

DESIGN DESIGNATION

A.A.D.T. - 2025 = 569
 A.A.D.T. - 2045 = 788
 D.H.V. = 70%
 T = 10%
 V = 55 M.P.H.
 D = 50%

FUNCTIONAL CLASSIFICATION - MAJOR COLLECTOR

NO RIGHT OF WAY ACQUISITION

CONVENTIONAL SYMBOLS
(USED IN PLANS)

| | EXISTING | NEW |
|---------------------------------|--------------|--------------|
| BUILDINGS AND STRUCTURES | | |
| GUARD RAIL | | |
| GUARD CABLE | | |
| CONCRETE RIGHT-OF-WAY MARKER | | |
| STEEL RIGHT-OF-WAY MARKER | | |
| LOCATION SURVEY MARKER | | |
| UTILITIES | | |
| FIBER OPTICS | -FO- | -FO- |
| OVERHEAD CABLE TV | -OTV- | -OTV- |
| UNDERGROUND CABLE TV | -UTV- | -UTV- |
| OVERHEAD TELEPHONE | -OT- | -OT- |
| UNDERGROUND TELEPHONE | -UT- | -UT- |
| OVERHEAD POWER | -OE- | -OE- |
| UNDERGROUND POWER | -UE- | -UE- |
| SANITARY SEWER | -S- | -S- |
| STORM SEWER | -SS- | -SS- |
| GAS | -G- | -G- |
| WATER | -W- | -W- |
| MANHOLE | | |
| FIRE HYDRANT | | |
| WATER VALVE | | |
| WATER METER | | |
| DROP INLET | | |
| DITCH BLOCK | | |
| GROUND MOUNTED SIGN | | |
| LIGHT POLE | | |
| H-FRAME POWER POLE | | |
| TELEPHONE PEDESTAL | | |
| FENCE | | |
| CHAIN LINK | -V- | -V- |
| WOVEN WIRE | -X- | -X- |
| GATE POST | | |
| BENCHMARK | | |
| PERMANENT DRAINAGE EASEMENT | P.D.E. | P.D.E. |
| PERMANENT HIGHWAY EASEMENT | P.H.E. | P.H.E. |
| TEMPORARY CONSTRUCTION EASEMENT | T.C.E. | T.C.E. |
| DO NOT DISTURB | (DND) | (DND) |
| REMOVE | (R) | (R) |
| RELOCATE | (RELOC.) | (RELOC.) |
| REMOVE AND REPLACE | (R & R) | (R & R) |
| REMOVE AND RELOCATE | (R & RELOC.) | (R & RELOC.) |
| ADJUST TO GRADE | (ATG) | (ATG) |
| USE IN PLACE | (UIP) | (UIP) |
| TO BE ABANDONED | (TBA) | (TBA) |
| BY OTHERS | (BO) | (BO) |
| INTERMITTENT YELLOW | IY | IY |
| SOLID YELLOW | SY | SY |
| DOUBLE SOLID YELLOW | DSY | DSY |
| SOLID WHITE | SW | SW |

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
STATE HIGHWAY
DENT COUNTY

SECTION 18, TOWNSHIP 34N, RANGE 2W

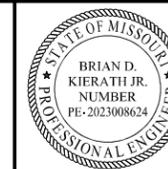


NOT TO SCALE

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

| DESCRIPTION | SHEET NUMBER |
|---------------------------------|--------------|
| TITLE SHEET | 1 |
| TYPICAL SECTIONS (TS) (1 SHEET) | 2 |
| QUANTITIES (QU) (2 SHEETS) | 3 |
| PLAN-PROFILE (PP) | 4 |
| REFERENCE POINTS (RP) | 5 |
| COORDINATE POINTS (CP) | 6 |
| TRAFFIC CONTROL SHEETS (TC) | 7 |
| EROSION CONTROL (EC) | 8 |
| SIGNING PLAN (SN) | 9 |
| PAVEMENT MARKING PLAN (PM) | 10 |
| BRIDGE DRAWINGS (B) | |
| A9722 | 1-29 |
| CROSS SECTIONS (XS) | 1-11 |



THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

DATE PREPARED
2/6/2025

ROUTE B STATE MO
DISTRICT CD SHEET NO. 1

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

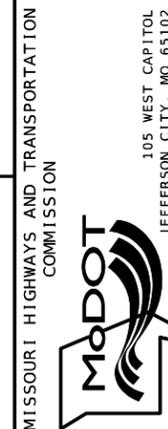
DATE

LENGTH OF PROJECT

| | |
|---------------------------|----------------|
| BEGINNING OF PROJECT | STA. 131+07.00 |
| END OF PROJECT | STA. 134+81.00 |
| APPARENT LENGTH | 374.00 FEET |
| EQUATIONS AND EXCEPTIONS: | |

| | |
|-----------------------|-------------|
| TOTAL CORRECTIONS | 0.00 FEET |
| NET LENGTH OF PROJECT | 374.00 FEET |
| STATE LENGTH | 0.071 MILES |

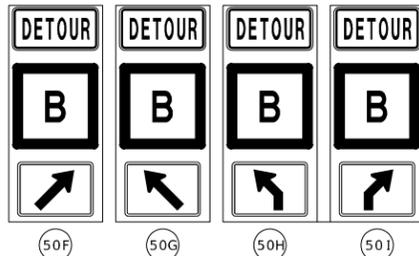
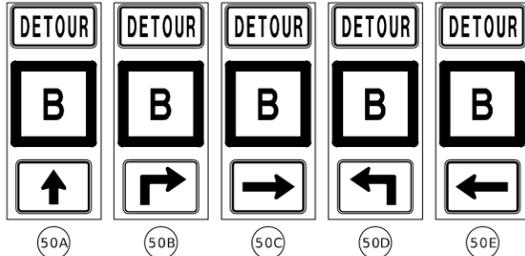
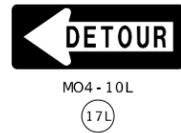
FOR INFORMATION ONLY
ESTIMATED DISTURBED ACRES 0.27 ACRES



GEORGE BUTLER ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

BRIAN KIERATH
PROFESSIONAL ENGINEER
PE-2023008624

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DETOUR LEGEND

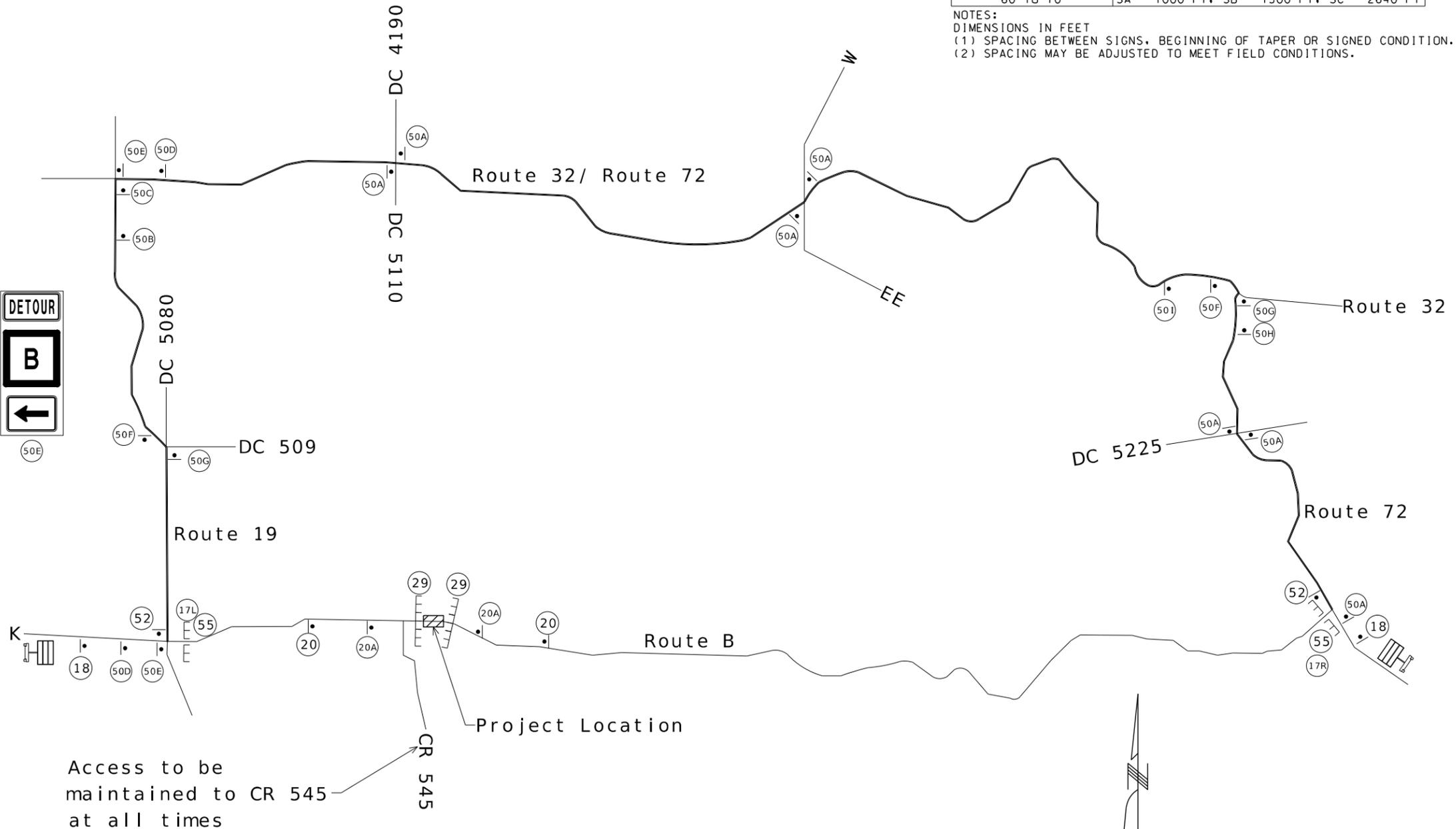
- DETOUR ROUTE
- TRAFFIC CONTROL SIGN
- TYPE III BARRICADE WITH LIGHT
- PORTABLE CHANGEABLE MESSAGE BOARD

GENERAL TRAFFIC CONTROL NOTES:

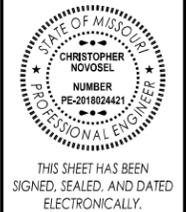
- ALL EXISTING SIGNS THAT CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, NO DIRECT PAY.
- ALL R11-2 AND R11-4 SIGNS SHALL BE MOUNTED ON TYPE III BARRICADE.

| SIGN SPACING FOR ADVANCE SIGN SERIES (1) (2) | | |
|--|--|-----------------------------------|
| POSTED SPEED PRIOR TO CONSTRUCTION, MPH (P) | NON-DIVIDED HIGHWAY LENGTH (S), (FT.) | DIVIDED HIGHWAY LENGTH (S), (FT.) |
| 0 TO 35 | 200' | 200' |
| 40 TO 45 | 350' | 500' |
| 50 TO 55 | 500' | 1000' |
| 60 TO 70 | SA - 1000 FT, SB - 1500 FT, SC - 2640 FT | |

- NOTES:
 DIMENSIONS IN FEET
 (1) SPACING BETWEEN SIGNS, BEGINNING OF TAPER OR SIGNED CONDITION.
 (2) SPACING MAY BE ADJUSTED TO MEET FIELD CONDITIONS.



Access to be maintained to CR 545 at all times



DATE PREPARED
2/6/2025

ROUTE B STATE MO

DISTRICT CD SHEET NO. 7

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

| DESCRIPTION | DATE |
|-------------|------|
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)



16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017

314.231.0100 GBA@aam.com

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059

ROUTE B

DETOUR PLAN SHEET 1 OF 1

CHRISTOPHER NOVOSEL PROFESSIONAL ENGINEER PE - 2018024421

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DATE PREPARED
2/6/2025

| | |
|-----------------------|------------------------|
| ROUTE B | STATE MO |
| DISTRICT CD | SHEET NO. 10 |

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

| DATE | DESCRIPTION |
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COMMISSION

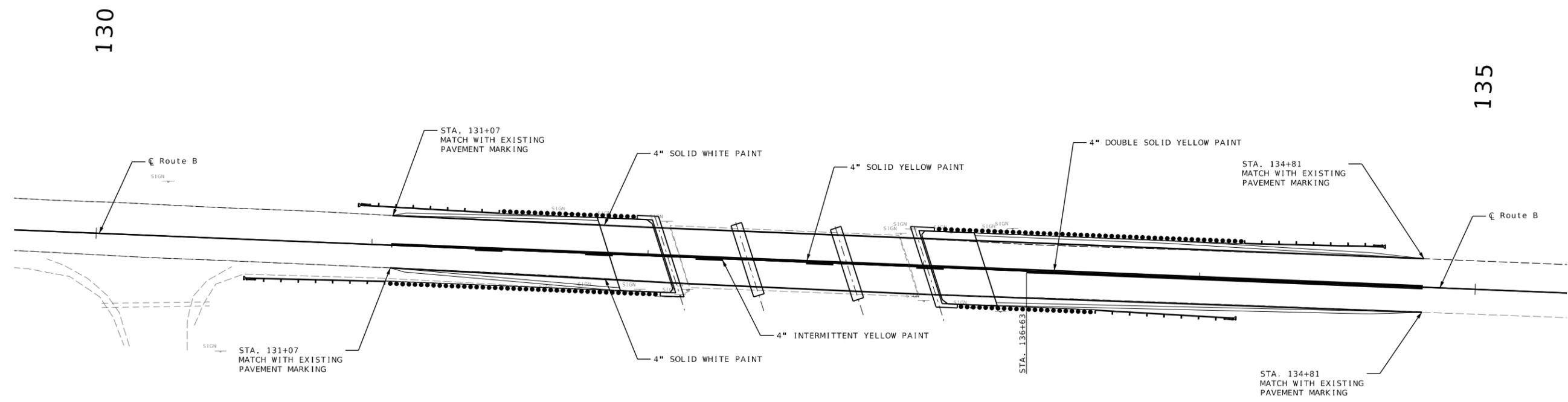
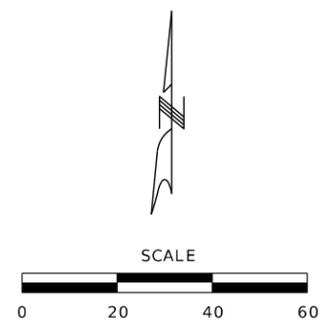
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

CHRISTOPHER NOVOSSEL
PROFESSIONAL
ENGINEER
PE - 2018024421



ROUTE B

PAVEMENT MARKING PLAN
SHEET 1 OF 1

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

(29'-36'-29') PRESTRESSED CONCRETE SPREAD BOX BEAM SPANS



THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
2/6/2026

ROUTE B STATE MO
DISTRICT BR SHEET NO. 1

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DESCRIPTION | DATE |
|-------------|------|
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059

MACKENZIE M. MOORE PROFESSIONAL ENGINEER PE-2024032177

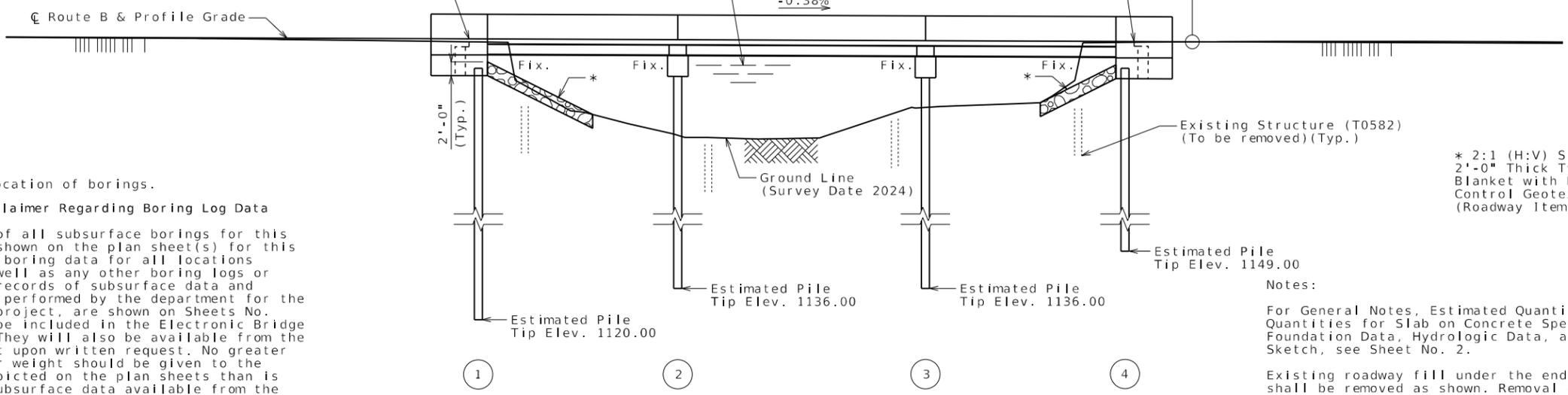
VPI 131+30.00
EL 1203.71

Sta. 132+05.88
Pr. Gr. Elev. 1203.42
@ End of Slab
@ C of Roadway

Sta. 133+02.54
Pr. Gr. Elev. 1203.05
@ End of Slab
@ C of Roadway

VPC 133+11.00
EL 1203.02

VPI 133+96.00
EL 1202.69
-0.38% -1.15%
170.00' V.C



GENERAL ELEVATION

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) 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 the department for the design of the project, are shown on Sheets No. 25-29 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission 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 here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

Notes:

For General Notes, Estimated Quantities, Estimated Quantities for Slab on Concrete Spread Box Beam, Foundation Data, Hydrologic Data, and Location Sketch, see Sheet No. 2.

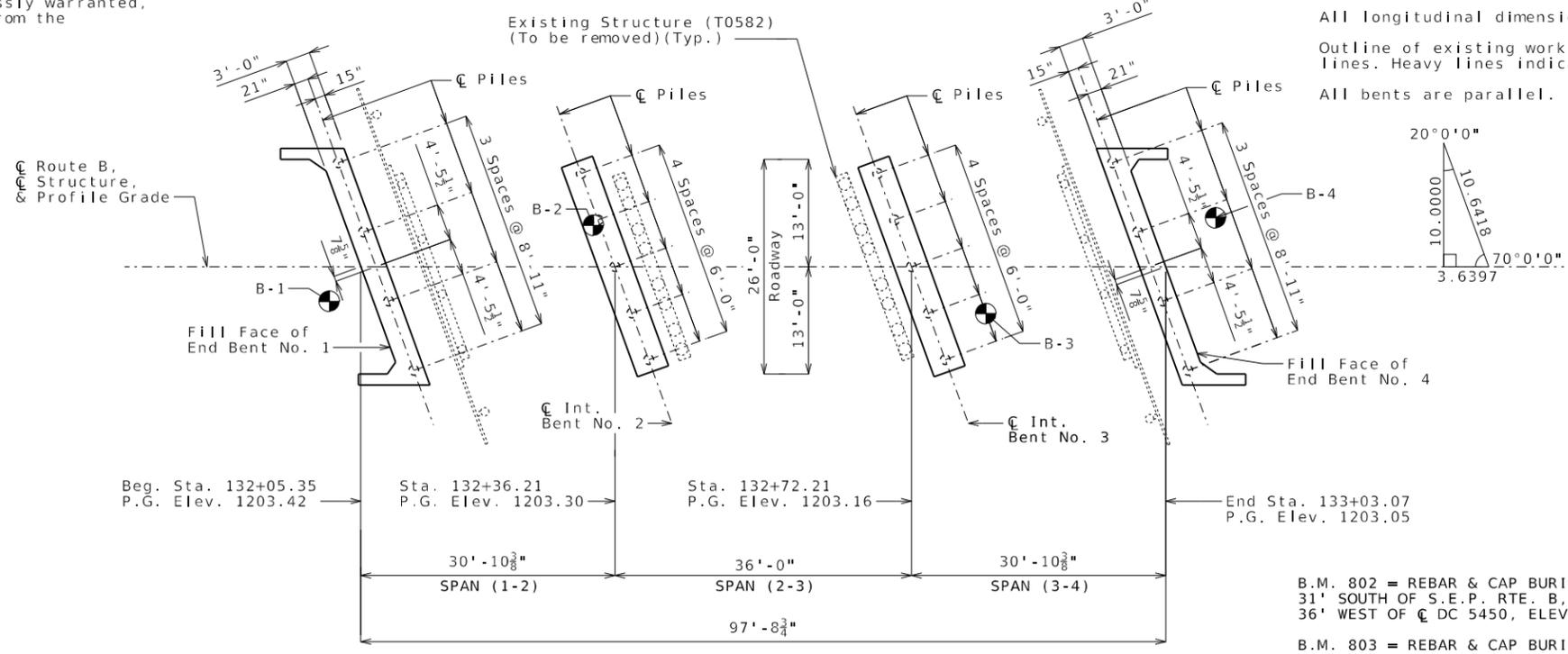
Existing roadway fill under the ends of the bridge shall be removed as shown. Removal of existing roadway fill will be considered completely covered by the contract unit price for roadway excavation.

