

A.A.D.T. - 2021 = 6604
A.A.D.T. - 2041 = 12548
T = 10%
V = 55 M.P.H.

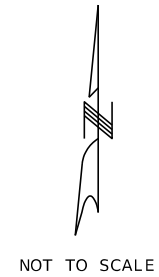
NO NEW R/W OR EASEMENTS
TO BE ACQUIRED

| | 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 | | |
| WOVEN WIRE | | |
| GATE POST | | |
| BENCHMARK | | |

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

KEY MAP
LOCATION OF WASHINGTON COUNTY

KEY MAP
LOCATION OF WASHINGTON COUNTY



| DESCRIPTION | NUMBER |
|-------------------------------------|--------|
| TITLE SHEET ----- | 1 |
| TYPICAL SECTIONS (TS) (1 SHEET)---- | 2 |
| QUANTITIES (QU) (3 SHEETS)----- | 3 |
| PLAN-PROFILE (PP)----- | 4 |
| SPECIAL SHEETS (SS)----- | 5 |
| TRAFFIC CONTROL SHEETS (TC)----- | 6-10 |
| EROSION CONTROL SHEETS (EC)----- | 11 |
| PAVEMENT MARKING (PM)----- | 12-14 |
| BRIDGE DRAWINGS (B) | |
| A19972----- | 1-14 |



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/03/2024

| | |
|-------|-------|
| ROUTE | STATE |
| 8 | MO |

| | |
|----------|-----------|
| DISTRICT | SHEET NO. |
| CD | 1 |

COUNTY
WASHINGTON

JOB NO.
J5P3522

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

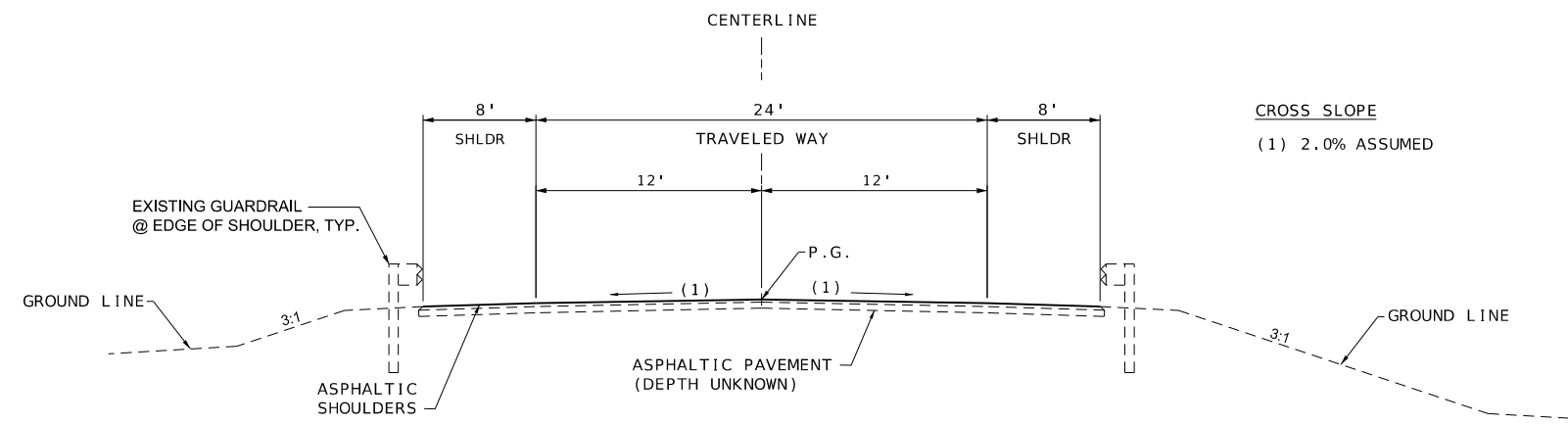
| | | |
|---------------------------|------|-------------|
| BEGINNING OF PROJECT | STA. | 212+91.27 |
| END OF PROJECT | STA. | 219+73.00 |
| APPARENT LENGTH | | 681.73 FEET |
| EQUATIONS AND EXCEPTIONS: | | |

| | | |
|-----------------------|--------|-------|
| TOTAL CORRECTIONS | 0.00 | FEET |
| NET LENGTH OF PROJECT | 681.73 | FEET |
| STATE LENGTH | 0.129 | MILES |

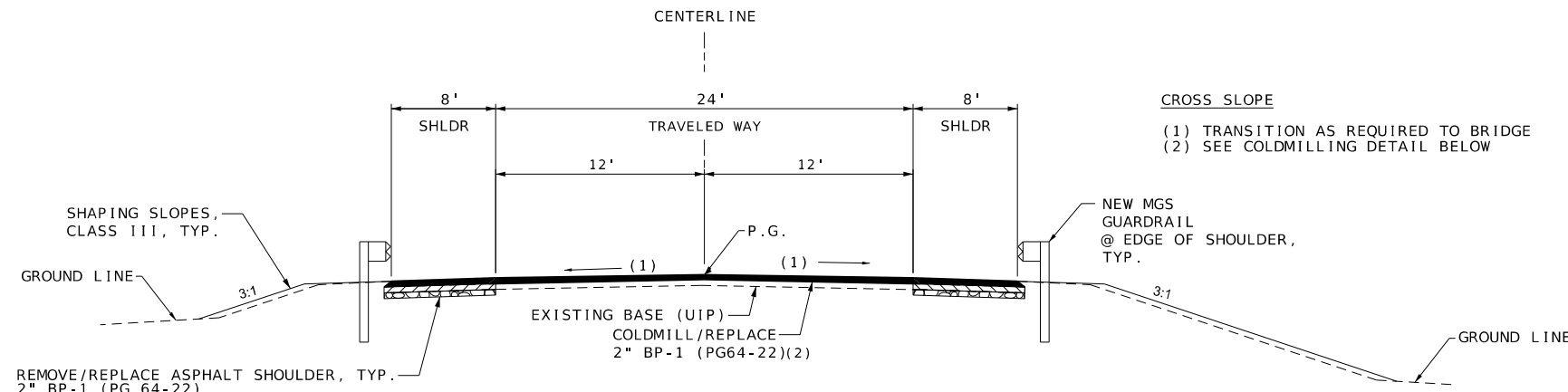
| | |
|---|-----------|
| FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES | 0.3 ACRES |
|---|-----------|

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.

