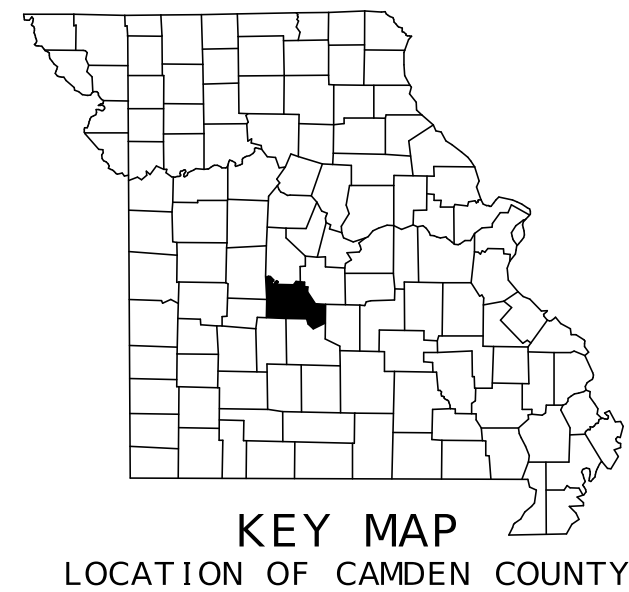


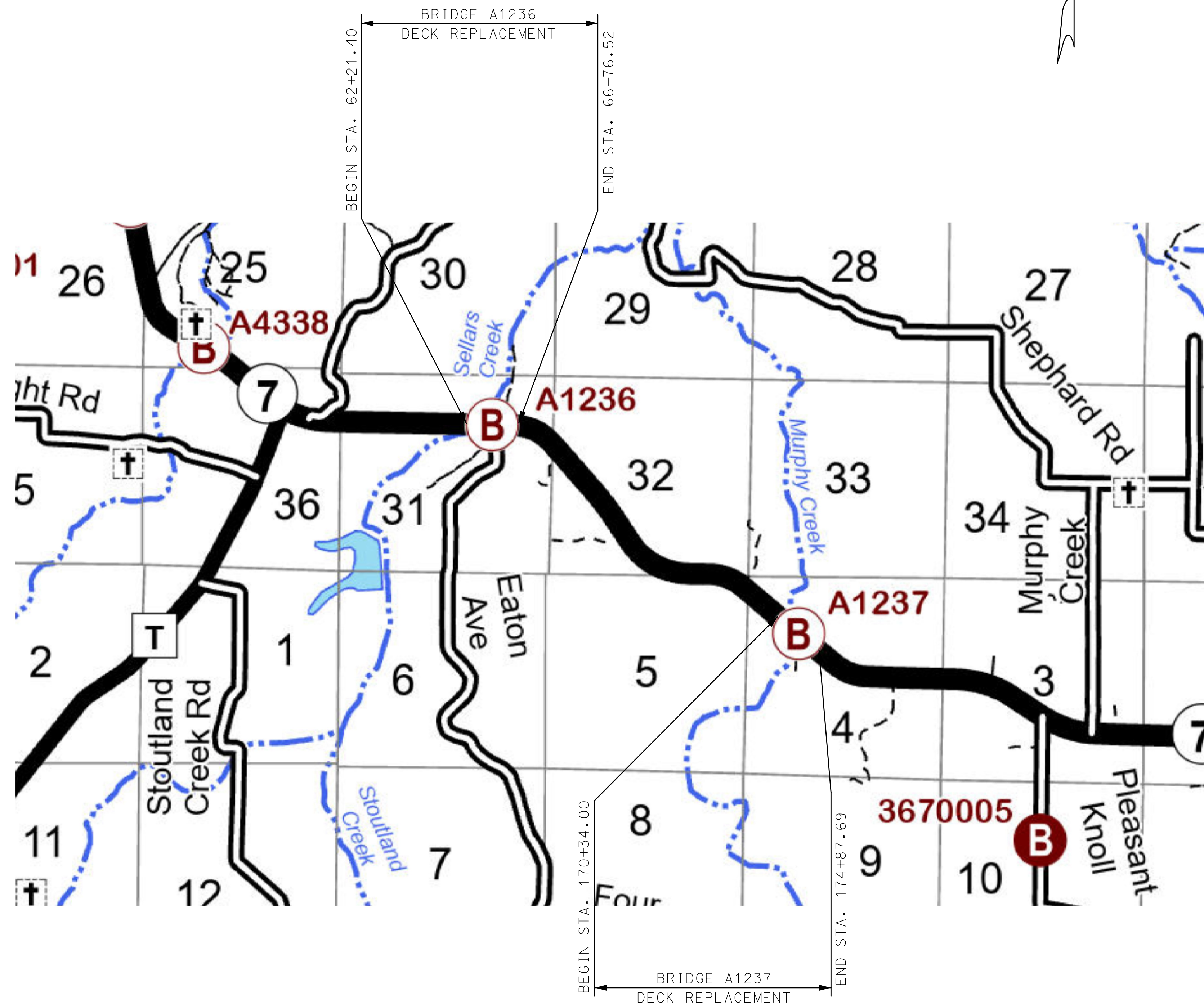
A.A.D.T. - 2024 = 2014 (CONSTRUCTION)
A.A.D.T. - 2044 = 4632 (DESIGN)
V = 60 M.P.H.
T = 15.1%

NO NEW R/W REQUIRED



| | 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 — |
| WOVEN WIRE | | — X — |
| GATE POST | | |
| BENCHMARK | | |


NOTE: DASHED OR OPEN SYMBOLS INDICATE
EXISTING FEATURES



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.

| DESCRIPTION | NUMBER |
|-------------|--------|
|-------------|--------|

| | |
|-------------------------------------|-------|
| TITLE SHEET ----- | 1 |
| TYPICAL SECTIONS (TS) (2 SHEETS)--- | 2 |
| QUANTITIES (QU) (3 SHEETS)----- | 3 |
| PLAN SHEETS (PS)----- | 4-5 |
| TRAFFIC CONTROL SHEETS (TC)----- | 6-9 |
| EROSION CONTROL SHEETS (EC)----- | 10-11 |
| BRIDGE DRAWINGS (B) (20 SHEETS) | |
| A1236----- | 1-10 |
| A1237----- | 1-10 |

| | | | |
|---|-------------|-----------------------------------|--|
|  | | DATE PREPARED 9/25/2025 | |
| ROUTE 7 | | STATE MO | |
| DISTRICT CD | | SHEET NO. 1 | |
| COUNTY CAMDEN | | | |
| JOB NO. J5P3538 | | | |
| CONTRACT I.D. | | | |
| PROJECT NO. | | | |
| BRIDGE NO. | | | |
| DATE | DESCRIPTION | | |
| | | | |

BRIDGE A1236 (CAMDEN COUNTY)

| | |
|----------------------|---------------|
| BEGINNING OF PROJECT | STA. 62+21.40 |
| END OF PROJECT | STA. 66+76.52 |

| | |
|-----------------|-------------|
| APPARENT LENGTH | 455.12 FEET |
|-----------------|-------------|

EQUATIONS AND EXCEPTIONS:
NONE

| | |
|------------------------------|----------------|
| BRIDGE A1237 (CAMDEN COUNTY) | |
| BEGINNING OF PROJECT | STA. 170+34.00 |
| END OF PROJECT | STA. 174+87.69 |

| | |
|-----------------|-------------|
| APPARENT LENGTH | 453.69 FEET |
|-----------------|-------------|

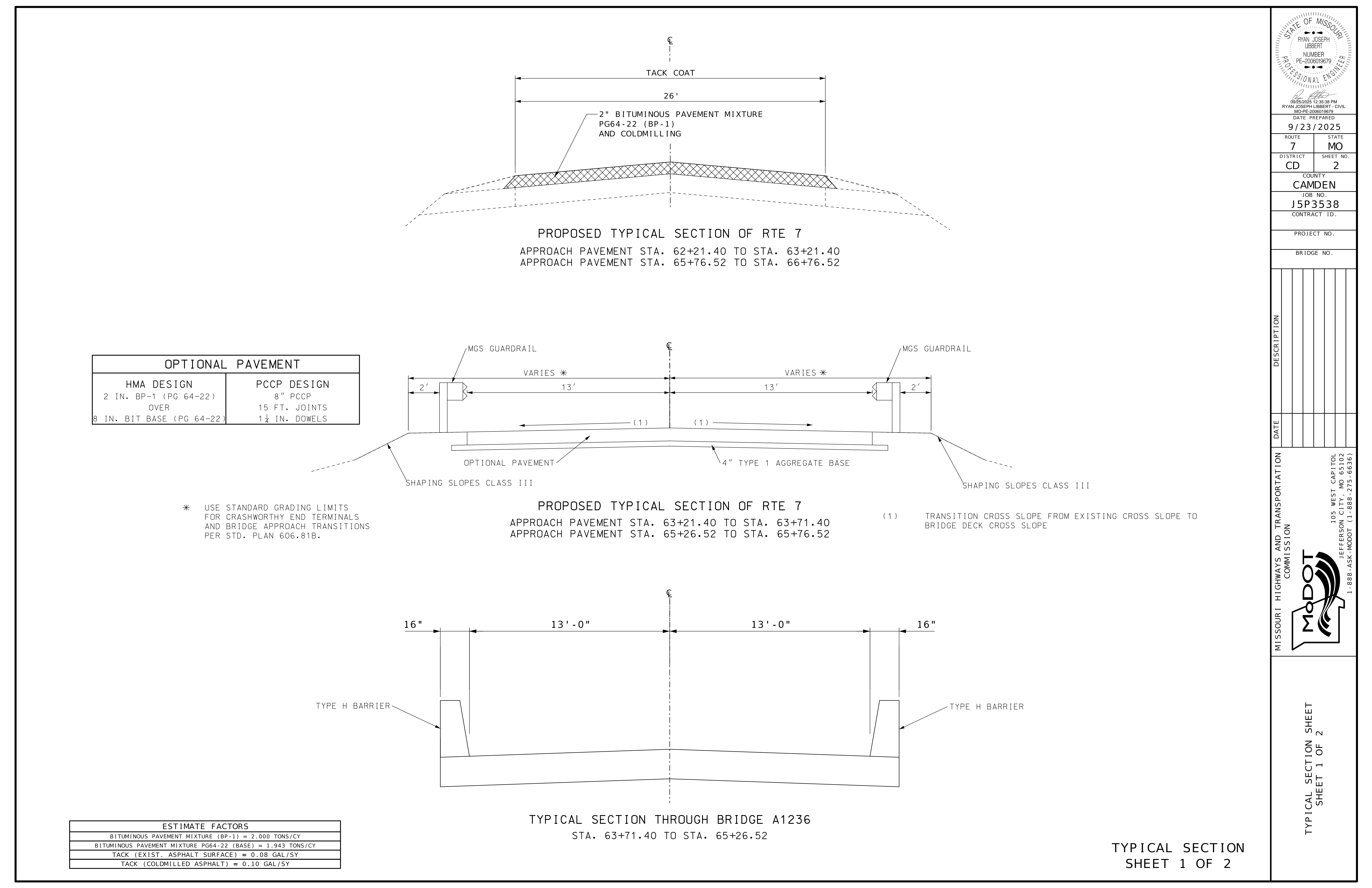
EQUATIONS AND EXCEPTIONS:
NONE

| | | |
|-----------------------|--------|-------|
| TOTAL CORRECTIONS | 0.00 | FEET |
| NET LENGTH OF PROJECT | 908.81 | FEET |
| STATE LENGTH | 0.172 | MILES |

FOR INFORMATION ONLY
ESTIMATED DISTURBED ACRES 0.228 ACRES



TITLE SHEET



STATE OF MISSOURI

RYAN JOSEPH LIBBERT

NUMBER

PE-2006019679

PROFESSIONAL ENGINEER

09/25/2025 12:35:38 PM

RYAN JOSEPH LIBBERT - CIVIL

MO-PE-2006019679

DATE PREPARED

9/23/2025

ROUTE

7

STATE

MO

DISTRICT

CD

SHEET NO.

2

COUNTY

CAMDEN

JOB NO.

J5P3538

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

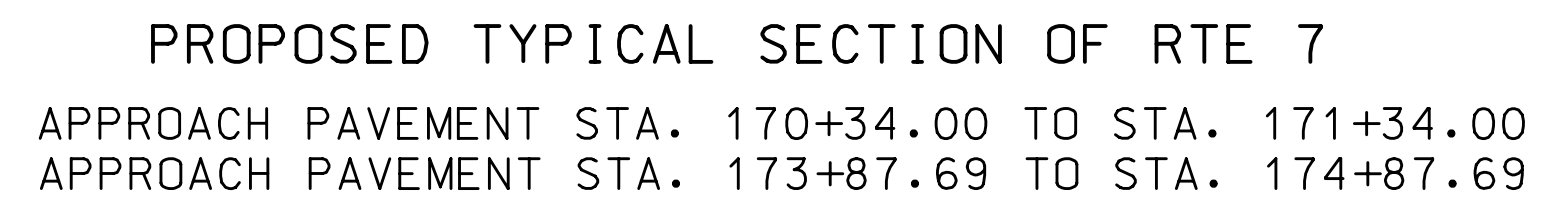
1-888-ASK-MODOT (1-888-275-6636)

TYPICAL SECTION SHEET

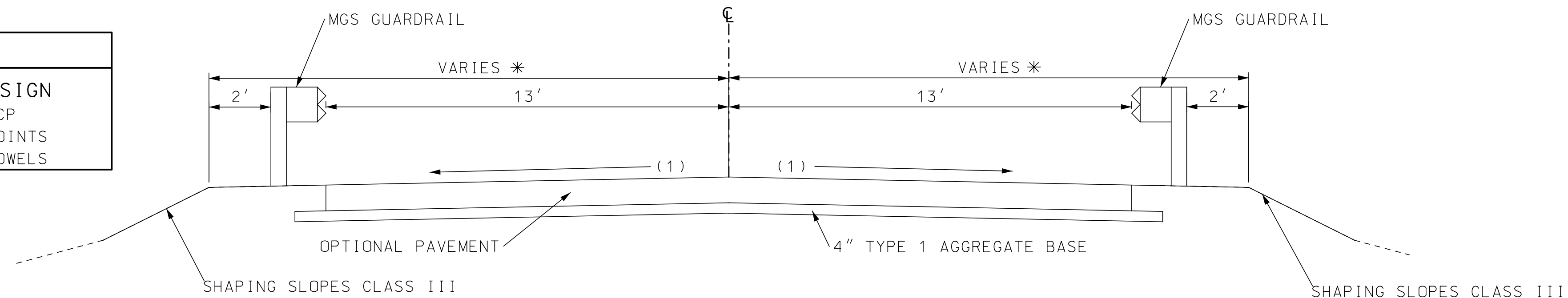
SHEET 1 OF 2

| ESTIMATE FACTORS |
|--|
| BITUMINOUS PAVEMENT MIXTURE (BP-1) = 2,000 TONS/CY |
| BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE) = 1,943 TONS/CY |
| TACK (EXIST. ASPHALT SURFACE) = 0.08 GAL/SY |
| TACK (COLDMILLED ASPHALT) = 0.10 GAL/SY |

TYPICAL SECTION
SHEET 1 OF 2



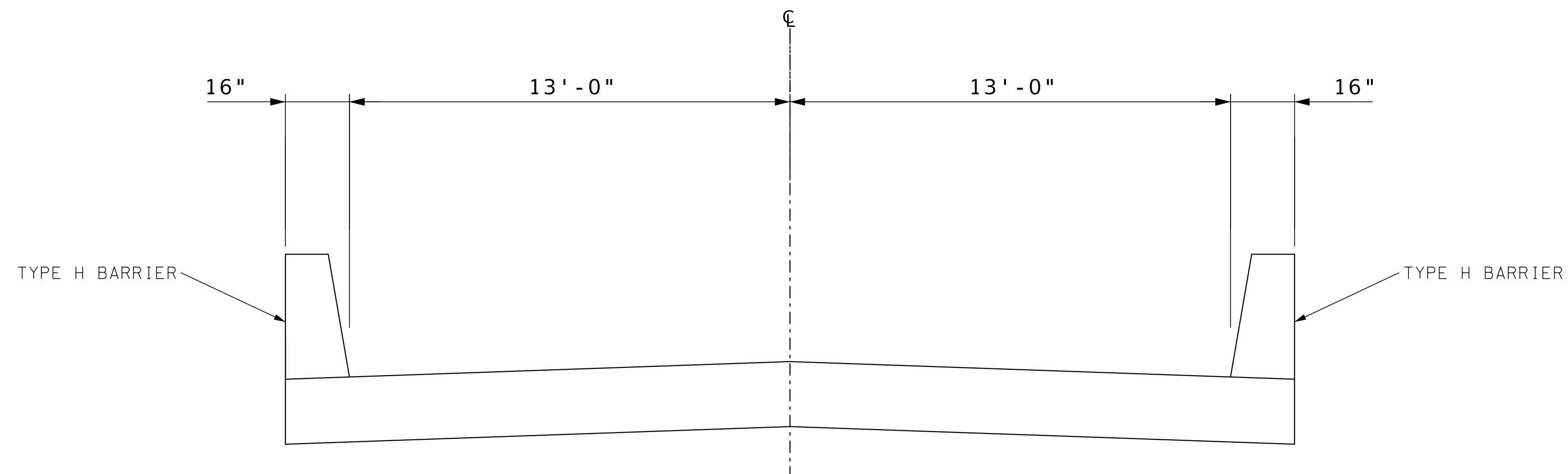
| OPTIONAL PAVEMENT | |
|-------------------------------|-----------------------------------|
| HMA DESIGN | PCCP DESIGN |
| 2 IN. BP-1 (PG 64-22) OVER | 8" PCCP |
| 8 IN. BIT BASE (PG 64-22) | 15 FT. JOINTS 1 1/2 IN. DOWELS |



* USE STANDARD GRADING LIMITS
FOR CRASHWORTHY END TERMINALS
AND BRIDGE APPROACH TRANSITIONS
PER STD. PLAN 606.81B.

PROPOSED TYPICAL SECTION OF RTE 7
 APPROACH PAVEMENT STA. 171+34.00 TO STA. 171+84.00
 APPROACH PAVEMENT STA. 173+37.69 TO STA. 173+87.69

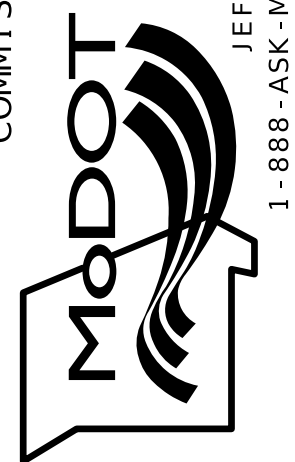
(1) TRANSITION CROSS SLOPE FROM EXISTING CROSS SLOPE TO
BRIDGE DECK CROSS SLOPE



TYPICAL SECTION THROUGH BRIDGE A1237
STA. 171+84.00 TO STA. 173+37.69

| ESTIMATE FACTORS | |
|--|---------------|
| BITUMINOUS PAVEMENT MIXTURE (BP-1) = | 2.000 TONS/CY |
| BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE) = | 1.943 TONS/CY |
| TACK (EXIST. ASPHALT SURFACE) = | 0.08 GAL/SY |
| TACK (COLDMILLED ASPHALT) = | 0.10 GAL/SY |

TYPICAL SECTION
SHEET 2 OF 2

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

TYPICAL SECTION SHEET
SHEET 2 OF 2

| REMOVAL OF IMPROVEMENTS | | | | |
|-------------------------|----------|------------------|-------------|---|
| APPROX STATION | LOCATION | ITEM | QTY | REMARKS |
| 62+46.40 | ROUTE 7 | GUARDRAIL | 252 LF | BOTH SIDES OF ROUTE 7 |
| 65+26.52 | ROUTE 7 | GUARDRAIL | 242 LF | BOTH SIDES OF ROUTE 7 |
| 170+59.00 | ROUTE 7 | GUARDRAIL | 243 LF | BOTH SIDES OF ROUTE 7 |
| 173+37.69 | ROUTE 7 | GUARDRAIL | 244 LF | BOTH SIDES OF ROUTE 7 |
| 63+21.40 | ROUTE 7 | PAVEMENT REMOVAL | 144.44 SQYD | 50 FT. SECTION NORTH OF BRIDGE A1236 |
| 65+26.52 | ROUTE 7 | PAVEMENT REMOVAL | 144.44 SQYD | 50 FT. SECTION SOUTH OF BRIDGE A1236 |
| 171+34.00 | ROUTE 7 | PAVEMENT REMOVAL | 153.22 SQYD | 50 FT. SECTION NORTH OF BRIDGE A1237 |
| 173+37.69 | ROUTE 7 | PAVEMENT REMOVAL | 153.22 SQYD | 50 FT. SECTION SOUTH OF BRIDGE A1237 |
| 52+76.60 | ROUTE 7 | LOAD POSTED SIGN | 20 SF | |
| 74+64.52 | ROUTE 7 | LOAD POSTED SIGN | 20 SF | |
| 155+22.50 | ROUTE 7 | LOAD POSTED SIGN | 20 SF | |
| 189+83.34 | ROUTE 7 | LOAD POSTED SIGN | 20 SF | |
| 63+71.40 | ROUTE 7 | OBJECT MARKERS | 6 SF | BOTH SIDES OF ROUTE 7 AT BRIDGE A1236 NORTH END |
| 65+26.52 | ROUTE 7 | OBJECT MARKERS | 6 SF | BOTH SIDES OF ROUTE 7 AT BRIDGE A1236 SOUTH END |
| 171+84.00 | ROUTE 7 | OBJECT MARKERS | 6 SF | BOTH SIDES OF ROUTE 7 AT BRIDGE A1237 NORTH END |
| 173+37.69 | ROUTE 7 | OBJECT MARKERS | 6 SF | BOTH SIDES OF ROUTE 7 AT BRIDGE A1237 SOUTH END |
| 63+71.40 | ROUTE 7 | SAW CUTS | 26 LF | NORTH OF BRIDGE A1236 |
| 65+26.52 | ROUTE 7 | SAW CUTS | 26 LF | SOUTH OF BRIDGE A1236 |
| 171+84.00 | ROUTE 7 | SAW CUTS | 26 LF | NORTH OF BRIDGE A1237 |
| 173+37.69 | ROUTE 7 | SAW CUTS | 26 LF | SOUTH OF BRIDGE A1237 |
| | | | | |
| TOTAL | | | 1 LUMP SUM | |

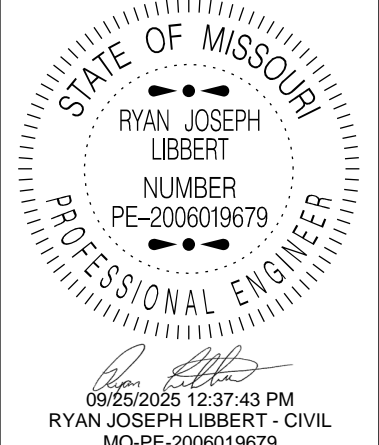
| |
|--------------|
| MOBILIZATION |
| 1 LUMP SUM |

| PAVEMENT | | | | | | | | | | | |
|--------------|------------|----------|------------|---------------|-------------------|--------------|---------------|----------------------------|--|---------------|---|
| STATION FROM | STATION TO | LOCATION | LENGTH FT. | WIDTH FT. | AVERAGE WIDTH FT. | AREA SQ. FT. | THICKNESS IN. | OPTIONAL PAVEMENT SQ. YDS. | BITUMINOUS PAVEMENT (BP-1) PG 64-22 TONS | TACK COAT GAL | REMARKS |
| 62+21.40 | 63+21.40 | ROUTE 7 | 100 | 26.00 | 26 | 2600 | 2 | | 32.10 | 28.89 | ASPHALT PAVEMENT FOR MILL/FILL AREA - APPROX. 288.89 SQ. YDS. |
| 63+21.40 | 63+71.40 | ROUTE 7 | 50 | 26.00 | 26 | 1300 | | 144.44 | | | NORTH OF BRIDGE A1236 |
| 65+26.52 | 65+76.52 | ROUTE 7 | 50 | 26.00 | 26 | 1300 | | 144.44 | | | SOUTH OF BRIDGE A1236 |
| 65+76.52 | 66+76.52 | ROUTE 7 | 100 | 26.00 | 26 | 2600 | 2 | | 32.10 | 28.89 | ASPHALT PAVEMENT FOR MILL/FILL AREA - APPROX. 288.89 SQ. YDS. |
| 170+34.00 | 171+34.00 | ROUTE 7 | 100 | 26.00 | 26 | 2600 | 2 | | 32.10 | 28.89 | ASPHALT PAVEMENT FOR MILL/FILL AREA - APPROX. 288.89 SQ. YDS. |
| 171+34.00 | 171+76.96 | ROUTE 7 | 42.96 | 26.00 | 26 | 1116.96 | | 124.11 | | | NORTH OF BRIDGE A1237 |
| 171+76.96 | 171+91.04 | ROUTE 7 | 14.08 | 26.00 TO 0.00 | 13 | 183.04 | | 20.34 | | | NORTH OF BRIDGE A1237 |
| 173+30.65 | 173+44.73 | ROUTE 7 | 14.08 | 0.00 TO 26.00 | 13 | 183.04 | | 20.34 | | | SOUTH OF BRIDGE A1237 |
| 173+44.73 | 173+87.69 | ROUTE 7 | 42.96 | 26.00 | 26 | 1116.96 | | 124.11 | | | SOUTH OF BRIDGE A1237 |
| 173+87.69 | 174+87.69 | ROUTE 7 | 100 | 26.00 | 26 | 2600 | 2 | | 32.10 | 28.89 | ASPHALT PAVEMENT FOR MILL/FILL AREA - APPROX. 288.89 SQ. YDS. |
| | | | | | | | TOTAL | 577.78 | 128.40 | 115.56 | |
| | | | | | | | USE | 577.8 | 128.4 | 116 | |

| COLDMILLING | | | | | | |
|--------------|------------|----------|-----------|----------|---|----------------------------------|
| STATION FROM | STATION TO | LOCATION | LENGTH FT | WIDTH FT | COLDMILLING BITUMINOUS PAVEMENT (3" THICK OR LESS) SQYD | REMARKS |
| 62+21.40 | 63+21.40 | ROUTE 7 | 100 | 26 | 288.89 | 2 IN. MILL NORTH OF BRIDGE A1236 |
| 65+76.52 | 66+76.52 | ROUTE 7 | 100 | 26 | 288.89 | 2 IN. MILL SOUTH OF BRIDGE A1236 |
| 170+34.00 | 171+34.00 | ROUTE 7 | 100 | 26 | 288.89 | 2 IN. MILL NORTH OF BRIDGE A1237 |
| 173+87.69 | 174+87.69 | ROUTE 7 | 100 | 26 | 288.89 | 2 IN. MILL SOUTH OF BRIDGE A1237 |
| TOTAL | | | | | 1155.56 | |
| USE | | | | | 1156 | |

| SUBGRADING AND SHOULDERING | | | | | | |
|----------------------------|------------|----------|-----------|----------|--|-----------------------|
| STATION FROM | STATION TO | LOCATION | LENGTH FT | WIDTH FT | SUBGRADING AND SHOULDERING CLASS 1 100FT | REMARKS |
| 63+51.40 | 63+71.40 | ROUTE 7 | 50 | 26 | 0.50 | NORTH OF BRIDGE A1236 |
| 65+26.52 | 65+76.52 | ROUTE 7 | 50 | 26 | 0.50 | SOUTH OF BRIDGE A1236 |
| 171+34.00 | 171+84.00 | ROUTE 7 | 50 | 26 | 0.50 | NORTH OF BRIDGE A1237 |
| 173+37.69 | 173+87.69 | ROUTE 7 | 50 | 26 | 0.50 | SOUTH OF BRIDGE A1237 |
| TOTAL | | | | | 2.00 | |
| USE | | | | | 2 | |

| TYPE 1 AGGREGATE FOR BASE (4" THICK) | | | | | | | |
|--------------------------------------|------------|----------|------------|---------------|-------------------|--------------|--------------------|
| STATION FROM | STATION TO | LOCATION | LENGTH FT. | WIDTH FT. | AVERAGE WIDTH FT. | AREA SQ. FT. | AGGREGATE SQ. YDS. |
| 63+21.40 | 63+71.40 | ROUTE 7 | 50 | 26.00 | 26 | 1300 | 144.44 |
| 65+26.52 | 65+76.52 | ROUTE 7 | 50 | 26.00 | 26 | 1300 | 144.44 |
| 171+34.00 | 171+76.96 | ROUTE 7 | 42.96 | 26.00 | 26 | 1117 | 124.11 |
| 171+76.96 | 171+91.04 | ROUTE 7 | 14.08 | 26.00 TO 0.00 | 13 | 183 | 20.34 |
| 173+30.65 | 173+44.73 | ROUTE 7 | 14.08 | 0.00 TO 26.00 | 13 | 183 | 20.34 |
| 173+44.73 | 173+87.69 | ROUTE 7 | 42.96 | 26.00 | 26 | 1117 | 124.11 |
| TOTAL | | | | | | | 577.78 |
| USE | | | | | | | 578 |