Roadway fill, shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

All longitudinal dimensions shown are horizontal.

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

All bents are parallel.



PLAN

B.M. 802 = REBAR & CAP BURIED 0.20, 31' SOUTH OF S.E.P. RTE. B, 36' WEST OF C DC 5450, ELEV. 1205.86

B.M. 803 = REBAR & CAP BURIED 0.20, 11' NORTH OF N.E.P. RTE. B, 1,236' EAST OF C DC 5450, ELEV. 1224.39

BRIDGE: ROUTE B OVER DRY VALLEY CREEK

ROUTE B FROM ROUTE 19 TO ROUTE 72 ABOUT 2.5 MILES EAST OF ROUTE 19 BEGINNING STATION 132+05.35

Designed Oct 2025
Detailed Jan 2026
Checked Jan 2026

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

Sheet No. 1 of 29

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

| Estimated Quantities | | | | |
|---|-------------|---------|-----------|-------|
| Item | | Substr. | Superstr. | Total |
| Class 1 Excavation | cu. yard | 60 | | 60 |
| Removal of Bridges (T0582) | Lump sum | | | 1 |
| Bridge Approach Slab (Minor) | sq. yard | | 117 | 117 |
| Galvanized Cast-In-Place Concrete Piles (14 in) | linear foot | 1164 | | 1164 |
| Dynamic Pile Testing | each | 4 | | 4 |
| Pile Point Reinforcement | each | 18 | | 18 |
| Class B Concrete (Substructure) | cu. yard | 48.2 | | 48.2 |
| Type D Barrier | linear foot | | 215 | 215 |
| Slab on Concrete Beam | sq. yard | | 308 | 308 |
| 17 in., Prestressed Concrete Spread Box Beam | linear foot | | 280 | 280 |
| Reinforcing Steel (Bridges) | pounds | 3860 | | 3860 |
| Slab Drain | each | | 14 | 14 |
| Vertical Drain at End Bents | each | | | 2 |
| Plain Neoprene Bearing Pad | each | | 6 | 6 |
| Laminated Neoprene Bearing Pad | each | | 12 | 12 |
| | | | | |
| | | | | |
| | | | | |

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 and all reinforcement in cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Concrete Beam.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

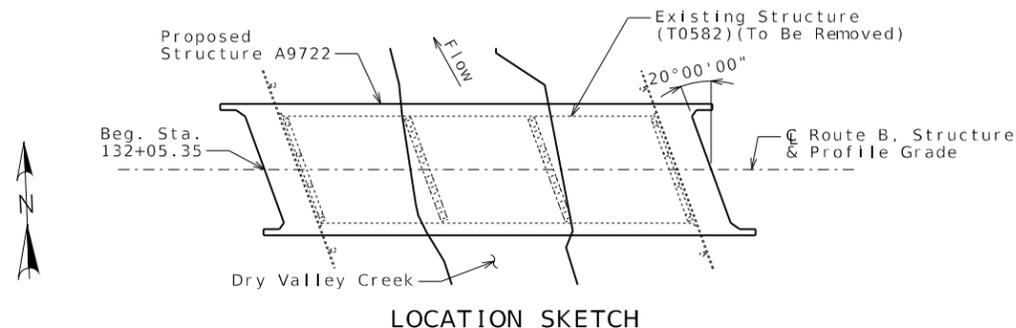
All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete Beam.

| Estimated Quantities for Slab on Concrete Beam | | |
|--|----------|--------|
| Item | | Total |
| Class B-2 Concrete | cu. yard | 96 |
| Reinforcing Steel (Epoxy Coated) | pound | 29,810 |

The table of Estimated Quantities for Slab on Concrete Beam represents the quantities used by the State 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 stay-in-place corrugated steel forms, 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.

Slab shall be cast-in-place with conventional forms or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.



| Hydrologic Data |
|---|
| Drainage Area = 5.7 mi ² |
| Design Flood Frequency = 50 years |
| Design Flood Discharge = 3800 cfs |
| Design Flood (D.F.) Elevation = 1199.6 ft |
| Base Flood (100-year) |
| Base Flood Elevation = 1200.1 ft |
| Base Flood Discharge = 4500 cfs |
| Estimated Backwater = 1.5 ft |
| Average Velocity thru Opening = 12.6 ft/s |
| Freeboard (50-year) |
| Freeboard = 1.1 ft |
| Roadway Overtopping |
| Overtopping Flood Discharge = 6200 cfs |
| Overtopping Flood Frequency = 500 years |
| Overtopping Flood Elevation = 1202.5 ft |

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
 Seismic Design Category = B (Seismic Details)
 Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.214
 Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.192

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. Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi
 Class B-1 Concrete (Pipe Pile) f'c = 4,000 psi
 Class B-1 Concrete (Barrier) f'c = 4,000 psi
 Class B-2 Concrete (Superstructure, except Prestressed Beams and Barrier) f'c = 4,000 psi
 Reinforcing Steel (ASTM A706 Grade 60) fy = 60,000 psi
 Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Modified Grade 3) fy = 50,000 psi
 For prestressed box beam stresses, see Sheets No. 12 & 13.

Neoprene Pads:

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.

Minimum clearance between galvanized piles and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

Traffic Handling:

Structure to be closed during construction. See roadway plans for traffic control.

| Foundation Data | | | | | | |
|-------------------|--|-------------|-------------|-------------|-------------|-------------|
| Type | Design Data | Bent Number | | | | |
| | | 1 | 2 | 3 | 4 | |
| Load Bearing Pile | CECIP Pile Type and Size | CECIP 14" | CECIP 14" | CECIP 14" | CECIP 14" | |
| | Number | ea | 4 | 5 | 5 | 4 |
| | Approximate Length Per Each | ft | 80 | 64 | 64 | 51 |
| | Pile Point Reinforcement | ea | All | All | All | All |
| | Min. Galvanized Penetration (Elev.) | ft | Full Length | Full Length | Full Length | Full Length |
| | Est. Max. Scour Depth 100 (Elev.) | ft | 1193.00 | 1187.00 | 1186.00 | 1192.00 |
| | Minimum Tip Penetration (Elev.) | ft | 1173.00 | 1167.00 | 1166.00 | 1172.00 |
| | Criteria for Min. Tip Penetration | | Min. Embed. | Min. Embed. | Min. Embed. | Min. Embed. |
| | Pile Driving Verification Method | | DT | DT | DT | DT |
| | Resistance Factor | | 0.65 | 0.65 | 0.65 | 0.65 |
| | Minimum Nominal Axial Compressive Resistance | kip | 195 | 253 | 253 | 195 |

CECIP = Close Ended Cast-in-Place Concrete Pile

DT = Dynamic Testing

Manufactured pile point reinforcement shall be used on all piles in this structure.

Load Bearing Piles:

Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

All piles shall be galvanized to the minimum galvanized penetration (elevation).

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

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

GENERAL NOTES AND QUANTITIES

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

Sheet No. 2 of 29

Detailed Jan 2026
 Checked Jan 2026



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DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 2

COUNTY DENT

JOB NO. J553559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DATE | DESCRIPTION |
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MACKENZY M. MOORE PROFESSIONAL ENGINEER PE-2024032177

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DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 4

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DESCRIPTION | DATE |
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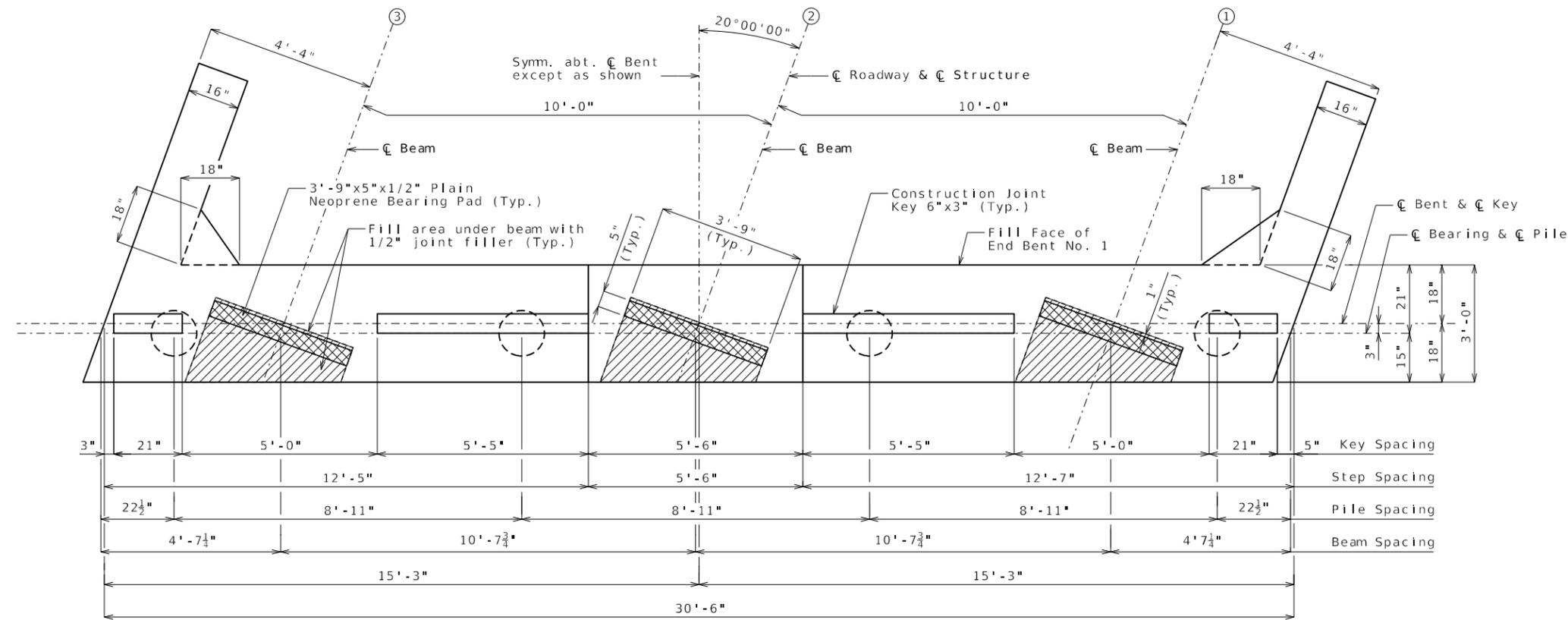
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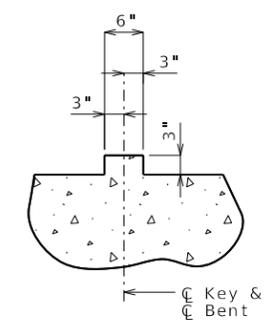
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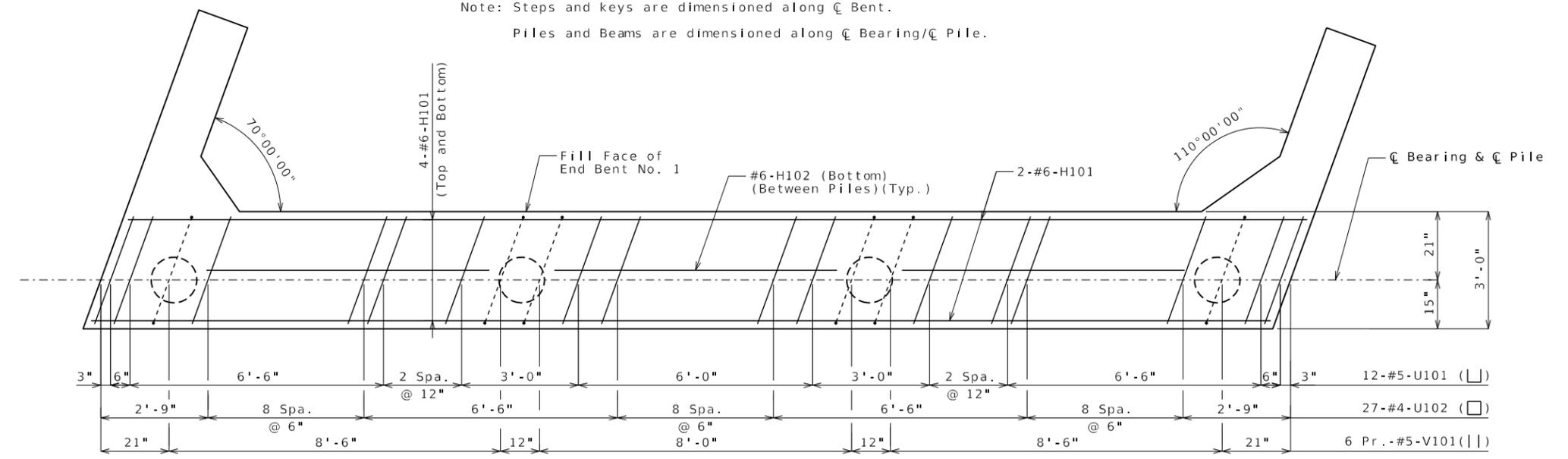


PLAN OF BEAM

Note: Steps and keys are dimensioned along \bar{C} Bent.
 Piles and Beams are dimensioned along \bar{C} Bearing/ \bar{C} Pile.



SECTION THRU KEY



PLAN OF BEAM SHOWING REINFORCEMENT

Note: Steps and keys not shown for clarity.

Notes:
 For Details of End Bent No. 1 not shown, see Sheets No. 5 & 6.
 Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2 inches.
 All concrete in the end bent above top of beam and below top of slab shall be Class B-2.
 All U-bars and pairs of V-bars shall be placed parallel to centerline of roadway.

DETAILS OF END BENT NO. 1

Note: This drawing is not to scale. Follow dimensions. Sheet No. 4 of 29

Detailed Jan 2026
 Checked Jan 2026

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

Notes:

For details of End Bent No. 1 not shown, see Sheets No. 4 & 6.

The #6-F102 & #6-F104 bars shall be bent in the field to clear the beams.

The U bars and pairs of V bars shall be placed parallel to centerline of roadway.

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

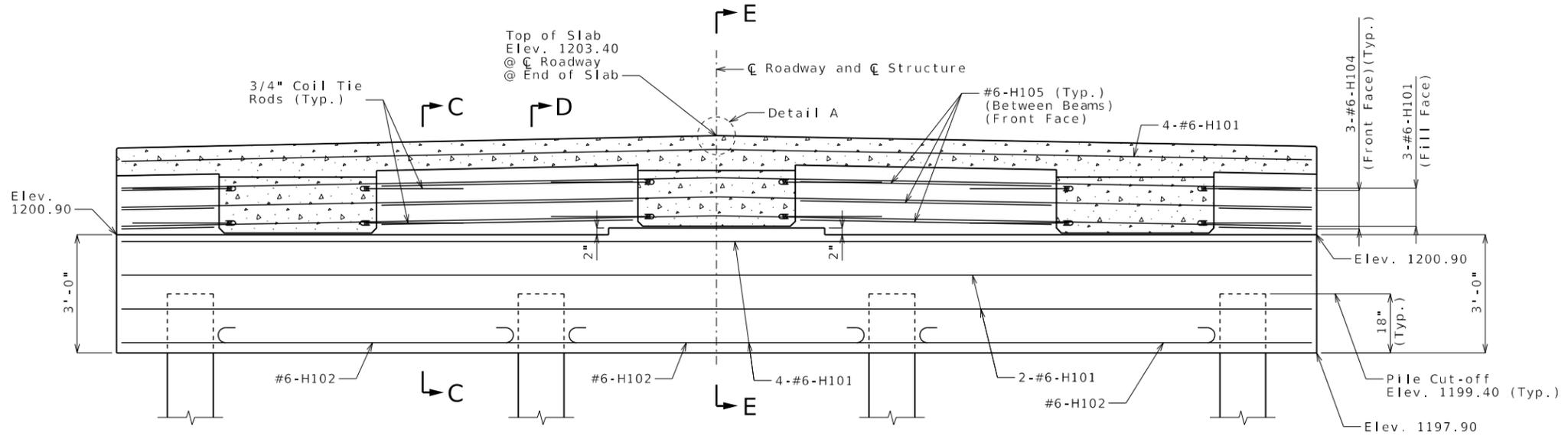
For Elevations A-A & B-B, and Sections C-C, D-D, and E-E, see Sheet No. 6.

For location of strand tie bars and coil tie rods, see Sheets No. 12 & 13.

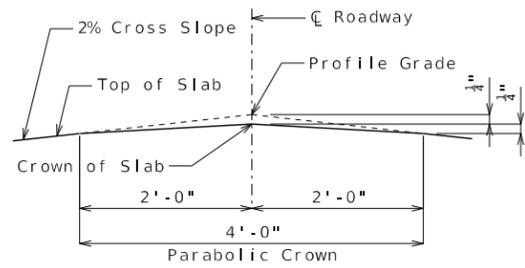
For Details of Vertical Drain at End Bent, see Sheet No. 7.

For reinforcement of Type D Barrier, see Sheets No. 19 & 20.

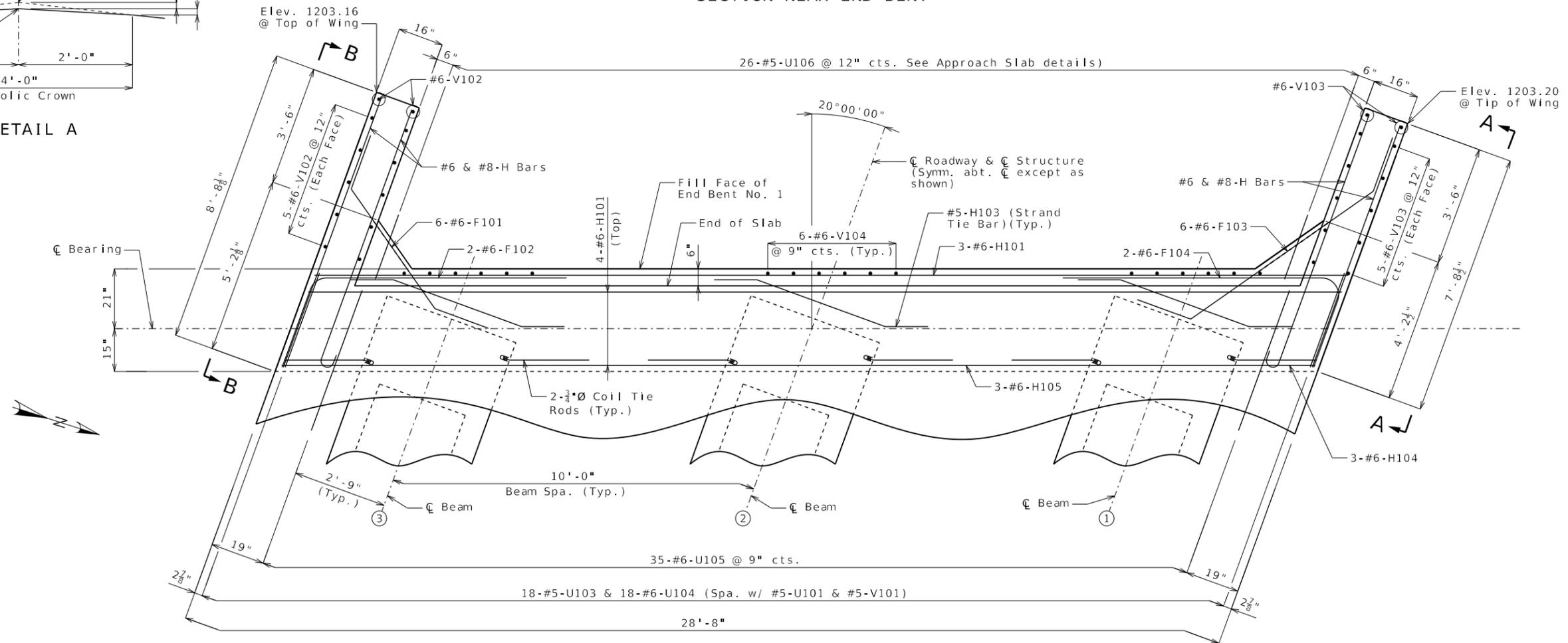
For details of Approach Slab, see Sheet No. 21.