VEENSTRA & KIMM INC
 9788 N Ash Avenue
 Kansas City, Missouri 64159
 816-781-6182 816-781-0643 (FAX)
 Certificate of Authority No. 2002006347

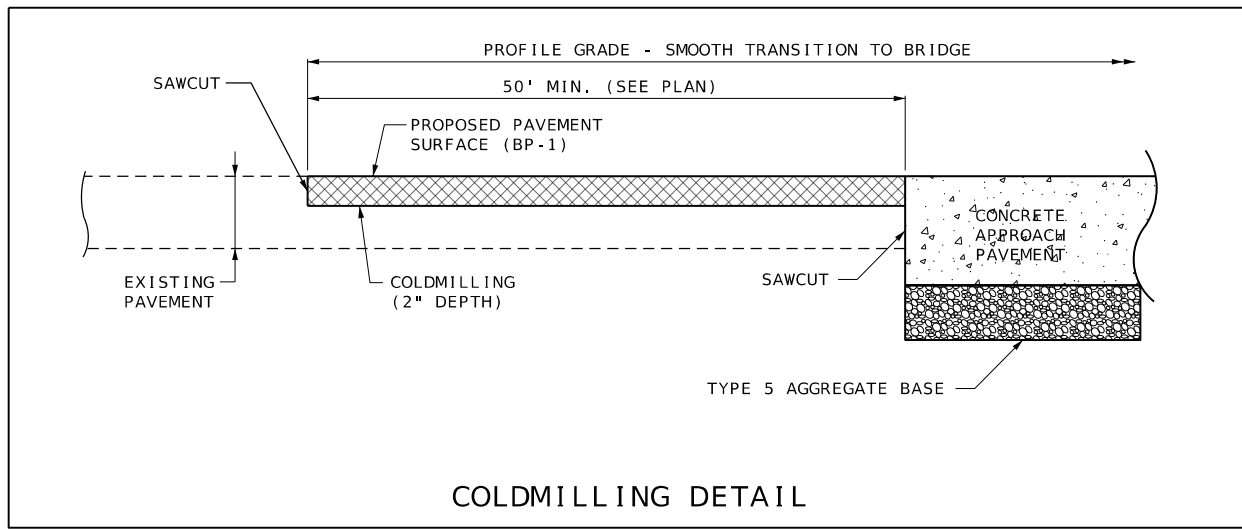


EXISTING SECTION ON TANGENT
TYPICAL SECTION RTE. 8
STA. 212+91.27 TO 219+73.00 (EXCLUDING BRIDGE)



PROPOSED SECTION ON TANGENT
TYPICAL SECTION RTE. 8
STA. 214+41.48 TO 218+23.00 (EXCLUDING BRIDGE)

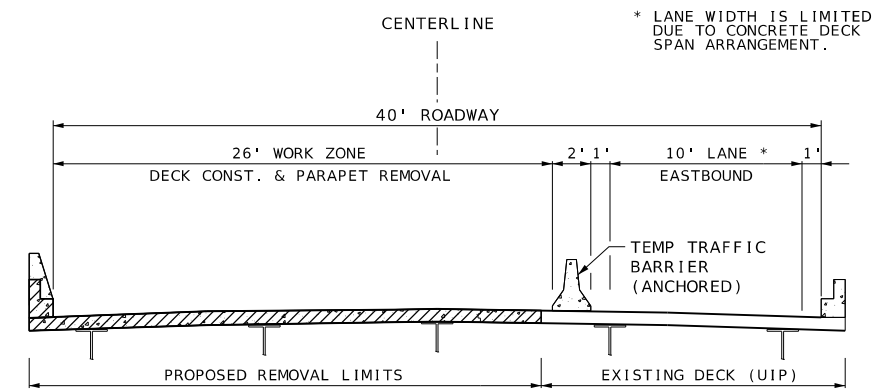
ESTIMATE FACTORS
BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1) = 1.948 TON/CY
BITUMINOUS PAVEMENT MIXTURE PG 64-11 (BASE) = 1.943 TON/CY
TACK COAT = 0.10 GAL/SY



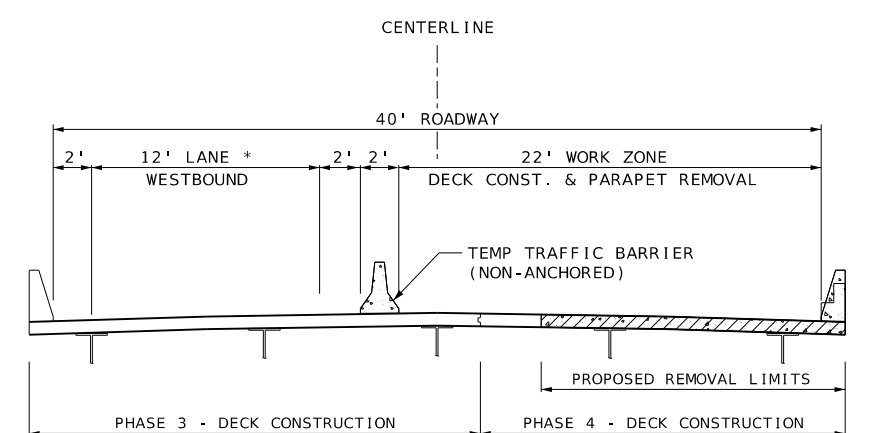
COLDMILLING DETAIL

CROSS SLOPE
(1) 2.0% ASSUMED

CROSS SLOPE
(1) TRANSITION AS REQUIRED TO BRIDGE
(2) SEE COLDMILLING DETAIL BELOW



TEMPORARY TRAFFIC LANE ON BRIDGE
PHASE 3 - TEMPORARY TRAFFIC LANE SHOWN



TEMPORARY TRAFFIC LANE ON BRIDGE
PHASE 4 - TEMPORARY TRAFFIC LANE SHOWN

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/03/2024

| | |
|-----------------------|-----------------------|
| ROUTE 8 | STATE MO |
| DISTRICT CD | SHEET NO. 2 |

COUNTY
WASHINGTON

JOB NO.
J5P3522

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

VEENSTRA & KIMM INC

9788 N Ash Avenue
Kansas City, Missouri 64159
816-781-6182
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Certificate of Authority No. 2002006347

| REMOVAL OF IMPROVEMENTS | | | | |
|-------------------------|----------|-------|---------------|--|
| STATION | LOCATION | SIDE | QUANTITY (LS) | REMARKS |
| 214+03 TO 215+57 | RTE 8 | LT/RT | - | REMOVE EXISTING GUARDRAIL (BOTH SIDES) |
| 217+08 TO 219+22 | RTE 8 | LT/RT | - | REMOVE EXISTING GUARDRAIL (BOTH SIDES) |
| 215+32 | RTE 8 | LT/RT | - | REMOVE BRIDGE APPROACH SLAB |
| 217+33 | RTE 8 | LT/RT | - | REMOVE BRIDGE APPROACH SLAB |
| 212+91 TO 214+92 | RTE 8 | LT | - | EXISTING SHOULDER REMOVAL - 8' WIDE |
| 212+91 TO 215+36 | RTE 8 | RT | - | EXISTING SHOULDER REMOVAL - 8' WIDE |
| 217+73 TO 219+73 | RTE 8 | LT | - | EXISTING SHOULDER REMOVAL - 8' WIDE |
| 217+39 TO 219+73 | RTE 8 | RT | - | EXISTING SHOULDER REMOVAL - 8' WIDE |
| TOTAL | | | 1 | |