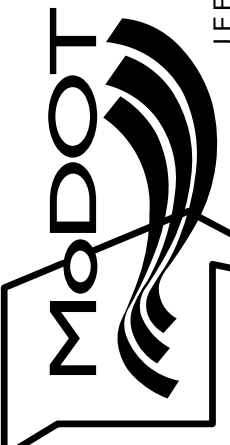


| | |
|----------------------------|----------------|
| DATE PREPARED 9/23/2025 | |
| ROUTE 7 | STATE MO |
| DISTRICT CD | SHEET NO. 3 |
| COUNTY CAMDEN | |
| JOB NO. J5P3538 | |
| CONTRACT ID. | |

| |
|-------------|
| 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)

| GUARDRAIL | | | | | | | | |
|--------------|------------|---------------|--|------------------|---|-------------------|-------------------------------|---------------------|
| STATION FROM | STATION TO | LOCATION | MGS BRIDGE APPROACH TRANS. SECT. (REG. / NO CURB) EA | MGS GUARDRAIL LF | TYPE A CRASHWORTHY END TERMINAL (MASH) EA | MGS END ANCHOR EA | SHAPING SLOPES CLASS III 100F | REMARKS |
| 62+08.90 | 63+71.40 | ROUTE 7 - LT. | 1 | 75.0 | 1 | | 1.775 | SEE SPECIAL SHEET 1 |
| 62+08.90 | 63+71.40 | ROUTE 7 - RT. | 1 | 137.5 | | 1 | 2.025 | SEE SPECIAL SHEET 1 |
| 65+26.52 | 67+39.02 | ROUTE 7 - LT. | 1 | 125.0 | 1 | | 2.375 | SEE SPECIAL SHEET 1 |
| 65+26.52 | 67+39.02 | ROUTE 7 - RT. | 1 | 112.5 | | 1 | 1.775 | SEE SPECIAL SHEET 1 |
| 170+14.46 | 171+76.96 | ROUTE 7 - LT. | 1 | 75.0 | 1 | | 1.825 | SEE SPECIAL SHEET 2 |
| 169+91.04 | 171+91.04 | ROUTE 7 - RT. | 1 | 112.5 | 1 | | 1.775 | SEE SPECIAL SHEET 2 |
| 173+30.65 | 174+68.65 | ROUTE 7 - LT. | 1 | 112.5 | | 1 | 1.775 | SEE SPECIAL SHEET 2 |
| 173+44.73 | 174+92.73 | ROUTE 7 - RT. | 1 | 112.5 | | 1 | 1.775 | SEE SPECIAL SHEET 2 |
| | | | | | | | | |
| TOTAL | | | 8 | 862.50 | 4 | 4 | 15.100 | |
| USE | | | 8 | 863 | 4 | 4 | 15 | |

| PAVEMENT MARKING | | | | | | |
|------------------|------------|----------|-------------|--|-------------|--|
| STATION FROM | STATION TO | LOCATION | LENGTH (FT) | CLASS 1 PVMT MARK. PAINT, (18-MIL, TYPE P BEADS) | | REMARKS |
| | | | | 4" YELLOW LF | 4" WHITE LF | |
| 62+21.40 | 63+00.40 | ROUTE 7 | 79 | 19.8 | 158.0 | WHITE EDGE LINES AND ONE INTERMITTENT YELLOW CENTERLINE |
| 63+00.40 | 66+76.52 | ROUTE 7 | 376 | 470.0 | 752.0 | WHITE EDGE LINES AND ONE SOLID, ONE INTERMITTENT YELLOW CENTERLINE |
| 170+34.00 | 174+87.69 | ROUTE 7 | 454 | 113.5 | 908.0 | WHITE EDGE LINES AND ONE INTERMITTENT YELLOW CENTERLINE |
| | | | | | | |
| | | | TOTAL | 603.3 | 1818.0 | |
| | | | USE | 603 | 1818 | |

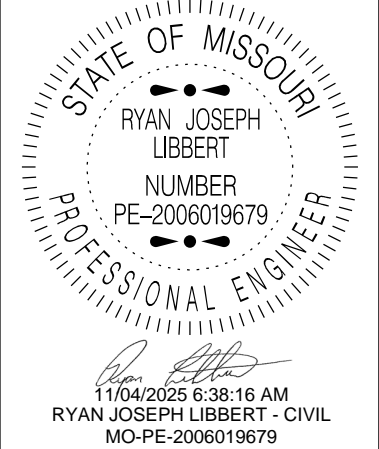
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| CONTRACTOR FURNISHED SURVEYING AND STAKING |
| 1 LUMP SUM |

| |
|-------------------------------------|
| ADDITIONAL MOBILIZATION FOR SEEDING |
| 4 EACH |

| MULCHING AND SEEDING | | | | | |
|----------------------|------------|----------|------------|---|--|
| STATION FROM | STATION TO | LOCATION | LENGTH FT | SEEDING AND MULCHING COOL SEASON GRASSES ACRE | REMARKS |
| 62+46.40 | 63+71.40 | ROUTE 7 | 125 | 0.057 | ESTIMATED AT 10 FT. WIDE ALONG BOTH SIDES OF ROADWAY |
| 65+26.52 | 66+51.52 | ROUTE 7 | 125 | 0.057 | ESTIMATED AT 10 FT. WIDE ALONG BOTH SIDES OF ROADWAY |
| 170+59.00 | 171+84.00 | ROUTE 7 | 125 | 0.057 | ESTIMATED AT 10 FT. WIDE ALONG BOTH SIDES OF ROADWAY |
| 173+37.69 | 174+62.69 | ROUTE 7 | 125 | 0.057 | ESTIMATED AT 10 FT. WIDE ALONG BOTH SIDES OF ROADWAY |
| | | | | | |
| TOTAL | | | 1 LUMP SUM | | |

| TEMPORARY EROSION CONTROL | | | | | | |
|---------------------------|------------|----------|-----------------------|---------------|---------------------|-----------------------------|
| STATION FROM | STATION TO | LOCATION | SEDIMENT REMOVAL CUYD | SILT FENCE LF | ALT. DITCH CHECK LF | REMARKS |
| 62+46.40 | 63+71.40 | ROUTE 7 | 2.5 | 250.00 | 20.00 | SEE EROSION CONTROL SHEET 1 |
| 65+26.52 | 66+51.52 | ROUTE 7 | 2.5 | 250.00 | 20.00 | SEE EROSION CONTROL SHEET 1 |
| 170+59.00 | 171+84.00 | ROUTE 7 | 2.5 | 250.00 | 20.00 | SEE EROSION CONTROL SHEET 2 |
| 173+37.69 | 174+62.69 | ROUTE 7 | 2.5 | 250.00 | 20.00 | SEE EROSION CONTROL SHEET 2 |
| | | | | | | |
| TOTAL | | | 10 | 1000 | 80 | |
| USE | | | 10 | 1000 | 80 | |

| PERMANENT EROSION CONTROL | | | | | | | |
|---------------------------|------------|----------|-------------------------------------|----------------------------------|---|--------------------------------------|---|
| STATION FROM | STATION TO | LOCATION | FURNISHING TYPE 2 ROCK BLANKET CUYD | PLACING TYPE 2 ROCK BLANKET CUYD | FURNISHING TYPE 1 ROCK DITCH LINER CUYD | PLACING TYPE 1 ROCK DITCH LINER CUYD | PERMANENT EROSION CONTROL GEOTEXTILE SQYD |
| 63+68.40 | 63+71.40 | ROUTE 7 | | | 3.71 | 3.71 | 24.96 |
| 171+73.96 | 171+91.04 | ROUTE 7 | | | 3.48 | 3.48 | 22.69 |
| | | | | | | | |
| 172+16.00 | 172+42.00 | ROUTE 7 | 80.97 | 80.97 | | | 103.28 |
| | | | | | | | |
| TOTAL | | | 80.97 | 80.97 | 7.19 | 7.19 | 150.93 |
| USE | | | 81 | 81 | 7 | 7 | 151 |

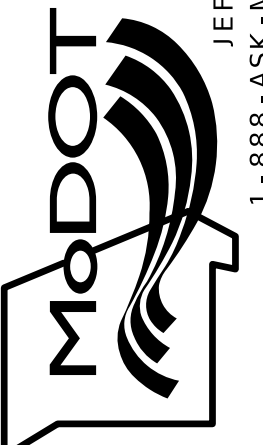


| | |
|----------------------------|----------------|
| DATE PREPARED 11/3/2025 | |
| ROUTE 7 | STATE MO |
| DISTRICT CD | SHEET NO. 3 |
| COUNTY CAMDEN | |
| JOB NO. J5P3538 | |
| CONTRACT ID. | |

| |
|-------------|
| PROJECT NO. |
| BRIDGE NO. |

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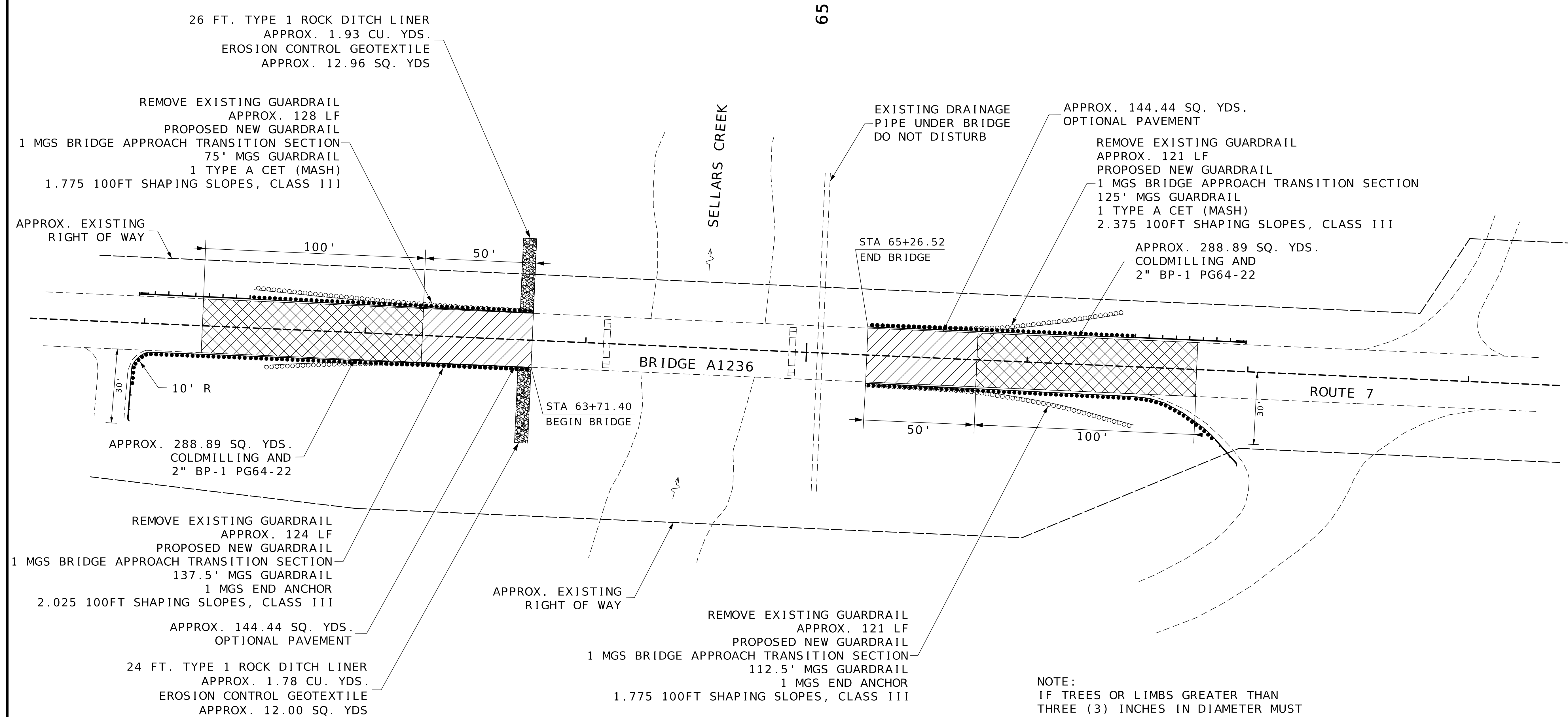
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



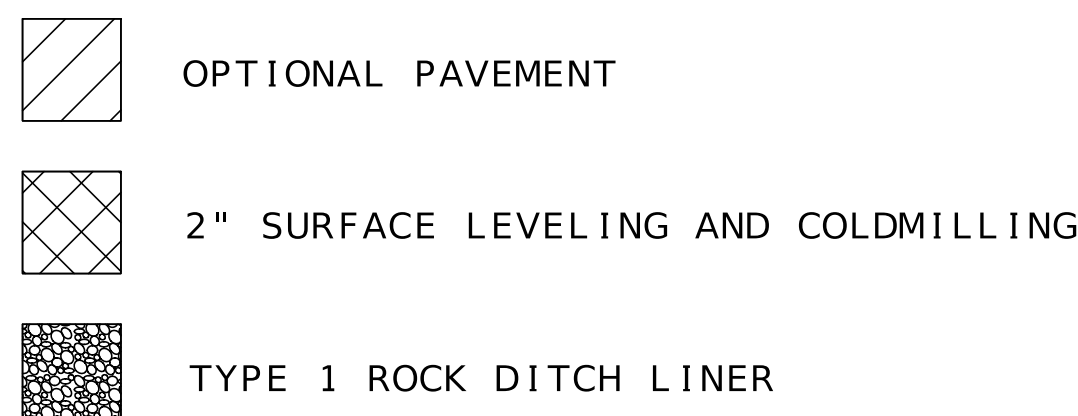
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

NOTE:
REMOVE EXISTING BRIDGE DECK A1236
(46'-60'-46") CONT COMP WIDE FLANGE BEAM SPANS
STA 63+71.40 ±
INSTALL NEW BRIDGE DECK
BEGIN STA 63+71.40 (MATCH EXIST)
26'-0" WIDTH PLUS 16" TYPE H BARRIER



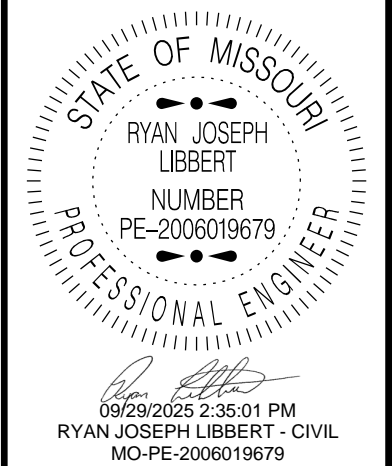
NOT TO SCALE



NOTE:
IF TREES OR LIMBS GREATER THAN
THREE (3) INCHES IN DIAMETER MUST
BE CLEARED TO ACCESS THIS WORK,
THEY SHALL BE REMOVED BETWEEN
OCTOBER 16 AND MARCH 31.
SEE JSP.
ANY WORK INDICATED ON THE PLANS THAT
EXTENDS BEYOND THE PROJECT LIMITS IS
CONSIDERED INCIDENTAL TO AND A PART OF
THE CONSTRUCTION OF THIS PROJECT.

ROUTE 7 STATE BRIDGE A1236

PLAN SHEET
1 OF 2



| | |
|---------------|-----------|
| DATE PREPARED | |
| 9/29/2025 | |
| ROUTE | STATE |
| 7 | MO |
| DISTRICT | SHEET NO. |
| CD | 4 |
| COUNTY | |
| CAMDEN | |
| JOB NO. | |
| J5P3538 | |
| CONTRACT ID. | |

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|-------------|
| PROJECT NO. |
| BRIDGE NO. |

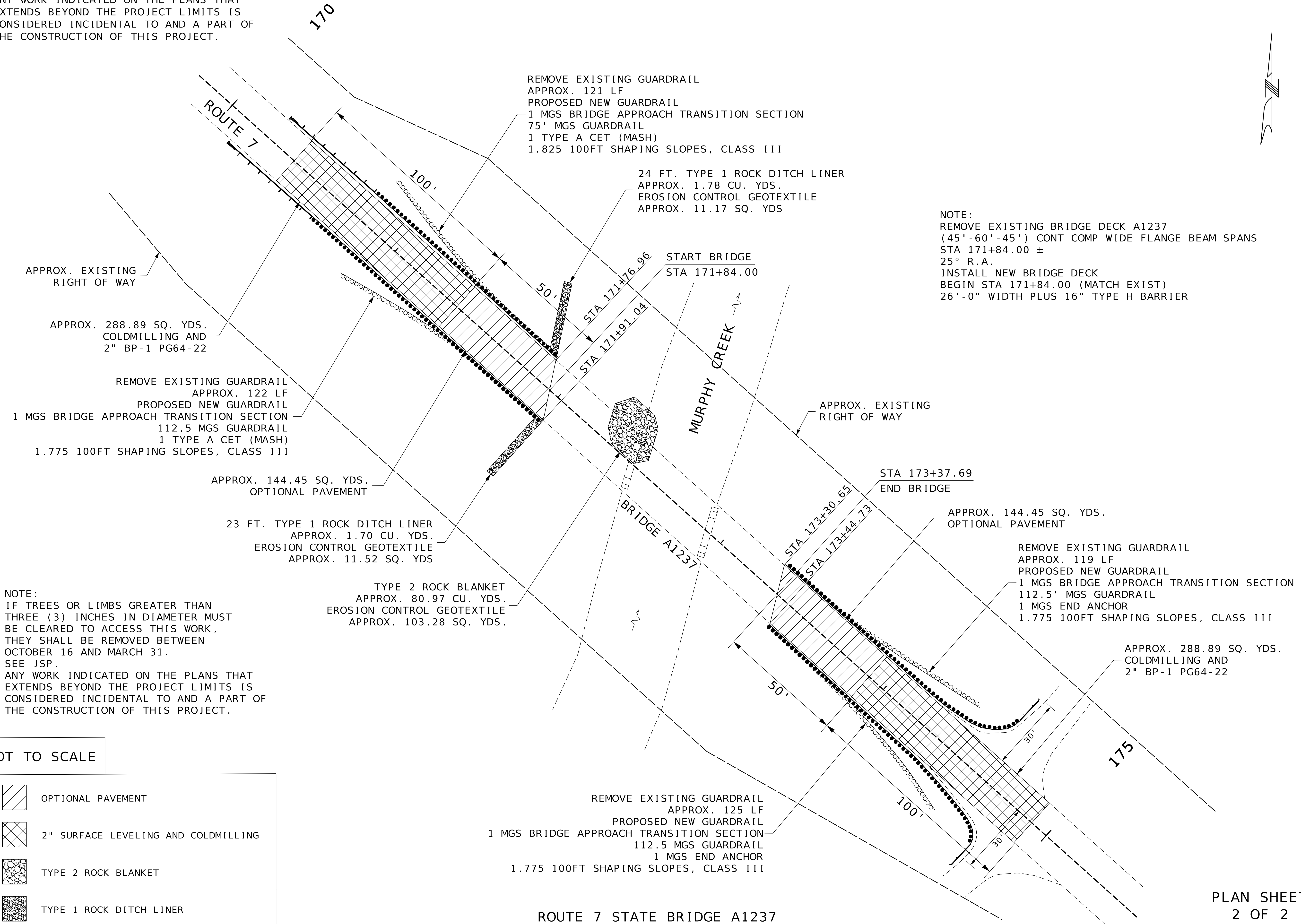
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION





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

PLAN SHEET
SHEET 1 OF 2

ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.



NOT TO SCALE

- | | |
|---|-------------------------------------|
|  | OPTIONAL PAVEMENT |
|  | 2" SURFACE LEVELING AND COLDMILLING |
|  | TYPE 2 ROCK BLANKET |
|  | TYPE 1 ROCK DITCH LINER |

ROUTE 7 STATE BRIDGE A1237

PLAN SHEET
2 OF 2

[illegible]

SEE TRAFFIC CONTROL SHEET 2 OF 4 FOR DETAILS

SEE TRAFFIC CONTROL SHEET 3 OF 4 FOR DETAILS

CAMDEN COUNTY
PULASKI COUNTY

RICHLAND

CAMDEN COUNTY
LACLEDE COUNTY

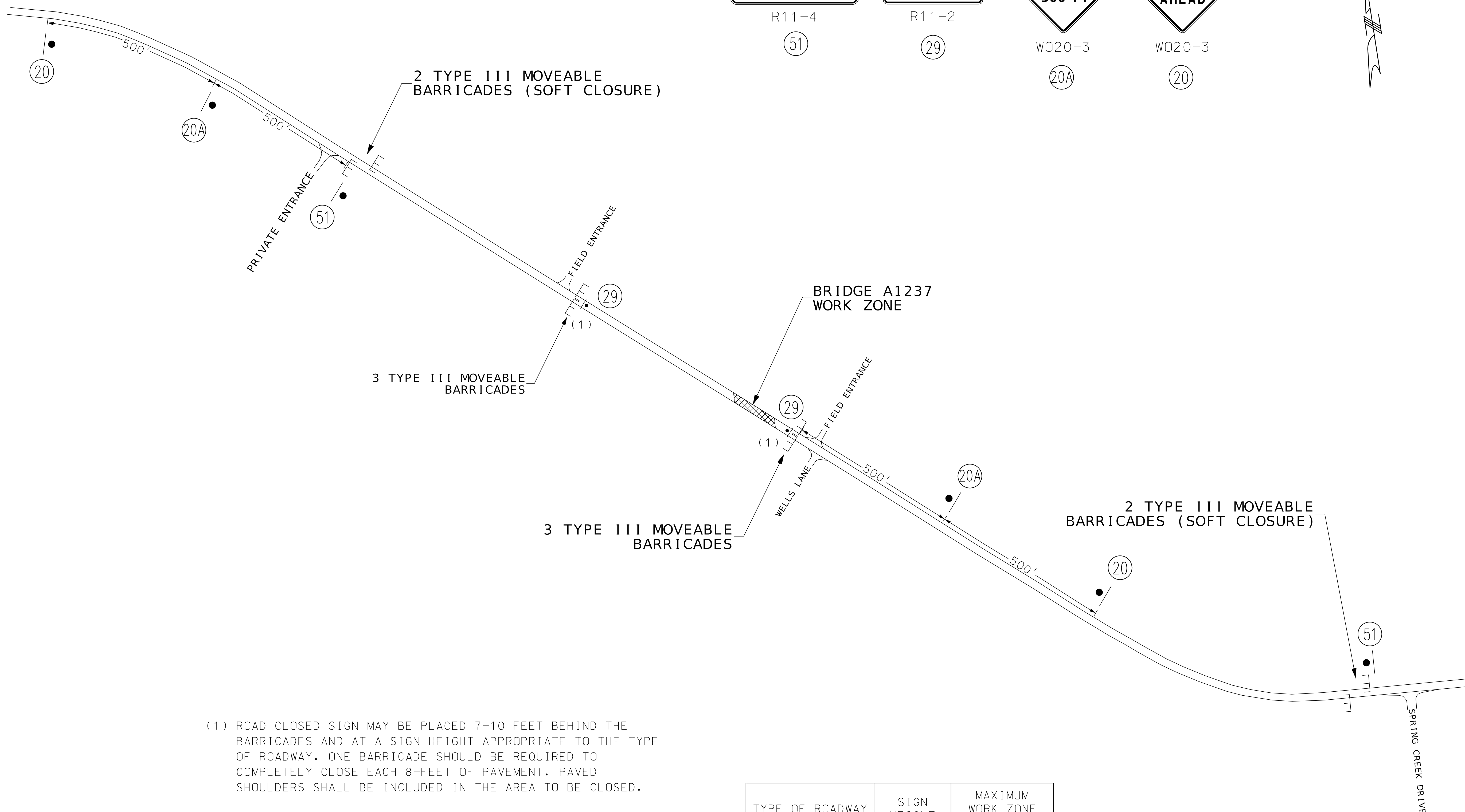
STOUTLAND

MONTREAL

50A, 50B, 50C, 50D, 50E, 50F, 50G, 50H, 50I, 50J, 52, 55A, 55B, 18

BB, A, 7, H, T, JJ

[illegible]



(1) ROAD CLOSED SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY. ONE BARRICADE SHOULD BE REQUIRED TO COMPLETELY CLOSE EACH 8- FEET OF PAVEMENT. PAVED SHOULDERS SHALL BE INCLUDED IN THE AREA TO BE CLOSED.

REFER TO STANDARD PLAN 610.10 FOR PLACEMENT OF BARRICADES

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITIONS FOR THE CLOSURE NO LONGER EXISTS.

| TYPE OF ROADWAY | SIGN HEIGHT | MAXIMUM WORK ZONE LENGTH (L) |
|-----------------|------------------------|------------------------------|
| URBAN | 1' PORTABLE 7' POST | 1 MILE |
| RURAL UNDIVIDED | 1' PORTABLE 5' POST | 3 MILES |

NOT TO SCALE

TEMPORARY TRAFFIC CONTROL SHEET
SHEET 3 OF 4

STATE OF MISSOURI

RYAN JOSEPH LIBBERT

NUMBER

PE-2006019679

PROFESSIONAL ENGINEER

09/25/2025 1:21:09 PM

RYAN JOSEPH LIBBERT - CIVIL

MO-PE-2006019679

DATE PREPARED
9/23/2025

ROUTE

7

DISTRICT

CD

STATE

MO

SHEET NO.