SECTION NEAR END BENT



DETAIL A



PLAN

DETAILS OF END BENT NO. 1

Detailed Jan 2026
Checked Jan 2026

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

Sheet No. 5 of 29



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DATE PREPARED
2/6/2026

ROUTE B STATE MO
DISTRICT BR SHEET NO. 5

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9722

| DESCRIPTION | DATE |
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

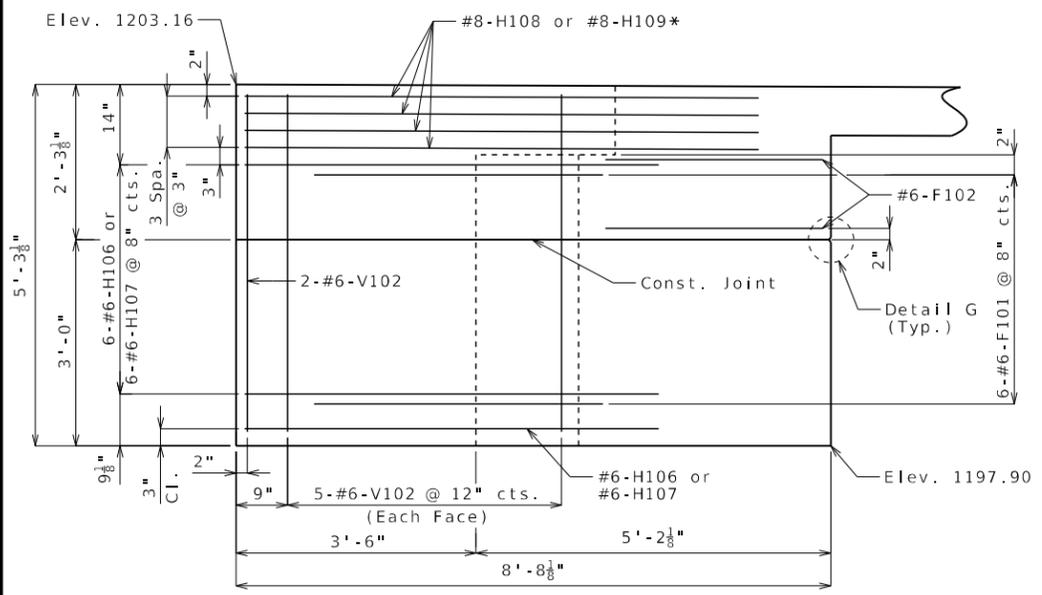
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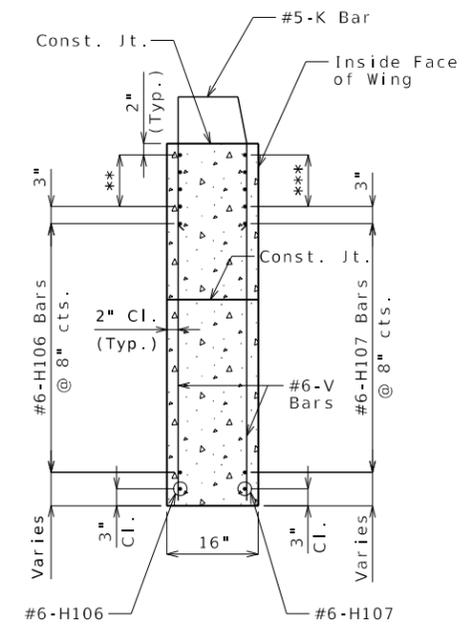
GEORGE BUTLER
 ASSOCIATES, INC.
 PRO. ENGINEER 000133
 ARCHITECT 000212
 PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE
 PROFESSIONAL
 ENGINEER
 PE-2024032177

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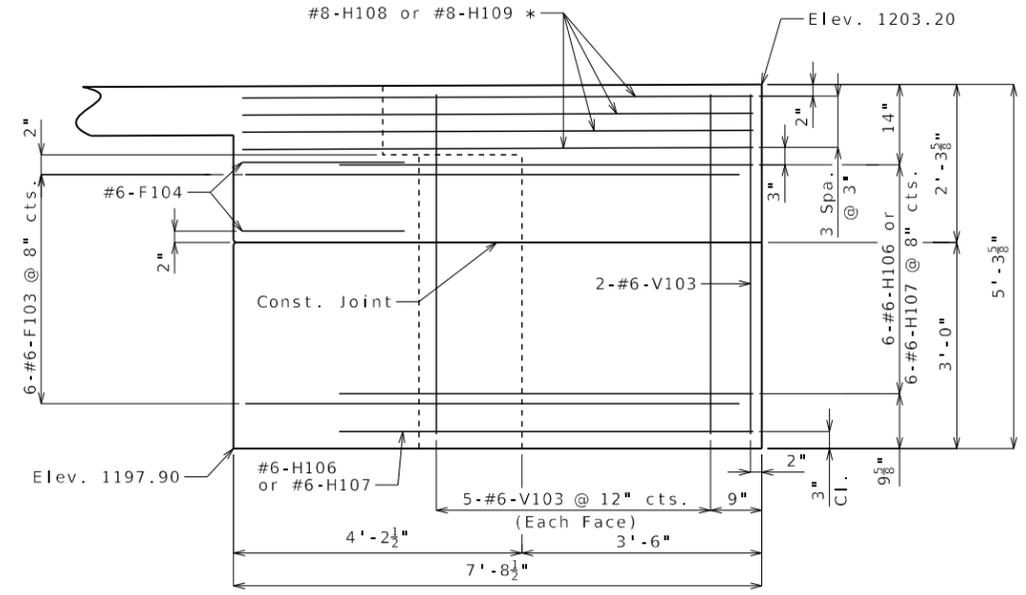


ELEVATION B-B

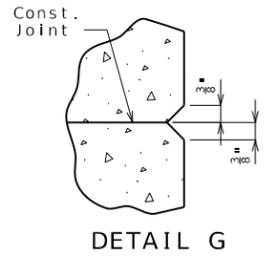


TYPICAL SECTION THRU WING

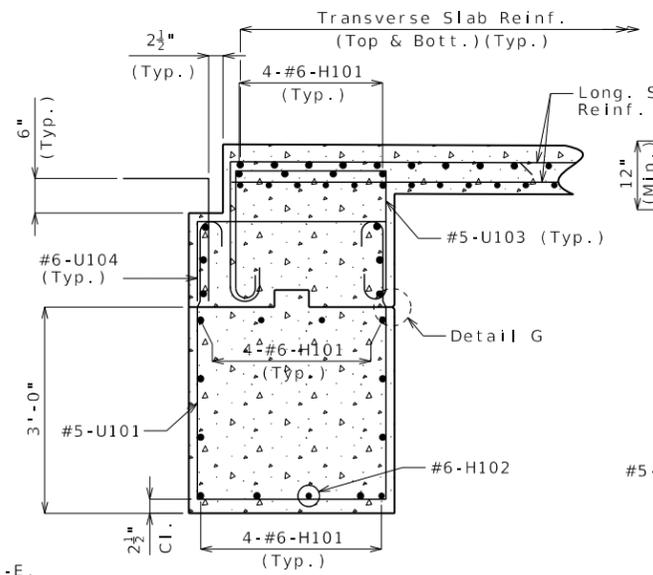
* Place with grade
 ** #8-H108 Bars @ 3" cts.
 *** #8-H109 Bars @ 3" cts.



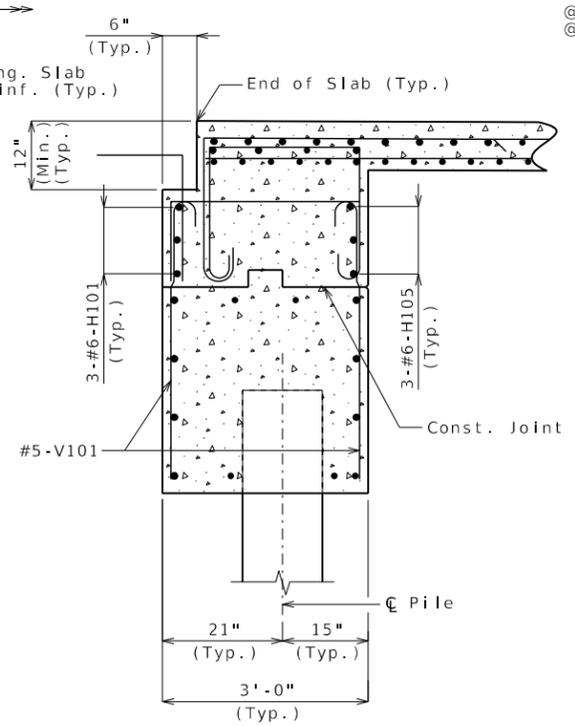
ELEVATION A-A



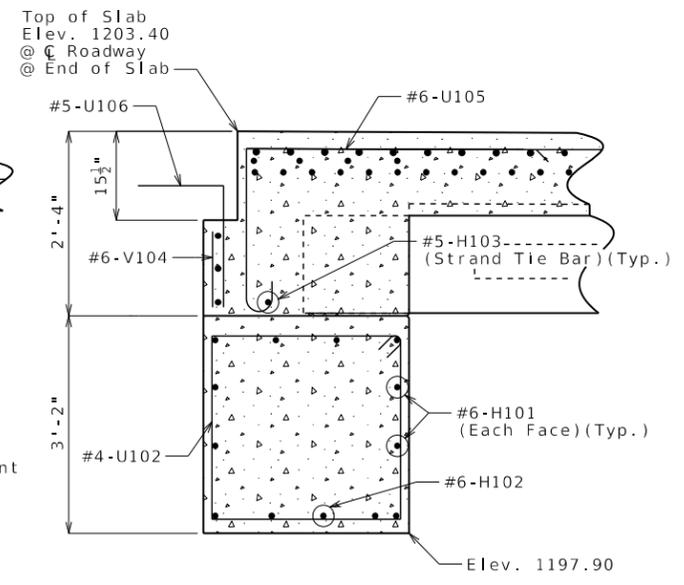
DETAIL G



SECTION C-C



SECTION D-D



SECTION E-E

Notes:
 For details of End Bent No. 1 not shown, see Sheets No. 4 & 5.
 For location of Elevations A-A, B-B, and Sections C-C, D-D, and E-E, see Sheet No. 5.
 For reinforcement of Type D Barrier, see Sheet No. 20.

| Substructure Quantity Table for Bent No. 1 | | |
|---|-------------|----------|
| Item | | Quantity |
| Class 1 Excavation | cu. yard | 30 |
| Galvanized Cast-In-Place Concrete Piles (14 in) | linear foot | 320 |
| Dynamic Pile Testing | each | 1 |
| Pile Point Reinforcement | each | 4 |
| Class B Concrete (Substructure) | cu. yard | 12.0 |

These quantities are included in the Estimated Quantities table on Sheet No. 2.

DETAILS OF END BENT NO. 1



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DATE PREPARED 2/6/2026

ROUTE B STATE MO DISTRICT BR SHEET NO. 6

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DESCRIPTION | DATE |
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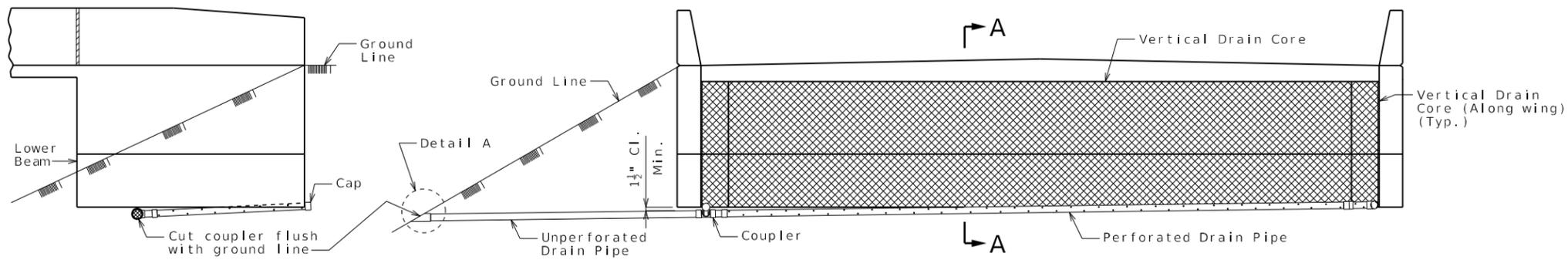
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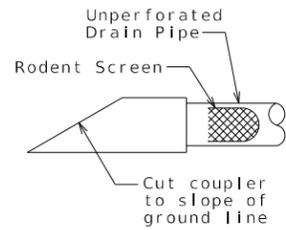
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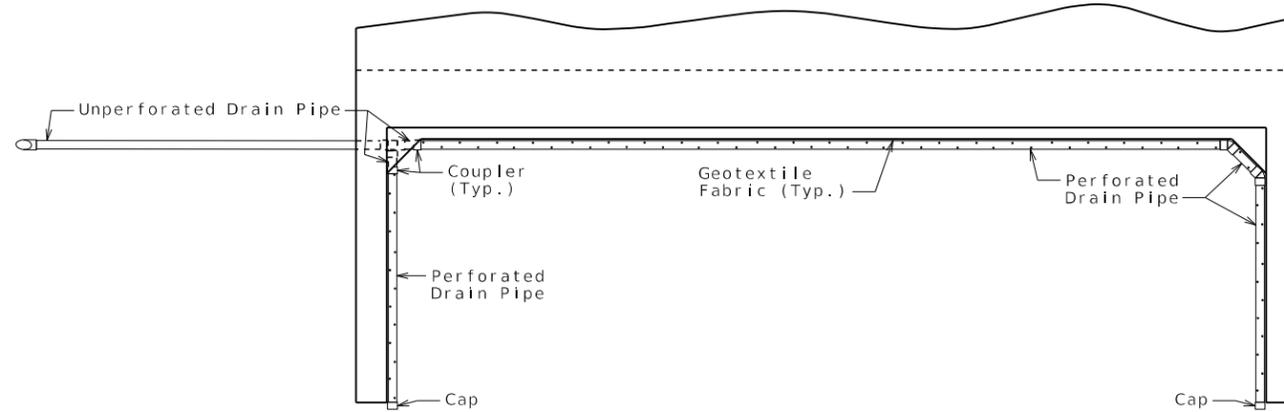


ELEVATION OF WING

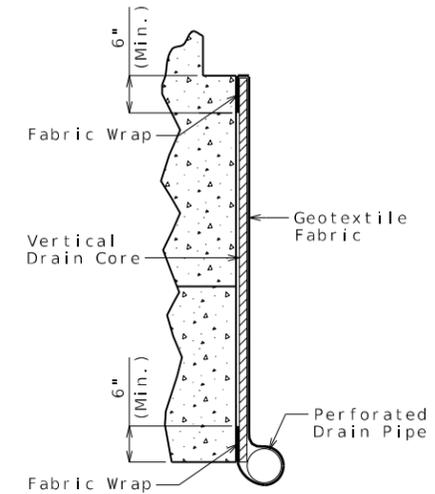
ELEVATION OF END BENT



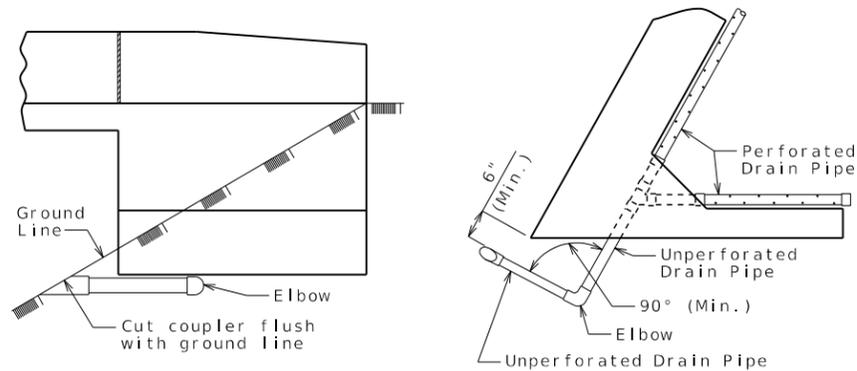
DETAIL A



PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)

VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent 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.



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DATE PREPARED
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ROUTE B STATE MO

DISTRICT BR SHEET NO. 7

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9722

| DESCRIPTION | DATE |
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PE-2024032177

Detailed Jan 2026
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Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 29

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DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 8

COUNTY DENT

JOB NO. 15S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

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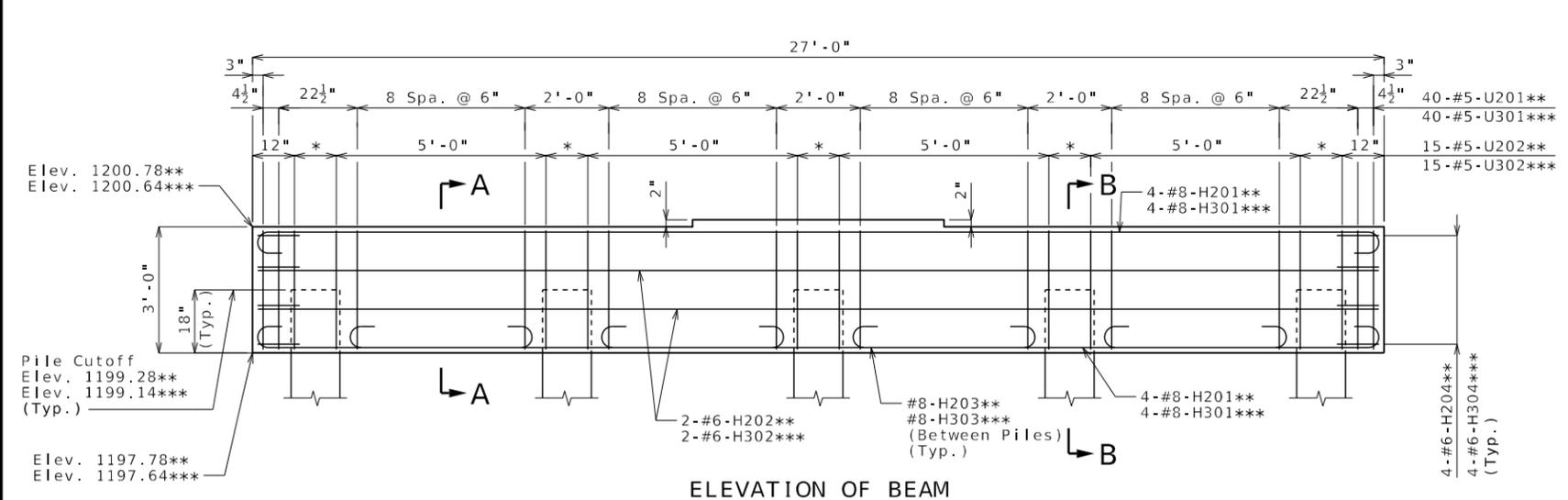
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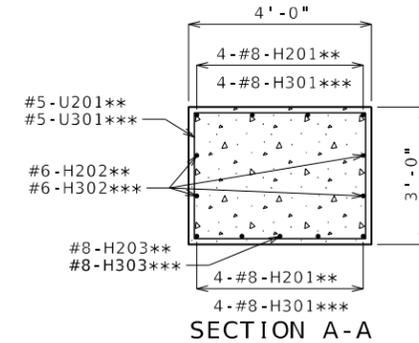
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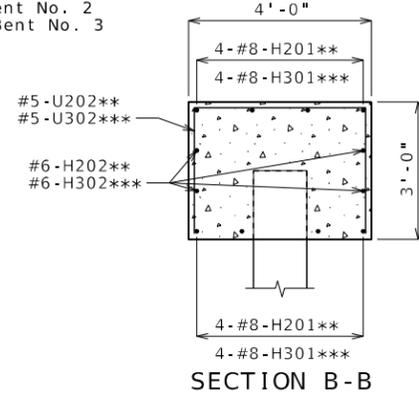
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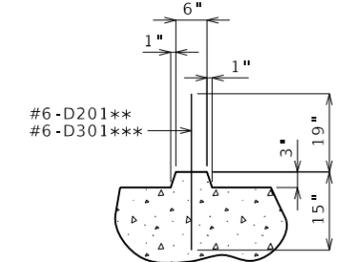
ELEVATION OF BEAM