| 2" BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BP-1) | | | | | |
|--|----------|-----------|------------|-----------------|------------------------|
| STATION | LOCATION | AREA (SF) | PMBP (TON) | TACK COAT (GAL) | REMARKS |
| 214+41 TO 214+91 | RTE 8 | 2000 | 24.0 | 22.2 | FINAL ROAD & SHOULDERS |
| 217+73 TO 218+23 | RTE 8 | 2000 | 24.0 | 22.2 | FINAL ROAD & SHOULDERS |
| 212+91 TO 215+36 | RTE 8 | 1938 | 23.3 | 21.5 | PHASE 1 SHOULDER |
| 217+52 TO 219+73 | RTE 8 | 1743 | 21.0 | 19.4 | PHASE 1 SHOULDER |
| 212+91 TO 215+13 | RTE 8 | 1736 | 20.9 | 19.3 | PHASE 2 SHOULDER |
| 217+29 TO 219+73 | RTE 8 | 1933 | 23.2 | 21.5 | PHASE 2 SHOULDER |
| TACK = 0.10 GAL/SY | | TOTAL | | 136.4 | 126.1 |
| BP-1 = 1.948 TONS/CY | | USE | | 136.4 | 127 |

| CONCRETE APPROACH PAVEMENT | | | | |
|----------------------------|----------|---------|---------------|---------|
| STATION | LOCATION | SIDE | QUANTITY (SY) | REMARKS |
| 214+91 TO 215+22 | RTE 8 | LT & RT | 132.6 | |
| 217+43 TO 217+73 | RTE 8 | LT & RT | 132.6 | |
| | | | | |
| TOTAL | | | 265.2 | |
| USE | | | 265.2 | |

| PAVEMENT MARKING REMOVAL | | | | |
|--------------------------|----------|------|---------------|--|
| STATION | LOCATION | SIDE | QUANTITY (LF) | REMARKS |
| 210+56 TO 214+41 | RTE 8 | ℄ | 770 | 385' - PHASE 3 - EXIST DOUBLE CENTERLINE |
| 218+23 TO 222+08 | RTE 8 | ℄ | 770 | 385' - PHASE 3 - EXIST DOUBLE CENTERLINE |
| 213+01 TO 219+63 | RTE 8 | RT | 662 | PHASE 3 - EXIST EDGELINE |
| 212+81 TO 214+41 | RTE 8 | LT | 160 | PHASE 3 - EXIST EDGELINE |
| 218+23 TO 219+83 | RTE 8 | LT | 160 | PHASE 3 - EXIST EDGELINE |
| | | | | |
| TOTAL | | | 2522 | |

| MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB) | | | | |
|--|----------|------|-----------------|----------------|
| STATION | LOCATION | SIDE | QUANTITY (EACH) | REMARKS |
| 215+22 | RTE 8 | LT | 1 | LENGTH = 37.5' |
| 215+56 | RTE 8 | RT | 1 | LENGTH = 37.5' |
| 217+08 | RTE 8 | LT | 1 | LENGTH = 37.5' |
| 217+39 | RTE 8 | RT | 1 | LENGTH = 37.5' |
| TOTAL | | | 4 | |

| MGS GUARDRAIL | | | | |
|---------------|----------|------|---------------|-------------|
| STATION | LOCATION | SIDE | QUANTITY (LF) | REMARKS |
| 214+84 | RTE 8 | LT | 25.0 | 2 SECTIONS |
| 215+18 | RTE 8 | RT | 25.0 | 2 SECTIONS |
| 217+45 | RTE 8 | LT | 125.0 | 10 SECTIONS |
| 217+76 | RTE 8 | RT | 75.0 | 6 SECTIONS |
| TOTAL | | | 250.0 | |
| USE | | | 250 | |

| TYPE A CRASHWORTHY END TERMINAL (MASH) | | | | |
|--|----------|------|-----------------|------------------|
| STATION | LOCATION | SIDE | QUANTITY (EACH) | REMARKS |
| 214+63 | RTE 8 | LT | 1 | LENGTH EQUAL 50' |
| 214+94 | RTE 8 | RT | 1 | LENGTH EQUAL 50' |
| 218+70 | RTE 8 | LT | 1 | LENGTH EQUAL 50' |
| 218+72 | RTE 8 | RT | 1 | LENGTH EQUAL 50' |
| TOTAL | | | 4 | |

| SHAPING SLOPES-CLASS III | | | | |
|--------------------------|----------|------|-----------------|---------|
| STATION | LOCATION | SIDE | QUANTITY (100F) | REMARKS |
| 214+12 TO 215+25 | RTE 8 | LT | 1.1 | |
| 214+43 TO 215+56 | RTE 8 | RT | 1.1 | |
| 217+08 TO 219+22 | RTE 8 | LT | 2.1 | |
| 217+39 TO 218+23 | RTE 8 | RT | 1.6 | |
| TOTAL | | | 5.9 | |
| USE | | | 6 | |

| SILT FENCE | | | | |
|------------|----------|-------|-----------------|---------|
| STATION | LOCATION | SIDE | SILT FENCE (LF) | REMARKS |
| 216+14 | RTE 8 | LT/RT | 154 | |
| 216+57 | RTE 8 | LT/RT | 167 | |
| | | | | |
| TOTAL | | | 321 | |

| ROCK BLANKET | | | | |
|--------------|----------|-------|----------------------|---------|
| STATION | LOCATION | SIDE | FURNISH & PLACE (CY) | REMARKS |
| 216+14 | RTE 8 | LT/RT | 195 | SEE JSP |
| 216+57 | RTE 8 | LT/RT | 246 | SEE JSP |
| | | | | |
| TOTAL | | | 441 | |

| PERMANENT EROSION CONTROL GEOTEXTILE | | | | |
|--------------------------------------|----------|-------|-----------|-----------------------|
| STATION | LOCATION | SIDE | AREA (SY) | REMARKS |
| 216+14 | RTE 8 | LT/RT | 340 | WRAP FOR ROCK BLANKET |
| 216+57 | RTE 8 | LT/RT | 396 | WRAP FOR ROCK BLANKET |
| | | | | |
| TOTAL | | | 736 | |
| USE | | | 736 | |

| PERMANENT PAVEMENT MARKING | | | | | |
|----------------------------|----------|-------|--|---|-------------------------------|
| STATION | LOCATION | SIDE | 4" YELLOW WATERBORNE PAINT (TYPE P BEADS) (LF) | 4" WHITE WATERBORNE PAINT (TYPE P BEADS) (LF) | REMARKS |
| 210+56 TO 222+08 | RTE 8 | CL RD | 2304 | | 1152' DOUBLE SOLID CENTERLINE |
| 212+81 TO 219+83 | RTE 8 | LT | | 702 | SOLID EDGE LINE (NORTH) |
| 213+01 TO 219+63 | RTE 8 | RT | | 662 | SOLID EDGE LINE (SOUTH) |
| | | | | | |
| | | | | | |
| | | | | | |
| TOTAL | | | 2304 | 1364 | |