8

COUNTY
CAMDEN

JOB NO.
J5P3538

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

| | | | | | | | | | |
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DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

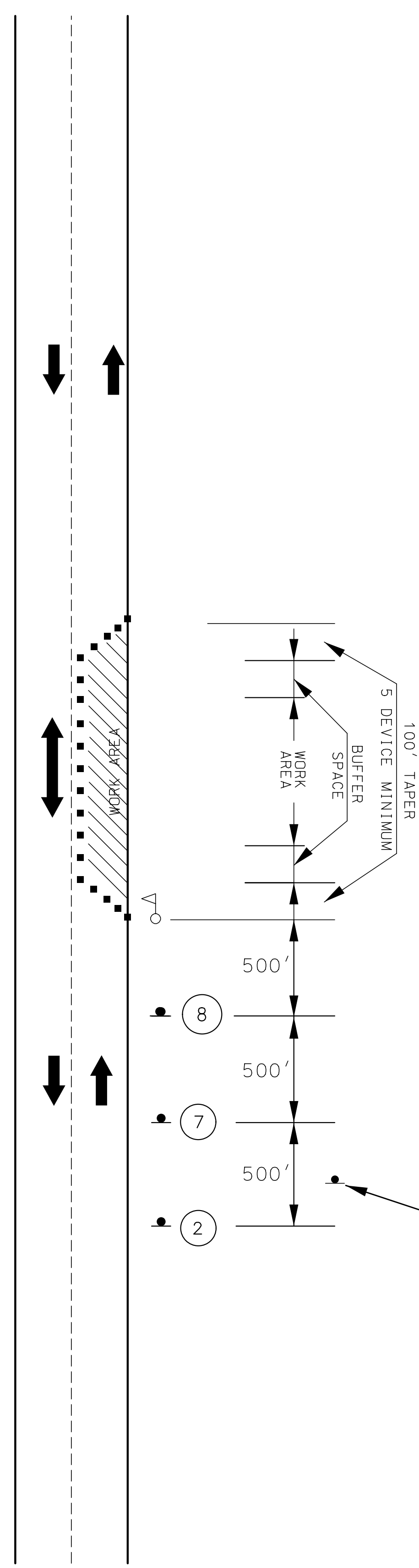
JEFFERSON CITY, MO 65102

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

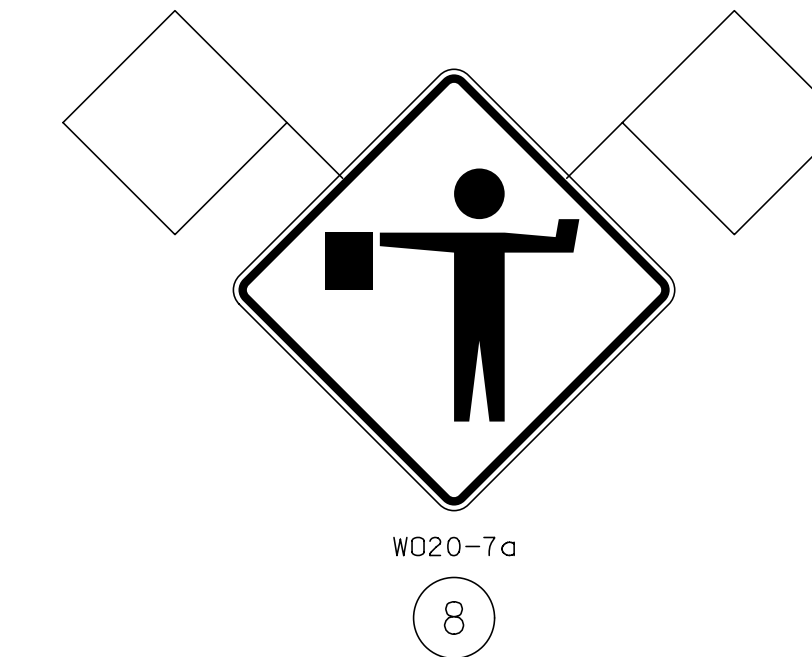
MODOT

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

TRAFFIC CONTROL SHEET
SHEET 3 OF 4

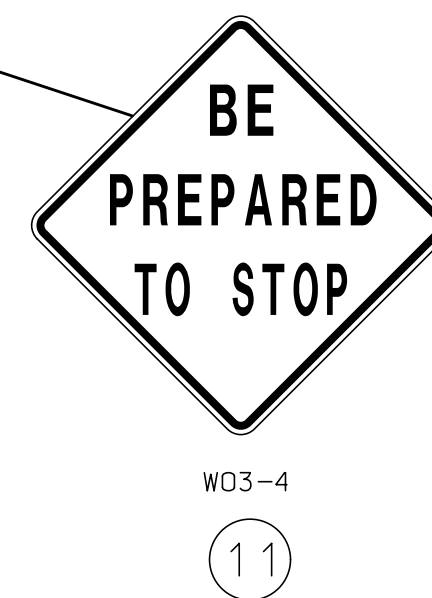


BRIDGE
OR
RAMP
W025-6



AUTOMATED FLAGGER ASSISTANCE DEVICES (AFAD) AND PORTABLE SIGNAL FLAGGING DEVICES (PSFD) MAY BE USED AS AN ALTERNATIVE FLAGGING OPERATION.

IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOT CANDLES (6.5 LUX).

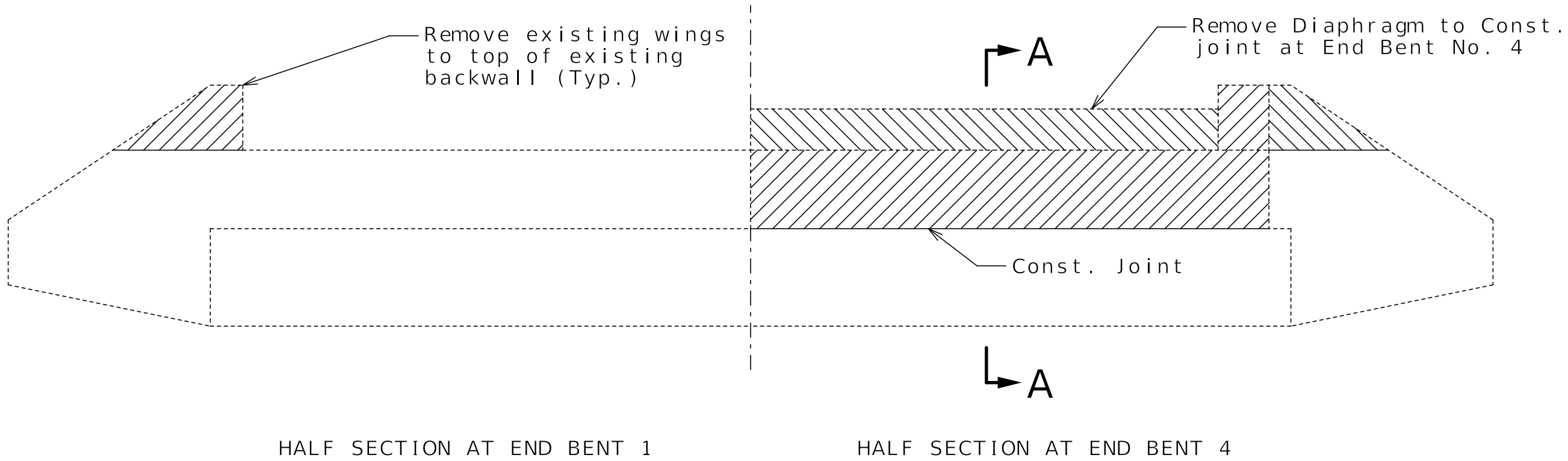


USED WHEN NO WORK
ZONE SPEED LIMIT
IS ESTABLISHED

TEMPORARY TRAFFIC CONTROL SHEET
LANE CLOSURE ON 2-LANE ROAD
USING FLAGGERS
SHEET 4 OF 4

[illegible]

2 OF 2



DETAILS OF CONCRETE REMOVAL AT END BENTS

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at End Bents No. 1 & 4 removal lines.

General Notes:

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 flanges. 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 flange. Welding on or drilling holes in the beam flanges 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.

Pouring and Finishing Slab:

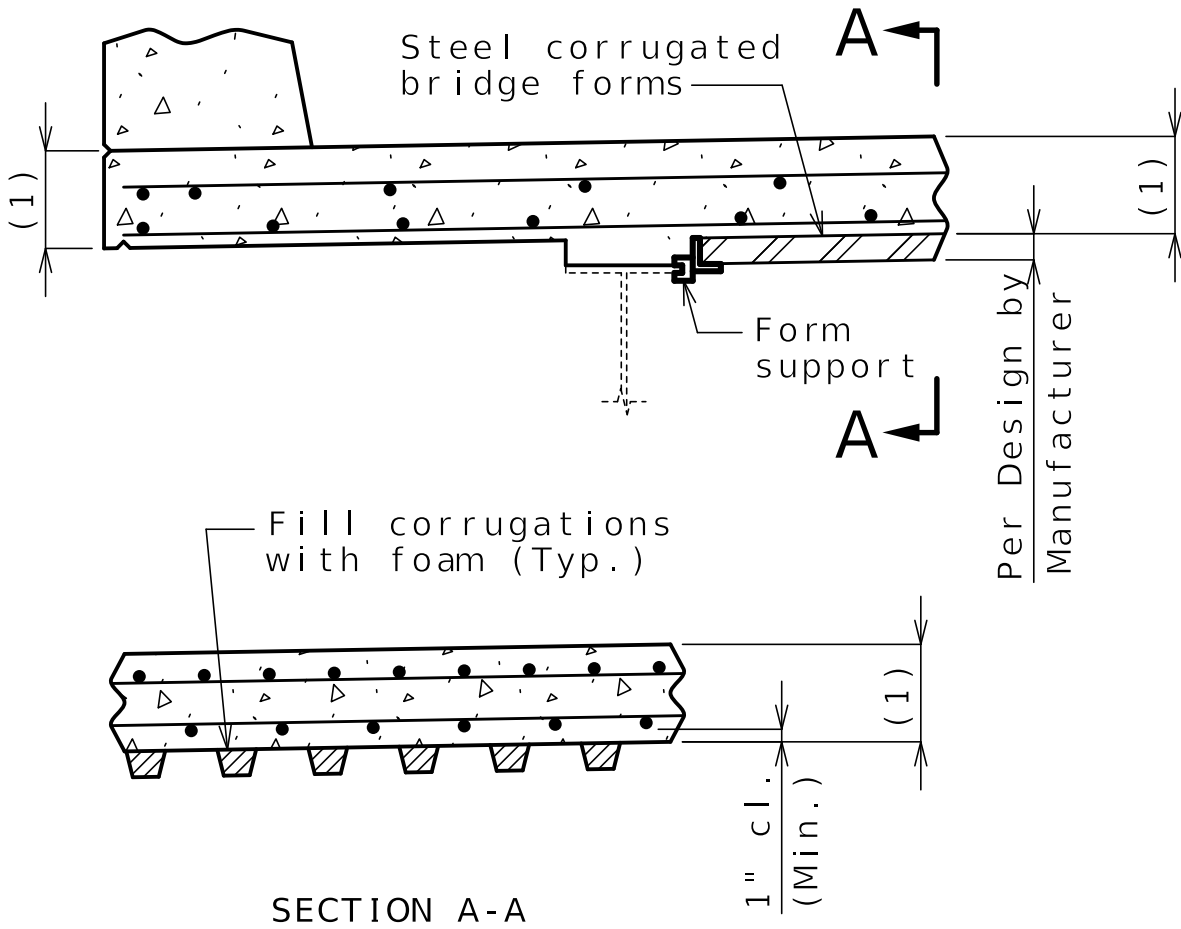
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

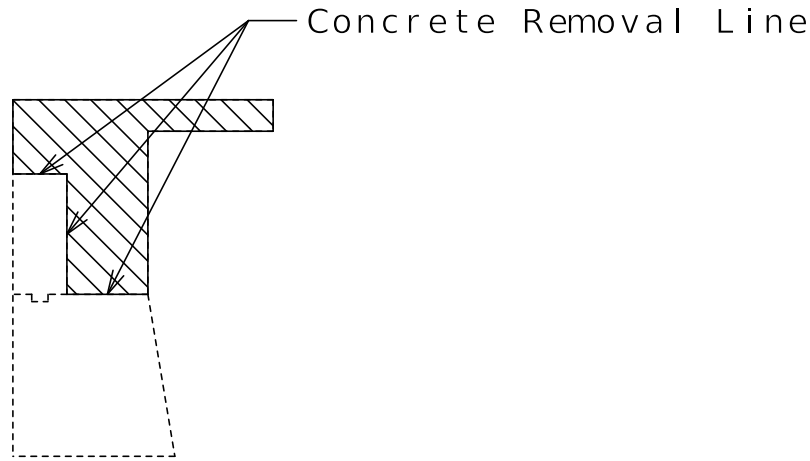
Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

Haunching:

(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.

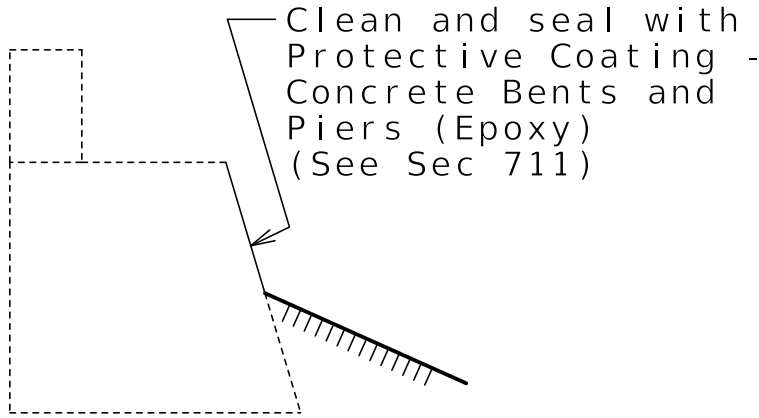


OPTIONAL STAY-IN-PLACE FORM DETAILS




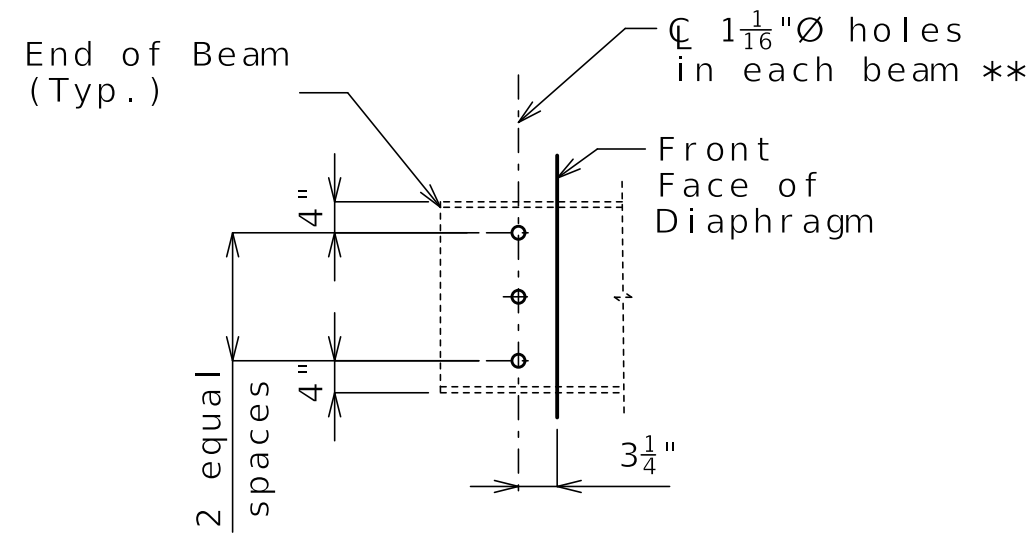
SECTION A-A

DETAIL OF CONCRETE REMOVAL AT END BENT NO. 4

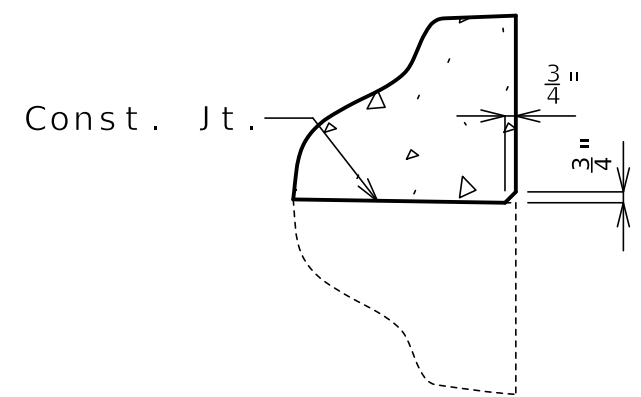


TYPICAL SECTION THRU END BENTS NO. 1 & 4 SHOWING PROTECTIVE COATING

| | | | |
|---|--|---|--|
| | | DATE PREPARED 9/26/2025 | |
| ROUTE 7 | | STATE MO | |
| DISTRICT BR | | SHEET NO. 2 | |
| COUNTY CAMDEN | | | |
| JOB NO. J5P3538 | | | |
| CONTRACT ID. | | | |
| PROJECT NO. | | | |
| BRIDGE NO. A12363 | | | |
| DESCRIPTION | | | |
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| DATE | | | |
| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | | <div><div>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</div></div> | |
| | | | |



DETAILS OF WEB HOLES AT END BENTS



CHAMFER DETAIL

Notes:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"Ø threaded rod for Systems A & B.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for beams shall extend a minimum of one foot outside the face of the beam encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

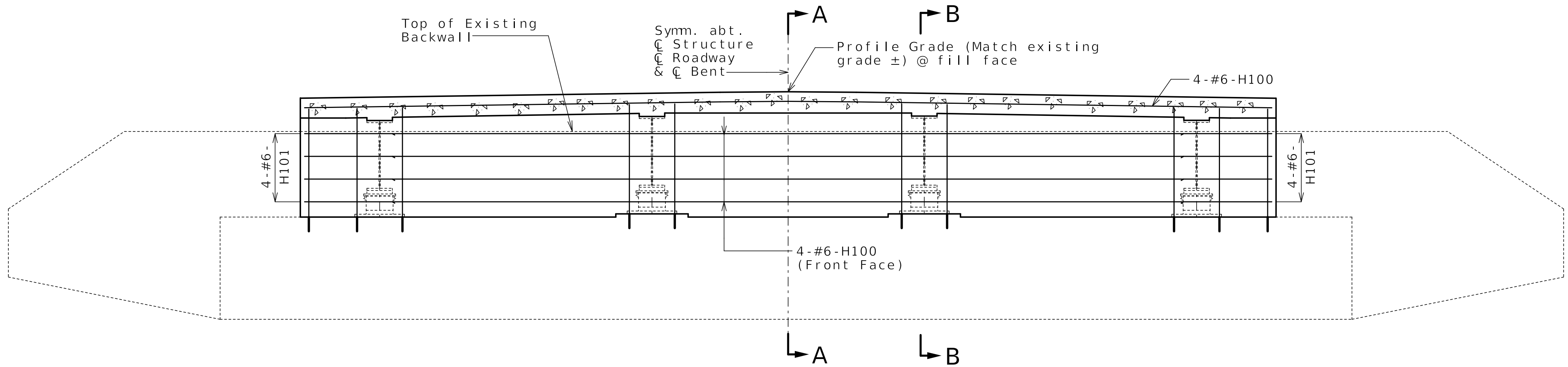
** Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel.

All concrete and reinforcement is included in the Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

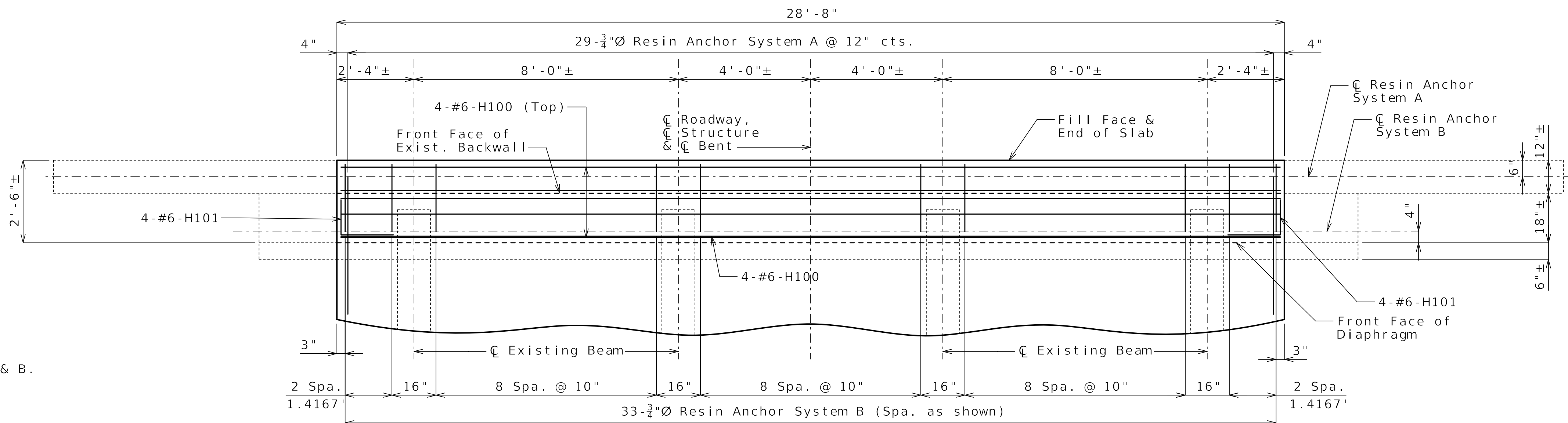
The #6-H100 bars are segmented for ease of placement through beam web holes. The total bar length for H100 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment lengths will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

For details and reinforcement of Type H Barrier at End Bents, see Sheets No. 5 & 6.

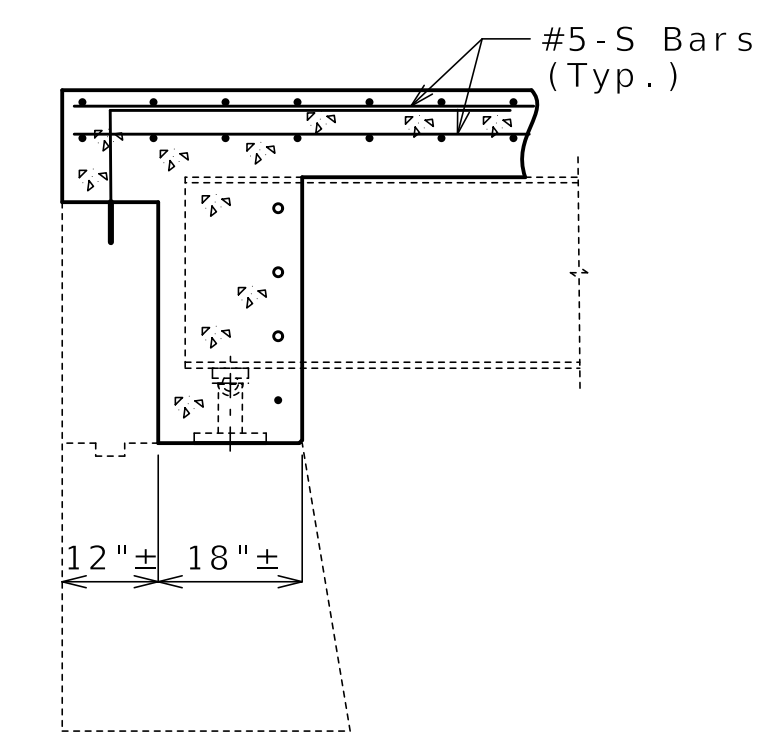
Detailed Apr. 2025
Checked Jul. 2025



SECTION NEAR END BENT



SECTION A-A



SECTION B-B

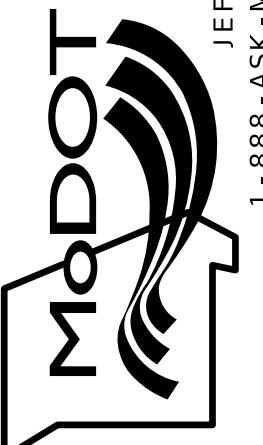
DETAILS OF RESIN ANCHOR SYSTEMS

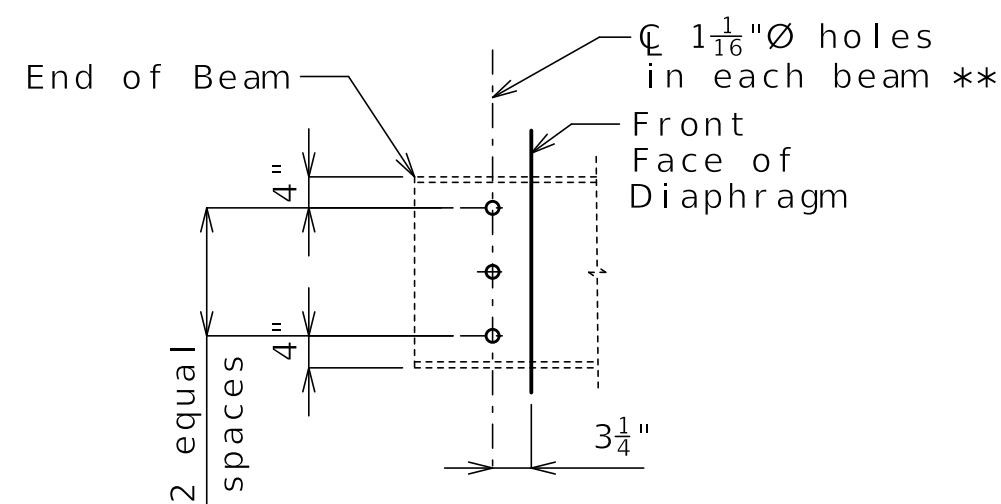
* Manufacturer's recommended embedment length (5" minimum)

DETAILS OF END BENT NO. 1

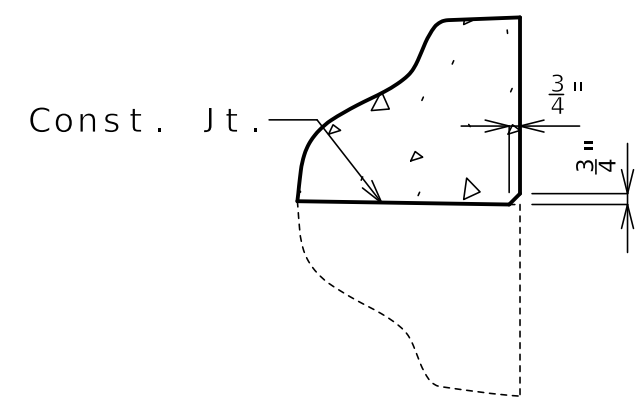
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 10

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|---|-----------|-----------|----|
| DATE PREPARED | | 9/26/2025 | |
| ROUTE | STATE | 7 | MO |
| DISTRICT | SHEET NO. | BR | 3 |
| COUNTY | | | |
| CAMDEN | | | |
| JOB NO. | | | |
| J5P3538 | | | |
| CONTRACT ID. | | | |
| PROJECT NO. | | | |
| BRIDGE NO. | | | |
| A12363 | | | |
| DESCRIPTION | | | |
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| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | | | |
|  | | | |
| 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636) | | | |



DETAILS OF WEB HOLES AT END BENTS



CHAMFER DETAIL

Notes:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"Ø threaded rod for Systems C & D.