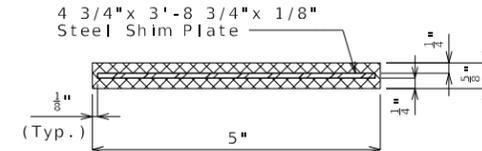
SECTION A-A



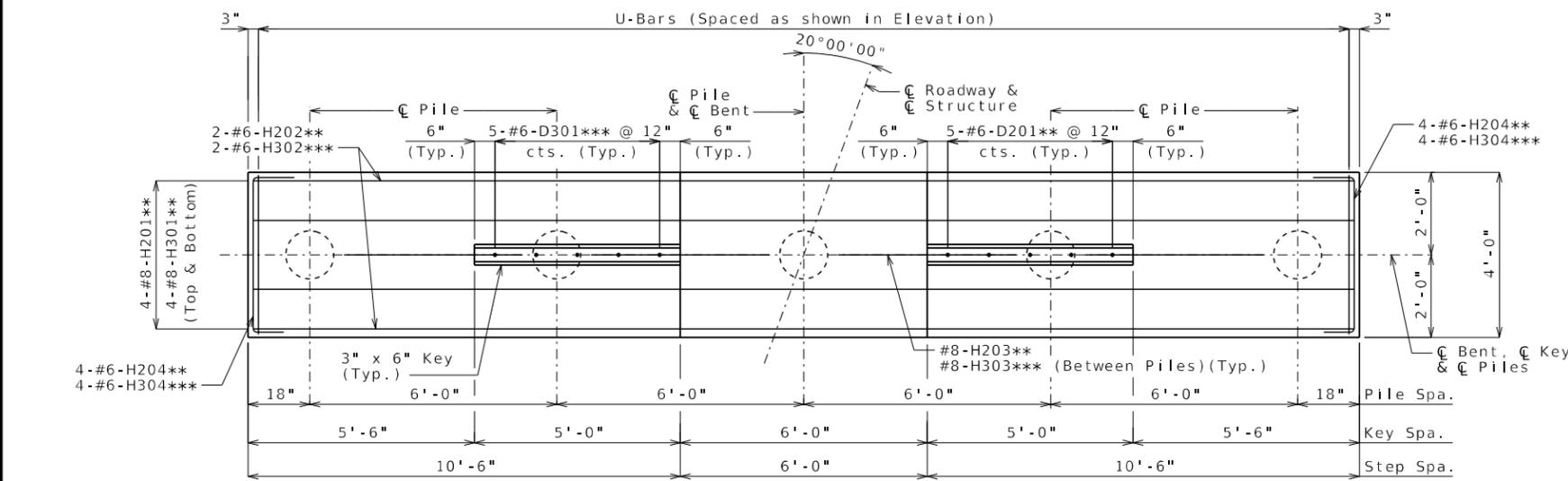
SECTION B-B



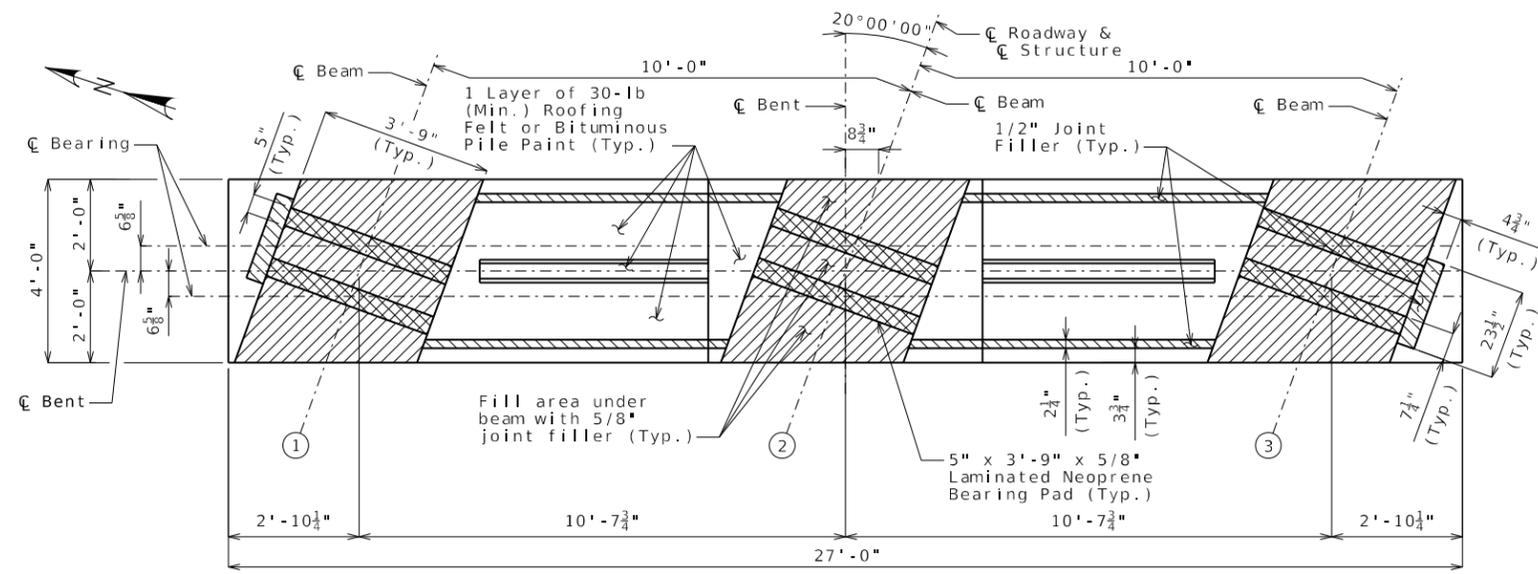
SECTION THRU KEY



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD



PLAN OF BEAM SHOWING REINFORCEMENT



PLAN OF BEAM

DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

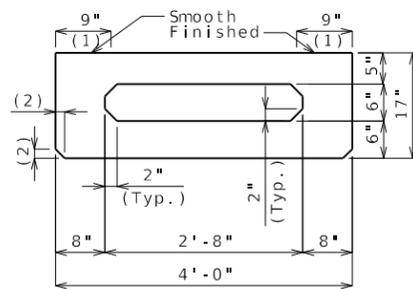
| Item | Quantity | |
|---|---------------|-------|
| | No. 2 | No. 3 |
| Galvanized Cast-In-Place Concrete Piles (14 in) linear foot | 320 | 320 |
| Dynamic Pile Testing | 1 | 1 |
| Pile Point Reinforcement | 5 | 5 |
| Class B Concrete (Substructure) | cu. yard 12.1 | 12.1 |
| Reinforcing Steel (Bridges) | pound 1950 | 1950 |

These quantities are included in the Estimated Quantities table on Sheet No. 2.

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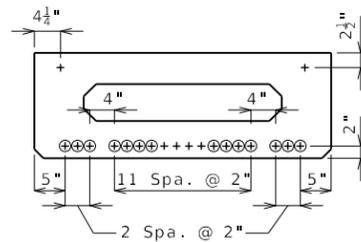
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 29



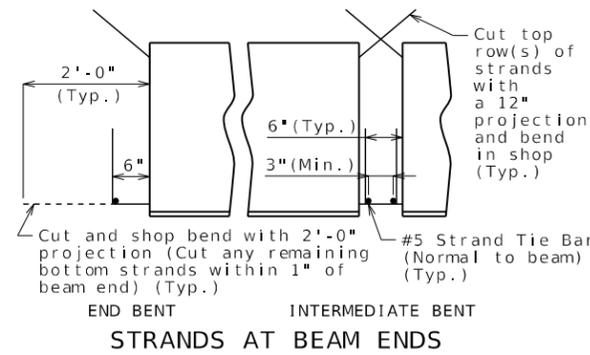
DIMENSIONS

- (1) Fabricator shall apply a bond breaker to this region.
- (2) 1 1/2" (Typ.) (3/4" Optional)

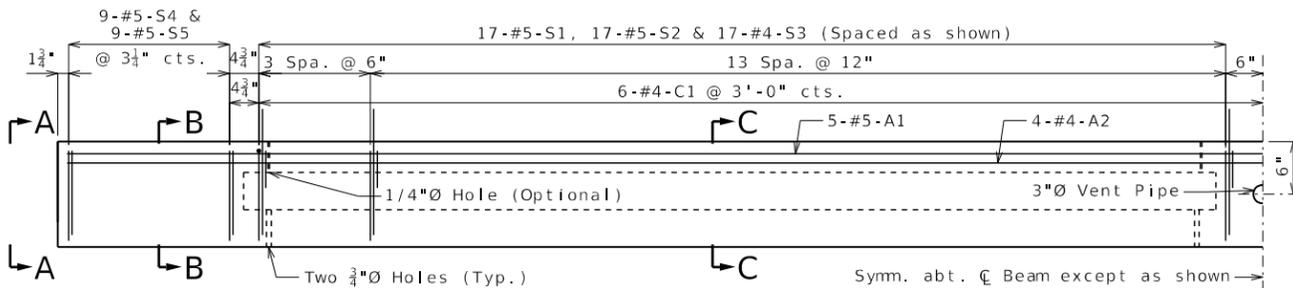


STRAND ARRANGEMENT

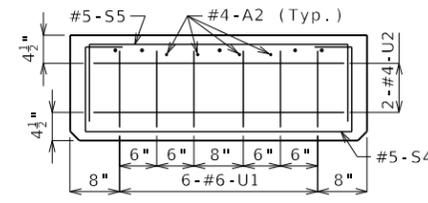
All strands are fully bonded unless otherwise noted.
 + Indicates prestressing strand.
 O Indicates cut and shop bend with 2'-0" projection.



STRANDS AT BEAM ENDS

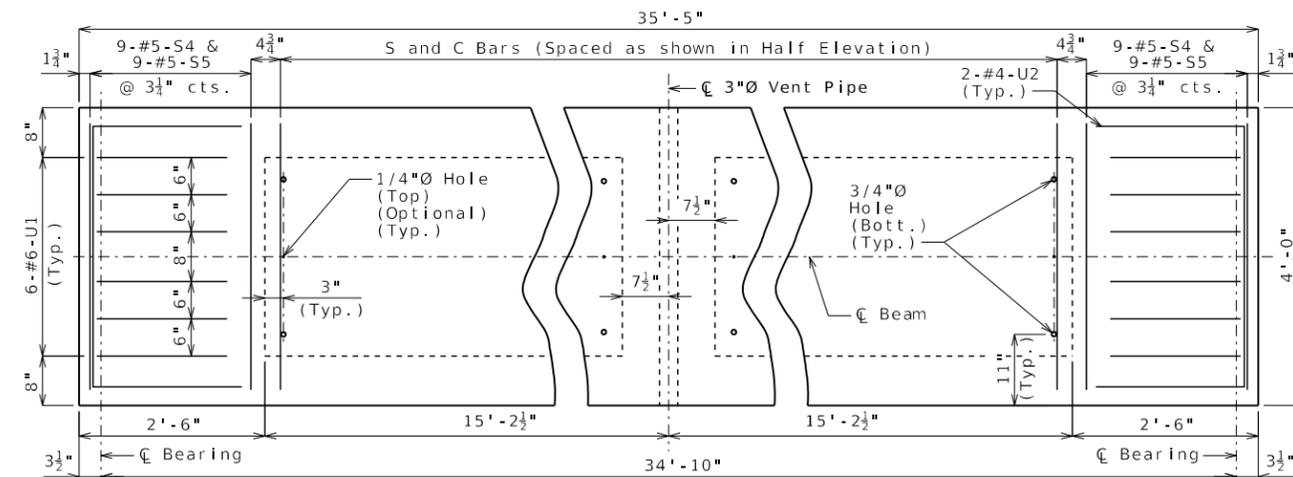


HALF ELEVATION

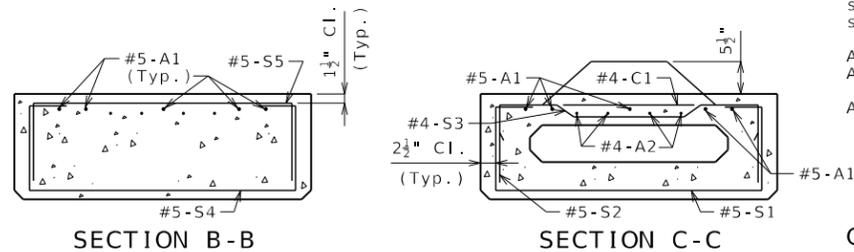


ELEVATION A-A

Strands not shown for clarity.

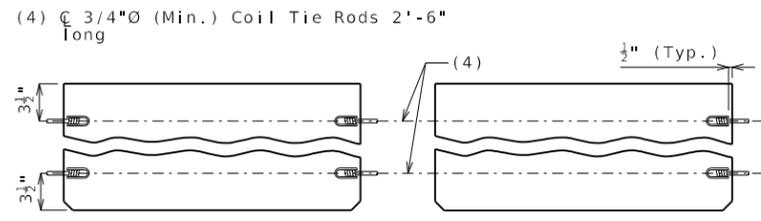


PART PLAN



SECTION B-B

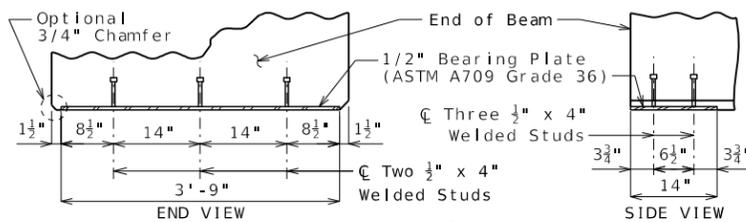
SECTION C-C



INTERIOR BEAMS AT ALL BENTS

EXTERIOR BEAMS AT INTERMEDIATE BENTS

COIL TIES



BEARING PLATE

| BILL OF REINFORCING STEEL - EACH BEAM | | | | | BENDING DIAGRAM | |
|---------------------------------------|-------------|---------------|-------|--|-----------------|-----------|
| NO. | SIZE & MARK | ACTUAL LENGTH | SHAPE | | | |
| 5 | 5 A1 | 35'-2" | 20 | | 14 1/2" (#4) | 3'-7" |
| 4 | 4 A2 | 35'-2" | 20 | | 14 1/2" (#5) | 3'-7" |
| 11 | 4 C1 | 3'-7" | 20 | | 6" (#4) | (S1, S4) |
| | | | | | 6" (#5) | (S5) |
| 34 | 5 S1 | 6'-7" | 10S | | 21" | 3'-5 1/2" |
| 34 | 5 S2 | 6'-1" | 51S | | 13" | 2'-0" |
| 34 | 4 S3 | 4'-6" | 50S | | | (U1) |
| 18 | 5 S4 | 6'-7" | 10S | | | (U2) |
| 18 | 5 S5 | 5'-8" | 10S | | | |
| 12 | 6 U1 | 4'-3" | 10S | | | |
| 4 | 4 U2 | 7'-4" | 10S | | | |

All dimensions are out to out. Use symmetry for dimensions not shown.

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

Actual bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch, unless otherwise shown.

All reinforcement shall be ASTM A615 or A706 Grade 60.

All S2 bars shall be epoxy coated.

General Notes:

Concrete for prestressed beams shall be Class A-1 with f'c = 6,000 psi and f'ci = 4,500 psi.

Use 20 strands, 1/2"Ø Grade 270, with an initial prestress force of 620 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

Exterior and interior beams are the same except: coil ties and coil inserts for slab drains.

For Beam Camber Diagram, see Sheet No. 16.

For location of coil inserts at slab drains, see Sheet No. 15.

For location of coil ties at concrete bent diaphragms, see Sheets No. 5, 10 and 14.



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DATE PREPARED: 2/6/2026

ROUTE: B STATE: MO

DISTRICT: BR SHEET NO.: 13

COUNTY: DENT

JOB NO.: J5S3559

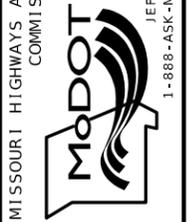
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DATE PREPARED
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ROUTE STATE
B MO

DISTRICT SHEET NO.
BR 14

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
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DESCRIPTION

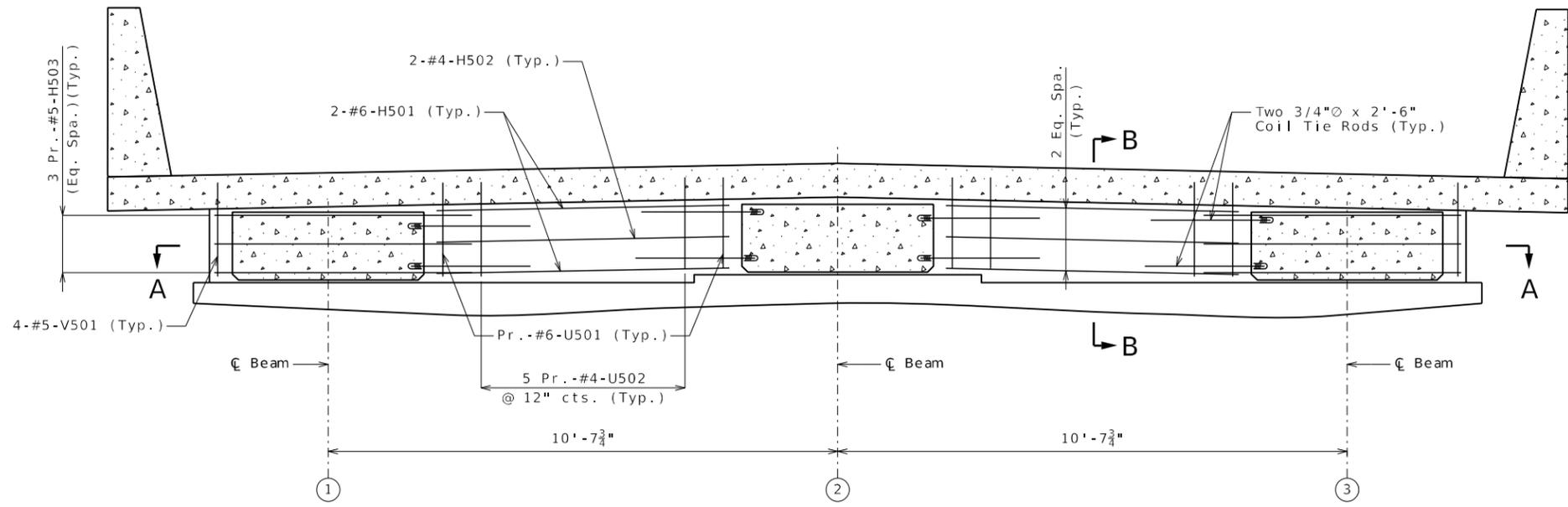
DATE

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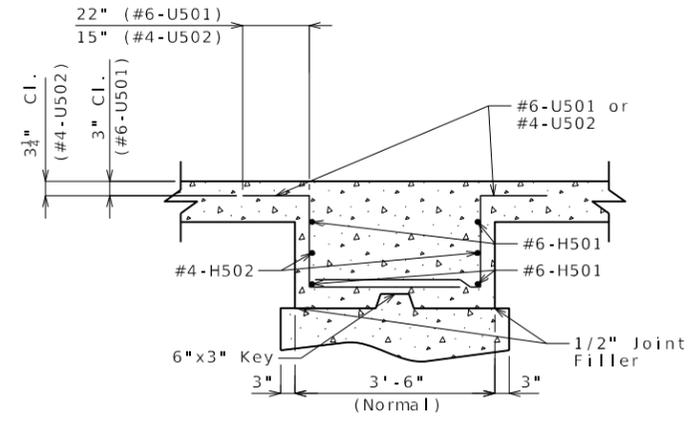
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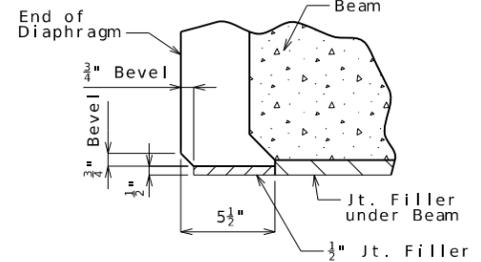
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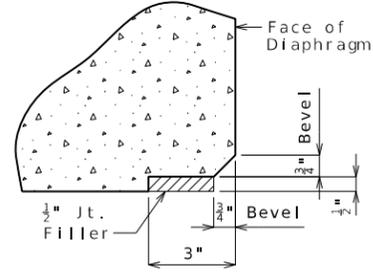
SECTION NEAR INTERMEDIATE BENT
(Key not shown for clarity.)