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

| TEMPORARY PAVEMENT MARKING | | | | | |
|---|----------|-------|-------------------------------|---------------------|-------------------------|
| STATION | LOCATION | SIDE | 24" WHITE REMOVABLE TAPE (LF) | 4" WHITE PAINT (LF) | REMARKS |
| 212+81 TO 219+83 | RTE 8 | LT/RT | | 740 | PHASE 3 SOLID EDGE LINE |
| 213+01 TO 219+63 | RTE 8 | RT | | 662 | PHASE 3 SOLID EDGE LINE |
| 210+56 | RTE 8 | RT | 12 | | PHASE 3 STOP BAR |
| 222+08 | RTE 8 | LT | 12 | | PHASE 3 STOP BAR |
| 213+01 TO 219+63 | RTE 8 | LT | | 662 | PHASE 4 SOLID EDGE LINE |
| 213+01 TO 219+63 | RTE 8 | LT/RT | | 740 | PHASE 4 SOLID EDGE LINE |
| | | | | | |
| TOTAL | | | 24 | 2804 | |
| | | | | 2804 | |
| NOTE: NO DIRECT PAY FOR REMOVAL OF TEMPORARY PAVEMENT MARKING TAPE AND PAINT. | | | | | |

SUMMARY OF QUANTITIES
SHEET 1 OF 3



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
06/03/2024

ROUTE 8 STATE MO
DISTRICT CD SHEET NO. 3

COUNTY
WASHINGTON
JOB NO.
J5P3522
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)
MoDOT

VEENSTRA & KIMM INC
Kansas City, Missouri 64159
9788 N Ash Avenue
816-781-0643 (FAX)
Certificate of Authority No. 2002006347

COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. OR LESS)

| STATION | LOCATION | SIDE | QUANTITY (SY) | REMARKS |
|------------------|----------|---------|---------------|------------------------------|
| 214+41 TO 214+91 | RTE 8 | LT & RT | 223 | 50' ROAD & SHOULDER PAVEMENT |
| 217+73 TO 218+23 | RTE 8 | LT & RT | 223 | 50' ROAD & SHOULDER PAVEMENT |
| | | | | |
| TOTAL | | | 446 | |
| USE | | | 446 | |

EARTHWORK

| STATION | LOCATION | SIDE | CLASS A EXCAVATION (CY) | REMARKS |
|---------|----------|---------|-------------------------|----------------------|
| 215+78 | RTE 8 | RT & LT | 195 | CUT FOR ROCK BLANKET |
| 216+57 | RTE 8 | RT & LT | 246 | CUT FOR ROCK BLANKET |
| | | | | |
| TOTAL | | | 441 | |

4" BITUMINOUS PAVEMENT MIXTURE PG 64-22 (BASE)

| STATION | LOCATION | SIDE | AREA (SF) | PMBB (TON) | REMARKS |
|------------------|----------|------|-----------|------------|-------------------------------|
| 212+91 TO 215+36 | RTE 8 | RT | 1938.0 | 46.5 | PHASE 1 SHOULDER CONSTRUCTION |
| 217+52 TO 219+73 | RTE 8 | RT | 1743.0 | 41.9 | PHASE 1 SHOULDER CONSTRUCTION |
| 212+91 TO 215+13 | RTE 8 | LT | 1736.0 | 41.7 | PHASE 2 SHOULDER CONSTRUCTION |
| 217+29 TO 219+73 | RTE 8 | LT | 1933.0 | 46.3 | PHASE 2 SHOULDER CONSTRUCTION |
| | | | | | |
| | | | | | |
| TOTAL | | | | 176.4 | |
| USE | | | | 176.4 | |

BASE = 1.943 TONS/CY

TYPE 1 AGGREGATE FOR BASE (4 IN. THICK)

| STATION | LOCATION | SIDE | QUANTITY (SY) | REMARKS |
|------------------|----------|------|---------------|---------------|
| 212+91 TO 215+36 | RTE 8 | RT | 215 | SHOULDER BASE |
| 217+52 TO 219+73 | RTE 8 | RT | 194 | SHOULDER BASE |
| 212+91 TO 215+13 | RTE 8 | LT | 193 | SHOULDER BASE |
| 217+29 TO 219+73 | RTE 8 | LT | 215 | SHOULDER BASE |
| | | | | |
| TOTAL | | | 817 | |

SUBGRADE COMPACTION (6-INCH DEPTH)

| STATION | LOCATION | SIDE | QUANTITY (100 FT) | REMARKS |
|------------------|----------|------|-------------------|-----------------------|
| 212+91 TO 215+36 | RTE 8 | RT | 2.5 | SHOULDER CONSTRUCTION |
| 217+52 TO 219+73 | RTE 8 | RT | 2.2 | SHOULDER CONSTRUCTION |
| 212+91 TO 215+13 | RTE 8 | LT | 2.2 | SHOULDER CONSTRUCTION |
| 217+29 TO 219+73 | RTE 8 | LT | 2.4 | SHOULDER CONSTRUCTION |
| TOTAL | | | 9.3 | |
| TOTAL | | | 10 | |

SUBGRADE SCARIFYING

| STATION | LOCATION | SIDE | QUANTITY (100 FT) | REMARKS |
|------------------|----------|------|-------------------|-----------------------|
| 212+91 TO 215+36 | RTE 8 | RT | 2.5 | SHOULDER CONSTRUCTION |
| 217+52 TO 219+73 | RTE 8 | RT | 2.2 | SHOULDER CONSTRUCTION |
| 212+91 TO 215+13 | RTE 8 | LT | 2.2 | SHOULDER CONSTRUCTION |
| 217+29 TO 219+73 | RTE 8 | LT | 2.4 | SHOULDER CONSTRUCTION |
| TOTAL | | | 9.3 | |
| TOTAL | | | 10 | |