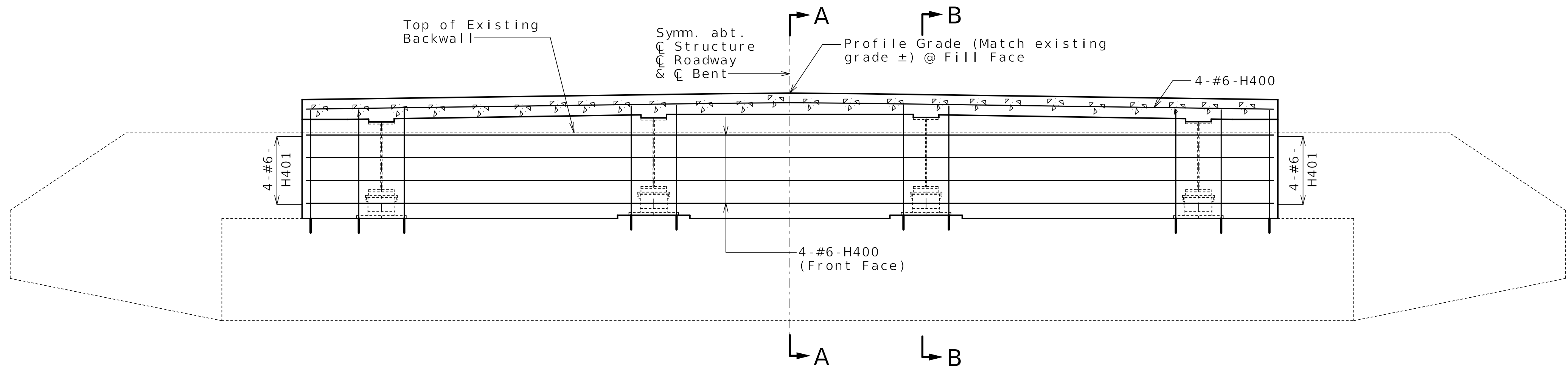
The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for beams shall extend a minimum of one foot outside the face of the beam encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

** Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel.

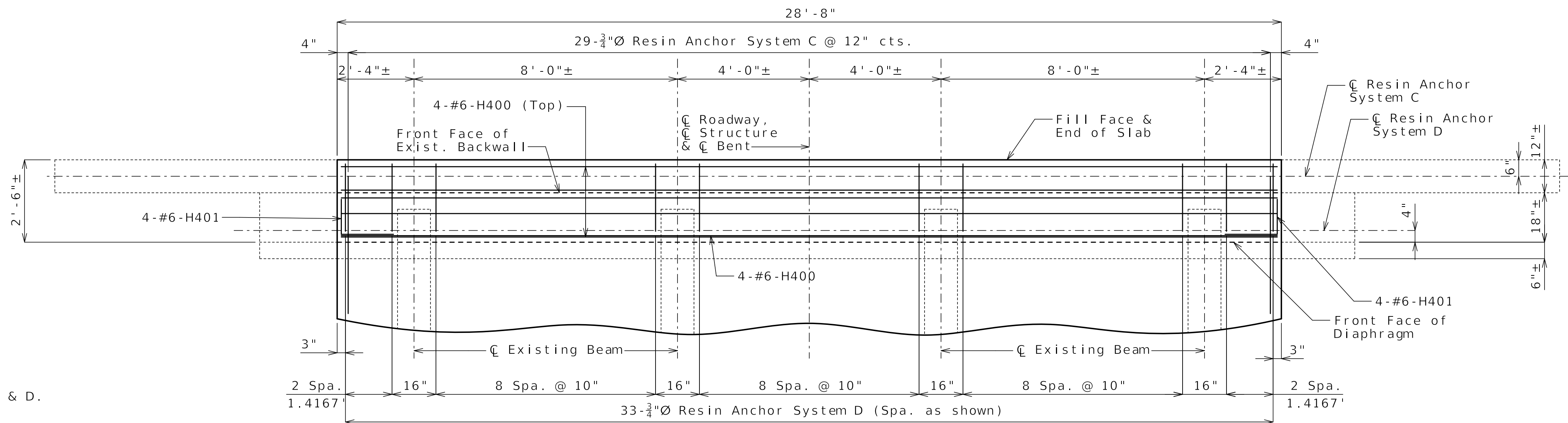
All concrete and reinforcement is included in the Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

The #6-H400 bars are segmented for ease of placement through beam web holes. The total bar length for H400 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment lengths will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

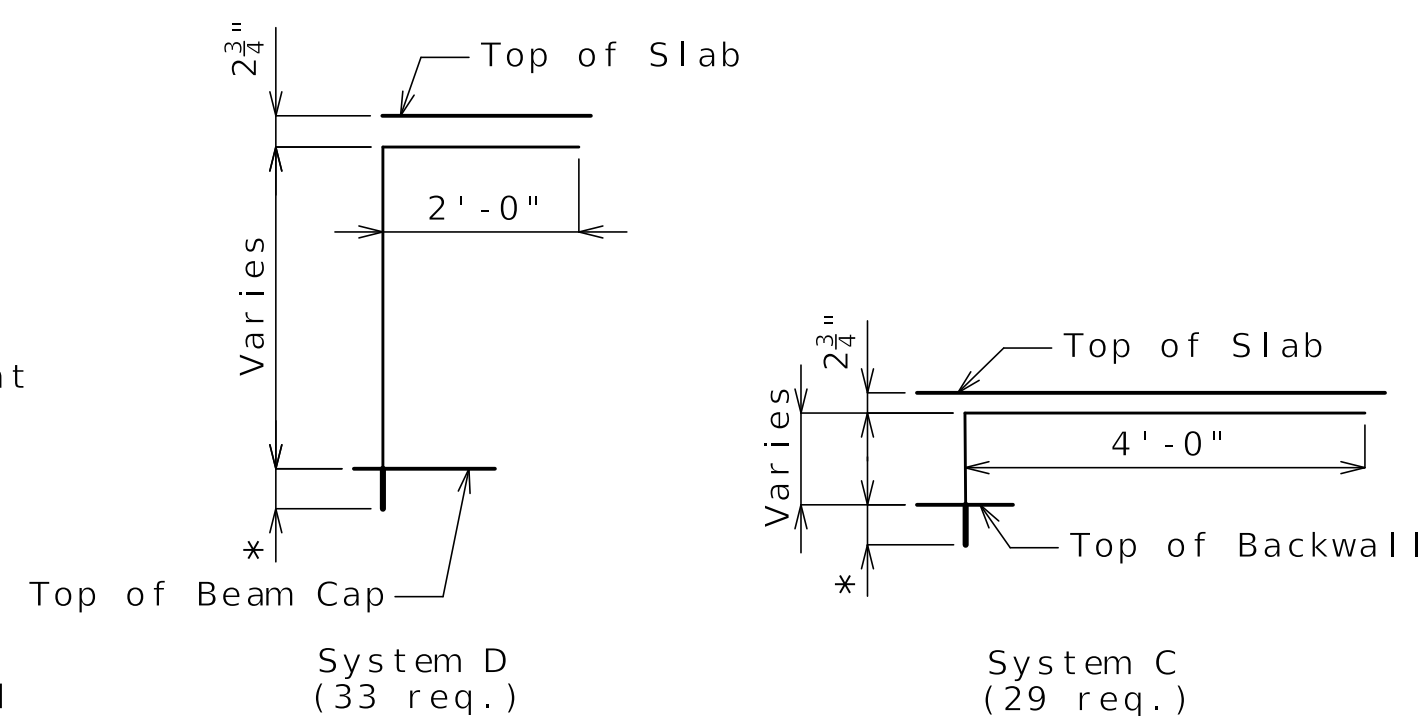
For details and reinforcement of Type H Barrier at End Bents, see Sheets No. 5 & 6.



SECTION NEAR END BENT

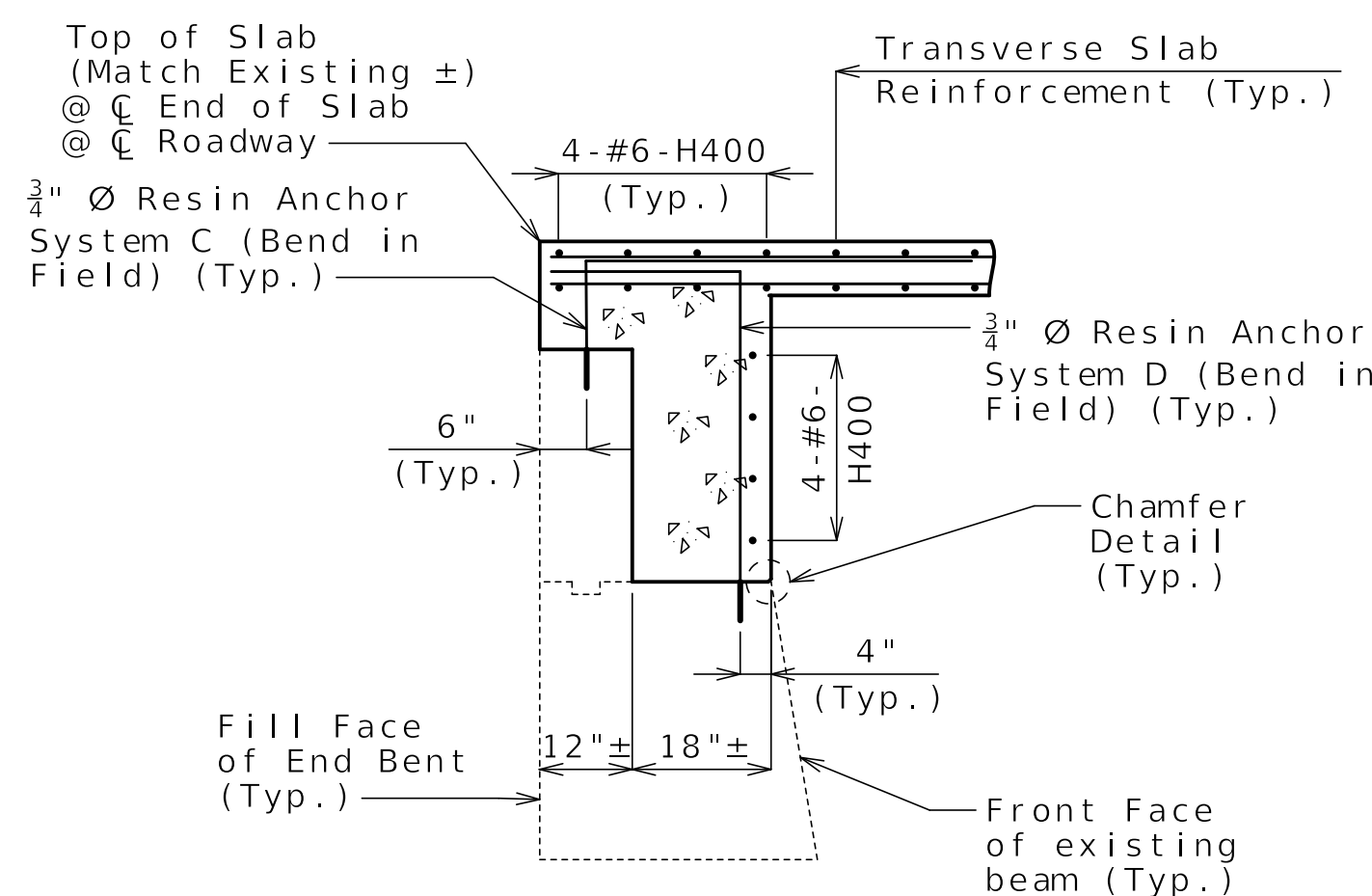


PART PLAN

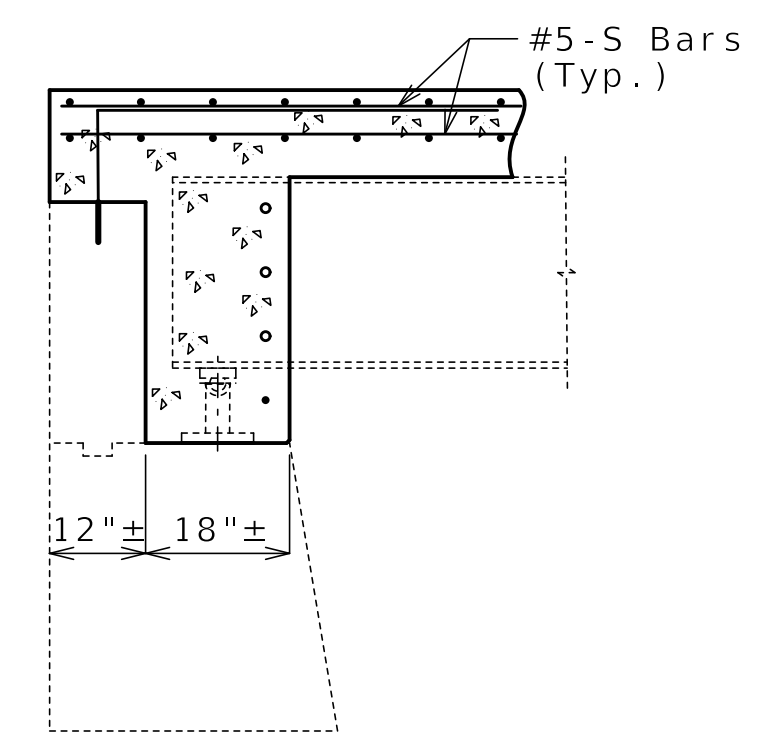


DETAILS OF RESIN ANCHOR SYSTEMS

* Manufacturer's recommended embedment length (5" minimum)



SECTION A-A



SECTION B-B

DETAILS OF END BENT NO. 4

Detailed Apr. 2025
Checked Jul. 2025

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

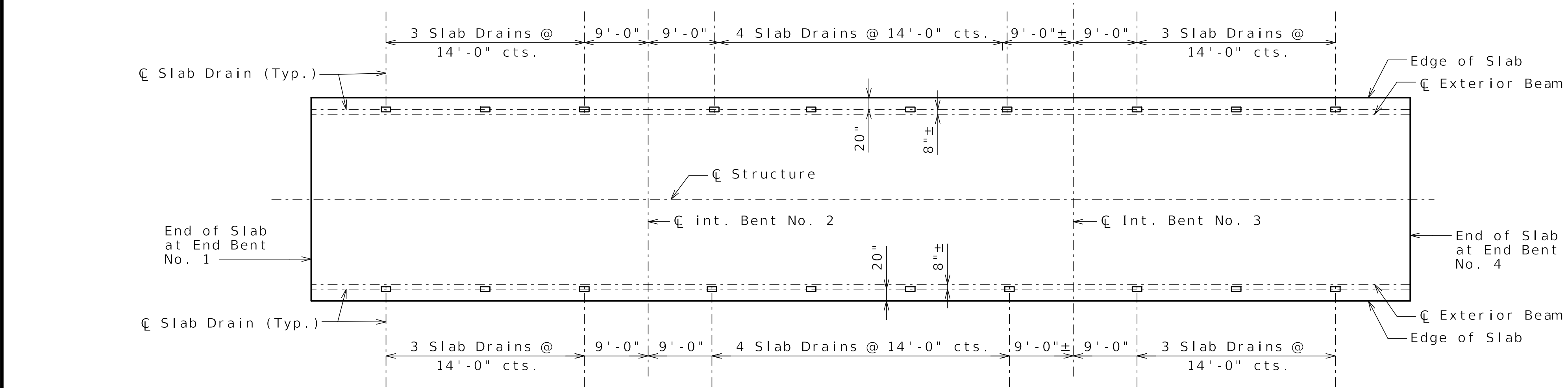
Sheet No. 4 of 10

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|-----------------------------|----------------|
| DATE PREPARED 10/29/2025 | |
| ROUTE 7 | STATE MO |
| DISTRICT BR | SHEET NO. 4 |
| COUNTY CAMDEN | |
| JOB NO. J5P3538 | |
| CONTRACT ID. | |

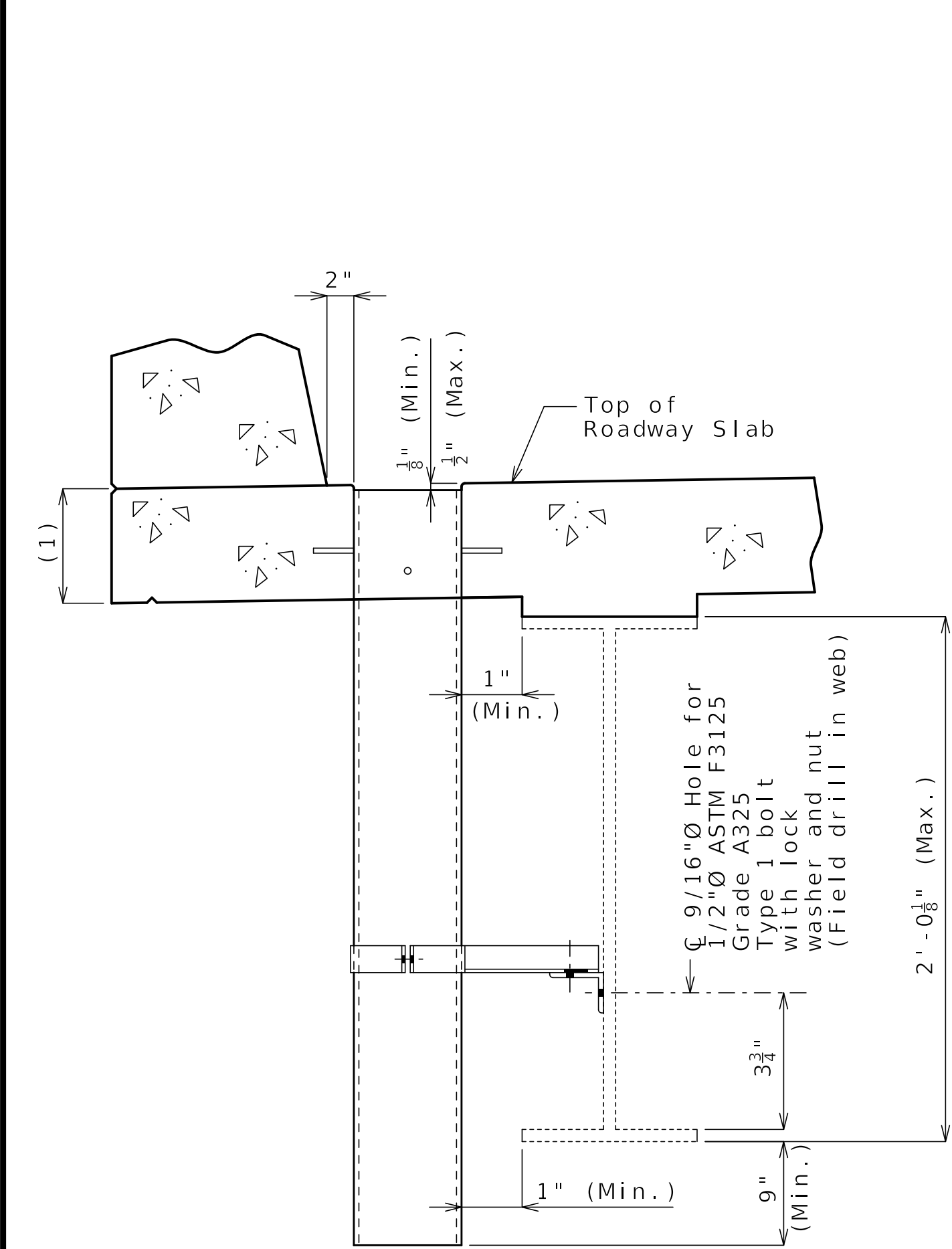
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|----------------------|--|
| PROJECT NO. | |
| BRIDGE NO. A12363 | |

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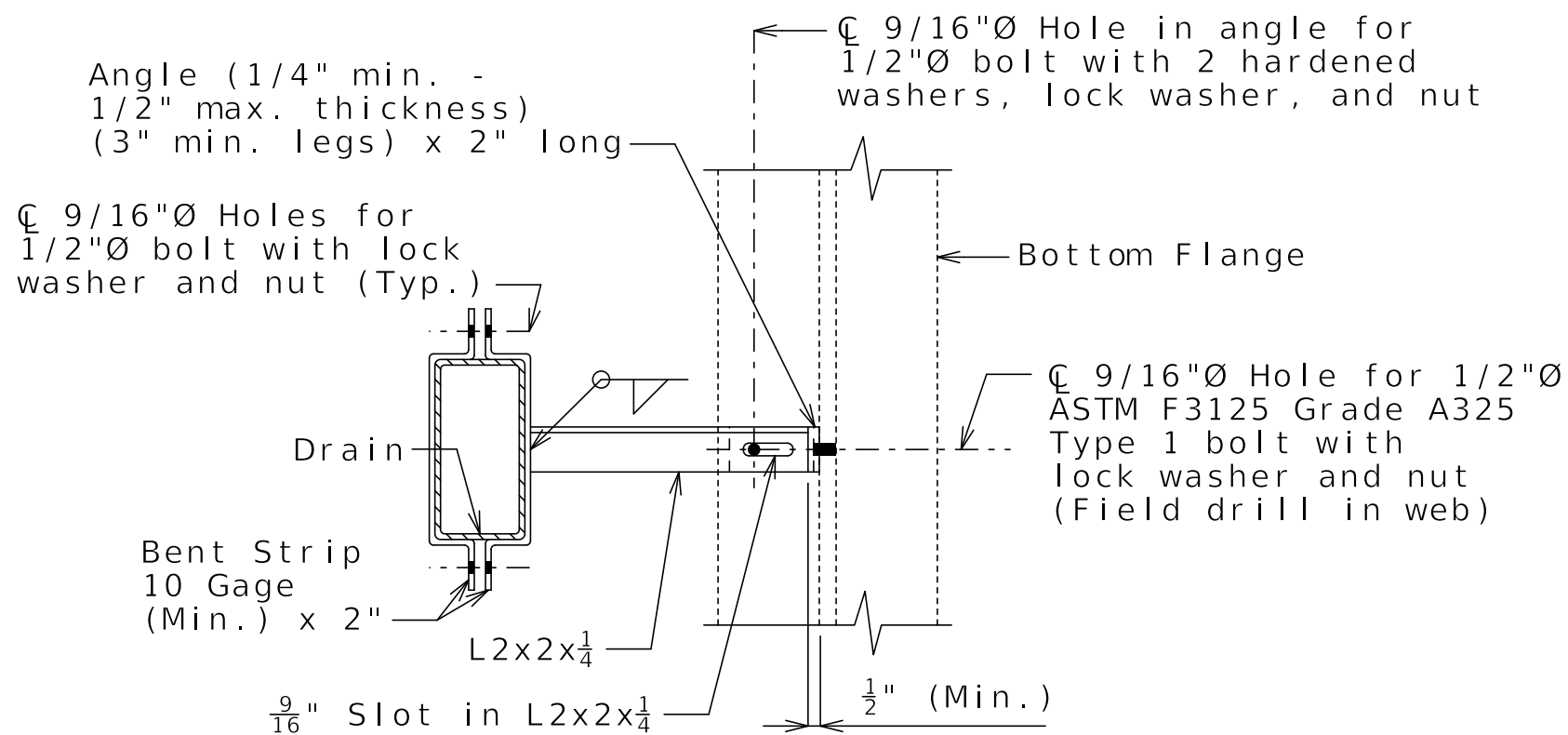
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| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636) |
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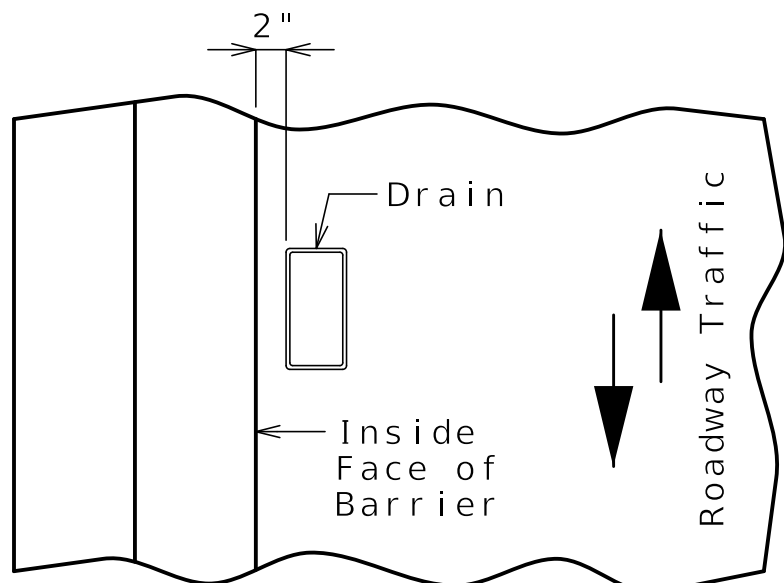
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN



PART SECTION SHOWING BRACKET ASSEMBLY



PART PLAN OF SLAB AT DRAIN

SLAB DRAINS

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 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, except as shown.

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

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

(1) See front sheet for slab thickness.

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".

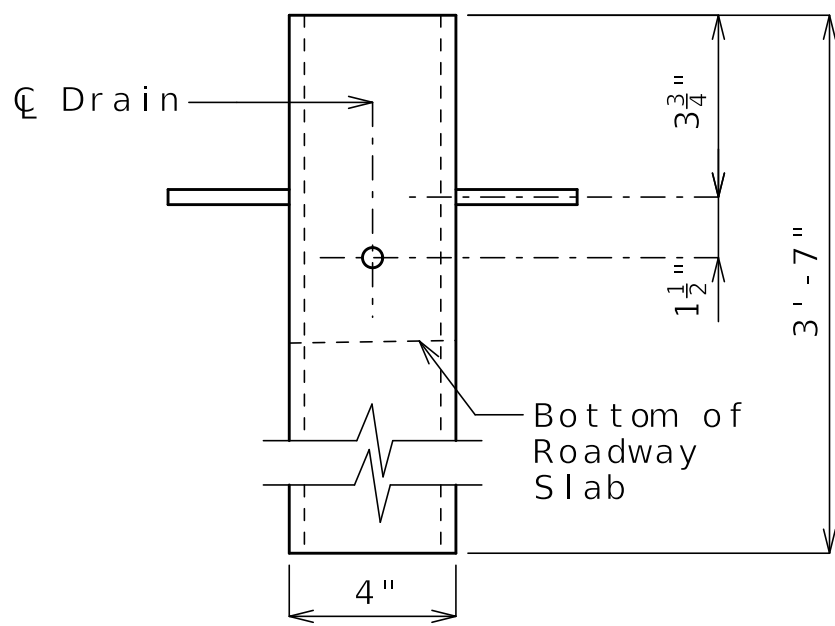
Minimum reinforced wall thickness shall be 1/4 inch.

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.