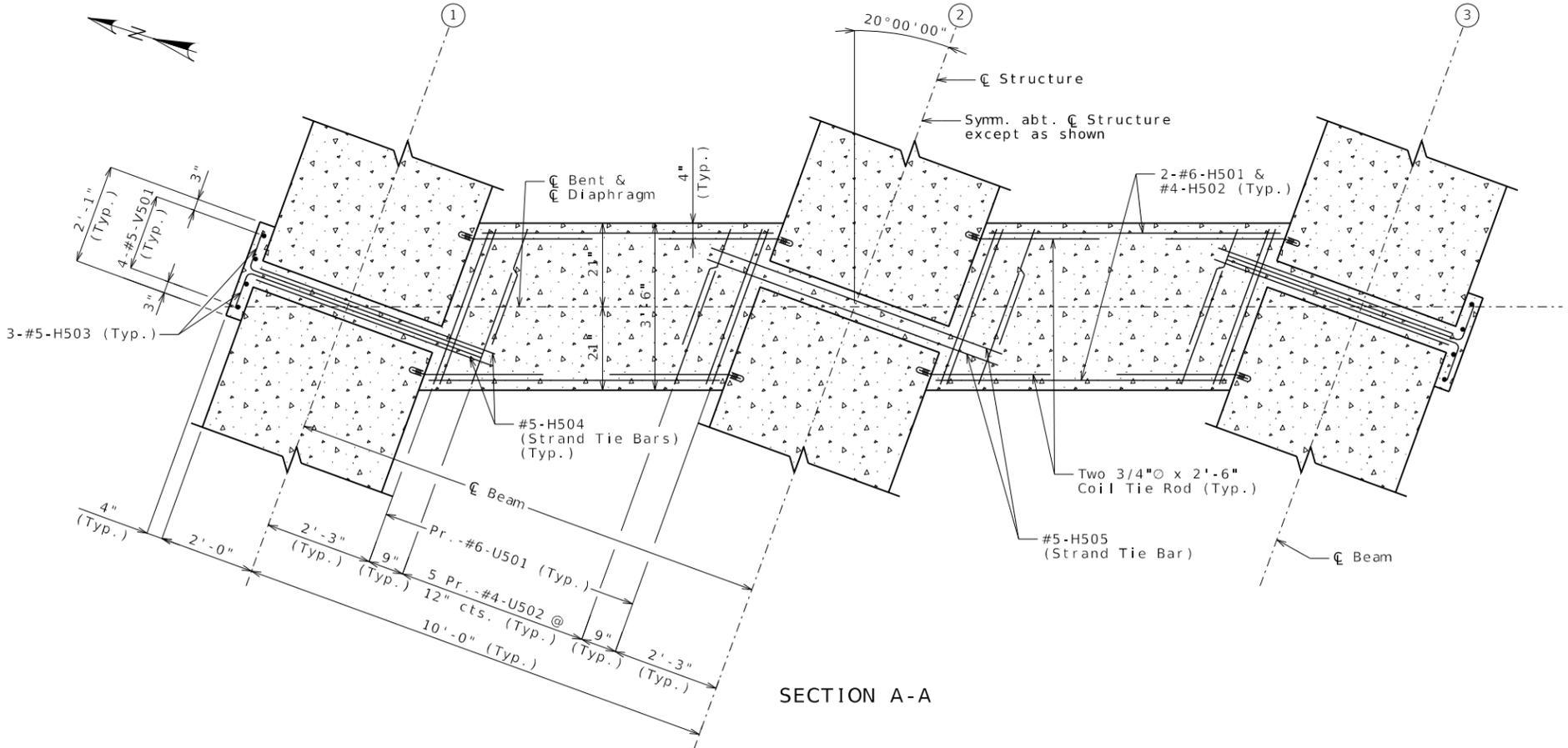
SECTION B-B



END DETAIL



EDGE DETAIL



SECTION A-A

DETAILS OF CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS NO. 2 & 3

Note: This drawing is not to scale. Follow dimensions. Sheet No. 14 of 29

Notes:
For location of Strand Tie Bars, see Sheets No. 12 & 13.
For location and details of Coil Tie Rods, see Sheets No. 12 & 13.
Diaphragms at intermediate bents shall be built vertical.
All U-bars in diaphragms are to be placed parallel to \bar{C} Roadway.

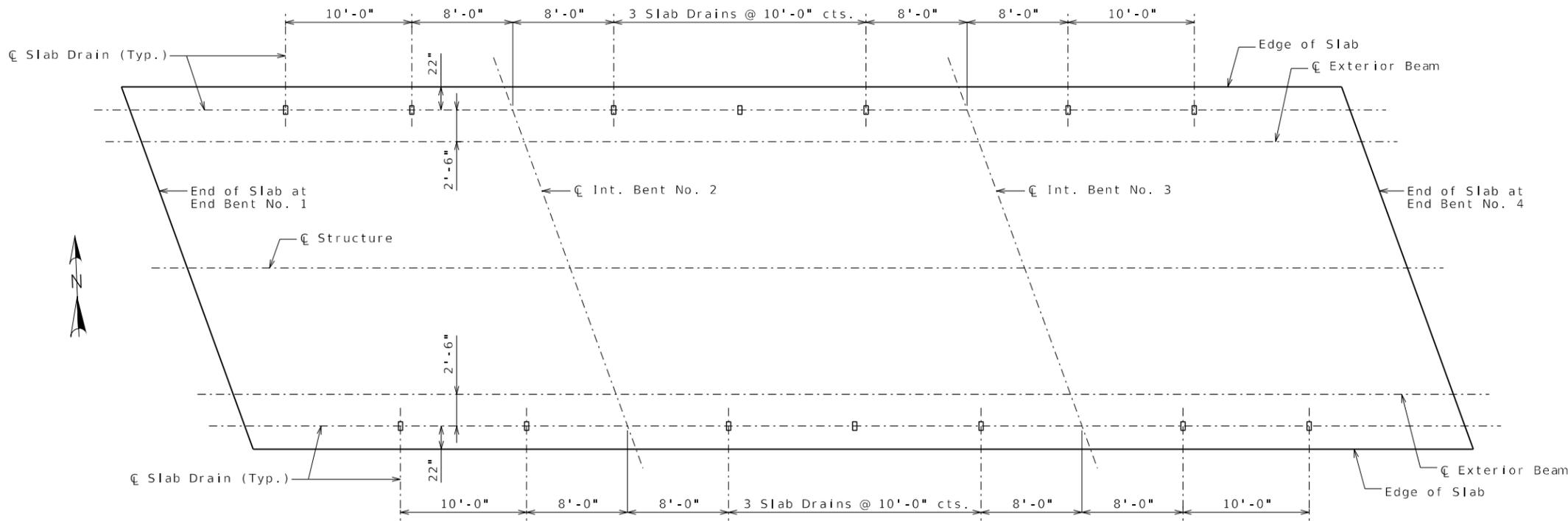
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ARCHITECT 000212
PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE
PROFESSIONAL
ENGINEER
PE-2024032177



PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil inserts required for the bracket assembly attachment shall be located on the prestressed beam shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolts required to attach the slab drain bracket assembly to the prestressed beam shall be supplied by the prestressed beam fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

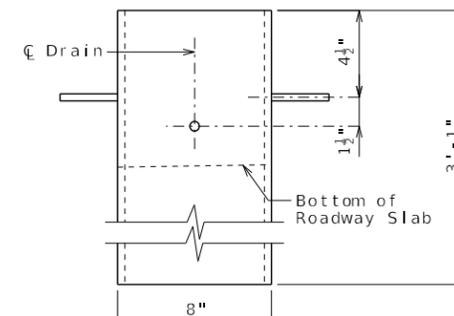
Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

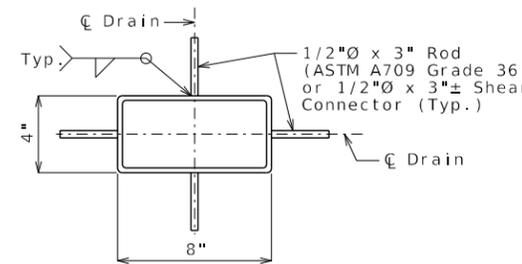
The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

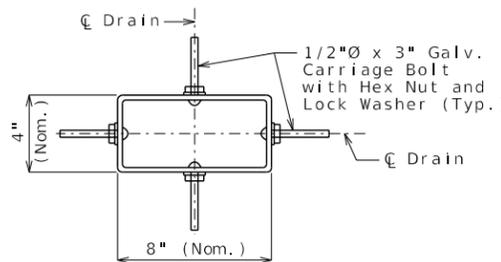
At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.



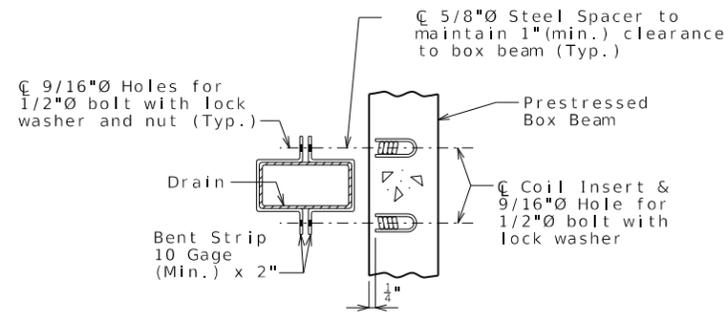
ELEVATION OF DRAIN



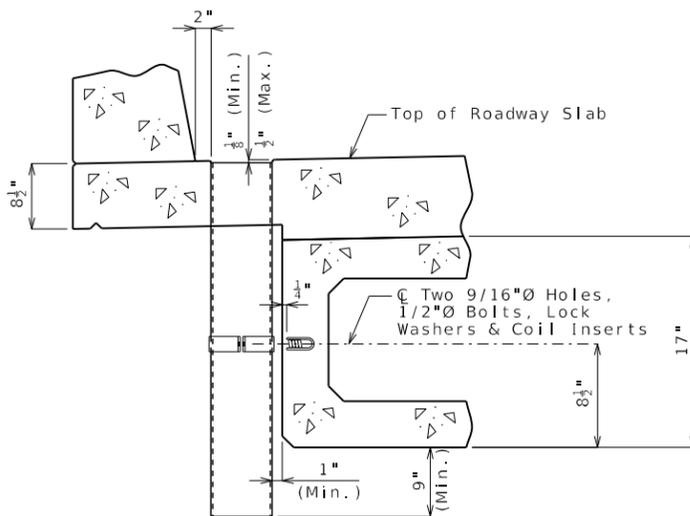
PLAN OF STEEL DRAIN OPTION



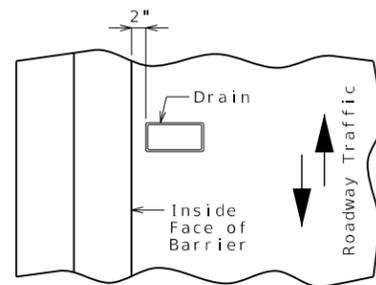
PLAN OF FRP DRAIN OPTION



PART SECTION SHOWING BRACKET ASSEMBLY



PART SECTION NEAR DRAIN



PART PLAN OF SLAB AT DRAIN

SLAB DRAINS

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

Sheet No. 15 of 29



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DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 15

COUNTY DENT

JOB NO. J5S3559

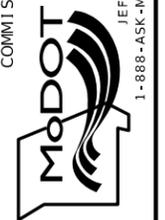
CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DESCRIPTION | DATE |
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE
PROFESSIONAL
ENGINEER
PE-2024032177

Detailed Jan 2026
Checked Jan 2026

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ROUTE B STATE MO

DISTRICT BR SHEET NO. 16

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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MODOT

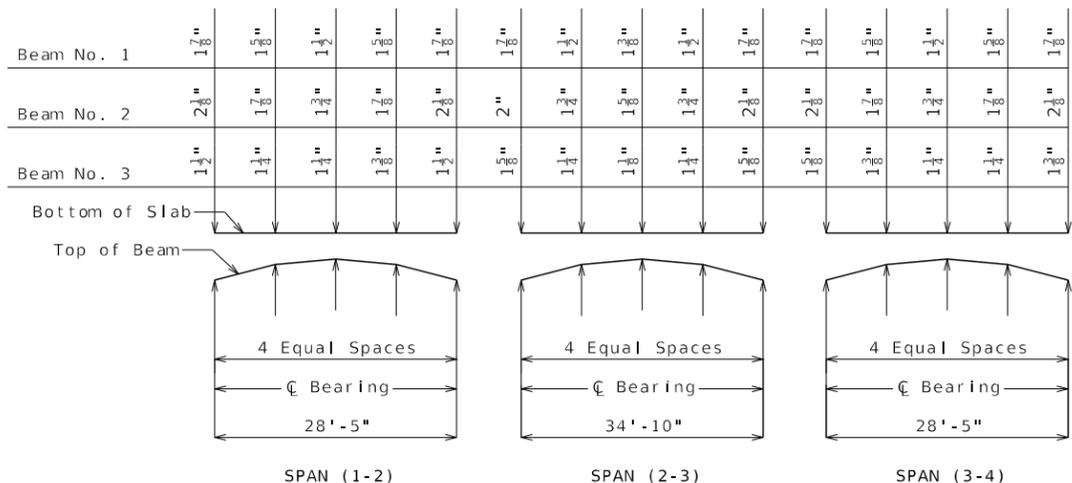
GBA

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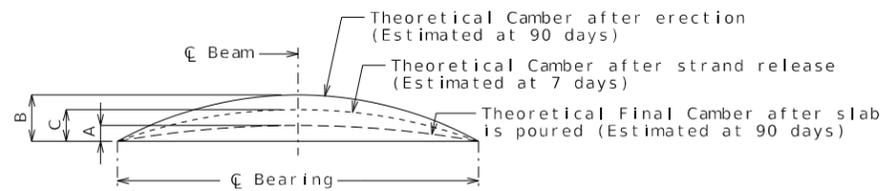
GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059

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THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)



| Beam | Span (1-2) | | | Span (2-3) | | | Span (3-4) | | |
|----------|------------|------|------|------------|----|------|------------|------|------|
| | A | B | C | A | B | C | A | B | C |
| Exterior | 1/4" | 1/2" | 1/4" | 1/2" | 1" | 1/2" | 1/4" | 1/2" | 1/4" |
| Interior | | | | | | | | | |

BEAM CAMBER DIAGRAM

Conversion Factors for Beam Camber (Estimated at 90 days):

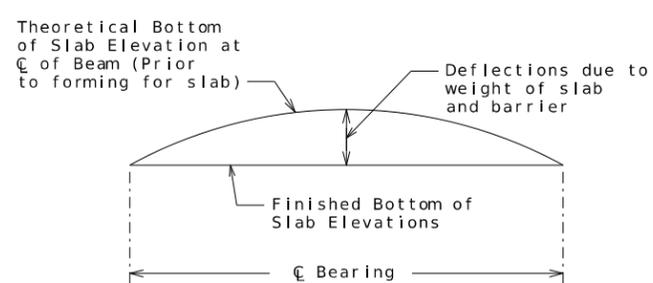
0.25 pt. = 0.7125 x 0.5 pt.

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.

| Theoretical Bottom of Slab Elevations at Centerline of Beam (Prior to forming for slab) (Estimated at 90 days) | | | | | | | | | | | | | | | |
|--|-------------------------------------|---------|---------|---------|--------------------------------------|---------|---------|---------|-------------------------------------|---------|---------|---------|---------|---------|---------|
| Beam Number | Span (1-2) (28'-5" C Brg. - C Brg.) | | | | Span (2-3) (34'-10" C Brg. - C Brg.) | | | | Span (3-4) (28'-5" C Brg. - C Brg.) | | | | | | |
| | C Brg. | .25 | .50 | .75 | C Brg. | C Brg. | .25 | .50 | .75 | C Brg. | C Brg. | .25 | .50 | .75 | C Brg. |
| 1 | 1202.51 | 1202.50 | 1202.48 | 1202.44 | 1202.41 | 1202.40 | 1202.39 | 1202.37 | 1202.33 | 1202.27 | 1202.26 | 1202.25 | 1202.23 | 1202.19 | 1202.16 |
| 2 | 1202.70 | 1202.69 | 1202.66 | 1202.63 | 1202.59 | 1220.59 | 1202.58 | 1202.56 | 1202.52 | 1202.45 | 1202.45 | 1202.44 | 1202.41 | 1202.38 | 1202.34 |
| 3 | 1202.49 | 1202.47 | 1202.45 | 1202.42 | 1202.38 | 1202.37 | 1202.37 | 1202.34 | 1202.30 | 1202.24 | 1202.24 | 1202.22 | 1202.20 | 1202.17 | 1202.13 |

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 and barrier.



TYPICAL SLAB ELEVATIONS DIAGRAM



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DATE PREPARED
2/6/2026

ROUTE STATE
B MO

DISTRICT SHEET NO.
BR 17

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9722

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

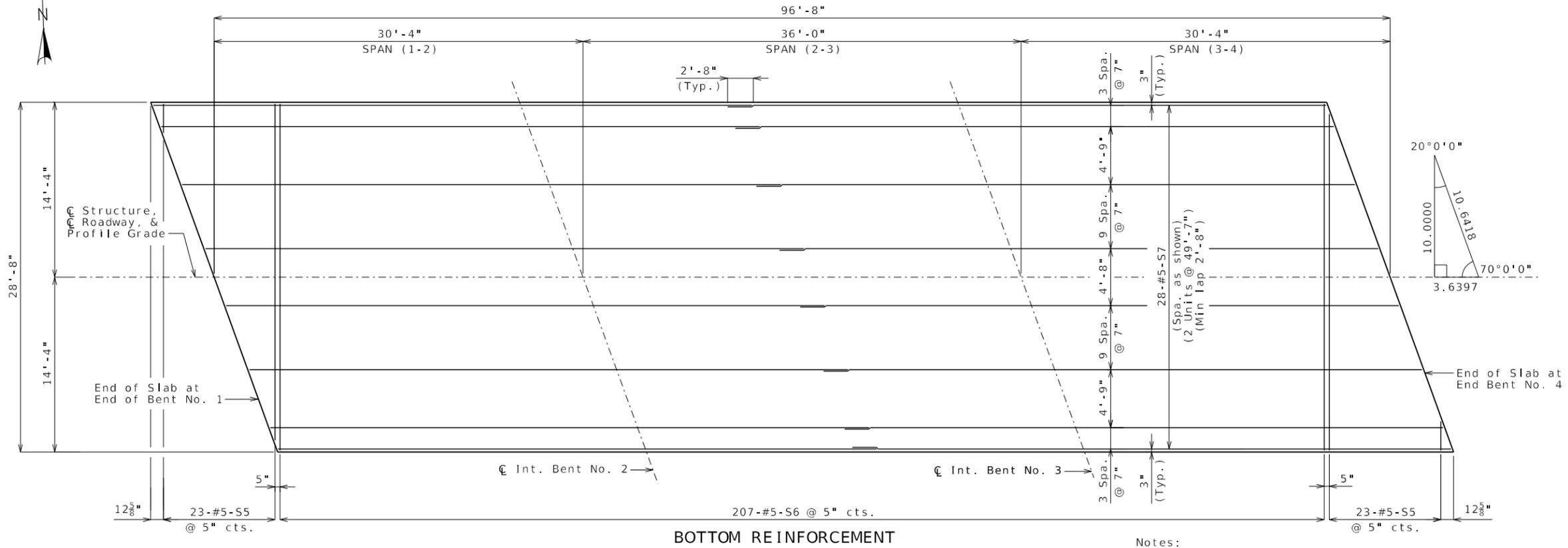
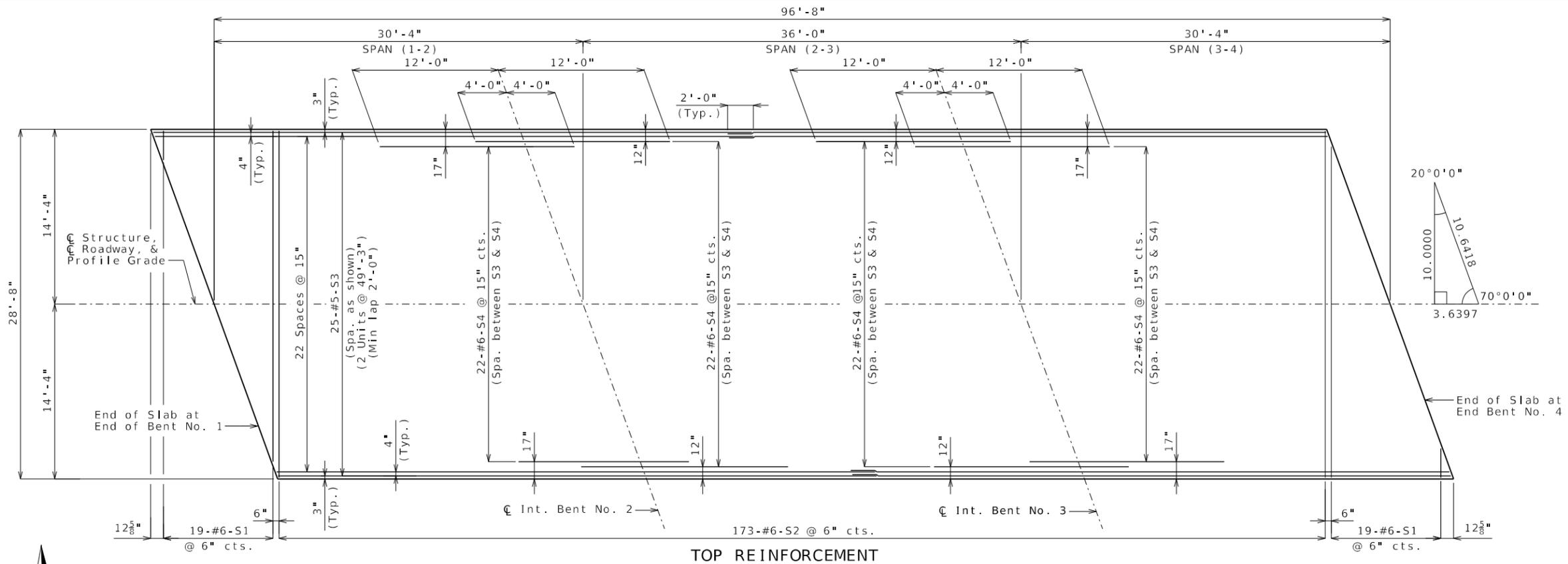


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MACKENZY M. MOORE PROFESSIONAL ENGINEER PE-2024032177

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Notes:

For reinforcement of Type D Barrier not shown, see Sheet No. 19.