RUMBLE STRIPS

| STATION | LOCATION | SIDE | LENGTH (FT) | BITUMINOUS SHOULDER RUMBLE STRIP (STA) | BITUMINOUS CENTERLINE RUMBLE STRIP (STA) | REMARKS |
|------------------|----------|------|-------------|--|--|---------|
| 210+56 TO 215+13 | RTE 8 | LT | 457 | 4.6 | | |
| 217+34 TO 222+08 | RTE 8 | LT | 474 | 4.7 | | |
| 210+56 TO 215+30 | RTE 8 | RT | 474 | 4.7 | | |
| 217+52 TO 222+08 | RTE 8 | RT | 456 | 4.6 | | |
| 210+56 TO 215+22 | RTE 8 | CL | 466 | | 4.7 | |
| 217+43 TO 222+08 | RTE 8 | CL | 465 | | 4.7 | |
| TOTAL | | | | 18.6 | 9.4 | |
| USE | | | | 18.6 | 9.4 | |



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DATE PREPARED
06/03/2024

ROUTE
8

STATE
MO

DISTRICT
CD

SHEET NO.
3

COUNTY
WASHINGTON

JOB NO.
J5P3522


CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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



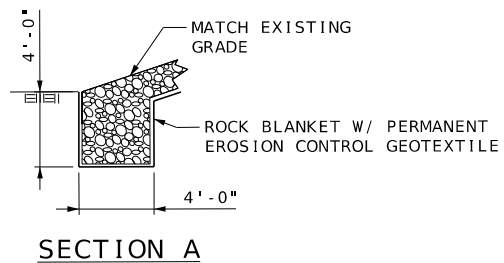
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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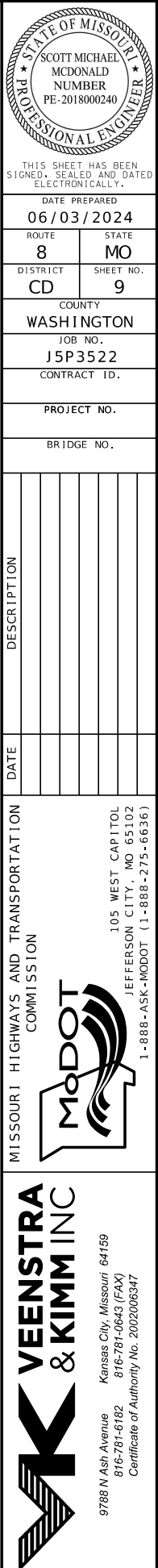
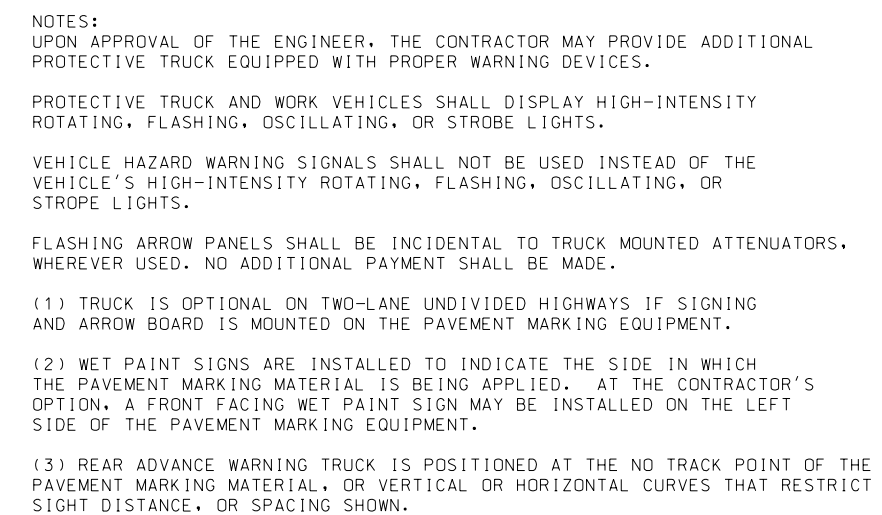
| EFFECTIVE: 04-01-2024 | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--------|-------|--------|-------|--------|-------|-----------------------------|--|---------------------|-------|-------|-------|-------|---|-------|--|-------------------------|----------|---|----------------------------------|-----------------------------|
| SIGN | SIZE | AREA | QTY | TOTAL | QTY | TOTAL | SIGN | | | | | | | | | | | | | | |
| IN. | SQ.FT. | EACH | SQ.FT. | EACH | SQ.FT. | NUM. | | | | | | | | | | | | | | | |
| WARNING SIGNS | | | | | | | DESCRIPTION | | | | | | | | | | | | | | |
| WO1-1L | 48X48 | 16.00 | | | | | TURN (SYMBOL LEFT) | E05-1 | 36X48 | 12.00 | | | | | | GORE EXIT | 6122008 | | IMPACT ATTENUATOR 40 MPH (SAND BARRELS) | | |
| WO1-1R | 48X48 | 16.00 | | | | | TURN (SYMBOL RIGHT) | E05-2 | 48X36 | 12.00 | | | | | | EXIT OPEN | 6122009 | | IMPACT ATTENUATOR 45 MPH (SAND BARRELS) | | |
| WO1-2L | 48X48 | 16.00 | | | | | CURVE (SYMBOL LEFT) | E05-2a | 48X36 | 12.00 | | | | | | EXIT CLOSED | 6122010 | | IMPACT ATTENUATOR 50 MPH (SAND BARRELS) | | |
| WO1-2R | 48X48 | 16.00 | | | | | CURVE (SYMBOL RIGHT) | GO20-1 | 60X24 | 10.00 | | | | | | ROAD WORK NEXT XX MILES | 6122012 | 2 | IMPACT ATTENUATOR 55 MPH (SAND BARRELS) | | |
| WO1-3L | 48X48 | 16.00 | | | | | REVERSE TURN (SYMBOL LEFT) | GO20-2 | 48X24 | 8.00 | 2 | 16.00 | | | 26 | END ROAD WORK | 6122014 | | IMPACT ATTENUATOR 60 MPH (SAND BARRELS) | | |
| WO1-3R | 48X48 | 16.00 | | | | | REVERSE TURN (SYMBOL RIGHT) | GO20-4 | 36X18 | 4.50 | | | | | | PILOT CAR FOLLOW ME | 6122017 | | IMPACT ATTENUATOR 65 MPH (SAND BARRELS) | | |
| WO1-4L | 48X48 | 16.00 | | | | | REVERSE CURVE (SYMBOL LEFT) | GO20-4a | 42X30 | 8.75 | | | | | | PILOT CAR IN USE WAIT & FOLLOW | 6122019 | | IMPACT ATTENUATOR 70 MPH (SAND BARRELS) | | |
| WO1-4R | 48X48 | 16.00 | 1 | 16.00 | 1 | 16.00 | 15 | REVERSE CURVE (SYMBOL RIGHT) | GO20-4a | 18X12 | 1.50 | | | | | PILOT CAR IN USE WAIT & FOLLOW | 6122020 | 4 | REPLACEMENT SAND BARREL | | |
| WO1-4bL | 48X48 | 16.00 | | | | | | DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT) | GO20-5aP | 36X24 | 6.00 | 2 | 12.00 | | 54 | WORK ZONE (PLAQUE) | 6122030 | 2 | IMPACT ATTENUATOR (RELOCATION) | | |
| WO1-4bR | 48X48 | 16.00 | | | | | | DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT) | MO4-8a | 24X18 | 3.00 | | | | | END DETOUR | 6123001 | | TRUCK MOUNTED ATTENUATOR (TMA) | | |
| WO1-4cL | 48X48 | 16.00 | | | | | | TRIPLE ARROW REVERSE CURVE (SYMBOL LEFT) | MO4-9L | 48X36 | 12.00 | | | | | DETOUR (LEFT) | 6161008 | 2 | ADVANCED WARNING RAIL SYSTEM | | |
| WO1-4cR | 48X48 | 16.00 | | | | | | TRIPLE ARROW REVERSE CURVE (SYMBOL RIGHT) | MO4-9R | 48X36 | 12.00 | | | | | DETOUR (RIGHT) | 6161012 | | BUOYS (BOATS KEEP OUT) | | |
| WO1-6 | 60X30 | 12.50 | | | | | | HORIZONTAL ARROW (SYMBOL) | MO4-9P | 48X12 | 4.00 | | | | | STREET NAME (PLAQUE) | 6161013 | | BUOYS (NO WAKE) | | |
| WO1-6a | 72X36 | 18.00 | | | | | | HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE) | MO4-10L | 48X18 | 6.00 | | | | | DETOUR ARROW (LEFT) | 6161014 | | SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT) | | |
| WO1-7 | 60X30 | 12.50 | | | | | | DOUBLE HEAD HORIZONTAL ARROW (SYMBOL) | MO4-10R | 48X18 | 6.00 | | | | | DETOUR ARROW (RIGHT) | 6161025 | 39 | CHANNELIZER (TRIM LINE) | | |
| WO1-7a | 72X36 | 18.00 | | | | | | DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.) | REGULATORY SIGNS | | | | | | | | | | 6161030 | | TYPE III MOVEABLE BARRICADE |
| WO1-8 | 18X24 | 3.00 | | | | | | CHEVRON (SYMBOL) | R1-1 | 48X48 | 13.25 | | | | | STOP | 6161033 | | DIRECTION INDICATOR BARRICADE | | |
| WO1-8a | 30X36 | 7.50 | | | | | | CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS) | R1-2 | 48TRI | 6.93 | | | | | YIELD | 6161040 | | FLASHING ARROW PANEL | | |
| WO3-1 | 48X48 | 16.00 | | | | | | STOP AHEAD (SYMBOL) | R1-2a | 36X36 | 9.00 | | | | | TO ONCOMING TRAFFIC (PLAQUE) | 6161047 | | TYPE III OBJECT MARKER | | |
| WO3-2 | 48X48 | 16.00 | | | | | | YIELD AHEAD (SYMBOL) | R1-3P | 30X12 | 2.50 | | | | | ALL WAY (PLAQUE) | 6161055 | | SEQUENTIAL FLASHING WARNING LIGHT | | |
| WO3-3 | 48X48 | 16.00 | 2 | 32.00 | | | 12 | SIGNAL AHEAD (SYMBOL) | R2-1 | 36X48 | 12.00 | 2 | 24.00 | | 4 | SPEED LIMIT 45 | 6161070 | | TUBULAR MARKER | | |