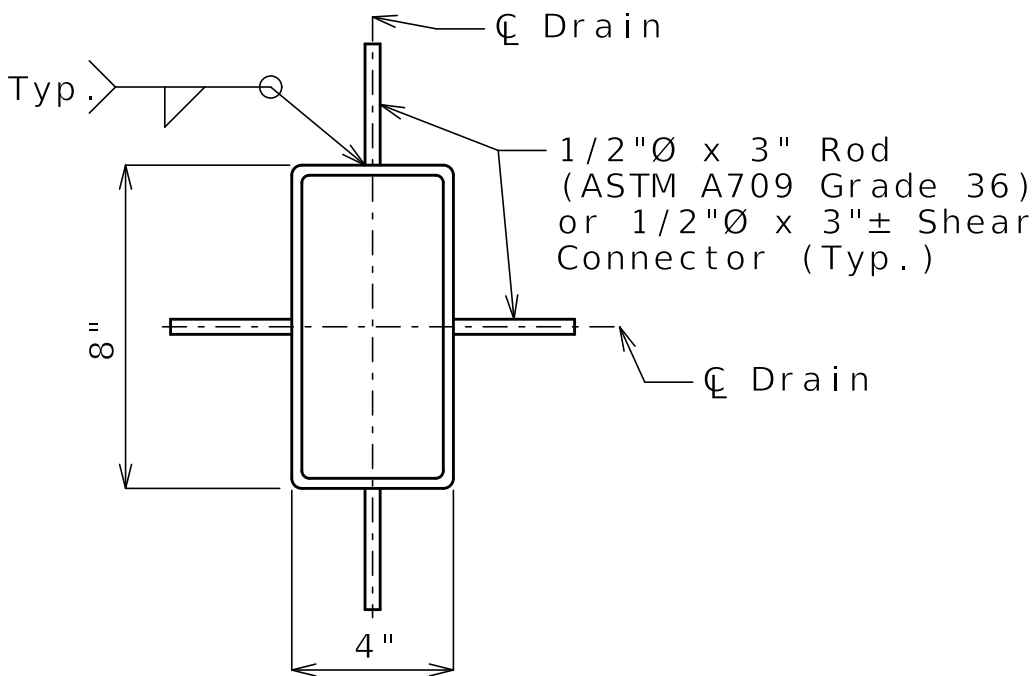
The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

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.

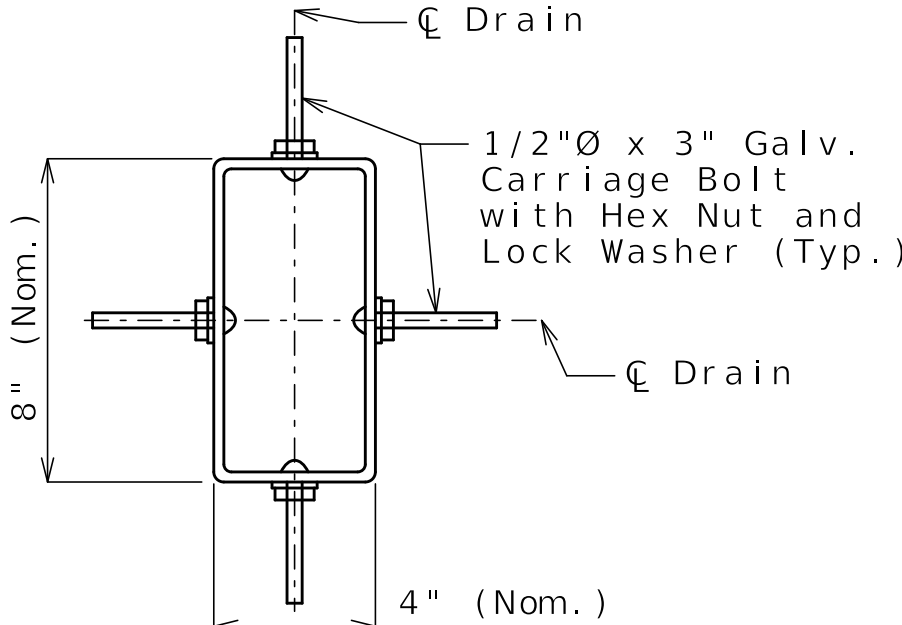
At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be recommended by the manufacturer to ensure a smooth, chip free cut.



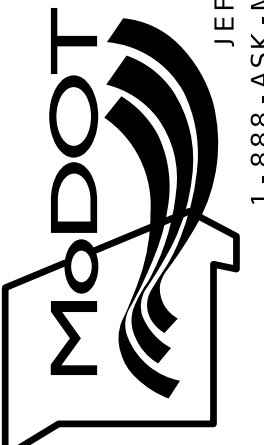
ELEVATION OF DRAIN

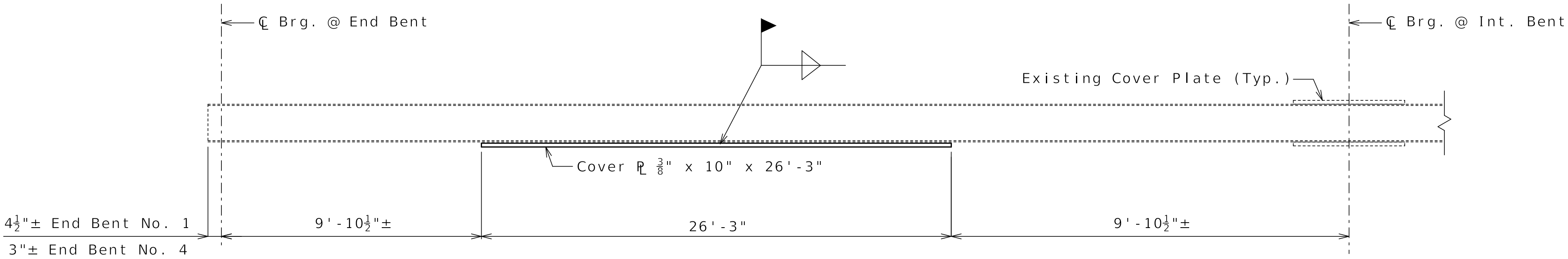


PLAN OF STEEL DRAIN OPTION

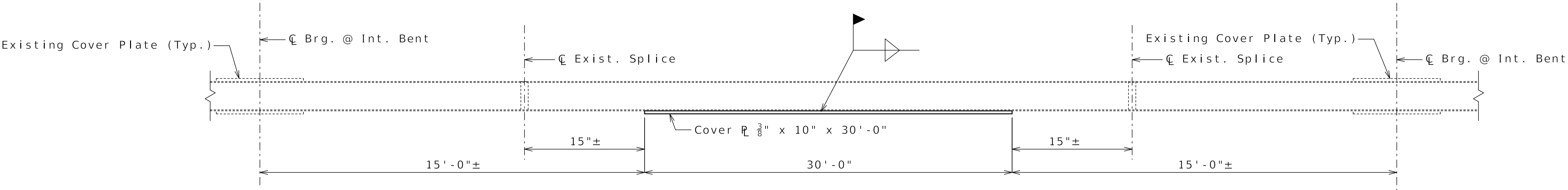


PLAN OF FRP DRAIN OPTION

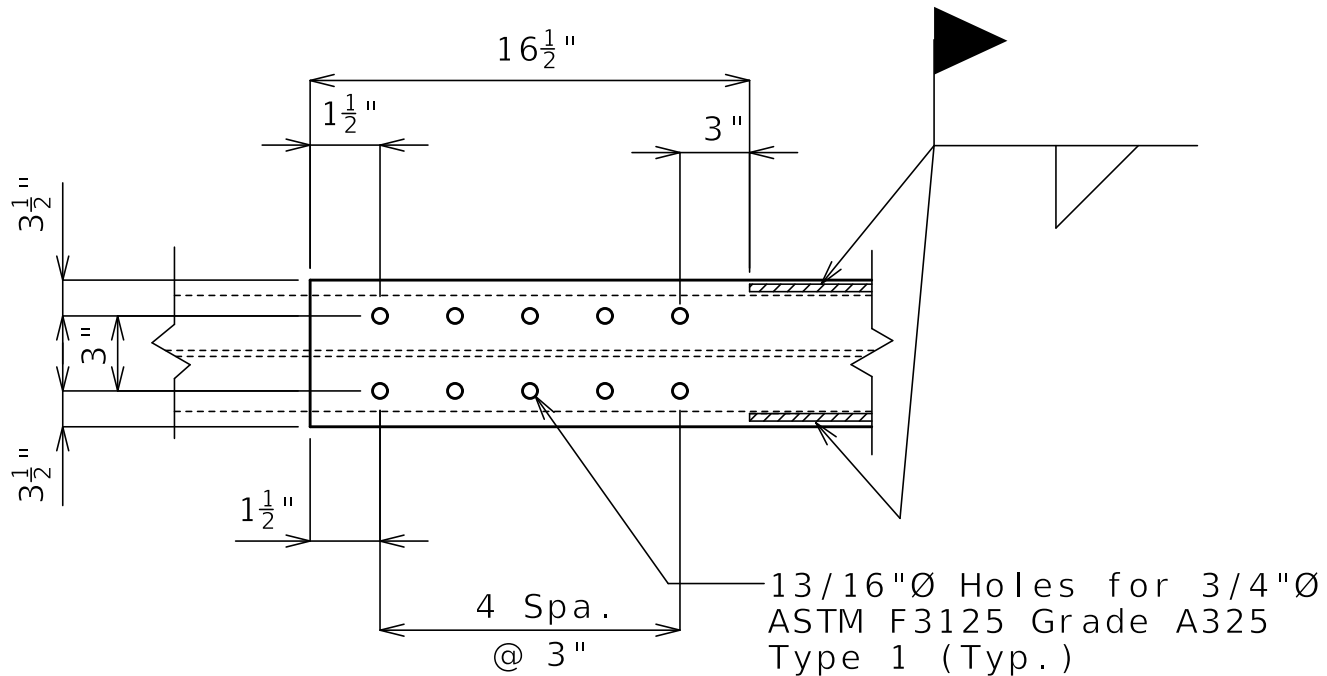
| DATE PREPARED | |
|---|-----------|
| 9/26/2025 | |
| ROUTE | STATE |
| 7 | MO |
| DISTRICT | SHEET NO. |
| BR | 5 |
| COUNTY | |
| CAMDEN | |
| JOB NO. | |
| J5P3538 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |
| A12363 | |
| DESCRIPTION | DATE |
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| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | |
|  | |
| 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636) | |



PART ELEVATION OF INTERIOR & EXTERIOR BEAM SHOWING COVER PLATE INSTALLATION
SPAN (1-2) AND SPAN (4-3)



PART ELEVATION OF INTERIOR & EXTERIOR BEAM SHOWING COVER PLATE INSTALLATION
SPAN (2-3)



TYPICAL DETAIL OF THE
ENDS OF COVER PLATES
(BOTTOM VIEW)

- Notes:
- Beam with end-bolted cover plates shall be installed in the following sequence after existing bridge deck is removed:
1. Drill holes in cover plate and flange.
 2. Clean faying surfaces. (See Special Provisions)
 3. Install and tighten bolts.
 4. Weld cover plate to flange.

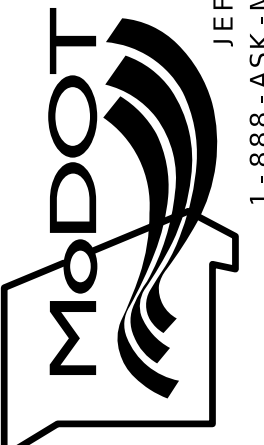
Fabricated Structural Steel shall be ASTM A709 Grade 50, except as noted.

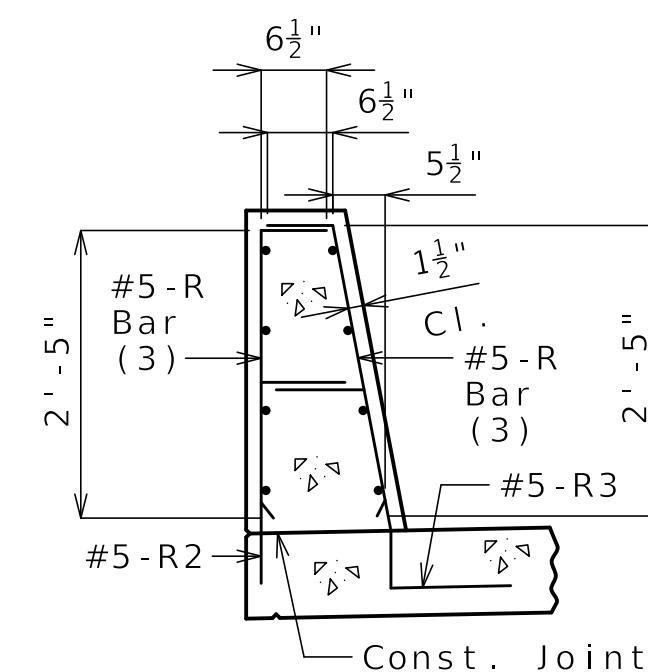
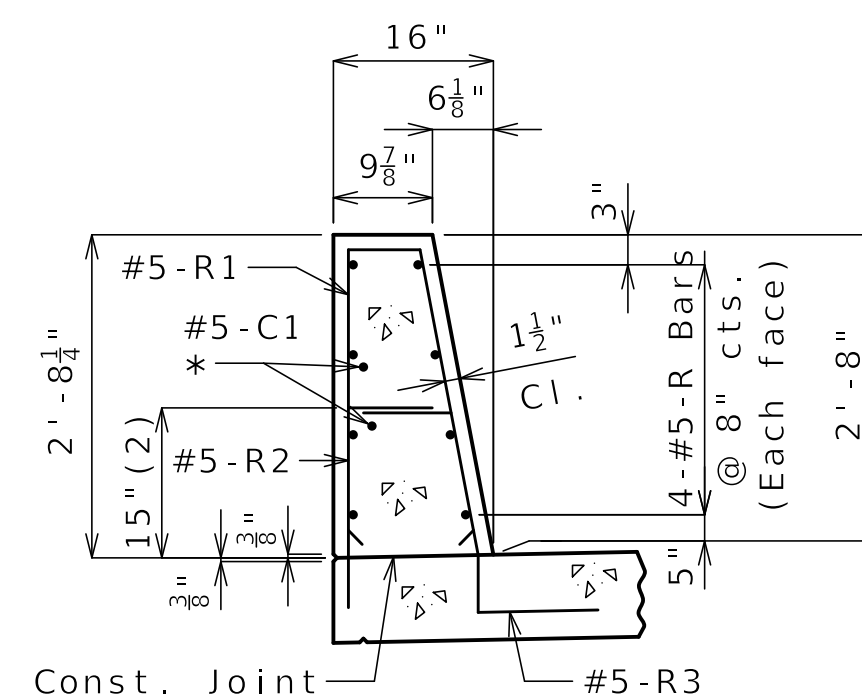
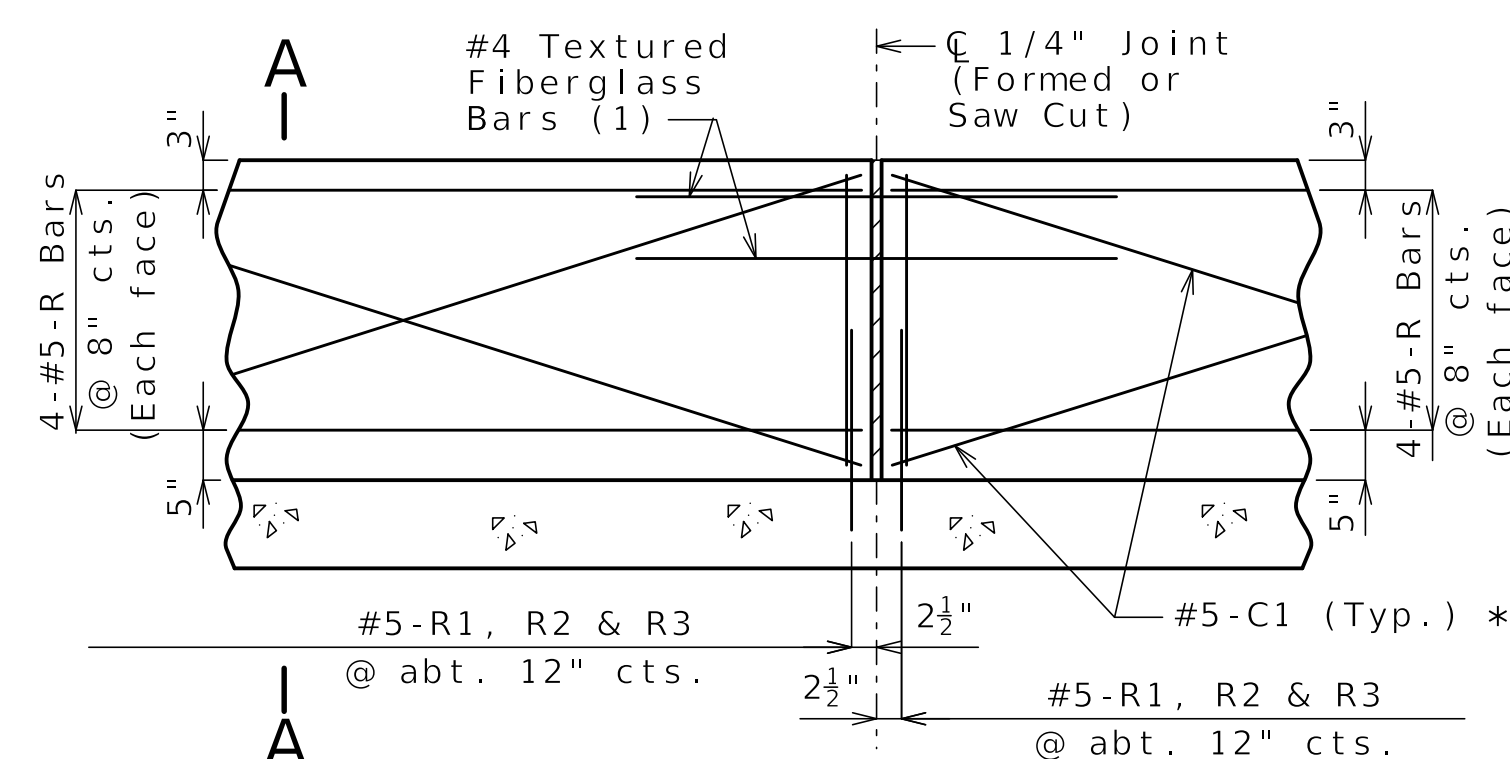
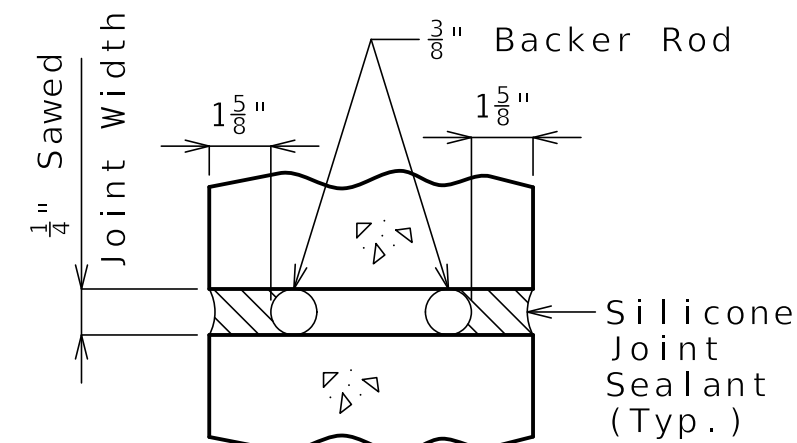
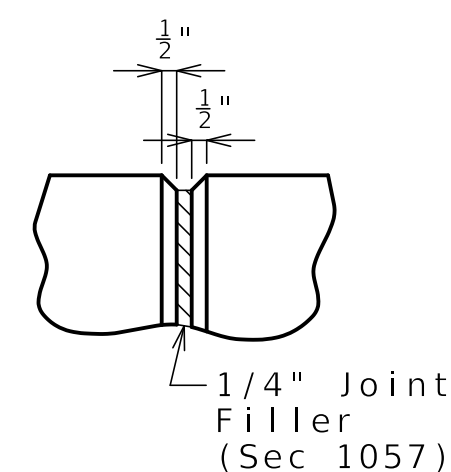
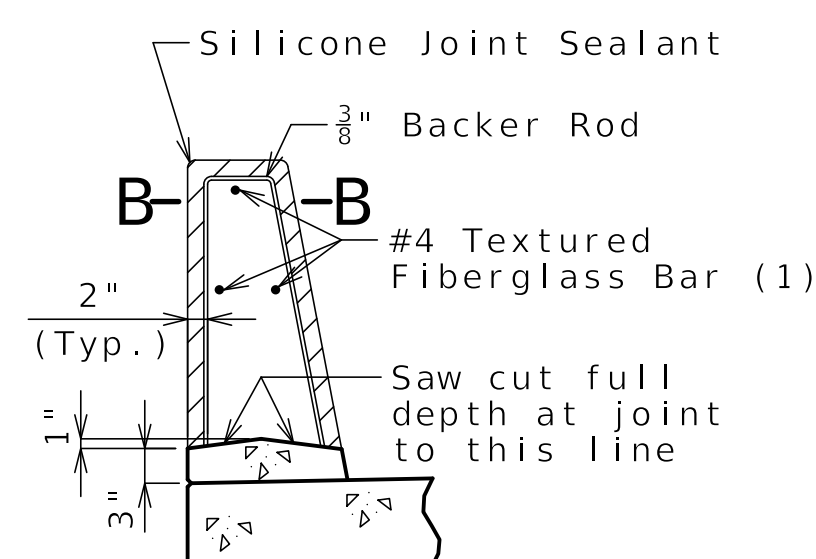
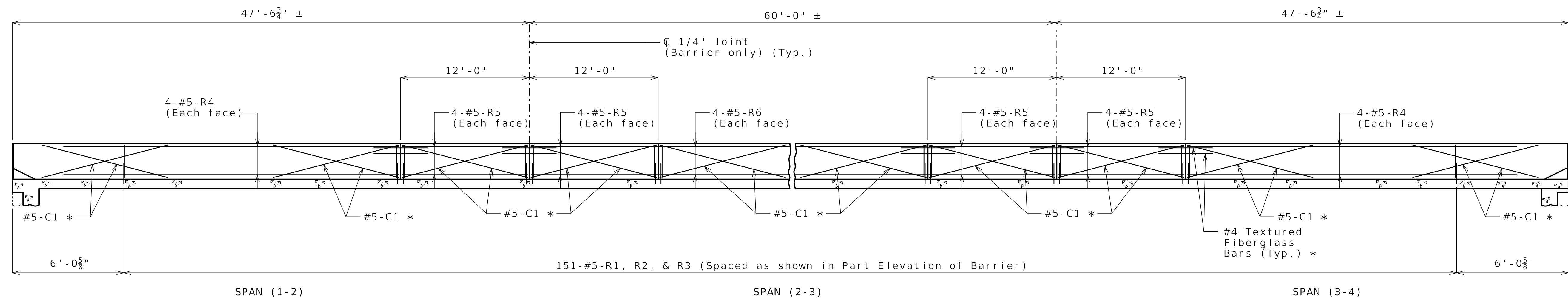
Payment for 4,211 pounds of new cover plates, complete in place, will be considered completely covered by the contract lump sum price for Strengthening Existing Beams.

Notch toughness is required for all cover plates.

Contractor shall verify all dimensions in field before finalizing the shop drawings.

STRENGTHENING EXISTING BEAMS

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| DATE PREPARED 9/26/2025 | |
| ROUTE 7 | STATE MO |
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| COUNTY CAMDEN | |
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General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints normal to grade.

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

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

Concrete in barrier shall be Class B-1.

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

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 H Barrier.

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

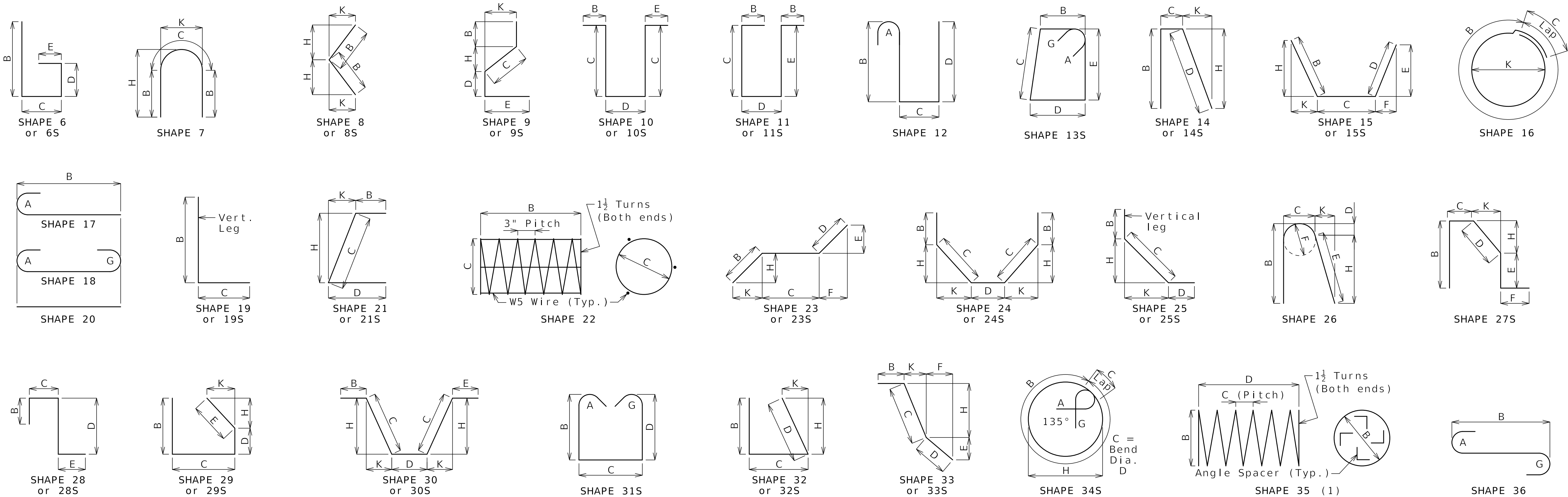
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

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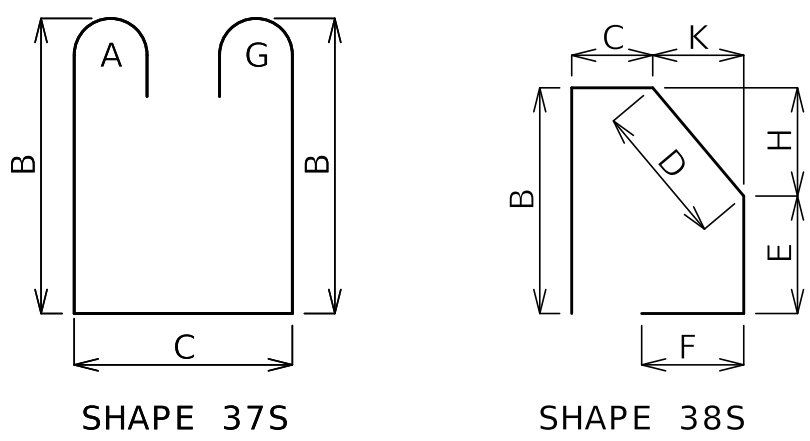
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| Finished Bend Dimensions D and Hook Dimensions | | | | | | |
|---|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|
| Standard Pin Bend Shapes | | | | | | |
| Size | Case | D | A or G | | J | |
| | | | 90° | 180° | 180° | |
| #4 | 1 | 3" | 8" | 6" | 4" | |
| #5 | 1 | 3 ³ / ₄ " | 10" | 7" | 5" | |
| #6 | 1 | 4 ¹ / ₂ " | 12" | 8 ¹ / ₄ " | 6" | |
| #7 | 2 | 5 ¹ / ₄ " | 14" | 9 ³ / ₄ " | 7" | |
| | 3 | 7" | 15" | 11 ¹ / ₂ " | 8 ³ / ₄ " | |
| #8 | 2 | 6" | 16" | 11" | 8" | |
| | 3 | 8" | 17" | 13 ¹ / ₄ " | 10" | |
| #9 | 1 | 9 ¹ / ₂ " | 19 ¹ / ₂ " | 15 ¹ / ₂ " | 11 ³ / ₄ " | |
| #10 | 1 | 10 ³ / ₄ " | 22" | 17 ¹ / ₂ " | 13 ¹ / ₄ " | |
| #11 | 1 | 12" | 24 ¹ / ₂ " | 19 ¹ / ₂ " | 14 ⁷ / ₈ " | |
| #14 | 1 | 18 ¹ / ₄ " | 31 ¹ / ₄ " | 27 ¹ / ₂ " | 21 ⁵ / ₈ " | |
| #18 | 1 | 24" | 41 ¹ / ₂ " | 36 ¹ / ₄ " | 28 ¹ / ₂ " | |
| Stirrup Pin Bend Shapes (S) | | | | | | |
| Size | Case | D | A or G | | | J |
| | | | 90° | 135° | 180° | |
| #4 | 2 | 2" | 4 ¹ / ₂ " | 4 ¹ / ₂ " | 5" | 2 ⁷ / ₈ " |
| | 3 | 3" | 5" | 5 ¹ / ₄ " | 6" | 3" |
| #5 | 2 | 2 ¹ / ₂ " | 5 ³ / ₄ " | 5 ³ / ₄ " | 5 ³ / ₄ " | 3 ³ / ₄ " |
| | 3 | 3 ³ / ₄ " | 6 ¹ / ₄ " | 6 ¹ / ₂ " | 7" | 3 ⁵ / ₈ " |
| #6 | 1 | 4 ¹ / ₂ " | 12" | 7 ³ / ₄ " | 8 ¹ / ₄ " | 4 ⁵ / ₈ " |
| Applicable for all grades of steel. Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only. | | | | | | |



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

| Reinforcing Steel Totals (Pounds) | | | | | | | |
|-----------------------------------|--------------|-------|----------------|---------|-----------|---------------|--------|
| Size | Substructure | | Superstructure | | | Entire Bridge | |
| | Plain | Epoxy | Slab | Barrier | Slip Form | Plain | Epoxy |
| W5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 576 | 0 | 0 | 0 | 576 |
| 5 | 0 | 0 | 4,043 | 6,685 | 501 | 0 | 11,229 |
| 6 | 0 | 0 | 40,468 | 0 | 0 | 0 | 40,468 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| By Type | 0 | 0 | 45,087 | 6,685 | 501 | 0 | 52,273 |

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

DATE PREPARED
9/26/2025

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BR

COUNTY
CAMDEN

JOB NO.
J5P3538

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A12363

| DESCRIPTION | | | | | | | | | |
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[illegible]

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. 9.