For Theoretical Diagram of Slab Elevations, Beam Camber and Theoretical Slab Haunching Diagram, see Sheet No. 16.

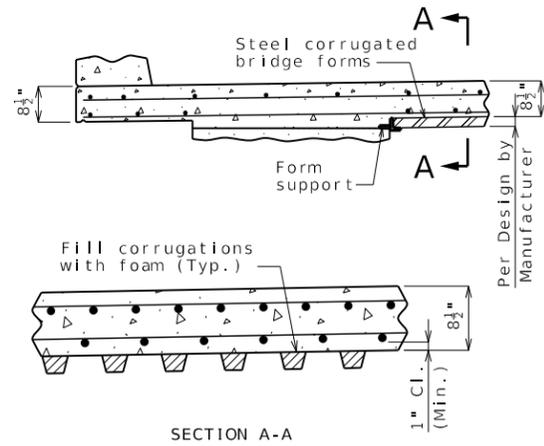
For Section Thru Slab, Construction Joint Detail, and Slab Pouring Sequence, see Sheet No. 18.

Longitudinal slab dimensions are measured horizontally.

PLAN OF SLAB SHOWING REINFORCEMENT

Note: This drawing is not to scale. Follow dimensions. Sheet No. 17 of 29

Detailed Jan 2026
Checked Jan 2026



OPTIONAL STAY-IN-PLACE FORM DETAILS

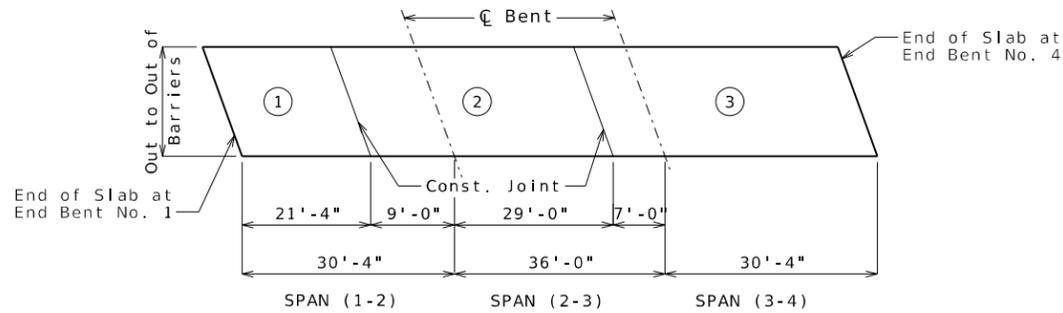
Stay-In-Place Forms:

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the top of beam. Drilling holes in the beam will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.



| | Sequence of Pours | | | Min. Rate of Pour Cu. Yds./Hr. |
|---|-------------------|----------|----------|-----------------------------------|
| | Direction | | | |
| Basic Sequence | 1 | 2 | 3 | 25 |
| | End to 2 | 1 to 3 | 2 to End | |
| Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703. | | | | |
| Alternate A Pours | 1 + 2 | 3 | | 25 |
| | End to 3 | 2 to End | | |
| Alternate B Pours | 1 + 2 + 3 | | | 25 |
| | End to End | | | |

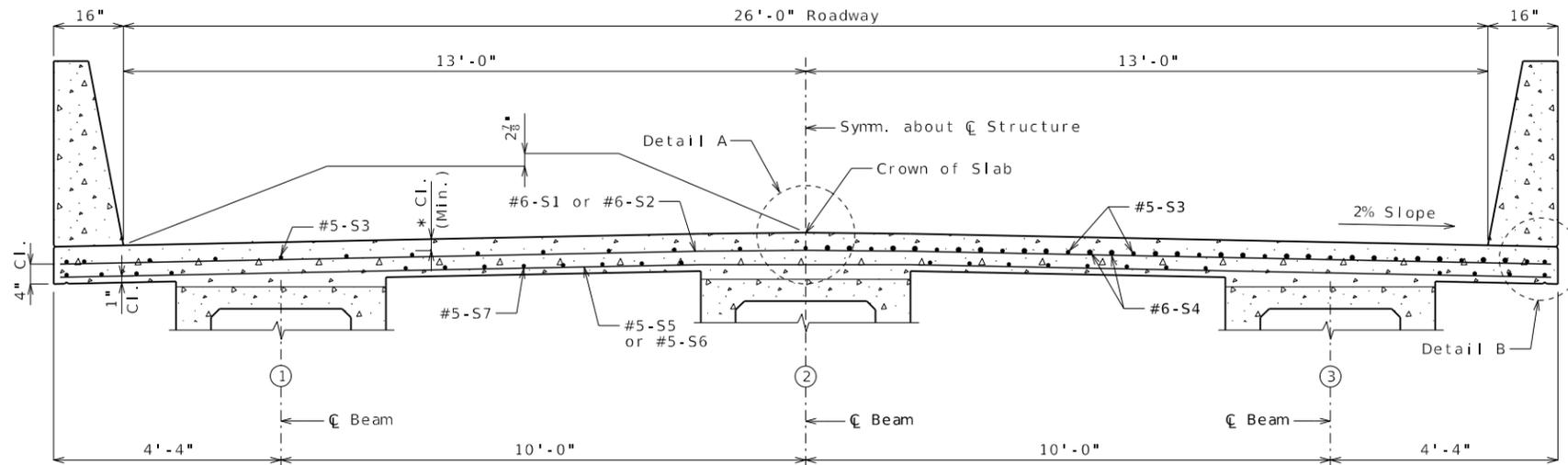
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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

SLAB POURING SEQUENCE

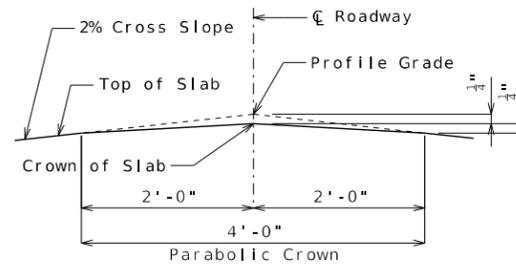
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Note: This drawing is not to scale. Follow dimensions.

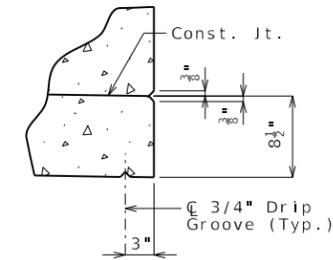


SECTION THRU SLAB

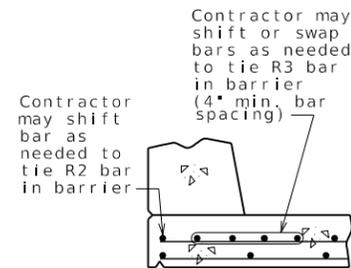
* 3 1/8" (#5)
3" (#6)



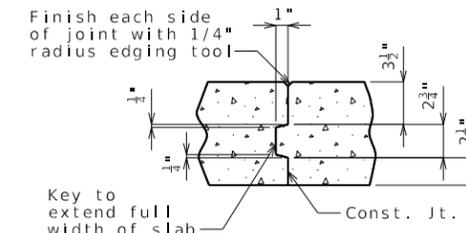
DETAIL A



DETAIL B



OPTIONAL SHIFTING TOP BARS AT BARRIER



SLAB CONSTRUCTION JOINT

Notes:

For reinforcement of barrier not shown, see Sheet No. 19.

For Theoretical Bottom of Slab Elevations, Beam Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 16.

For Plan of Slab Showing Reinforcement, see Sheet No. 17.



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DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 18

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

DESCRIPTION

DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



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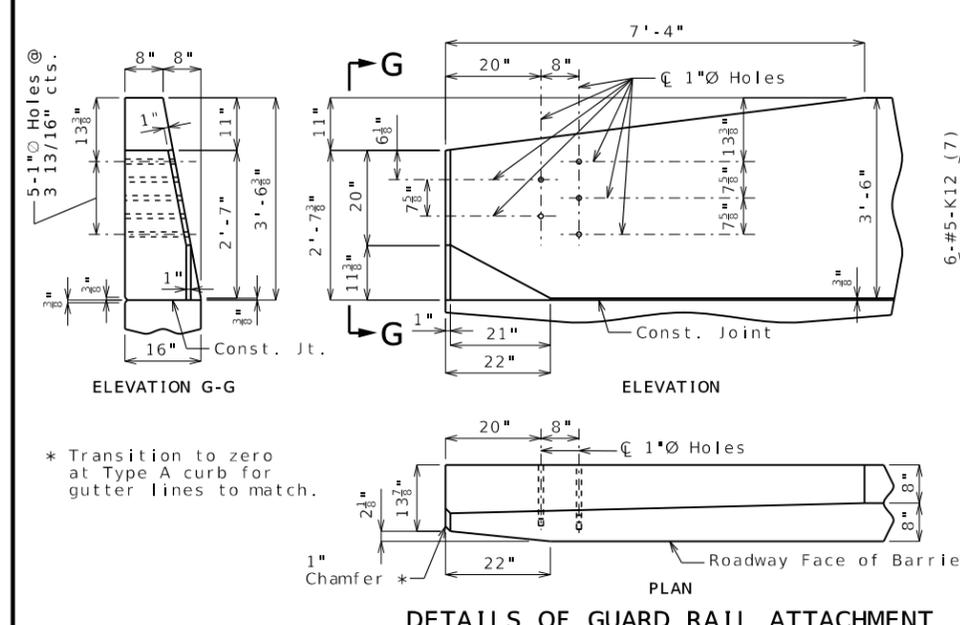
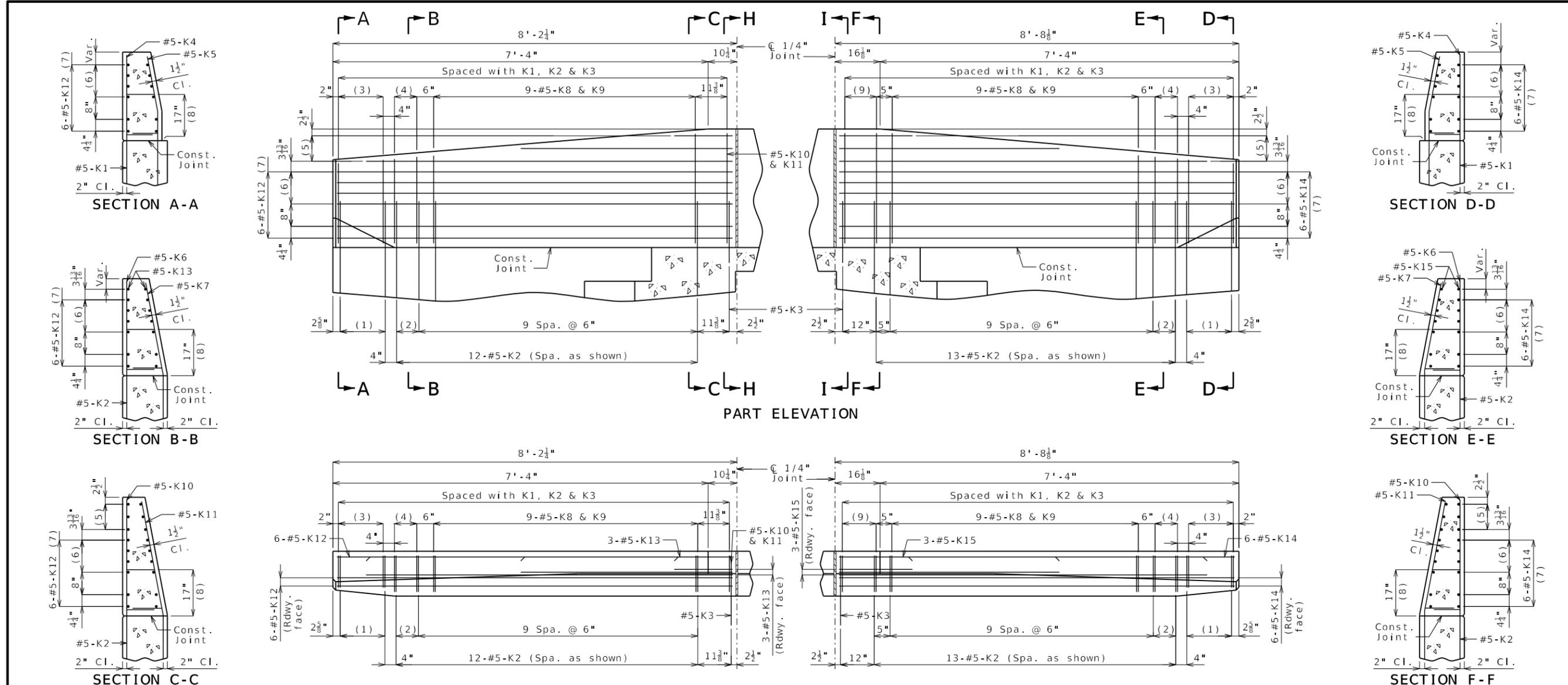
GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE
PROFESSIONAL
ENGINEER
PE-2024032177

SLAB DETAILS

Sheet No. 18 of 29

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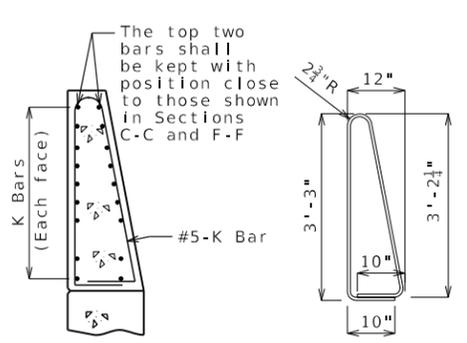
* Transition to zero at Type A curb for gutter lines to match.

- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 1/8"
- (7) Spaced as shown, each face
- (8) To top of bar
- (9) 2-#5-K10 & K11

General Notes:
 Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 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 Type D Barrier.

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

TYPE D BARRIER AT END BENTS
 (Left barrier shown, right barrier similar)



The top two bars shall be kept with position close to those shown in Sections C-C and F-F

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

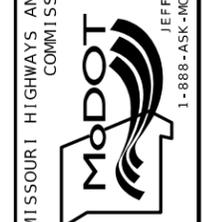


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| DATE PREPARED 2/6/2026 | |
| ROUTE B | STATE MO |
| DISTRICT BR | SHEET NO. 20 |
| COUNTY DENT | |
| JOB NO. J5S3559 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. A9722 | |

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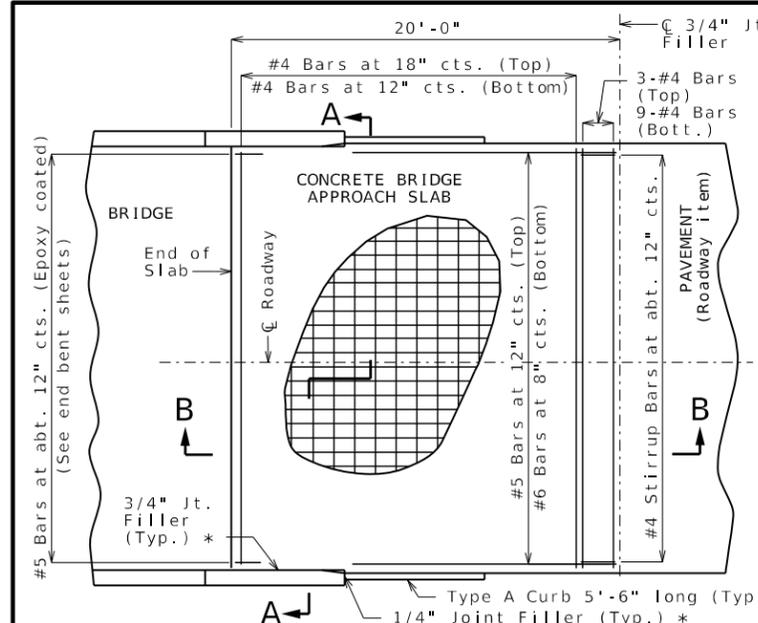
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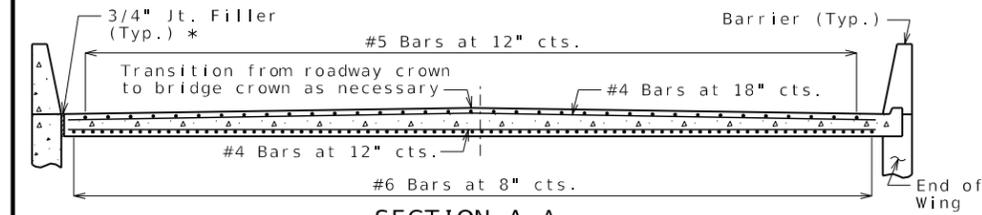
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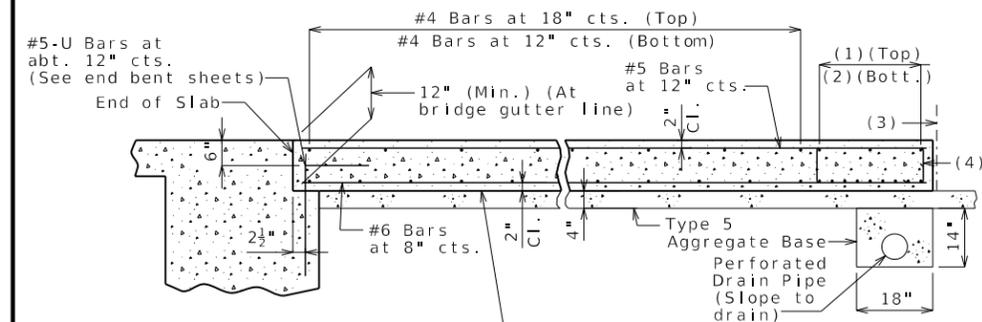


PART PLAN OF SQUARED STRUCTURE
(Skewed structure similar)



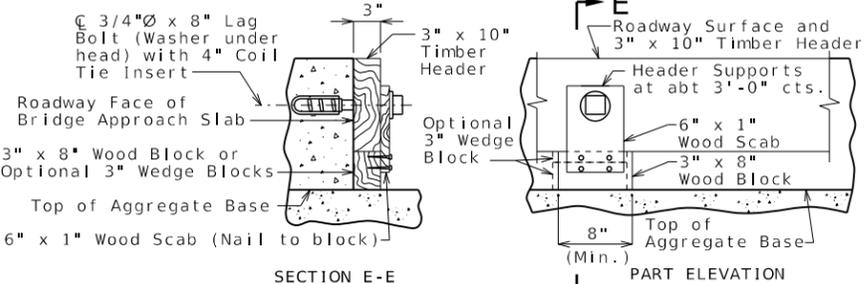
SECTION A-A

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

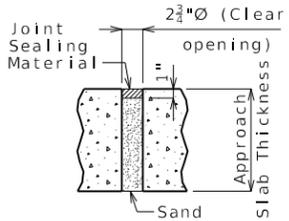


SECTION B-B

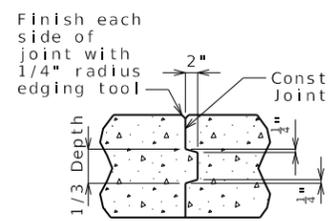
2 Layers of 4 Mil Polyethylene Sheeting between bridge approach slab and granular base in accordance with ASTM E 1745 Performance Class A



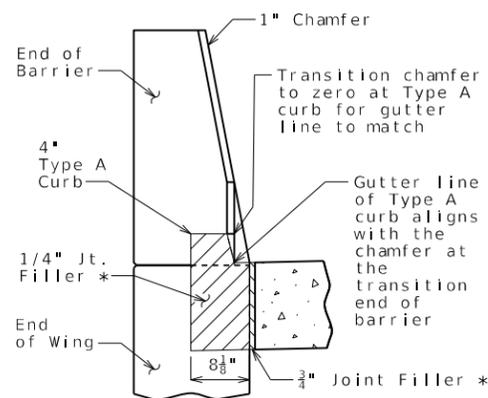
DETAILS OF TIMBER HEADER
Remove timber header when concrete pavement is placed.
OPTIONAL CONCRETE SLAB



UNDERSEAL ACCESS HOLE DETAIL
(If required)



CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER

- (1) 3-#4 Bars
- (2) 9-#4 Bars
- (3) 3/4" Jt. Filler
- (4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.

