4.000							5	4	5	4	128	
TOTAL END BENT 1 =																					

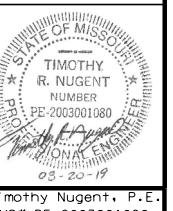
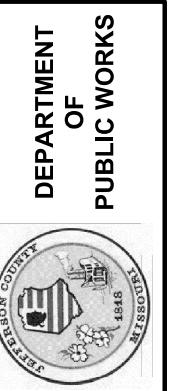
BILL OF REINFORCING STEEL																				
NO. REQ'D.	MARK NO.	LOCATION	DIMENSIONS										WEIGHT							
			EPOXY (E) SHAPE NO.		STIRRUP (S) SUBSTR. (X)		VARIES (V) NO. EACH		B	C	D	E	F	H	K	NOMINAL LENGTH	ACTUAL LENGTH			
FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	LBS.		
END BENT 2																				
7	6 F201	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 F202	DIAPHRAGM	E	21	S			2	10.000	6	5.000		2	6.875	14.375	9	3	9	2	28
7	6 F203	WING	E	15	S			14.000	5	8.000	14.000	7.500	11.750	7.500	8	0	7	11	83	
2	6 F204	DIAPHRAGM	E	21	S			2	10.000	6	5.000		2	6.875	14.375	9	3	8	11	27
4	6 H201	SLAB	E	20				35	9	9.000						35	9	35	9	215
3	6 H202	DIAPHRAGM	E	20				35	9	9.000						35	9	35	9	161
9	6 H203	DIAPHRAGM	E	20				4	5.000							4	5	4	5	60
6	6 H204	DIAPHRAGM	E	20				22.000								1	10	1	10	17
30	5 H205	APPR SLAB	E	20				4	0.000							4	0	4	0	125
4	5 H206	STRAND TIE	E	20				7	0.000							7	0	7	0	29
12	6 H207	BEAM	E	20				35	9.000							35	9	35	9	644
16	8 H208	WING	E	6				9	5.000</td											



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

Note:
Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal

This sheet to be completed by County construction personnel.



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

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DB

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TRN
DATE
August 20, 2019

THE INFLUENCE OF CULTURE ON LANGUAGE

THE INFLUENCE OF CULTURE ON PARENTING

THE INFLUENCE OF CULTURE ON LANGUAGE

THE INFLUENCE OF CULTURE ON PARENTING

WENT

AS-BUILT PILE DATA
BRIDGE NO. 26400141
PROJECT NO. STP-5403 (675)
WHITEHEAD ROAD BRIDGE REPLACE

DG PROJECT NO.

17109

DRAWING NO. 1

B 023

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