Detailed Apr. 2025
Checked Jul. 2025

BILL OF REINFORCING STEEL

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

All bars shall be Grade 60.

Bill of Reinforcing Steel

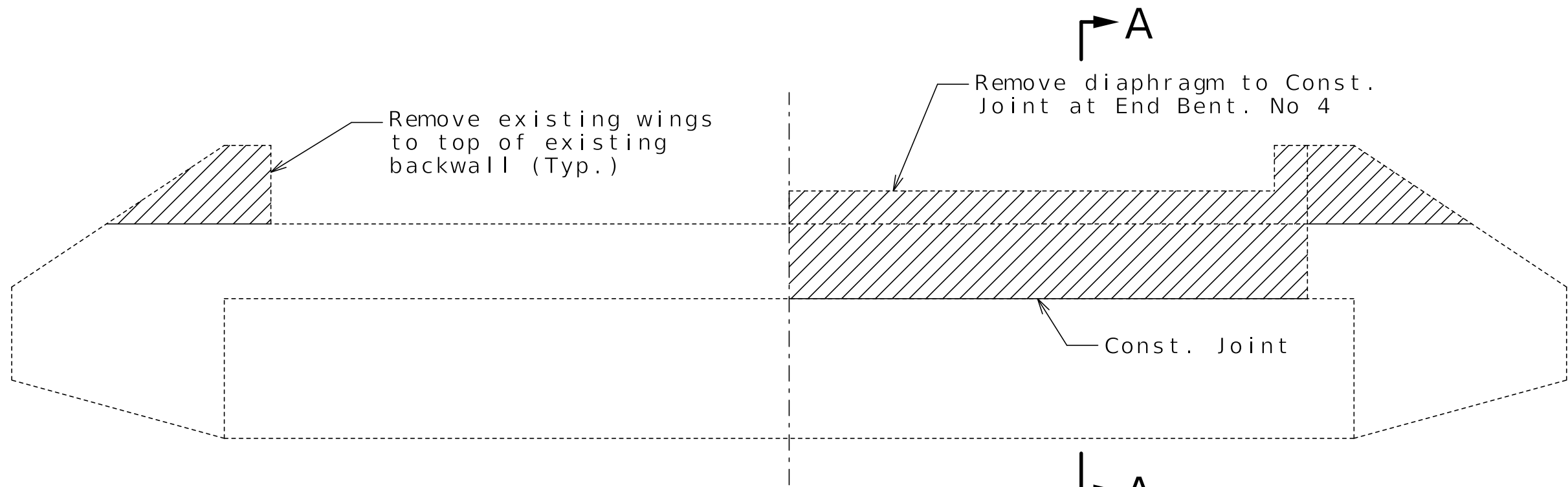
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Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

[illegible]

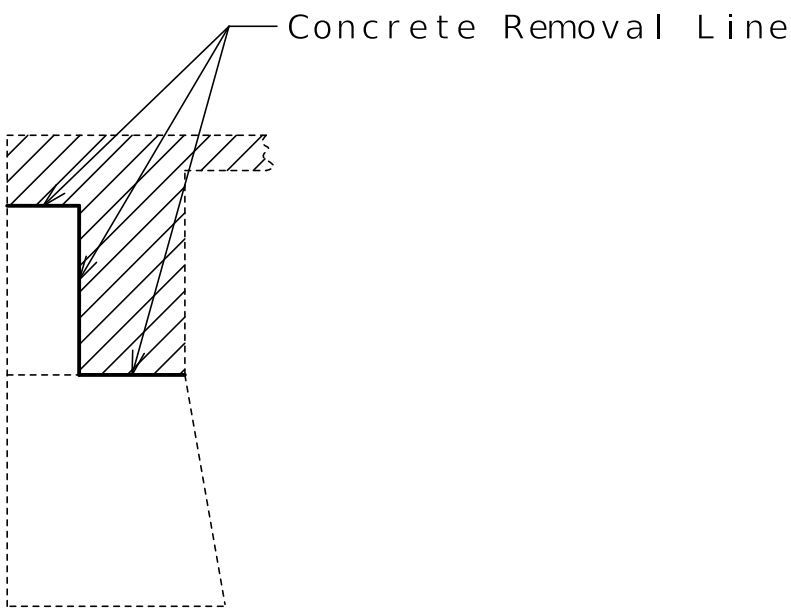


HALF SECTION AT END BENT NO. 1 HALF SECTION AT END BENT NO. 4

DETAILS OF CONCRETE REMOVAL AT END BENTS

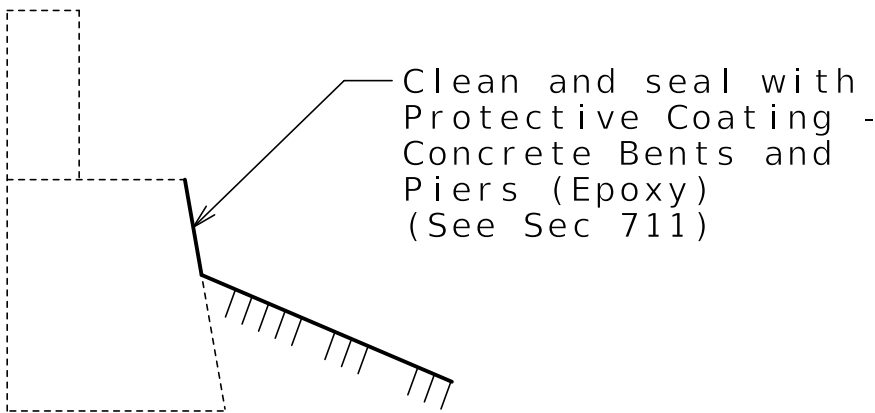
The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical backwall and wingwall reinforcement to be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

A smooth, level surface shall be provided at End Bents No. 1 & 4 removal lines.



SECTION A-A

DETAIL OF CONCRETE REMOVAL AT END BENT NO. 4



TYPICAL SECTION THRU END BENTS NO. 1 & 4 SHOWING PROTECTIVE COATING

General Notes:

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 flanges. 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 flange. Welding on or drilling holes in the beam flanges 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.

Pouring and Finishing Slab:

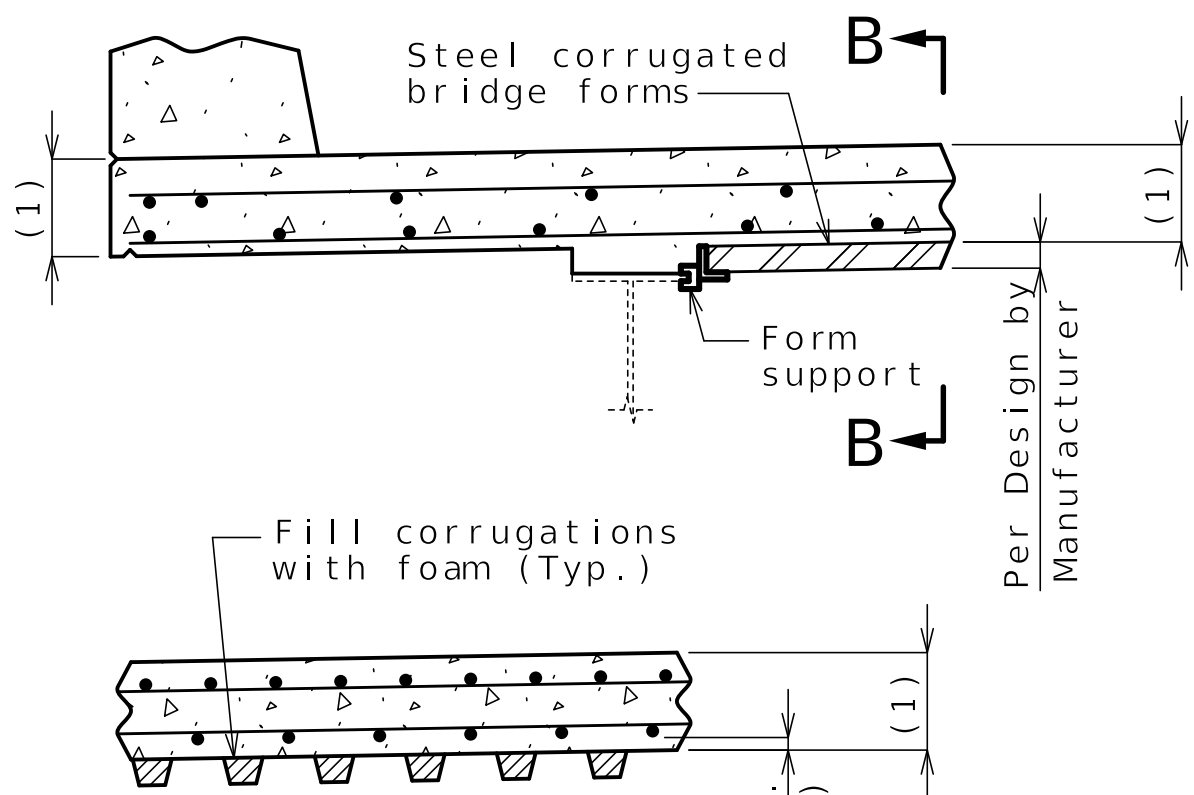
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.


Haunching:

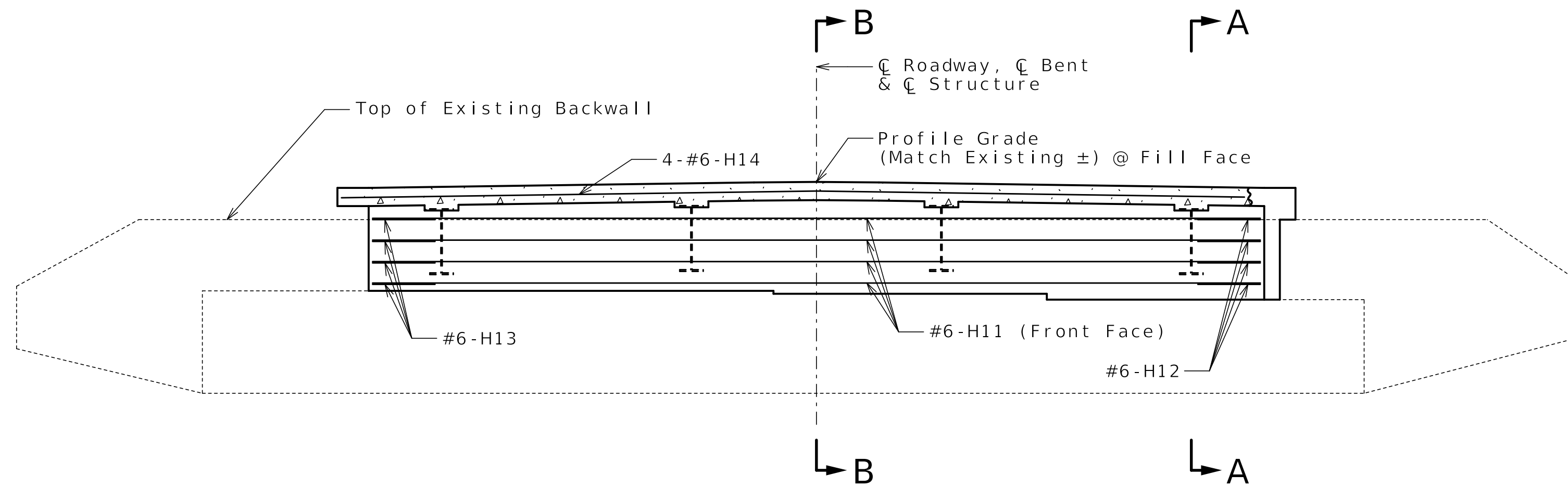
(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.



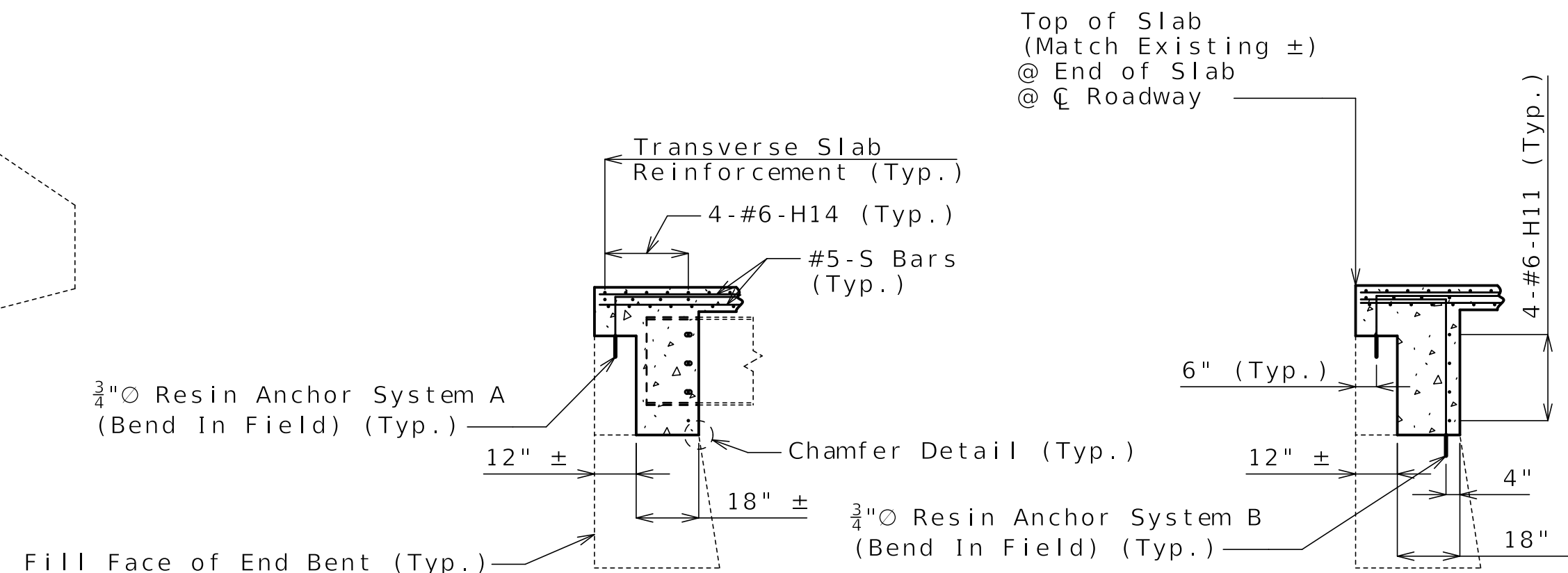
SECTION B-B

OPTIONAL STAY-IN-PLACE FORM DETAILS

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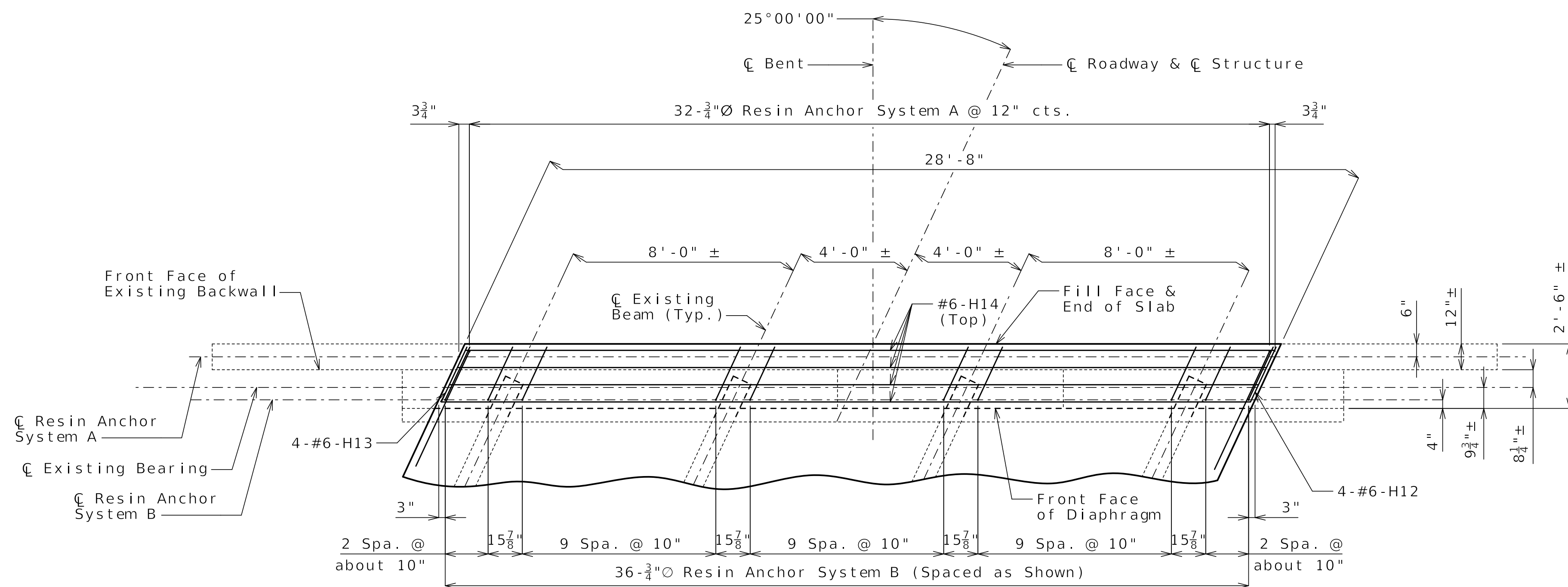


SECTION NEAR END BENT

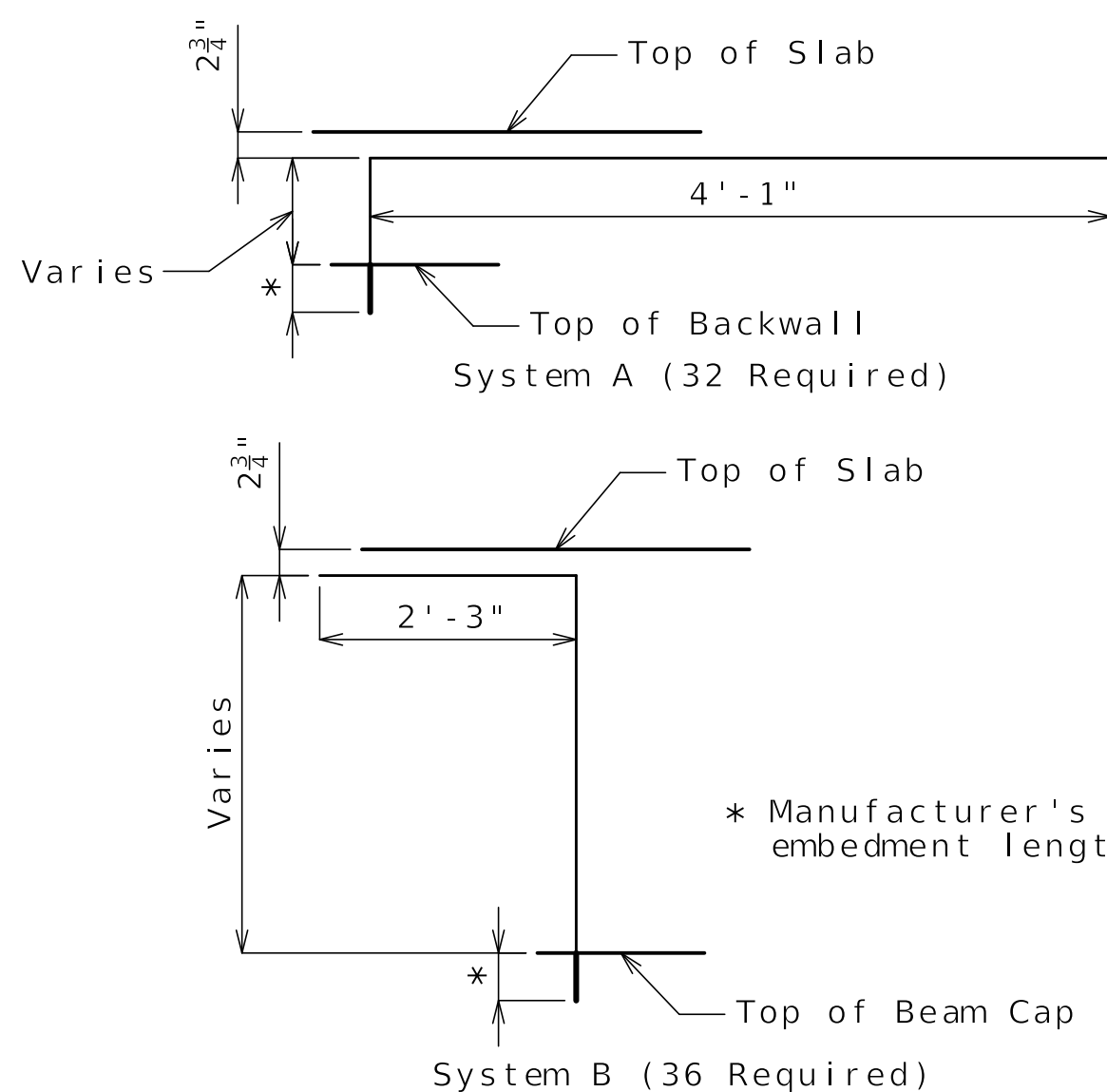


SECTION A-A

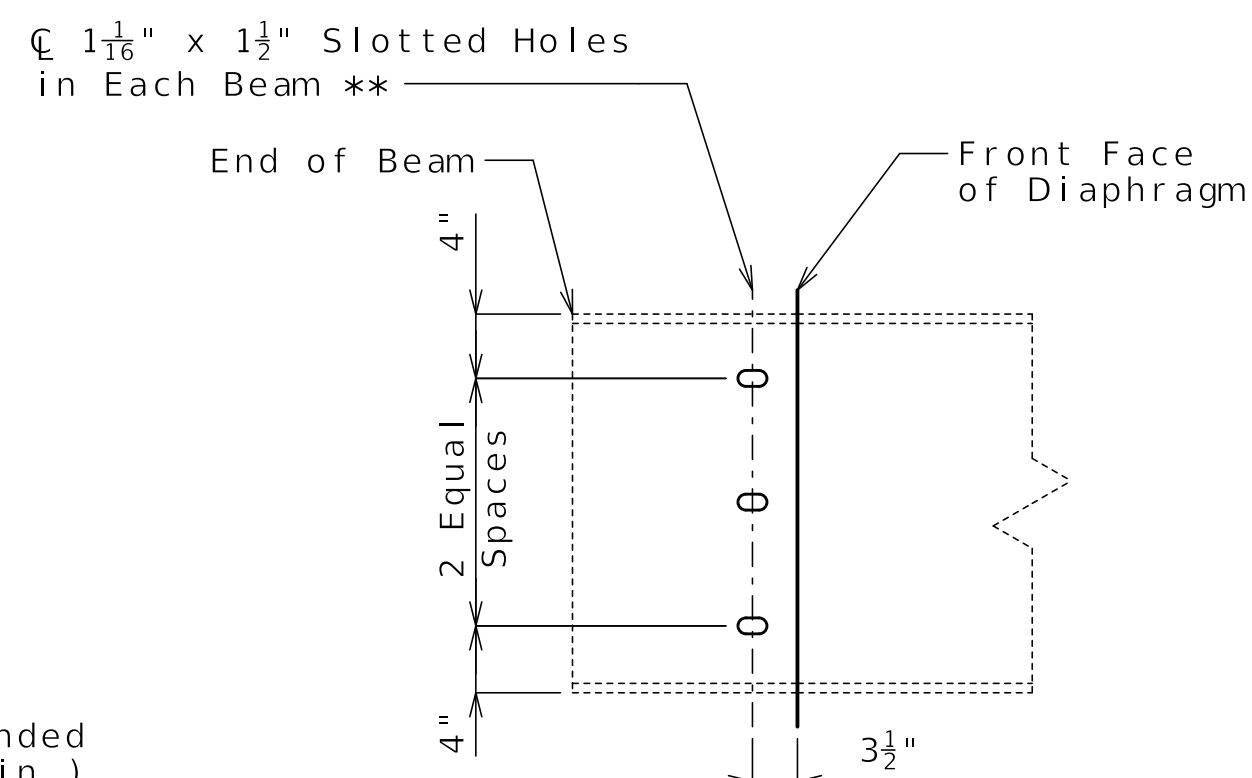
SECTION B-B



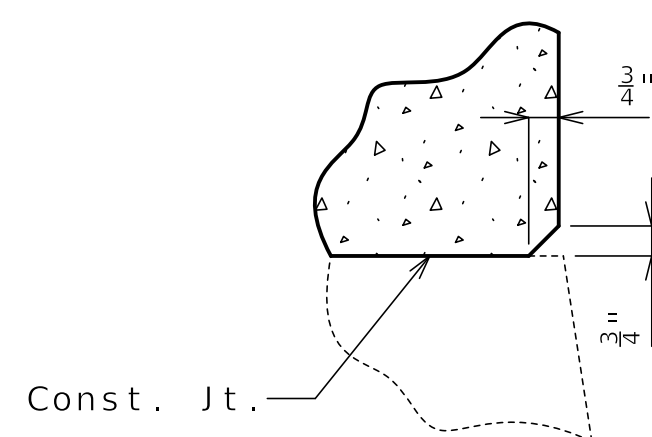
PART PLAN



DETAILS OF RESIN ANCHOR SYSTEMS



DETAIL OF WEB HOLES AT END BENTS



CHAMFER DETAIL

DETAILS OF END BENT NO. 1

Notes:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4" threaded rod for Systems A & B.