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 1 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 providing a minimum lap splice of 26 inches for #4 bars, or by mechanical bar splice.

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) per square yard.

See Missouri Standard Plan 609.00 for details of Type A curb.

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.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

General Notes:

Contractor shall have the option to construct either slab except as noted.

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

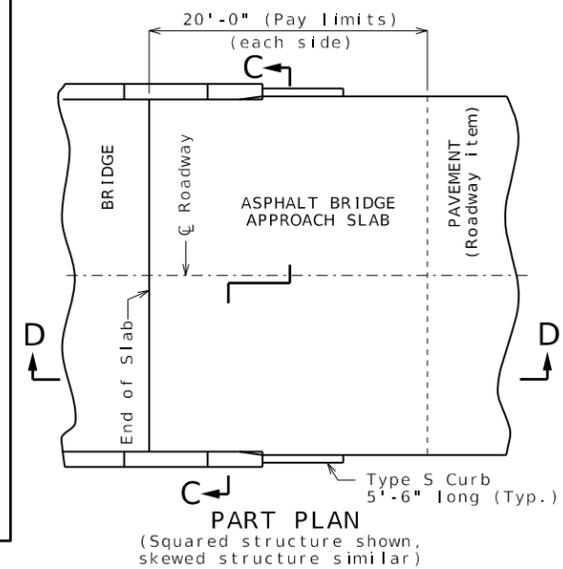
MoDOT Construction personnel will indicate the bridge approach slab used for this structure:

- Concrete Bridge Approach Slab
- Asphalt Bridge Approach Slab

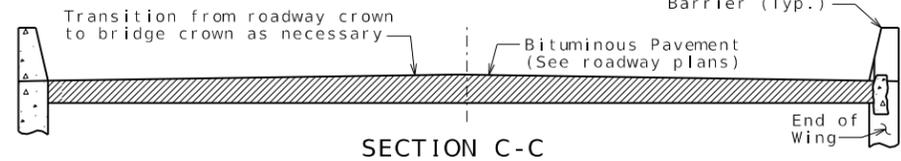
Notes For Asphalt Slab Only:

Payment for furnishing all materials, labor and excavation necessary to construct the asphalt bridge approach slab, including tack, curb, and Type 5 aggregate base within the pay limits shown, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor) per square yard.

Application of tack is required between lifts per Sec 403.

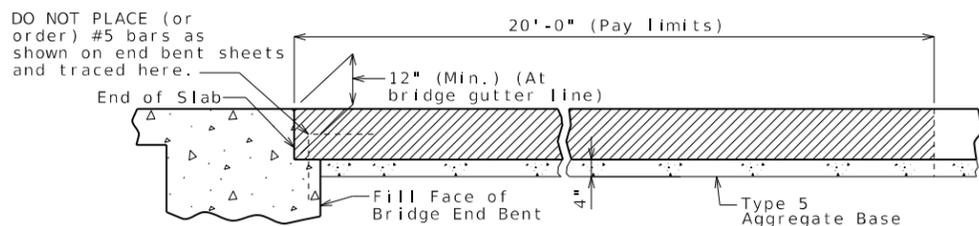


PART PLAN
(Squared structure shown, skewed structure similar)



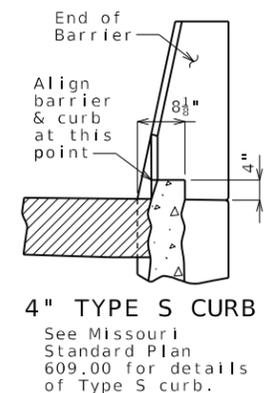
SECTION C-C

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 D-D

OPTIONAL ASPHALT SLAB (NOT ALLOWED WITH CONCRETE PAVEMENT)



4" TYPE S CURB
See Missouri Standard Plan 609.00 for details of Type S curb.



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DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 21

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DATE | DESCRIPTION |
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16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059
MACKENZY M. MOORE PROFESSIONAL ENGINEER PE-2024032177

BRIDGE APPROACH SLAB (MINOR)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

| Bill of Reinforcing Steel | | | | | | | | | | | | | | | | | | | | |
|---------------------------|------------|------------|-------|-----|-----|------------|-------|-------|-------|-------|-------|-------------|---------------|--------|-------|------|-------|------|-------|----|
| No. Req. | Size/ Mark | Location | Codes | | | Dimensions | | | | | | Nom. Length | Actual Length | Weight | | | | | | |
| | | | C | SH | V | B | C | D | E | F | H | | | | K | | | | | |
| | | | ft | in. | ft | in. | ft | in. | ft | in. | ft | in. | ft | in. | lb | | | | | |
| SUBSTRUCTURE | | | | | | | | | | | | | | | | | | | | |
| INT BENT 2 | | | | | | | | | | | | | | | | | | | | |
| 10 | 6 D201 | BEAM | | | 20 | | 2 | 10.00 | | | | | 2 | 10 | 43 | | | | | |
| 8 | 8 H201 | BEAM | | | 18 | | 26 | 9.00 | | | | | 28 | 6 | 609 | | | | | |
| 4 | 6 H202 | BEAM | | | 20 | | 26 | 9.00 | | | | | 26 | 9 | 161 | | | | | |
| 4 | 8 H203 | BEAM | | | 18 | | 4 | 4.00 | | | | | 6 | 1 | 65 | | | | | |
| 8 | 6 H204 | BEAM | | | 10S | | | 12.00 | 3 | 7.75 | | | 5 | 8 | 64 | | | | | |
| 40 | 4 P601 | PILES | | | 34S | | 2 | 7.25 | 2.00 | | | | 3 | 6 | 94 | | | | | |
| 40 | 5 U201 | BEAM | | | 13S | | 3 | 9.00 | 2 | 9.00 | 3 | 9.00 | 2 | 9.00 | 570 | | | | | |
| 15 | 5 U202 | BEAM | | | 10S | | | 2 | 9.00 | 3 | 9.00 | | 9 | 3 | 141 | | | | | |
| 30 | 5 V601 | PILES | | | 17 | | 5 | 3.00 | | | | | 5 | 10 | 183 | | | | | |
| INT BENT 3 | | | | | | | | | | | | | | | | | | | | |
| 10 | 6 D301 | BEAM | | | 20 | | 2 | 10.00 | | | | | 2 | 10 | 43 | | | | | |
| 8 | 8 H301 | BEAM | | | 18 | | 26 | 9.00 | | | | | 28 | 6 | 609 | | | | | |
| 4 | 6 H302 | BEAM | | | 20 | | 26 | 9.00 | | | | | 26 | 9 | 161 | | | | | |
| 4 | 8 H303 | BEAM | | | 18 | | 4 | 4.00 | | | | | 6 | 1 | 65 | | | | | |
| 8 | 6 H304 | BEAM | | | 10S | | | 12.00 | 3 | 7.75 | | | 5 | 8 | 64 | | | | | |
| 40 | 4 P601 | PILES | | | 34S | | 2 | 7.25 | 2.00 | | | | 3 | 6 | 94 | | | | | |
| 40 | 5 U301 | BEAM | | | 13S | | 3 | 9.00 | 2 | 9.00 | 3 | 9.00 | 2 | 9.00 | 570 | | | | | |
| 15 | 5 U302 | BEAM | | | 10S | | | 2 | 9.00 | 3 | 9.00 | | 9 | 3 | 141 | | | | | |
| 30 | 5 V601 | PILES | | | 17 | | 5 | 3.00 | | | | | 5 | 10 | 183 | | | | | |
| SUPERSTRUCTURE | | | | | | | | | | | | | | | | | | | | |
| END BENT 1 | | | | | | | | | | | | | | | | | | | | |
| 6 | 6 F101 | WING BRACE | E | 15 | | | 20.00 | 4 | 4.25 | 20.00 | 11.50 | 16.25 | 16.25 | 11.50 | 7 8 | 7 7 | 68 | | | |
| 2 | 6 F102 | DIAPHRAGM | E | 21 | | | 2 | 10.25 | 7 | 4.50 | | | | 6 | 11.25 | 2 | 6.25 | 10 3 | 10 2 | 31 |
| 6 | 6 F103 | WING BRACE | E | 15 | | | 20.00 | 6 | 7.75 | 20.00 | 11.50 | 16.25 | 16.25 | 11.50 | 10 0 | 9 11 | 89 | | | |
| 2 | 6 F104 | DIAPHRAGM | E | 21 | | | | 8 | 4.00 | 2 | 10.25 | | | 7 | 9.75 | 2 | 10.00 | 11 2 | 10 11 | 33 |
| 19 | 6 H101 | BEAM | E | 20 | | | 30 | 2.00 | | | | | | 30 | 2 | 30 | 2 | 861 | | |
| 3 | 6 H102 | BEAM | E | 18 | | | 7 | 3.00 | | | | | | 8 | 8 | 8 | 8 | 39 | | |
| 3 | 5 H103 | DIAPHRAGM | E | 23 | | | 15.00 | 4 | 0.00 | 15.00 | 5.00 | 14.00 | 5.00 | 14.00 | 6 | 6 | 6 | 6 | 20 | |
| 6 | 6 H104 | DIAPHRAGM | E | 20 | | | 2 | 2.00 | | | | | | 2 | 2 | 2 | 2 | 20 | | |
| 6 | 6 H105 | DIAPHRAGM | E | 20 | | | 6 | 1.00 | | | | | | 6 | 1 | 6 | 1 | 55 | | |
| 12 | 6 H106 | WING | E | 20 | | | 6 | 0.00 | | | | | | 6 | 0 | 6 | 0 | 108 | | |
| 12 | 6 H107 | WING | E | 17 | | | 6 | 0.00 | | | | | | 6 | 8 | 6 | 8 | 120 | | |
| 8 | 8 H108 | WING | E | 20 | | | 7 | 5.00 | | | | | | 7 | 5 | 7 | 5 | 158 | | |
| 8 | 8 H109 | WING | E | 17 | | | 7 | 5.00 | | | | | | 8 | 4 | 8 | 4 | 178 | | |
| 32 | 4 P601 | PILES | E | 34S | | | 2 | 7.25 | 2.00 | | | | | 3 | 6 | 3 | 6 | 75 | | |
| 12 | 5 U101 | BEAM | E | 37S | | | 3 | 10.00 | 2 | 11.00 | 2 | 11.00 | 2 | 8.00 | 11 | 6 | 11 | 4 | 142 | |
| 27 | 4 U102 | BEAM | E | 13S | | | 2 | 11.00 | 2 | 8.00 | 2 | 11.00 | 2 | 8.00 | 11 | 11 | 11 | 8 | 210 | |
| 18 | 5 U103 | DIAPHRAGM | E | 37S | | | 21.25 | 2 | 4.50 | | | | | 6 | 11 | 6 | 8 | 125 | | |
| 18 | 6 U104 | DIAPHRAGM | E | 19S | | | 9.00 | 2 | 11.00 | | | | | 3 | 8 | 3 | 6 | 95 | | |
| 35 | 6 U105 | DIAPHRAGM | E | 19S | | | 22.00 | 4 | 4.25 | | | | | 6 | 2 | 6 | 0 | 315 | | |
| 26 | 5 U106 | DIAPHRAGM | E | 19S | | | 19.00 | 15.00 | | | | | | 2 | 10 | 2 | 9 | 75 | | |
| 12 | 5 V101 | BEAM | E | 17 | | | 3 | 10.00 | | | | | | 4 | 5 | 4 | 5 | 55 | | |
| 12 | 6 V102 | WING | E | 20 | | | 4 | 10.00 | | | | | | 4 | 10 | 4 | 10 | 87 | | |
| 12 | 6 V103 | WING | E | 20 | | | 4 | 11.00 | | | | | | 4 | 11 | 4 | 11 | 89 | | |
| 18 | 6 V104 | BEAM | E | 18 | | | 9.00 | | | | | | | 9 | 9 | 9 | 9 | 20 | | |
| 24 | 5 V601 | PILES | E | 17 | | | 5 | 3.00 | | | | | | 5 | 10 | 5 | 10 | 146 | | |
| END BENT 4 | | | | | | | | | | | | | | | | | | | | |
| 6 | 6 F401 | WING BRACE | E | 15 | | | 20.00 | 4 | 4.25 | 20.00 | 11.50 | 16.25 | 16.25 | 11.50 | 7 8 | 7 7 | 68 | | | |
| 2 | 6 F402 | DIAPHRAGM | E | 21 | | | 2 | 10.25 | 7 | 4.50 | | | | 6 | 11.25 | 2 | 6.25 | 10 3 | 10 2 | 31 |
| 6 | 6 F403 | WING BRACE | E | 15 | | | 20.00 | 6 | 7.75 | 20.00 | 11.50 | 16.25 | 16.25 | 11.50 | 10 0 | 9 11 | 89 | | | |
| 2 | 6 F404 | DIAPHRAGM | E | 21 | | | | 8 | 4.00 | 2 | 10.25 | | | 7 | 9.75 | 2 | 10.00 | 11 2 | 10 11 | 33 |
| 19 | 6 H401 | BEAM | E | 20 | | | 30 | 2.00 | | | | | | 30 | 2 | 30 | 2 | 861 | | |
| 3 | 6 H402 | BEAM | E | 18 | | | 7 | 3.00 | | | | | | 8 | 8 | 8 | 8 | 39 | | |
| 3 | 5 H403 | DIAPHRAGM | E | 23 | | | 15.00 | 4 | 0.00 | 15.00 | 5.00 | 14.00 | 5.00 | 14.00 | 6 | 6 | 6 | 6 | 20 | |
| 6 | 6 H404 | DIAPHRAGM | E | 20 | | | 2 | 2.00 | | | | | | 2 | 2 | 2 | 2 | 20 | | |
| 6 | 6 H405 | DIAPHRAGM | E | 20 | | | 6 | 1.00 | | | | | | 6 | 1 | 6 | 1 | 55 | | |
| 12 | 6 H406 | WING | E | 20 | | | 6 | 0.00 | | | | | | 6 | 0 | 6 | 0 | 108 | | |

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams and steel reinforcing totals, see Sheet No. 22.

Detailed Jan 2026
Checked Jan 2026

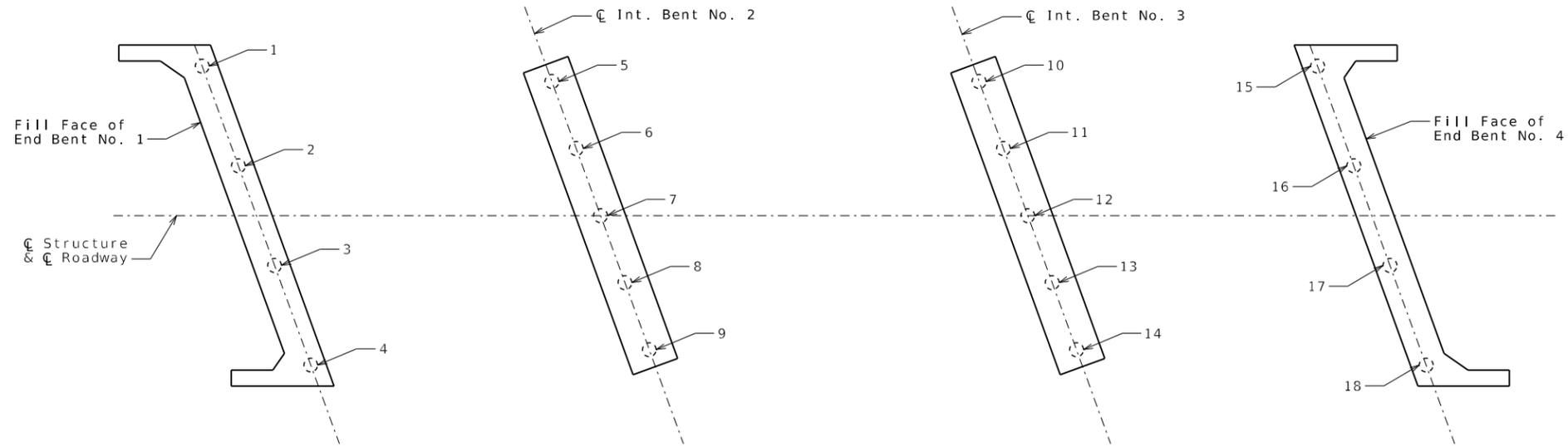
Reinforcing steel (ASTM A706 Grade 60) fy = 60,000 psi