| WO3-4 | 48X48 | 16.00 | | | | | | BE PREPARED TO STOP | R2-1 | 48X48 | 16.00 | 2 | 32.00 | | 25 | SPEED LIMIT 55 (NORMAL SPEED) | 6161095 | | RADAR SPEED ADVISORY SYSTEM | | |
| WO3-5 | 48X48 | 16.00 | 2 | 32.00 | | | 3 | SPEED LIMIT AHEAD | R3-2 | 48X48 | 16.00 | | | | | NO LEFT TURN (SYMBOL) | 6161096 | | CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED | | |
| WO4-1L | 48X48 | 16.00 | | | | | | MERGE (SYMBOL FROM LEFT) | R3-3 | 36X36 | 9.00 | | | | | NO TURNS | | | CHANGEABLE MESSAGE SIGN W/O COMM. | | |
| WO4-1R | 48X48 | 16.00 | | | | | | MERGE (SYMBOL FROM RIGHT) | R3-4 | 48X48 | 16.00 | | | | | NO U-TURN (SYMBOL) | 6161098A | 2 | INTERFACE - CONTRACTOR FURNISHED/RETAINED | | |
| WO4-1aL | 48X48 | 16.00 | | | | | | MERGE (LEFT) | R3-7L | 30X30 | 6.25 | | | | | LEFT LANE MUST TURN LEFT | | | CHANGEABLE MESSAGE SIGN WITH COMM. | | |
| WO4-1aR | 48X48 | 16.00 | | | | | | MERGE (RIGHT) | R3-7R | 30X30 | 6.25 | | | | | RIGHT LANE MUST TURN RIGHT | 6161099 | | INTERFACE - CONTRACTOR FURNISHED/RETAINED | | |
| WO5-1 | 48X48 | 16.00 | | | | | | ROAD NARROWS | R4-1 | 36X48 | 12.00 | | | | | DO NOT PASS | | | WORK ZONE TRAFFIC SIGNAL SYSTEM | | |
| WO5-3 | 48X48 | 16.00 | | | | | | ONE LANE BRIDGE | R4-2 | 36X48 | 12.00 | | | | | PASS WITH CARE | 6162000A | 1 | TEMPORARY LONG-TERM RUMBLE STRIPS | | |
| WO5-5 | 48X48 | 16.00 | | | | | | NARROW LANES | R4-7a | 36X48 | 12.00 | | | | | KEEP RIGHT (HORIZONTAL ARROW) | 6162002 | 2 | TEMPORARY TRAFFIC BARRIER | | |
| WO6-1 | 48X48 | 16.00 | | | | | | DIVIDED HIGHWAY (SYMBOL) | R4-8a | 36X48 | 12.00 | | | | | KEEP LEFT (HORIZONTAL ARROW) | 6173600D | 450 | CONTRACTOR FURNISHED/RETAINED | | |
| WO6-2 | 48X48 | 16.00 | | | | | | DIVIDED HIGHWAY END (SYMBOL) | R5-1 | 30X30 | 6.25 | | | | | DO NOT ENTER | | | TEMPORARY TRAFFIC BARRIER | | |
| WO6-3 | 48X48 | 16.00 | | | | | | TWO WAY TRAFFIC (SYMBOL) | R5-1a | 36X24 | 6.00 | | | | | WRONG WAY | 6173602B | | CONTRACTOR FURNISHED/COMMISSION RETAINED | | |
| WO7-3a | 30X24 | 5.00 | | | | | | NEXT XX MILES (PLAQUE) | R6-1L | 54X18 | 6.75 | | | | | ONE WAY ARROW (LEFT) | | | CONTRACTOR FURNISHED/COMMISSION RETAINED | | |
| WO8-1 | 48X48 | 16.00 | | | | | | BUMP | R6-1R | 54X18 | 6.75 | | | | | ONE WAY ARROW (RIGHT) | 6174000A | | TEMP. TRAFFIC BARRIER HEIGHT TRANSITION | | |
| WO8-2 | 48X48 | 16.00 | | | | | | DIP | R6-2L | 24X30 | 5.00 | | | | | ONE WAY (LEFT) | 6175010A | 450 | RELOCATING TEMPORARY TRAFFIC BARRIER | | |
| WO8-3 | 48X48 | 16.00 | | | | | | PAVEMENT ENDS | R6-2R | 24X30 | 5.00 | | | | | ONE WAY (RIGHT) | | | TEMPORARY TRAFFIC BARRIER | | |
| WO8-4 | 48X48 | 16.00 | | | | | | SOFT SHOULDER | R9-9 | 24X12 | 2.00 | | | | | SIDEWALK CLOSED | 6176000B | | COMMISSION FURNISHED/RETAINED | | |
| WO8-5 | 48X48 | 16.00 | | | | | | SLIPPERY WHEN WET (SYMBOL) | R9-11L | 24X18 | 3.00 | | | | | SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE | | | TEMP. TRAFFIC BARRIER HEIGHT TRANSITION | | |
| WO8-6 | 48X48 | 16.00 | | | | | | TRUCK CROSSING | R9-11R | 24X18 | 3.00 | | | | | SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE | 6177000B | | COMMISSION FURNISHED/RETAINED | | |
| WO8-6c | 48X48 | 16.00 | | | | | | TRUCK ENTRANCE | R10-6 | 24X36 | 6.00 | 2 | 12.00 | | 47 | STOP HERE ON RED (45° ARROW) | | 6208064A | | TEMPORARY RAISED PAVEMENT MARKER | |
| WO8-7 | 36X36 | 9.00 | | | | | | LOOSE GRAVEL | R11-2 | 48X30 | 10.00 | | | | | ROAD CLOSED | 9029400 | | TEMPORARY TRAFFIC SIGNALS | | |
| WO8-7a | 36X36 | 9.00 | | | | | | FRESH OIL / LOOSE GRAVEL | R11-2 | 48X30 | 10.00 | | | | | ROAD CLOSED | 9029401 | | TEMPORARY TRAFFIC SIGNALS AND LIGHTING | | |
| WO8-9 | 48X48 | 16.00 | | | | | | LOW SHOULDER | | | | | | | | ROAD CLOSED XX MILES AHEAD | | | | | |
| WO8-11 | 48X48 | 16.00 | | | | | | UNEVEN LANES | | | | | | | | LOCAL TRAFFIC ONLY | | | | | |
| WO8-12 | 48X48 | 16.00 | | | | | | NO CENTER LINE | | | | | | | | ROAD CLOSED TO THRU TRAFFIC | | | | | |
| WO8-15 | 48X48 | 16.00 | | | | | | GROOVED PAVEMENT | | | | | | | | FINE SIGN | | | | | |
| WO8-15P | 30X24 | 5.00 | | | | | | MOTORCYCLE (PLAQUE) | | | | | | | | SPEEDING/PASSING (PLATE) | | | | | |
| WO8-17L | 48X48 | 16.00 | | | | | | SHOULDER DROP-OFF (SYMBOL LEFT) | MISCELLANEOUS SIGNS | | | | | | | | | | | | |
| WO8-17R | 48X48 | 16.00 | | | | | | SHOULDER DROP-OFF (SYMBOL RIGHT) | CONST-5 | 60X8 | 3.33 | 2 | 6.70 | | | POINT OF PRESENCE | | | | | |
| WO8-17P | 30X24 | 5.00 | | | | | | SHOULDER DROP-OFF (PLAQUE) | CONST-5 | 96X48 | 32.00 | 2 | 64.00 | | | POINT OF PRESENCE | | | | | |
| W10-1 | 42RND. | 9.62 | | | | | | RAILROAD CROSSING | CONST-7 | 48X24 | 8.00 | | | | | RATE OUR WORK ZONE | | | | | |
| WO12-1 | 24X24 | 4.00 | | | | | | DOUBLE DOWN ARROW (SYMBOL) | CONST-7 | 72X36 | 18.00 | | | | | RATE OUR WORK ZONE | | | | | |
| WO12-2 | 48X48 | 16.00 | | | | | | LOW CLEARANCE (SYMBOL) | CONST-8 | 48X36 | 12.00 | 2 | 24.00 | 2 | 24.00 | 70 | WORK ZONE NO PHONE ZONE | | | | |
| WO12-2x | 24X18 | 3.00 | | | | | | LOW CLEARANCE (PLAQUE) | SPECIAL | 48X48 | 16.00 | 2 | 32.00 | | 71 | RUMBLE STRIPS AHEAD | | | | | |
| WO12-2a | 84X24 | 14.00 | | | | | | OVERHEAD LOW CLEARANCE (FEET AND INCHES) | | | | | | | | | | | | | |
| WO12-4 | 120X60 | 50.00 | | | | | | LOW CLEARANCE XX FT XX IN XX MILES AHEAD | | | | | | | | | | | | | |
| WO1 | | | | | | | | | | | | | | | | | | | | | |