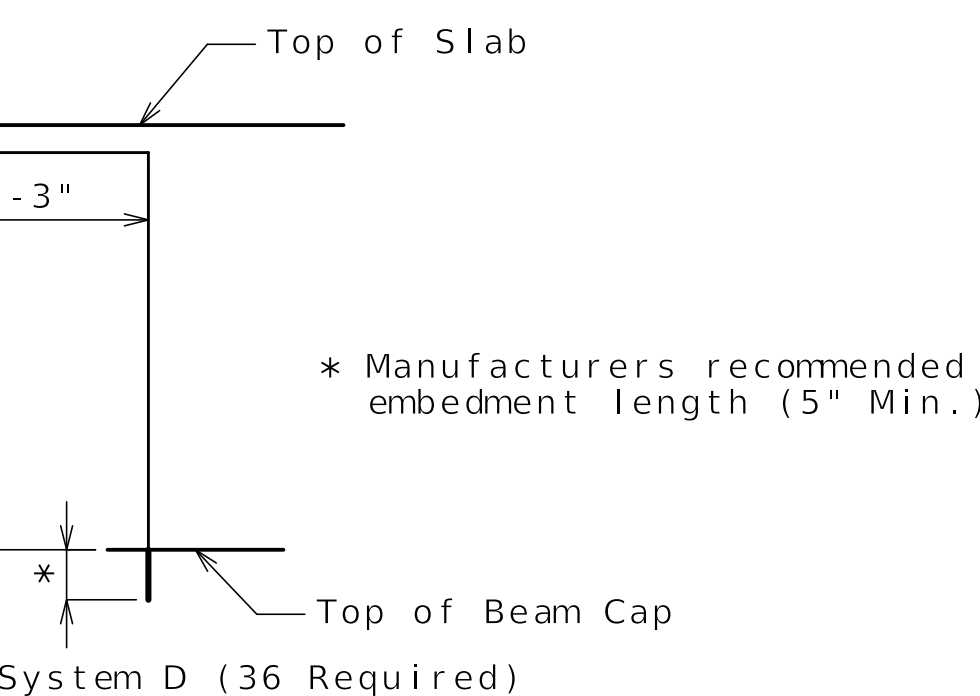
The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for beams shall extend a minimum of one foot outside the face of the beam encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

** Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel.

All concrete and reinforcement is included in the Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

The #6-H11 bars are segmented for ease of placement through beam web holes. The total bar length for H11 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment lengths will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

For details and reinforcement of Type H Barrier at End Bents, see Sheets No. 5 & 6.



Notes:

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with $f'_c = 4,000$ psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #6 Grade 60 reinforcing bar shall be substituted for the 3/4"Ø threaded rod for systems C & D.

The exposed and accessible surfaces of the existing structural steel and bearings that will be encased in concrete shall be cleaned with a minimum of SSPC-SP-3 surface preparation and coated with a minimum of one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1081 to produce a dry film thickness of not less than 3 mils before concrete is poured. The surface preparation and coating for beams shall extend a minimum of one foot outside the face of the beam encasement. Payment for cleaning and coating steel to be encased in concrete will be considered completely covered by the contract unit price for Slab on Steel.

** Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel.

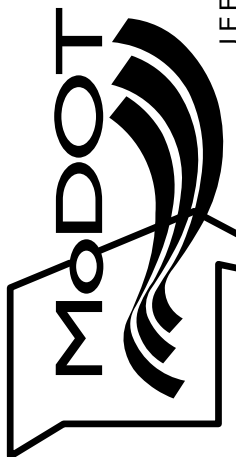
All concrete and reinforcement is included in the Estimated Quantities for Slab on Steel and will be considered completely covered by the contract unit price for Slab on Steel.

The #6-H41 bars are segmented for ease of placement through beam web holes. The total bar length for H41 bars shown in Bill of Reinforcing Steel allows for one lap splice with a length of 3'-10". Actual bar segment lengths to be determined by contractor for ease of installing bars. The contractor may use a mechanical bar splice in lieu of a lap splice. When a mechanical bar splice is used, the actual bar segment lengths will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction. The cost of furnishing and installing the bar splices will be considered completely covered by the contract unit price for Slab on Steel. No adjustment of the quantity of reinforcing steel will be allowed for the use of mechanical bar splices.

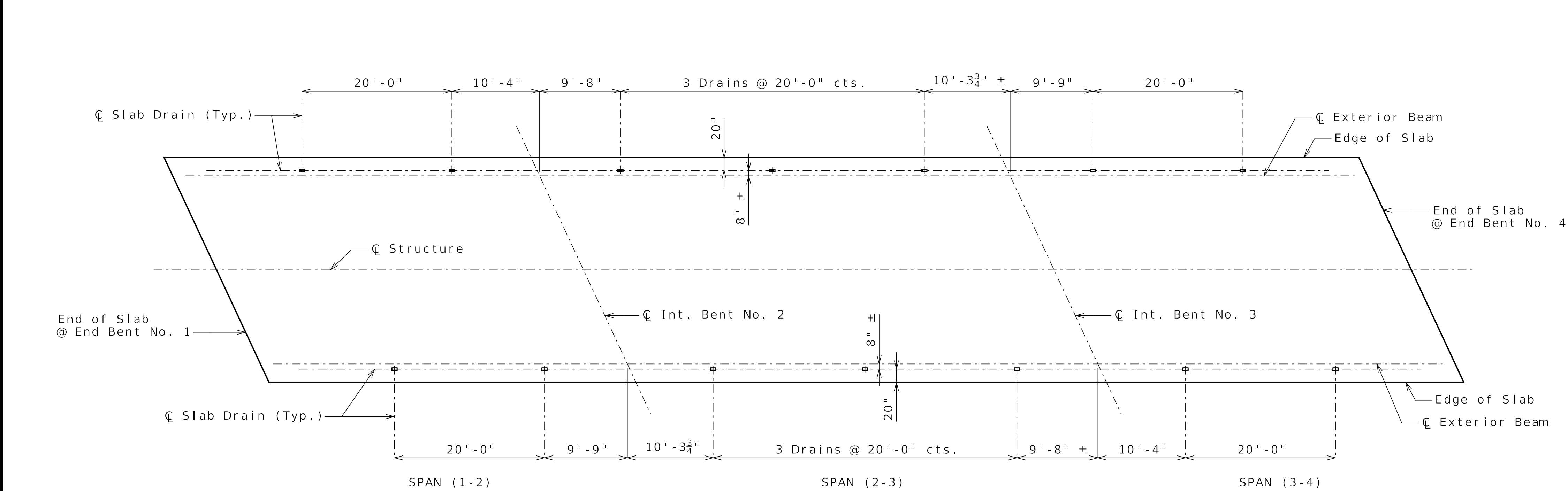
For details and reinforcement of Type H Barrier at End Bents, see Sheets No. 5 & 6.

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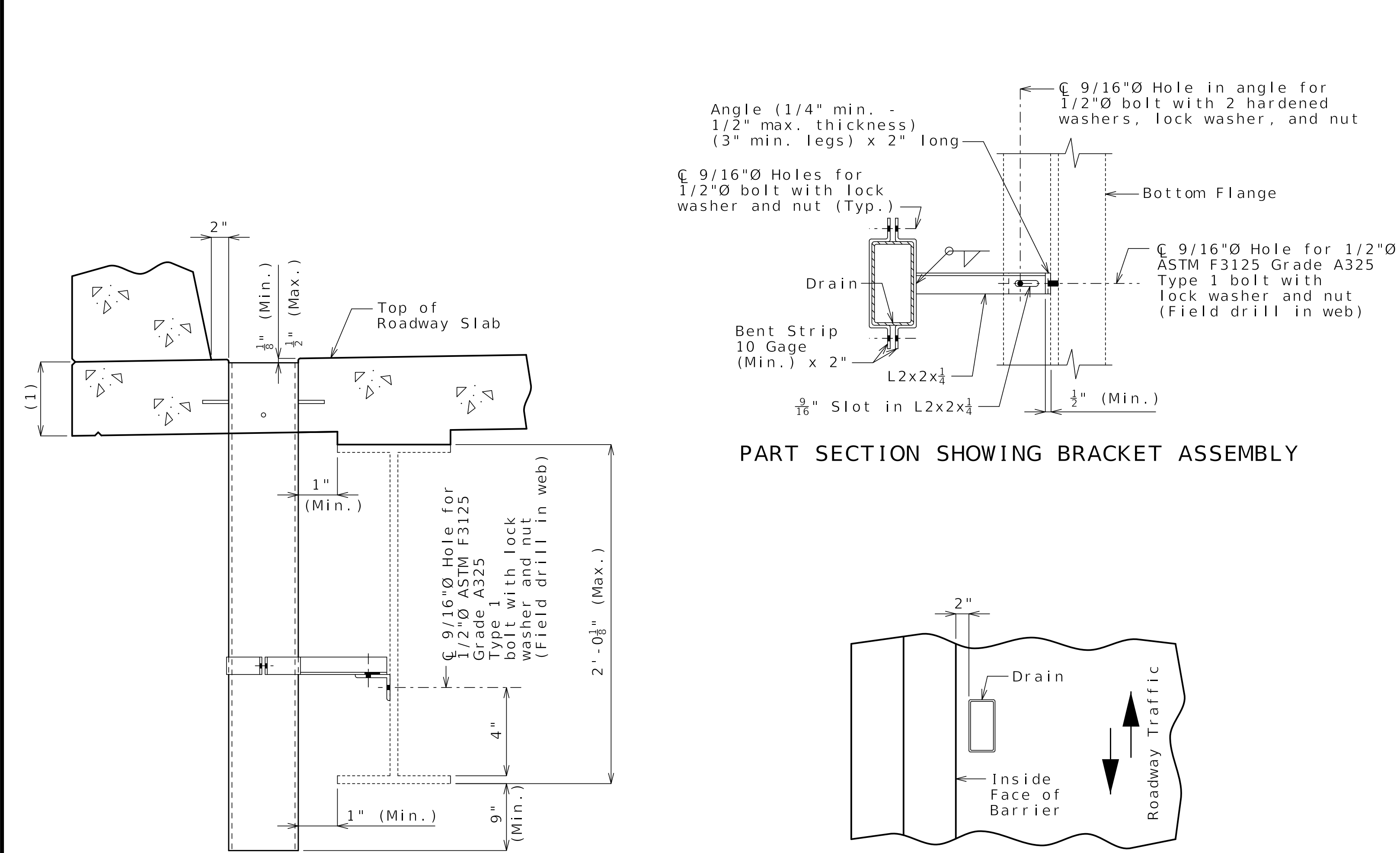
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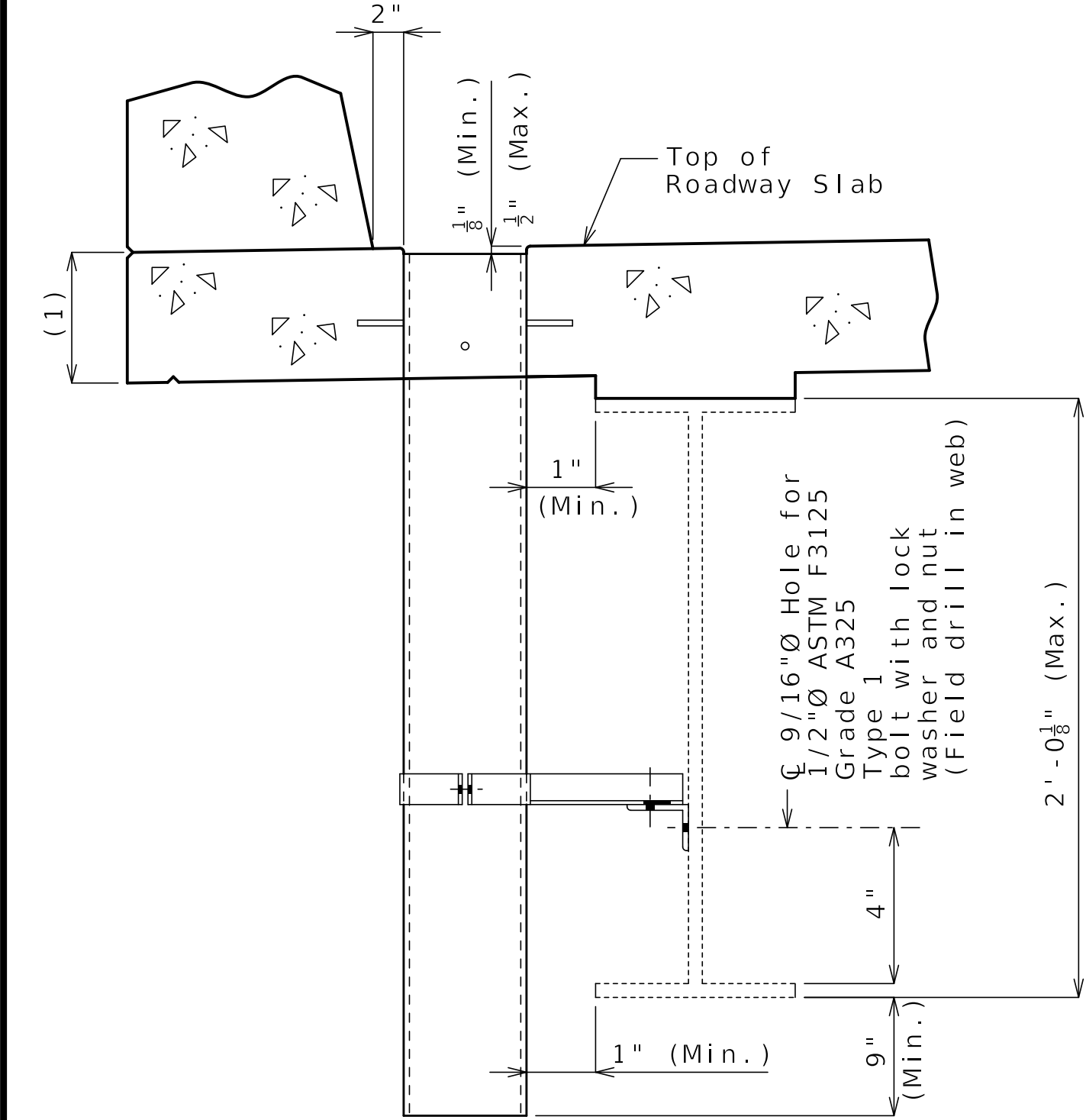
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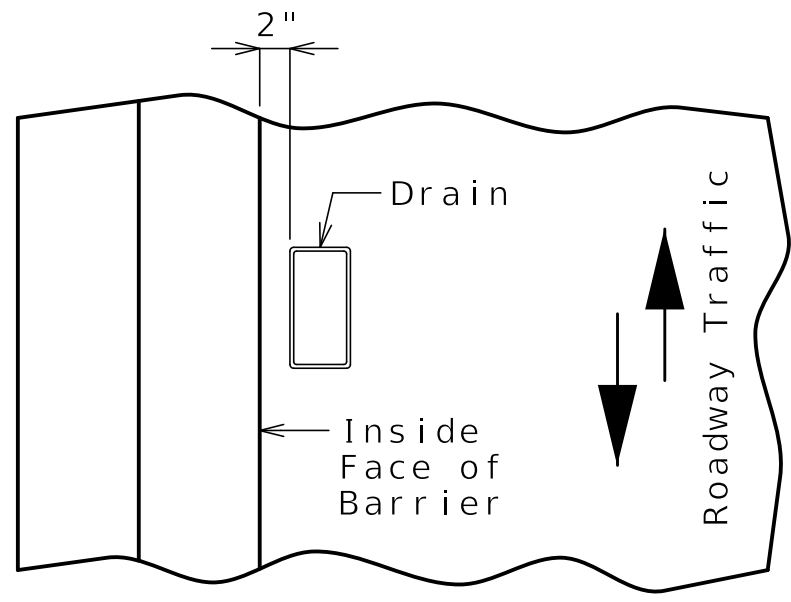
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION SHOWING BRACKET ASSEMBLY

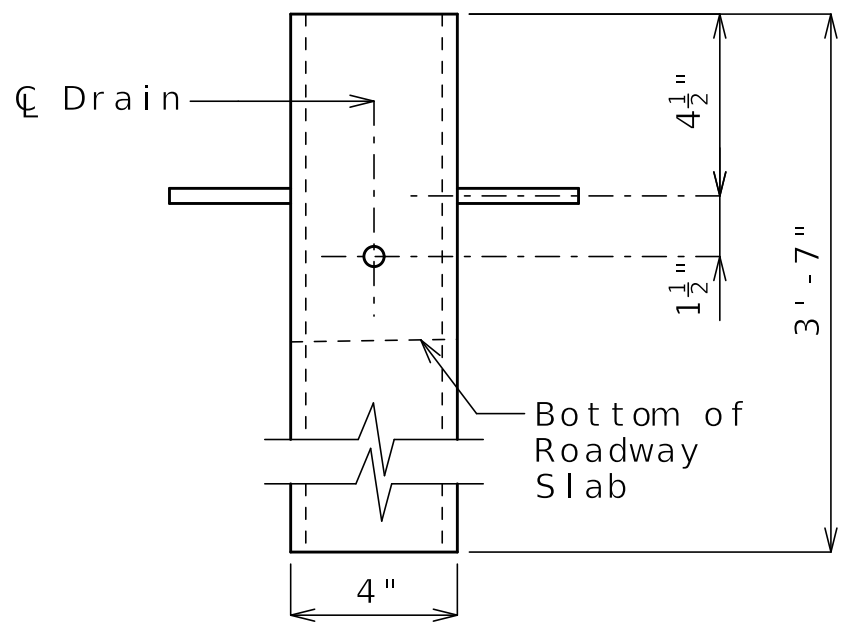


PART SECTION NEAR DRAIN

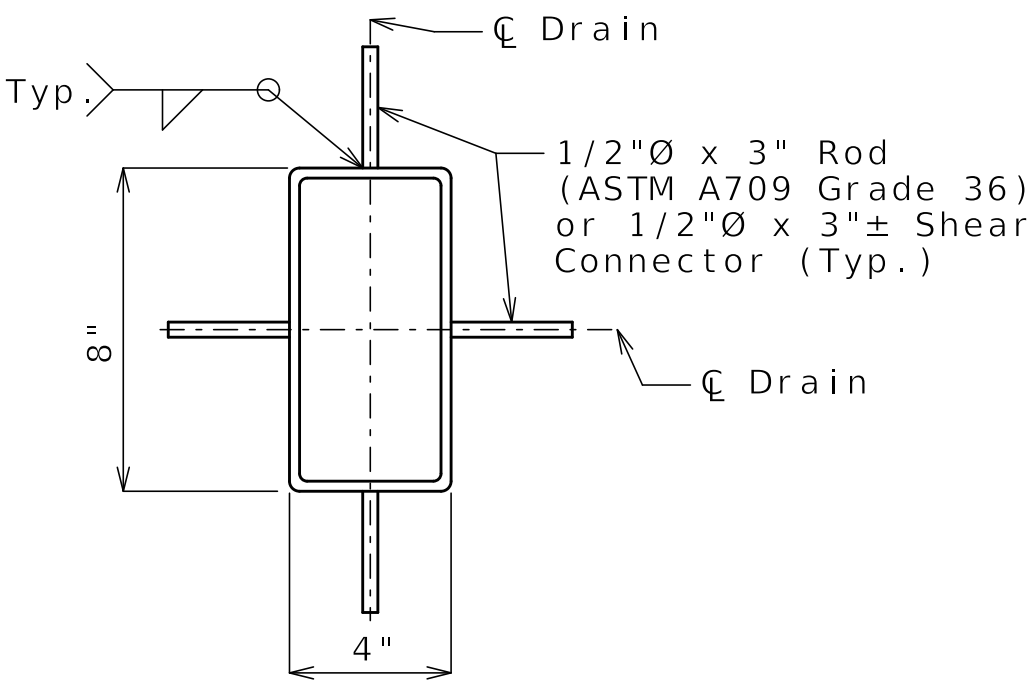


PART PLAN OF SLAB AT DRAIN

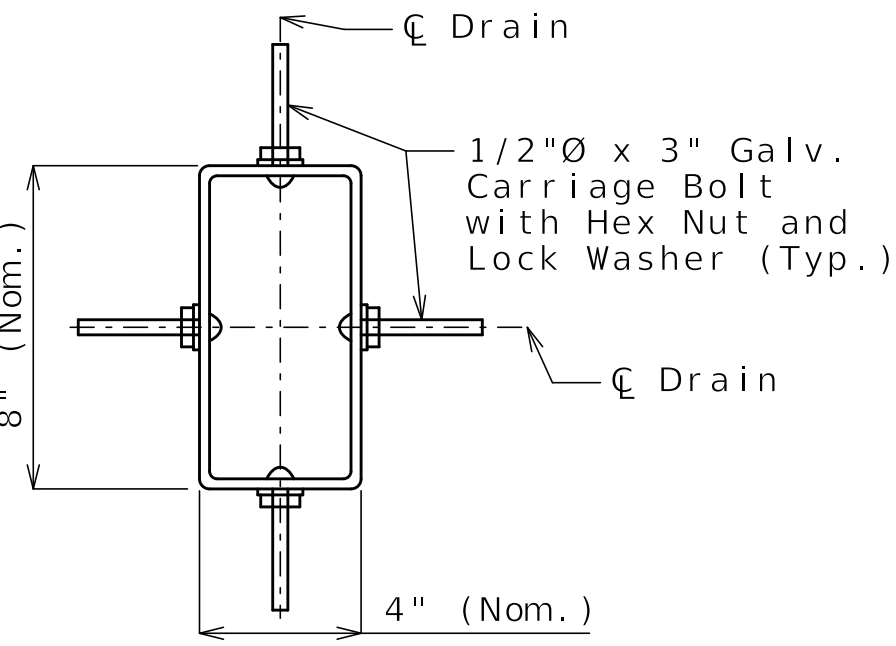
SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

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 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, except as shown.

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

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

(1) See front sheet for slab thickness.

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".

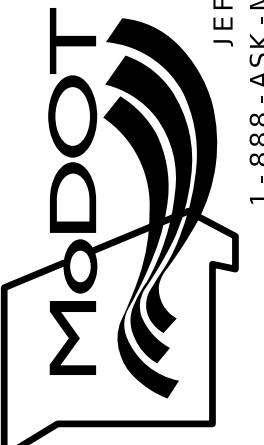
Minimum reinforced wall thickness shall be 1/4 inch.

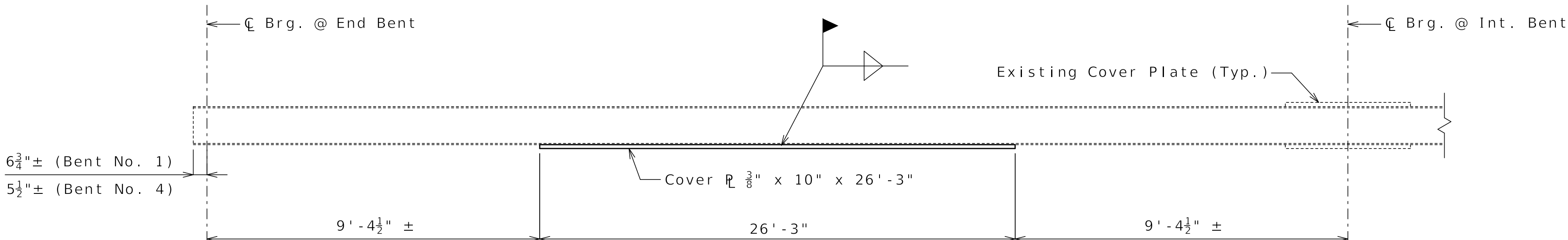
The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

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

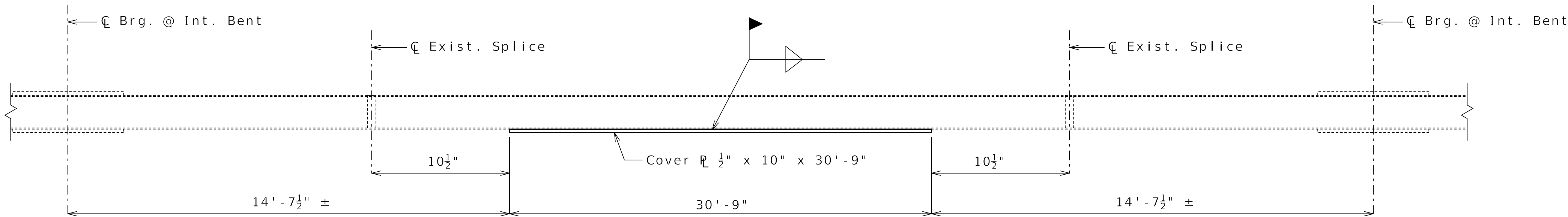
The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall 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 recommended by the manufacturer to ensure a smooth, chip free cut.

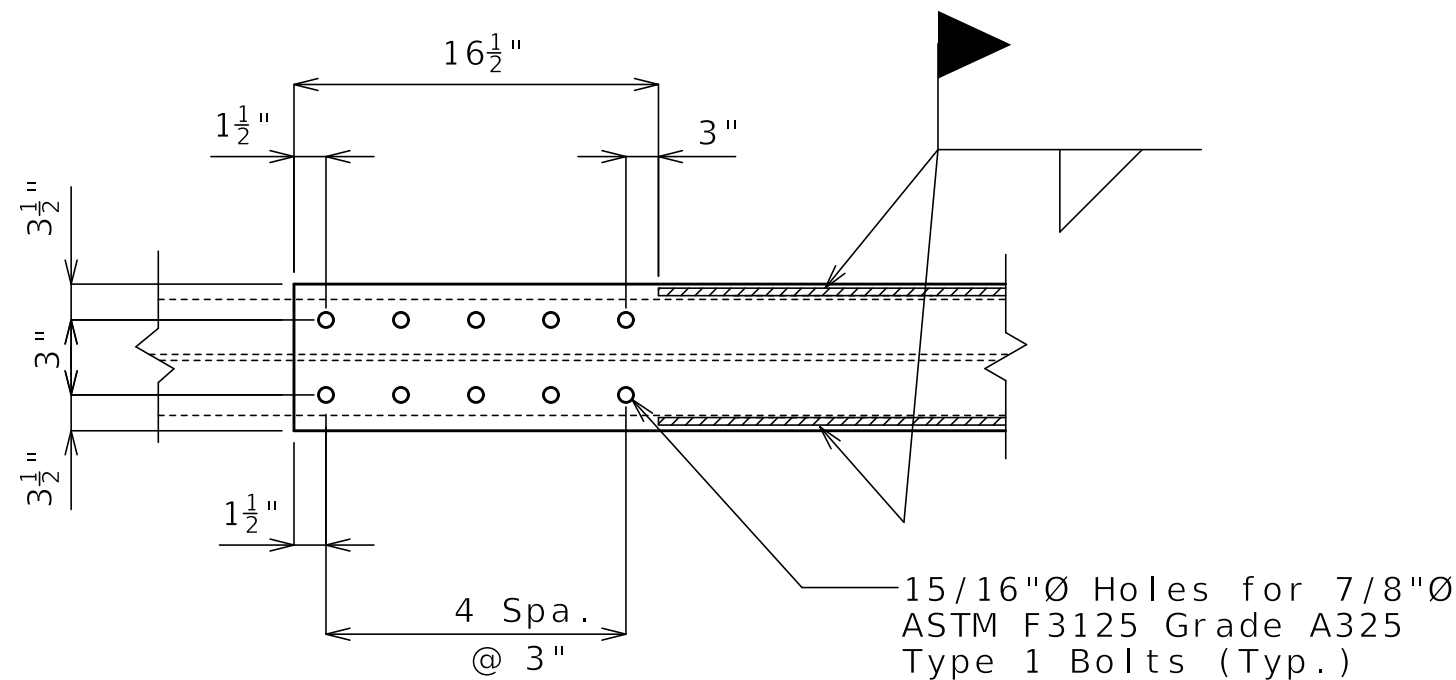
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| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | |
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| 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636) | |



PART ELEVATION OF INTERIOR & EXTERIOR BEAM SHOWING COVER PLATE INSTALLATION
SPAN (1-2) & SPAN (4-3)



PART ELEVATION OF INTERIOR & EXTERIOR BEAM SHOWING COVER PLATE INSTALLATION
SPAN (2-3)



TYPICAL DETAIL OF THE
ENDS OF COVER PLATES
(BOTTOM VIEW)

Notes:

Beam with end-bolted cover plates shall be installed in the following sequence after existing bridge deck is removed:

1. Drill holes in cover plate and flange.
2. Clean faying surfaces. (See Special Provisions)
3. Install and tighten bolts.
4. Weld cover plate to flange.