BILL OF REINFORCING STEEL

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

Sheet No. 23 of 29

| Bill of Reinforcing Steel | | | | | | | | | | | | | | | | | | | |
|---------------------------|------------|----------------|-------|-----|----|------------|-------|-------|-------|-------|------|-------------|---------------|--------|----|----|----|-----|-----|
| No. Req. | Size/ Mark | Location | Codes | | | Dimensions | | | | | | Nom. Length | Actual Length | Weight | | | | | |
| | | | C | SH | V | B | C | D | E | F | H | | | | K | | | | |
| | | | ft | in. | ft | in. | ft | in. | ft | in. | ft | in. | ft | in. | lb | | | | |
| 12 | 6 H407 | WING | E | 17 | | | 6 | 0.00 | | | | | | 6 | 8 | 6 | 8 | 120 | |
| 8 | 8 H408 | WING | E | 20 | | | 7 | 5.00 | | | | | | 7 | 5 | 7 | 5 | 158 | |
| 8 | 8 H409 | WING | E | 17 | | | 7 | 5.00 | | | | | | 8 | 4 | 8 | 4 | 178 | |
| 32 | 4 P601 | PILES | E | 34S | | | 2 | 7.25 | 2.00 | | | | 10.00 | 3 | 6 | 3 | 6 | 75 | |
| 12 | 5 U401 | BEAM | E | 37S | | | 3 | 10.00 | 2 | 11.00 | | | | 11 | 6 | 11 | 4 | 142 | |
| 27 | 4 U402 | BEAM | E | 13S | | | 2 | 11.00 | 2 | 8.00 | 2 | 11.00 | 2 | 8.00 | 11 | 11 | 11 | 8 | 210 |
| 18 | 5 U403 | DIAPHRAGM | E | 37S | | | 21.25 | 2 | 4.50 | | | | | 6 | 11 | 6 | 8 | 125 | |
| 18 | 6 U404 | DIAPHRAGM | E | 19S | | | 9.00 | 2 | 11.00 | | | | | 3 | 8 | 3 | 6 | 95 | |
| 35 | 6 U405 | DIAPHRAGM | E | 19S | | | 22.00 | 4 | 4.25 | | | | | 6 | 2 | 6 | 0 | 315 | |
| 26 | 5 U406 | DIAPHRAGM | E | 19S | | | 19.00 | 15.00 | | | | | | 2 | 10 | 2 | 9 | 75 | |
| 12 | 5 V401 | BEAM | E | 17 | | | 3 | 10.00 | | | | | | 4 | 5 | 4 | 5 | 55 | |
| 12 | 6 V402 | WING | E | 20 | | | 4 | 10.00 | | | | | | 4 | 10 | 4 | 10 | 87 | |
| 12 | 6 V403 | WING | E | 20 | | | 4 | 11.00 | | | | | | 4 | 11 | 4 | 11 | 89 | |
| 18 | 6 V404 | BEAM | E | 20 | | | 9.00 | | | | | | | 9 | 9 | 9 | 9 | 20 | |
| 24 | 5 V601 | PILES | E | 17 | | | 5 | 3.00 | | | | | | 5 | 10 | 5 | 10 | 146 | |
| INT BENTS 2 & 3 | | | | | | | | | | | | | | | | | | | |
| 16 | 6 H501 | DIAPHRAGM | E | 20 | | | 6 | 1.00 | | | | | | 6 | 1 | 6 | 1 | 146 | |
| 8 | 4 H502 | DIAPHRAGM | E | 20 | | | 6 | 1.00 | | | | | | 6 | 1 | 6 | 1 | 33 | |
| 24 | 5 H503 | DIAPHRAGM | E | 6S | | | 5 | 2.50 | 10.50 | | | | | 6 | 1 | 6 | 0 | 150 | |
| 8 | 5 H504 | DIAPHRAGM | E | 20 | | | 5 | 6.00 | | | | | | 5 | 6 | 5 | 6 | 46 | |
| 4 | 5 H505 | DIAPHRAGM | E | 20 | | | 6 | 6.00 | | | | | | 6 | 6 | 6 | 6 | 27 | |
| 16 | 6 U501 | DIAPHRAGM | E | 28S | | | | 22.00 | 20.00 | 3 | 5.50 | | | 7 | 0 | 6 | 7 | 158 | |
| 40 | 4 U502 | DIAPHRAGM | E | 28S | | | | 15.00 | 19.75 | 2 | 6.25 | | | 5 | 5 | 5 | 3 | 140 | |
| 16 | 5 V501 | DIAPHRAGM | E | 20 | | | 22.00 | | | | | | | 1 | 10 | 1 | 10 | 31 | |
| SLAB | | | | | | | | | | | | | | | | | | | |
| 38 | 6 S1 | TOP SLAB | E | 20 | 2 | | 2 | 4.00 | | | | | | 2 | 4 | 2 | 4 | 839 | |
| | | INCR = 16 1/2" | | | | | | | | | | | | 27 | 1 | 27 | 1 | | |
| 173 | 6 S2 | TOP SLAB | E | 20 | | | 28 | | | | | | | | | | | | |



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

| As-Built Pile Data | | | | | |
|--------------------|----------------------|--|---|--|-----------------|
| Pile No. | Length in Place (ft) | PDA Nom. Axial Compressive Resistance (kips) | PDA End of Drive Blow Count (blows/in.) | Actual End of Drive Blow Count (blows/in.) | Remarks |
| | | | | | END BENT NO. 1 |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| | | | | | INT. BENT NO. 2 |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |

| As-Built Pile Data | | | | | |
|--------------------|----------------------|--|---|--|-----------------|
| Pile No. | Length in Place (ft) | PDA Nom. Axial Compressive Resistance (kips) | PDA End of Drive Blow Count (blows/in.) | Actual End of Drive Blow Count (blows/in.) | Remarks |
| | | | | | INT. BENT NO. 3 |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| | | | | | END BENT NO. 4 |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |

Note:
 Indicate in remarks column:
 A. Pile type and grade
 B. Batter
 C. Driven to practical refusal
 D. PDA test pile
 E. Minimum tip elevation controlled
 (Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.



THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
2/6/2026

ROUTE B STATE MO

DISTRICT BR SHEET NO. 24

COUNTY DENT

JOB NO. J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9722

| DESCRIPTION | DATE |
|-------------|------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

16305 SWINGLEY RIDGE RD
ST. 300
CHESTERFIELD, MO 63017
314.231.0100
GBAteam.com

GEORGE BUTLER
ASSOCIATES, INC.
PRO. ENGINEER 000133
ARCHITECT 000212
PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE
PROFESSIONAL
ENGINEER
PE-2024032177

AS-BUILT PILE DATA

Detailed Jan 2026
Checked Jan 2026

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

Sheet No. 24 of 29

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

Missouri Department of Transportation
Construction and Materials

BORING NO. B-1
Page 1 of 3

Job No.: J5S3559 County: Dent Route: B
 Design: A9722 Skew: - Location: Dent County
 Bent: - Logged By: EER (UES) Operator: SC (UES)
 Station: - Northing: 635811.973 Date of Work: 06/16/25-06/18/25
 Offset: - Easting: 535566.445 Depth to Water:
 Elevation: 1203.1 Requested Northing: Depth Hole Open:
 Requested Station: - Requested Easting: Time Change:
 Requested Offset: - Equipment: CME 55LC, Shelby Tube, Split-Spoon Sampler, NQ2
 Requested Elevation: Location Note:
 Drill No.: S/N 390755 Hammer Efficiency: 84% Drilling Method: Hollow Stem Auger and Mud Rotary

| Depth (ft) | Graphic | Description | Elevation (ft) | Sample Type | REC % (ROD %) | Blow Counts (N ₆₀) | Shear Data | Field Tests | Index Tests |
|------------|---------|---|----------------|-------------|---------------|--------------------------------|--|---------------|--|
| 0 | | 0.0-0.4' ASPHALT - 5 inches | | | | | | | |
| | | 0.4-8.0' FILL: brown, clay, little sand, trace gravel | 1200 | | | | | | |
| 5 | | | | X | 56 | 2-3-3 (0) | | PP = 1.50 tsf | MC = 12.8% |
| | | | 1195 | | 64 | | MC = 14.65% 120.5 pcf | | |
| 10 | | 8.0-27.0' Medium stiff to stiff, brown, LEAN CLAY, little to some chert gravel - (CL) | | X | 67 | 5-7-6 (18) | | | LL = 25 PL = 12 MC = 9.3% |
| | | | 1190 | | | | | | |
| 15 | | | | X | 100 | 3-5-13 (25) | | | MC = 13.1% |
| | | | 1185 | | 100 | | UU Test Results SS = 2.26 ksf MC = 17.7% γ _{moist} = 128.3 pcf | | LL = 39 PL = 16 |
| 20 | | | | X | 100 | 2-3-6 (13) | | PP = 1.25 tsf | MC = 16.4% |
| | | | 1180 | | | | | | |
| 25 | | | | X | 100 | 11-12-11 (32) | | | MC = 12.7% |
| | | | 1175 | | | | | | |
| 30 | | 27.0-32.0' Medium dense, brown POORLY-GRADED SAND, some clay - SP | | X | 100 | 4-5-5 (14) | | PP = 1.75 tsf | MC = 21.0% Sieve Analysis Sieve # % Passing #200 33.9 |
| | | | 1170 | | | | | | |
| 35 | | 32.0-38.0' Stiff, brown, FAT CLAY, some sand - (CH) | | X | 100 | 3-8-7 (21) | | PP = 2.25 tsf | LL = 118 PL = 39 MC = 60.9% |
| | | | 1165 | | | | | | |
| 40 | | | | X | 56 | 25-30-38 (95) | | | |

N₆₀ = (Em/60)N_m N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; N_m - Observed N-value: (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: 1.0000878

Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

(Continued Next Page)

Missouri Department of Transportation
Construction and Materials

BORING NO. B-1
Page 2 of 3

Job No.: J5S3559 County: Dent Route: B
 Design: A9722 Skew: - Location: Dent County
 Bent: - Logged By: EER (UES) Operator: SC (UES)
 Station: - Northing: 635811.973 Date of Work: 06/16/25-06/18/25
 Offset: - Easting: 535566.445 Depth to Water:
 Elevation: 1203.1 Requested Northing: Depth Hole Open:
 Requested Station: - Requested Easting: Time Change:
 Requested Offset: - Equipment: CME 55LC, Shelby Tube, Split-Spoon Sampler, NQ2
 Requested Elevation: Location Note:
 Drill No.: S/N 390755 Hammer Efficiency: 84% Drilling Method: Hollow Stem Auger and Mud Rotary

| Depth (ft) | Graphic | Description | Elevation (ft) | Sample Type | REC % (ROD %) | Blow Counts (N ₆₀) | Shear Data | Field Tests | Index Tests |
|------------|---------|---|----------------|-------------|---------------|--------------------------------|------------|-------------|-------------|
| 40 | | 38.0-83.0' Very dense to medium dense, gray, GRAVEL, little to some clay, trace to little sand - GC (continued) | | | | | | | |
| | | | 1160 | | | | | | |
| 45 | | | | X | 44 | 11-15-10 (35) | | | |
| | | | 1155 | | | | | | |
| 50 | | | | X | 17 | 5-6-6 (17) | | | MC = 25.3% |
| | | | 1150 | | | | | | |
| 55 | | | | X | 78 | 4-13-8 (29) | | | MC = 42.8% |
| | | | 1145 | | | | | | |
| 60 | | | | | | | | | |
| | | | 1140 | | | | | | |
| 65 | | | | X | 44 | 3-16-5 (29) | | | |
| | | | 1135 | | | | | | |
| 70 | | | | X | 56 | 6-5-4 (13) | | | MC = 39.5% |
| | | | 1130 | | | | | | |
| 75 | | | | X | 33 | 6-7-6 (18) | | | MC = 16.4% |
| | | | 1125 | | | | | | |
| | | | | X | 0 | 50/0.3' | | | |
| | | | | X | 9 | 21-50/0.4' | | | |

N₆₀ = (Em/60)N_m N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; N_m - Observed N-value: (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: 1.0000878

Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

(Continued Next Page)



THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED
2/6/2026

ROUTE STATE
B MO
DISTRICT SHEET NO.
BR 25

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9722

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

MODOT

GBA

16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE PROFESSIONAL ENGINEER PE-2024032177

BORING DATA

Note: For locations of borings, see Sheet No. 1.

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

Sheet No. 25 of 29

Detailed Jan 2026
Checked Jan 2026

**Missouri Department of Transportation
Construction and Materials**

BORING NO. B-2
Page 1 of 2

Job No.: J5S3559 County: Dent Route: B
 Design: A9722 Skew: - Location: Dent County
 Bent: - Logged By: EER (UES) Operator: SC (UES)
 Station: - Northing: 635822.594 Date of Work: 06/24/25-06/25/25
 Offset: - Easting: 535595.54 Depth to Water:
 Elevation: 1203.1 Requested Northing: Depth Hole Open:
 Requested Station: - Requested Easting: Time Change:
 Requested Offset: - Equipment: CME 55LC, Shelby Tube, Split-Spoon Sampler, NQ2
 Requested Elevation: Location Note:
 Drill No.: S/N 390755 Hammer Efficiency: 84% Drilling Method: Hollow Stem Auger and Mud Rotary

| Depth (ft) | Graphic | Description | Elevation (ft) | Sample Type | REC % (RQD %) | Blow Counts (N ₆₀) | Shear Data | Field Tests | Index Tests |
|------------|---------|---|----------------|-------------|---------------|--------------------------------|---------------|-----------------------------------|-------------|
| 0 | | 0.0-0.2' ASPHALT - 2 inches 0.2-0.8' CONCRETE - 7 inches 0.8-12.6' Air - 10 feet and 10 inches | 1200 | | | | | | |
| 5 | | | 1195 | | | | | | |
| 10 | | | 1190 | | | | | | |
| 15 | | 12.6-51.0' Medium stiff to stiff, reddish-brown, FAT CLAY, little sand, little to and chert gravel - (CH) | 1185 | | | | | | |
| 20 | | | 1180 | X | 100 | 3-7-7 (20) | PP = 1.50 tsf | MC = 27.0% | |
| 25 | | | 1175 | | 94 | | | LL = 108 PL = 31 MC = 42.4% | |
| 30 | | | 1170 | X | 89 | 2-46-46 (129) | PP = 1.75 tsf | MC = 48.4% | |
| 35 | | | 1165 | X | 89 | 11-14-24 (53) | | MC = 27.6% | |
| 40 | | | 1160 | X | 100 | 7-6-8 (20) | | | MC = 44.9% |
| 45 | | | 1155 | | | | | | |
| 50 | | | 1150 | | | | | | |
| 55 | | | 1145 | | | | | | |
| 60 | | | 1140 | | | | | | |
| 65 | | | 1135 | | | | | | |
| 70 | | | 1130 | | | | | | |
| 75 | | | 1125 | | | | | | |

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value: (1) = Assumed, (2) = Actual
 Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: 1.0000878
 Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

(Continued Next Page)

**Missouri Department of Transportation
Construction and Materials**

BORING NO. B-2
Page 2 of 2

Job No.: J5S3559 County: Dent Route: B
 Design: A9722 Skew: - Location: Dent County
 Bent: - Logged By: EER (UES) Operator: SC (UES)
 Station: - Northing: 635822.594 Date of Work: 06/24/25-06/25/25
 Offset: - Easting: 535595.54 Depth to Water:
 Elevation: 1203.1 Requested Northing: Depth Hole Open:
 Requested Station: - Requested Easting: Time Change:
 Requested Offset: - Equipment: CME 55LC, Shelby Tube, Split-Spoon Sampler, NQ2
 Requested Elevation: Location Note:
 Drill No.: S/N 390755 Hammer Efficiency: 84% Drilling Method: Hollow Stem Auger and Mud Rotary

| Depth (ft) | Graphic | Description | Elevation (ft) | Sample Type | REC % (RQD %) | Blow Counts (N ₆₀) | Shear Data | Field Tests | Index Tests |
|------------|---------|--|----------------|-------------|---------------|--------------------------------|------------|---------------|----------------------------------|
| 40 | | 12.6-51.0' Medium stiff to stiff, reddish-brown, FAT CLAY, little sand, little to and chert gravel - (CH) (continued) | 1160 | | | | | | |
| 45 | | | 1155 | X | 22 | 4-5-5 (14) | | | |
| 50 | | | 1150 | X | 100 | 1-2-3 (7) | | PP = 1.50 tsf | LL = 50 PL = 34 MC = 43.6% |
| 55 | | 51.0-64.5' Medium dense, gray, CHERT GRAVEL, trace clay, trace to little sand - GC | 1145 | | | | | | MC = 27.0% |
| 60 | | | 1140 | X | 22 | 12-6-15 (29) | | | |
| 65 | | | 1135 | | | | | | |
| 70 | | 64.5-65.7' Medium strong, gray, very finely crystalline, thin to medium bedded, highly to moderately weathered, pitted to dense Limestone, some chert nodules and partings | 1130 | | | | | | |
| 75 | | 65.7-66.4' Core Loss - 8 inches (core not recovered) 66.4-67.5' Limestone continued. 67.5-69.0' Core Loss - 18 inches (core not recovered) 69.0-71.5' Limestone continued. 71.5-72.5' Core Loss - 12 inches (core not recovered) 72.5-75.7' Limestone continued. Refusal at 64.5 feet. Bottom of borehole at 75.7 feet. | 1125 | | | | | | |

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value: (1) = Assumed, (2) = Actual
 Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: 1.0000878
 Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

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THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY.

DATE PREPARED: 2/6/2026

ROUTE: B STATE: MO
 DISTRICT: BR SHEET NO.: 27

COUNTY: DENT

JOB NO.: J5S3559

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO.: A9722

DESCRIPTION:

DATE:

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

GBA

16305 SWINGLEY RIDGE RD ST. 300 CHESTERFIELD, MO 63017 314.231.0100 GBAteam.com

GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE PROFESSIONAL ENGINEER PE-2024032177

BORING DATA

Note: For locations of borings, see Sheet No. 1.

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

Sheet No. 27 of 29

Detailed Jan 2026
 Checked Jan 2026

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

**Missouri Department of Transportation
Construction and Materials**

BORING NO. B-3
Page 1 of 2

Job No.: J5S3559 County: Dent Route: B
 Design: A9722 Skew: - Location: Dent County
 Bent: - Logged By: TJM (UES) Operator: NG (UES)
 Station: - Northing: 635807.423 Date of Work: 06/16/25-06/18/25
 Offset: - Easting: 535653.349 Depth to Water: -
 Elevation: 1203.1 Requested Northing: - Depth Hole Open: -
 Requested Station: - Requested Easting: - Time Change: -
 Requested Offset: - Equipment: CME 550X, Split-Spoon Sampler, NQ2
 Requested Elevation: - Location Note: -
 Drill No.: S/N 343063 Hammer Efficiency: 82% Drilling Method: Hollow Stem Auger and Mud Rotary

| Depth (ft) | Graphic | Description | Elevation (ft) | Sample Type | REC % (RQD %) | Blow Counts (N ₆₀) | Shear Data | Field Tests | Index Tests |
|------------|---------|--|----------------|-------------|---------------|--------------------------------|------------|-------------|-------------|
| 0 | | 0.0-0.2' ASPHALT - 2 inches 0.2-0.8' CONCRETE - 7 inches 0.8-13.6' Air - 11 feet and 10 inches | 1200 | | | | | | |
| 5 | | | 1195 | | | | | | |
| 10 | | | 1190 | | | | | | |
| 15 | | 13.6-31.0' Very dense to Dense, gray, CHERT GRAVEL, some clay, little sand - GC | 1185 | | | | | | |
| 20 | | | 1180 | | | | | | |
| 25 | | | 1175 | X | 39 | 24-25-18 (59) | | | |
| 30 | | | 1170 | X | 17 | 12-16-14 (41) | | | |
| 35 | | 31.0-43.0' Stiff, reddish-brown, FAT CLAY, little sand, and chert gravel - CH | 1170 | X | 44 | 5-4-6 (14) | | | |

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual
 Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: 1.0000878
 Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

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(Continued Next Page)

**Missouri Department of Transportation
Construction and Materials**

BORING NO. B-3
Page 2 of 2

Job No.: J5S3559 County: Dent Route: B
 Design: A9722 Skew: - Location: Dent County
 Bent: - Logged By: TJM (UES) Operator: NG (UES)
 Station: - Northing: 635807.423 Date of Work: 06/16/25-06/18/25
 Offset: - Easting: 535653.349 Depth to Water: -
 Elevation: 1203.1 Requested Northing: - Depth Hole Open: -
 Requested Station: - Requested Easting: - Time Change: -
 Requested Offset: - Equipment: CME 550X, Split-Spoon Sampler, NQ2
 Requested Elevation: - Location Note: -
 Drill No.: S/N 343063 Hammer Efficiency: 82% Drilling Method: Hollow Stem Auger and Mud Rotary

| Depth (ft) | Graphic | Description | Elevation (ft) | Sample Type | REC % (RQD %) | Blow Counts (N ₆₀) | Shear Data | Field Tests | Index Tests |
|------------|---------|---|----------------|-------------|---------------|--------------------------------|------------|-------------|-------------|
| 35 | | 31.0-43.0' Stiff, reddish-brown, FAT CLAY, little sand, and chert gravel - CH (continued) | 1165 | | | | | | |
| 40 | | | 1160 | X | 28 | 6-5-3 (11) | | | |
| 45 | | 43.0-65.0' Loose to very dense, gray, CHERT GRAVEL, trace clay, little to some sand - GC | 1155 | | | | | | |
| 50 | | | 1150 | X | 11 | 5-2-1 (4) | | | |
| 55 | | | 1145 | | | | | | |
| 60 | | | 1140 | X | 50 | 10-18-18 (49) | | | |
| 65 | | Refusal at 65.0 feet. Bottom of borehole at 65.0 feet. | 1140 | X | 6 | 1-1-2 (4) | | | |

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value; (1) = Assumed, (2) = Actual
 Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: 1.0000878
 Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

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DATE PREPARED
2/6/2026

ROUTE B STATE MO
DISTRICT BR SHEET NO. 28

COUNTY
DENT

JOB NO.
J5S3559

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9722

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

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GEORGE BUTLER ASSOCIATES, INC. PRO. ENGINEER 000133 ARCHITECT 000212 PRO. LAND SURVEYOR 000059

MACKENZY M. MOORE PROFESSIONAL ENGINEER PE-2024032177

BORING DATA

Note: For locations of borings, see Sheet No. 1.

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

Sheet No. 28 of 29

Detailed Jan 2026
Checked Jan 2026

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