11



9788 N Ash Avenue Kansas City, Missouri 64159
816-781-6182 816-781-0643 (FAX)
Certificate of Authority No. 2002006347





TRAFFIC CONTROL LEGEND

- PROPOSED SIGN (SINGLE SIDED)
- EXISTING SIGN (SINGLE SIDED)
- CHANNELIZER
- E TYPE III MOVEABLE BARRICADE
- ◼ SEQUENTIAL FLASHING WARNING LIGHT
- ▬ TEMPORARY CONCRETE TRAFFIC BARRIER (TYPE F)
- IMPACT ATTENUATOR 55 MPH (SAND BARRELS)
- PORTABLE TRAFFIC SIGNAL AND LUMINARE
- 🚚 VEHICLE WITH TRAILER MOUNTED ATTENUATOR
- 📺 CHANGEABLE MESSAGE BOARD
- 🚧 FLAGGER
- ▲▲▲ 3 - 2 - 1 CONE PROCEDURE

| LANE CLOSURE ON TWO-LANE HIGHWAYS USING TRAFFIC CONTROL SIGNALS | | | | | | | |
|--|--------------------|-------------|--------------------|---------------|-------------------------|---------------------------|--------------------|
| SPEED | SIGN SPACING (FT.) | | TAPER LENGTH (FT.) | | RECOMMENDED | CHANNELIZER SPACING (FT.) | |
| PERMANENT POSTED (MPH) | UNDIVIDED (S) | DIVIDED (S) | SHOULDER (1) (T1) | LANE (2) (T2) | BUFFER LENGTH (FT.) (B) | TAPERS | BUFFER/ WORK AREAS |
| 0-35 | 200 | - | 35 | 100 | 280 | 25 | 40 |
| 40-45 | 350 | - | 35 | 100 | 400 | 25 | 80 |
| 50-55 | 500 | - | 35 | 100 | 560 | 25 | 80 |
| 60-70 | 1000 | - | 35 | 100 | 840 | 25 | 120 |
| 1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET. | | | | | | | |