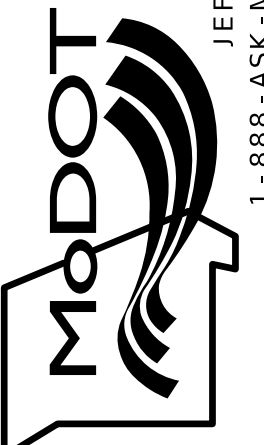
Fabricated Structural Steel shall be ASTM A709 Grade 50, except as noted.

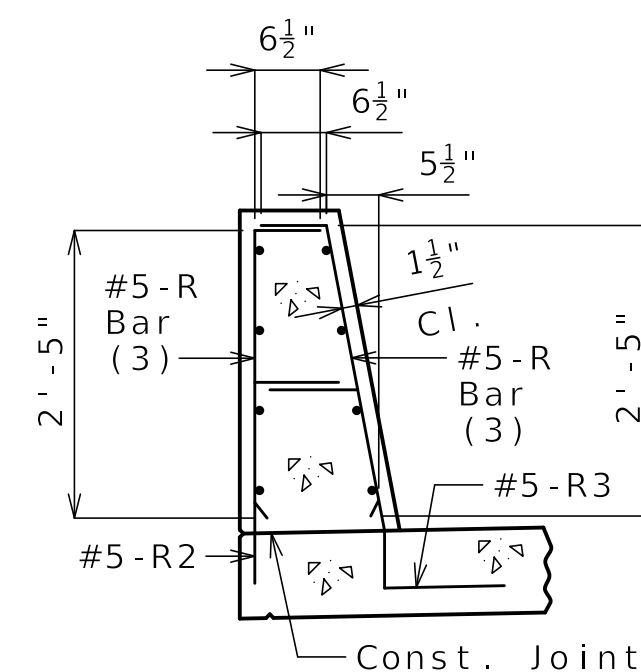
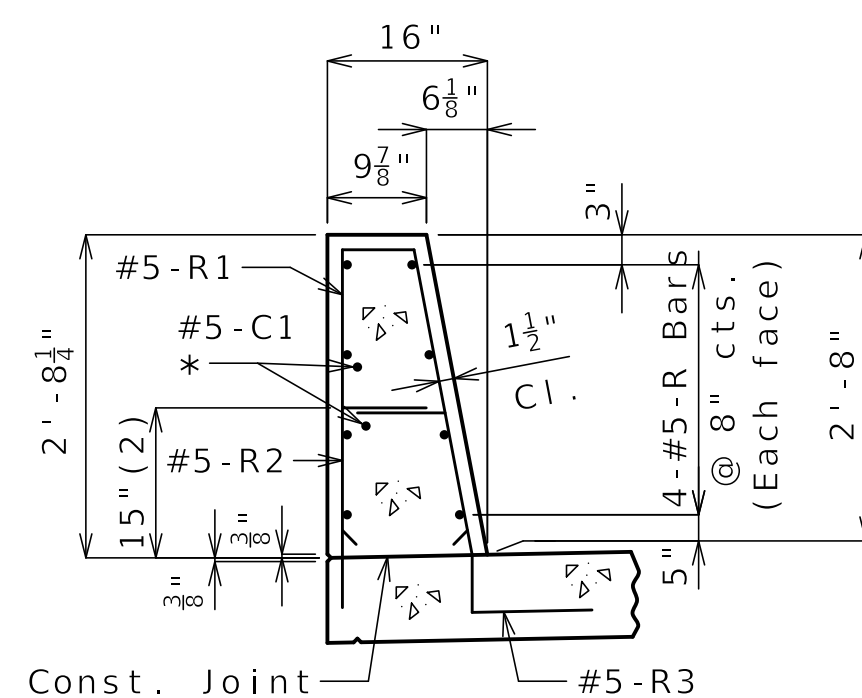
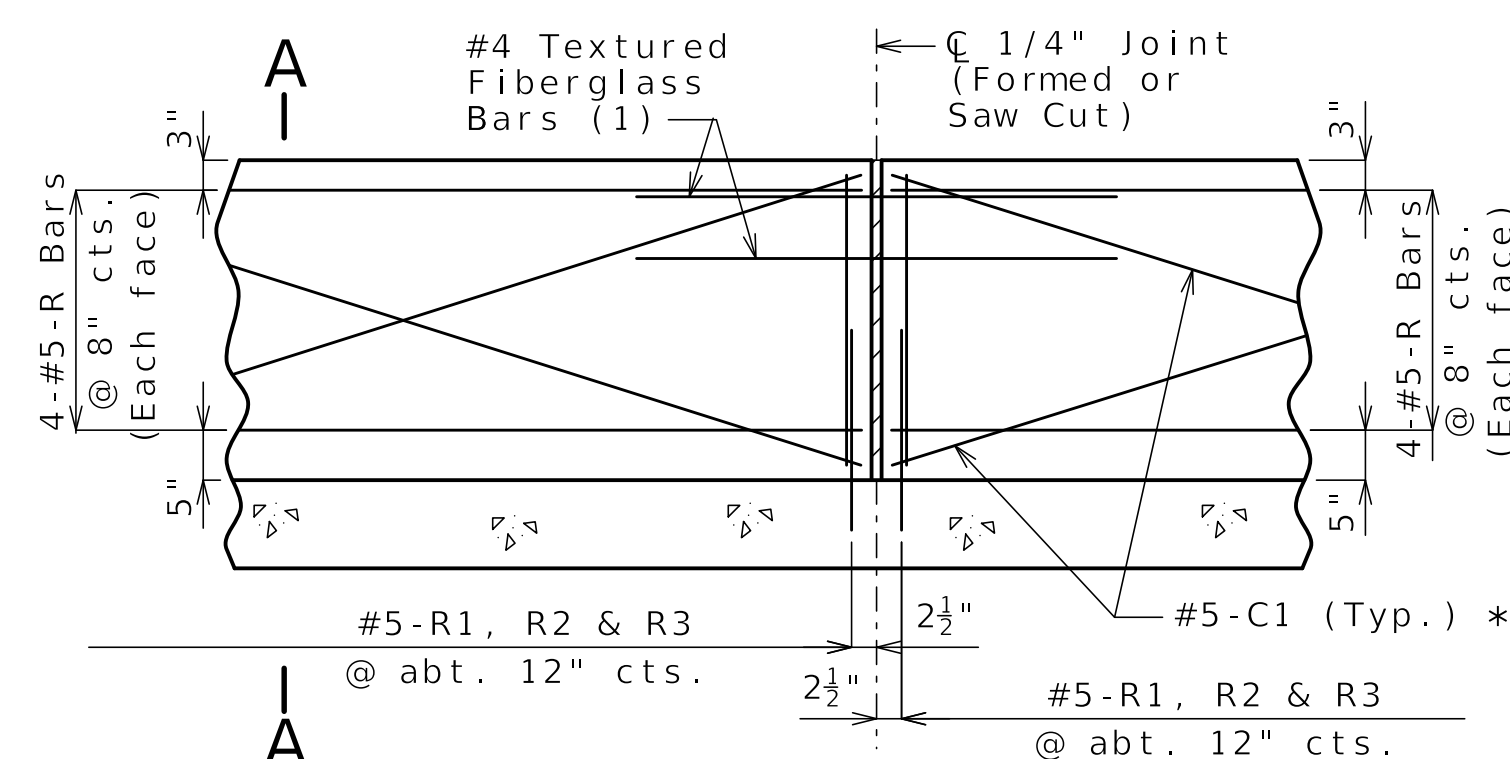
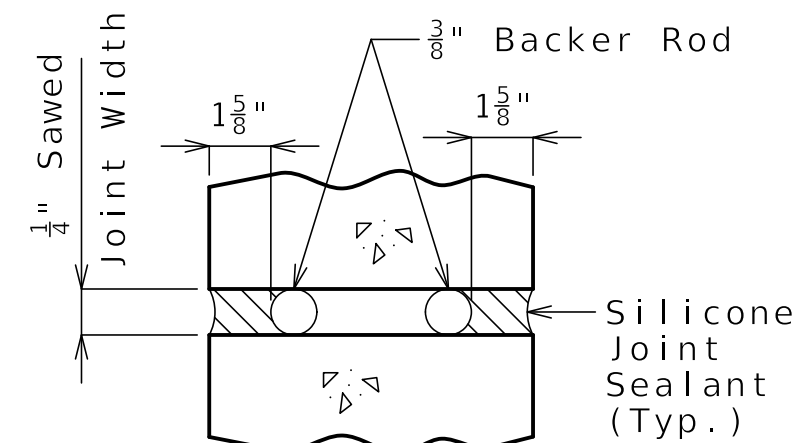
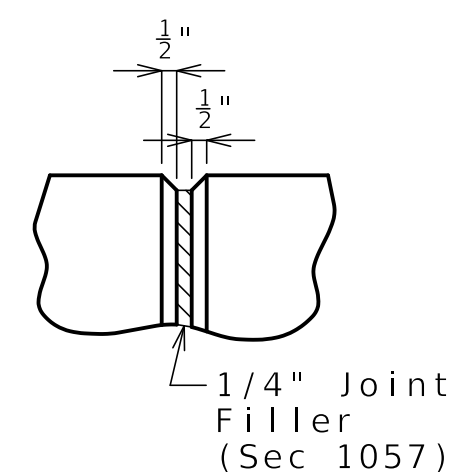
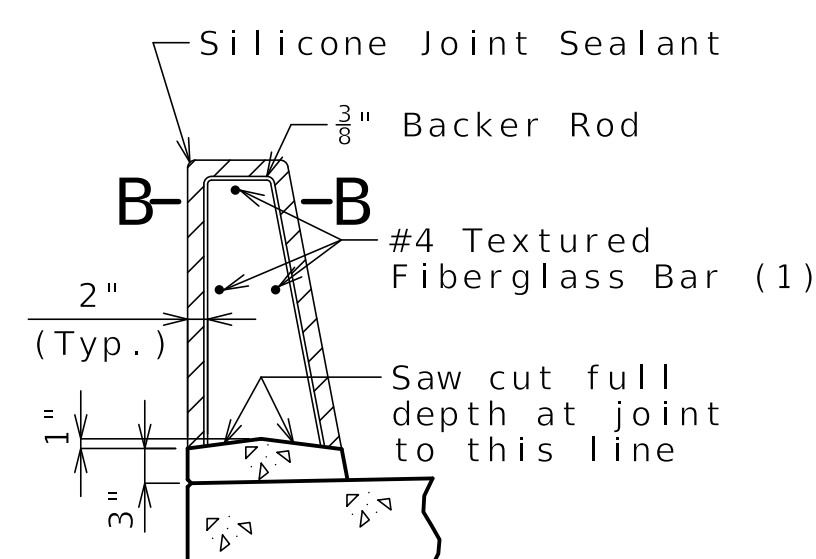
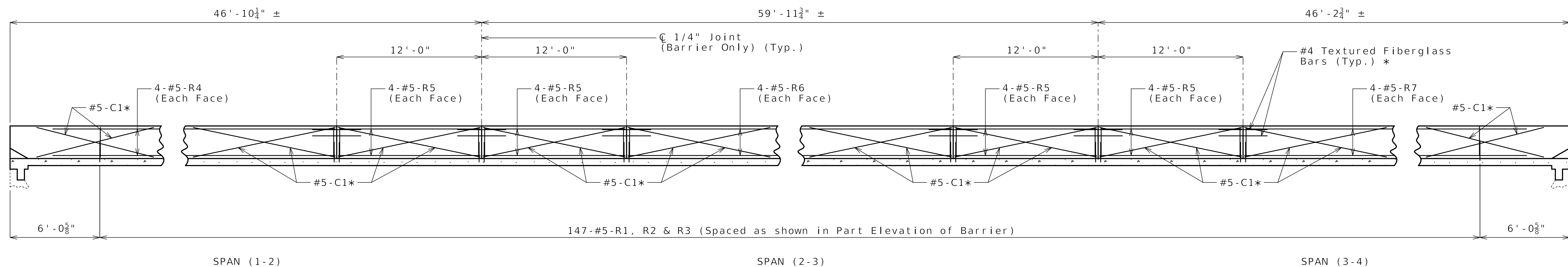
Payment for 4,772 pounds of new cover plates, complete in place, will be considered completely covered by the contract lump sum price for Strengthening Existing Beams.

Notch toughness is required for all cover plates.

Contractor shall verify all dimensions in field before finalizing the shop drawings.

STRENGTHENING EXISTING BEAMS

| | |
|---|----------------|
| DATE PREPARED 9/26/2025 | |
| ROUTE 7 | STATE MO |
| DISTRICT BR | SHEET NO. 6 |
| COUNTY CAMDEN | |
| JOB NO. J5P3538 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. A12373 | |
| DESCRIPTION | |
| | |
| | |
| | |
| | |
| DATE | |
| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | |
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General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints normal to grade.

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

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

Concrete in barrier shall be Class B-1.

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

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 H Barrier.

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

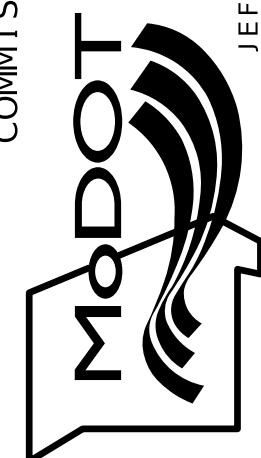
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

| | |
|---------------|-----------|
| DATE PREPARED | |
| 9/26/2025 | |
| ROUTE | STATE |
| 7 | MO |
| DISTRICT | SHEET NO. |
| BR | 7 |

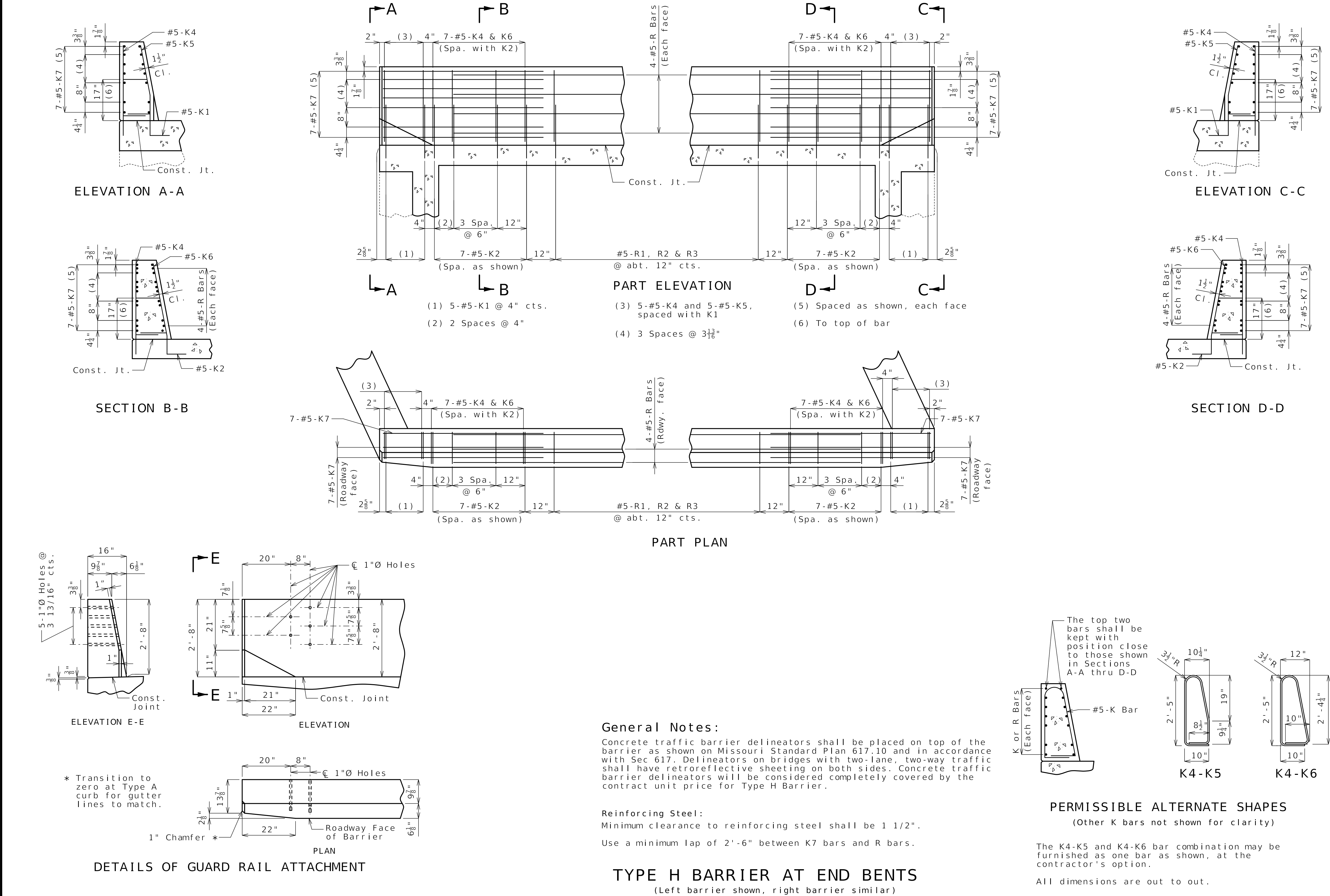
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| COUNTY | CAMDEN |
| JOB NO. | J5P3538 |
| CONTRACT ID. | |

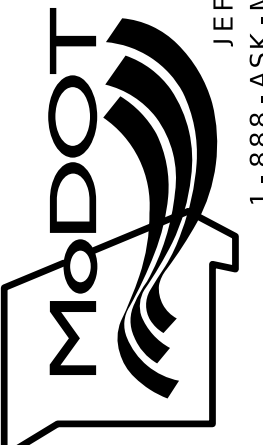
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| PROJECT NO. |
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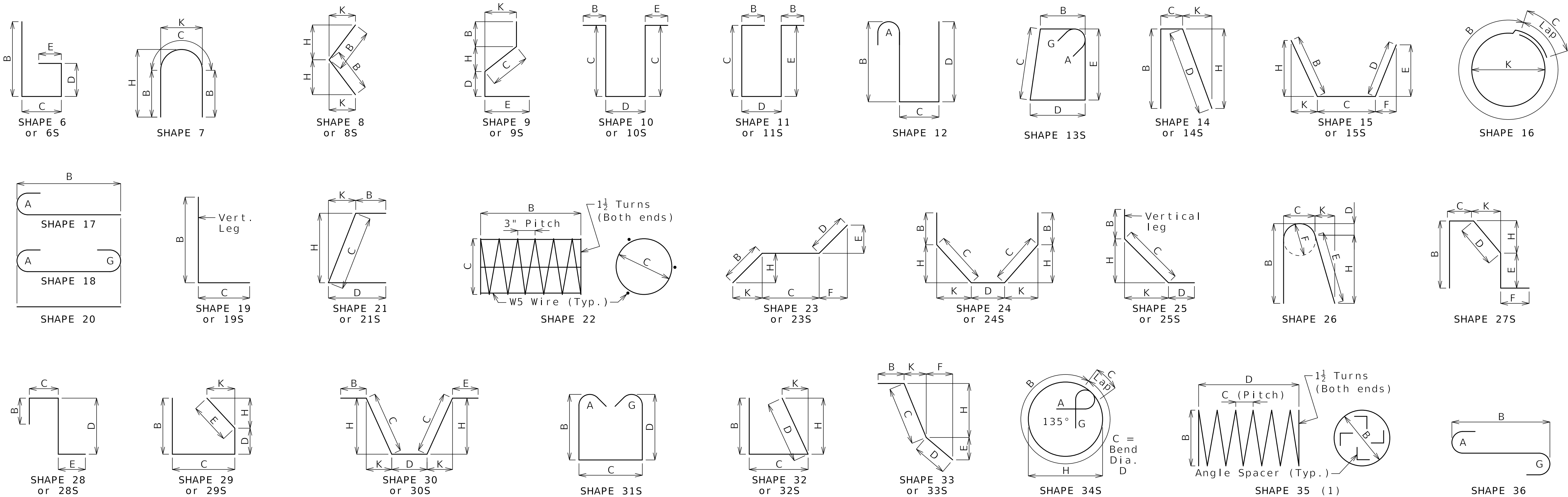
BRIDGE NO.
A12373

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COMMISSION

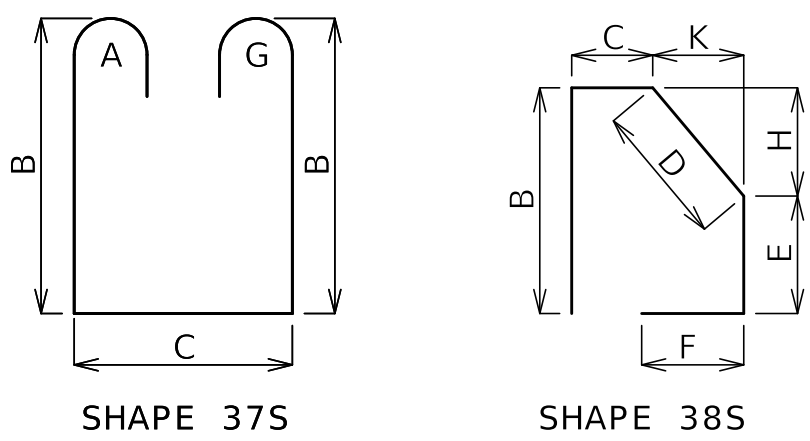
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|---|----|-----------|----|
| DATE PREPARED | | 9/26/2025 | |
| ROUTE | 7 | STATE | MO |
| DISTRICT | BR | SHEET NO. | 8 |
| COUNTY | | | |
| CAMDEN | | | |
| JOB NO. | | | |
| J5P3538 | | | |
| CONTRACT ID. | | | |
| PROJECT NO. | | | |
| BRIDGE NO. | | | |
| A12373 | | | |
| DESCRIPTION | | | |
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| Finished Bend Dimensions D and Hook Dimensions | | | | | | |
|---|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|
| Standard Pin Bend Shapes | | | | | | |
| Size | Case | D | A or G | | J | |
| | | | 90° | 180° | 180° | |
| #4 | 1 | 3" | 8" | 6" | 4" | |
| #5 | 1 | 3 ³ / ₄ " | 10" | 7" | 5" | |
| #6 | 1 | 4 ¹ / ₂ " | 12" | 8 ¹ / ₄ " | 6" | |
| #7 | 2 | 5 ¹ / ₄ " | 14" | 9 ³ / ₄ " | 7" | |
| | 3 | 7" | 15" | 11 ¹ / ₂ " | 8 ³ / ₄ " | |
| #8 | 2 | 6" | 16" | 11" | 8" | |
| | 3 | 8" | 17" | 13 ¹ / ₄ " | 10" | |
| #9 | 1 | 9 ¹ / ₂ " | 19 ¹ / ₂ " | 15 ¹ / ₂ " | 11 ³ / ₄ " | |
| #10 | 1 | 10 ³ / ₄ " | 22" | 17 ¹ / ₂ " | 13 ¹ / ₄ " | |
| #11 | 1 | 12" | 24 ¹ / ₂ " | 19 ¹ / ₂ " | 14 ⁷ / ₈ " | |
| #14 | 1 | 18 ¹ / ₄ " | 31 ¹ / ₄ " | 27 ¹ / ₂ " | 21 ⁵ / ₈ " | |
| #18 | 1 | 24" | 41 ¹ / ₂ " | 36 ¹ / ₄ " | 28 ¹ / ₂ " | |
| Stirrup Pin Bend Shapes (S) | | | | | | |
| Size | Case | D | A or G | | | J |
| | | | 90° | 135° | 180° | |
| #4 | 2 | 2" | 4 ¹ / ₂ " | 4 ¹ / ₂ " | 5" | 2 ⁷ / ₈ " |
| | 3 | 3" | 5" | 5 ¹ / ₄ " | 6" | 3" |
| #5 | 2 | 2 ¹ / ₂ " | 5 ³ / ₄ " | 5 ³ / ₄ " | 5 ³ / ₄ " | 3 ³ / ₄ " |
| | 3 | 3 ³ / ₄ " | 6 ¹ / ₄ " | 6 ¹ / ₂ " | 7" | 3 ⁵ / ₈ " |
| #6 | 1 | 4 ¹ / ₂ " | 12" | 7 ³ / ₄ " | 8 ¹ / ₄ " | 4 ⁵ / ₈ " |
| Applicable for all grades of steel. Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only. | | | | | | |



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

| Reinforcing Steel Totals (Pounds) | | | | | | | |
|-----------------------------------|--------------|-------|----------------|---------|-----------|---------------|--------|
| Size | Substructure | | Superstructure | | | Entire Bridge | |
| | Plain | Epoxy | Slab | Barrier | Slip Form | Plain | Epoxy |
| W5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 563 | 0 | 0 | 0 | 563 |
| 5 | 0 | 0 | 4,005 | 6,587 | 501 | 0 | 11,093 |
| 6 | 0 | 0 | 40,538 | 0 | 0 | 0 | 40,538 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| By Type | 0 | 0 | 45,106 | 6,587 | 501 | 0 | 52,194 |

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

DATE PREPARED
9/26/2025

ROUTE
7

DISTRICT
BR

COUNTY
CAMDEN

JOB NO.
J5P3538

CONTRACT ID.

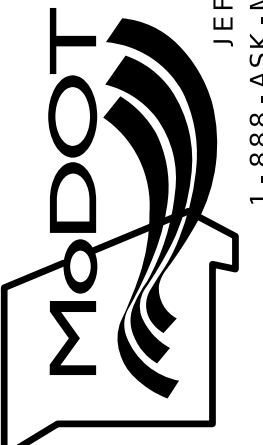
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DESCRIPTION

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