NOTES:

ANY EXISTING WARNING OR REGULATORY SIGNS (NOT SHOWN) THAT INTEREFERE WITH THE TRAFFIC CONTROL SIGNING SHALL BE REMOVED OR COMPLETELY COVERED.

ALL TRAFFIC CONTROL SIGNS ARE TO BE NON-PORTABLE UNLESS NOTED OTHERWISE.

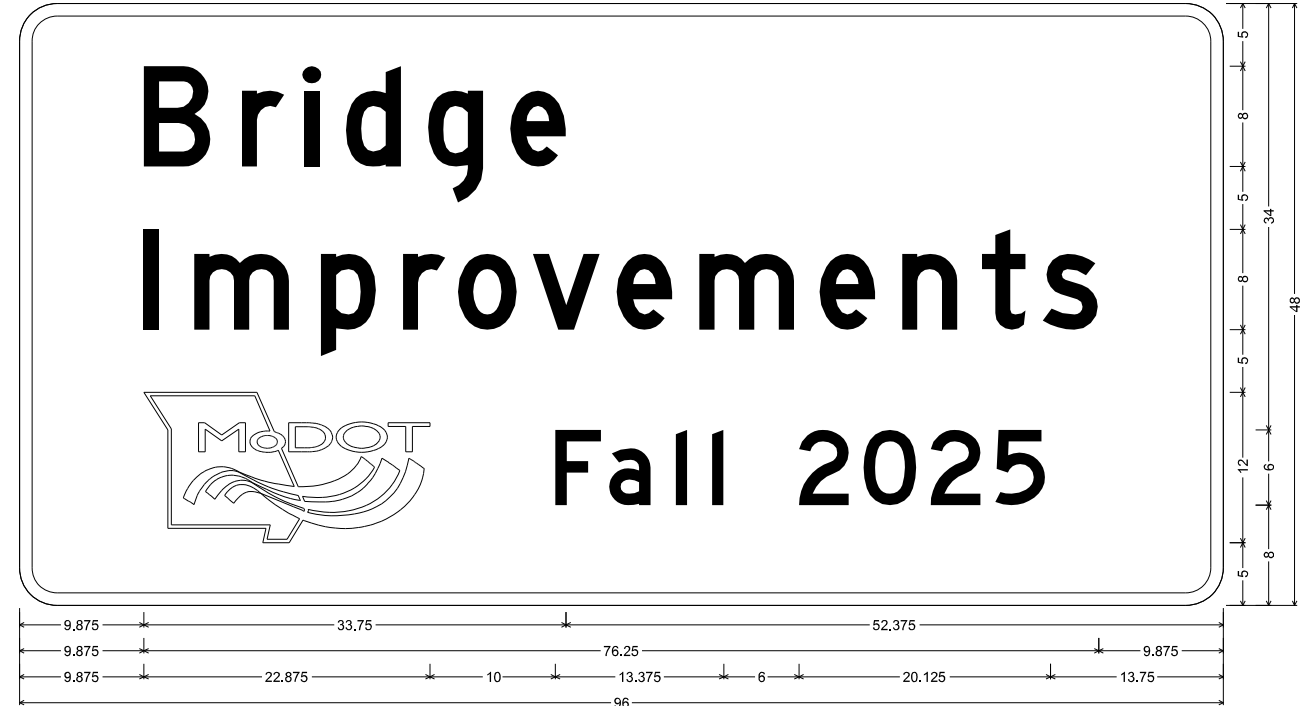
MODIFICATIONS TO EXISTING SIGN LEGENDS MAY INCLUDE REMOVAL, COVERING AND UNCOVERING OF LEGENDS. NO DIRECT PAY WILL BE MADE FOR THE LABOR OR MATERIALS REQUIRED TO MAKE THESE MODIFICATIONS.

ALL SPACING AND DISTANCES SHOWN ARE APPROXIMATE. DISTANCES MAY BE ADJUSTED BY THE ENGINEER TO ACCOMODATE SPECIFIC FIELD CONDITIONS.

SEE STANDARD PLAN DRAWINGS 616.10, 903.02, AND 903.03 FOR ADDITIONAL DETAILS REGARDING TRAFFIC CONTROL AND HIGHWAY SIGNING.

"POINT OF PRESENCE" SIGN 68 TO BE FURNISHED BY THE CONTRACTOR.

ALL RELOCATED TRAFFIC SIGNS ARE TO BE NON-PORTABLE UNLESS NOTED OTHERWISE. EXISTING POST(S) & MOUNTINGS MAY BE USED FOR TEMPORARY SIGN RELOCATIONS.

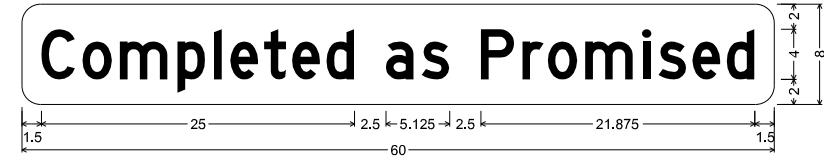


CONST-5-96 SH-FLAT SHEET;
3,000" Radius, 1,000" Border, White on, Blue;
"Bridge", D: "Improvements", D: "Fall 2024", D:
Table of letter and object lefts

| | | | | | |
|-------|--------|--------|--------|--------|--------|
| B | r | i | d | g | e |
| 9.875 | 17.750 | 22.750 | 26.000 | 32.625 | 39.125 |

| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| i | m | p | r | o | v | e | m | e | n | t | s |
| 9.875 | 14.000 | 24.000 | 30.625 | 35.000 | 41.000 | 47.625 | 54.250 | 63.750 | 70.375 | 76.750 | 81.625 |

| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--|--|--|
| F | a | l | l | 2 | 0 | 2 | 4 | | | | |
| 9.875 | 42.750 | 47.000 | 52.375 | 55.250 | 62.125 | 67.375 | 72.625 | 77.875 | | | |

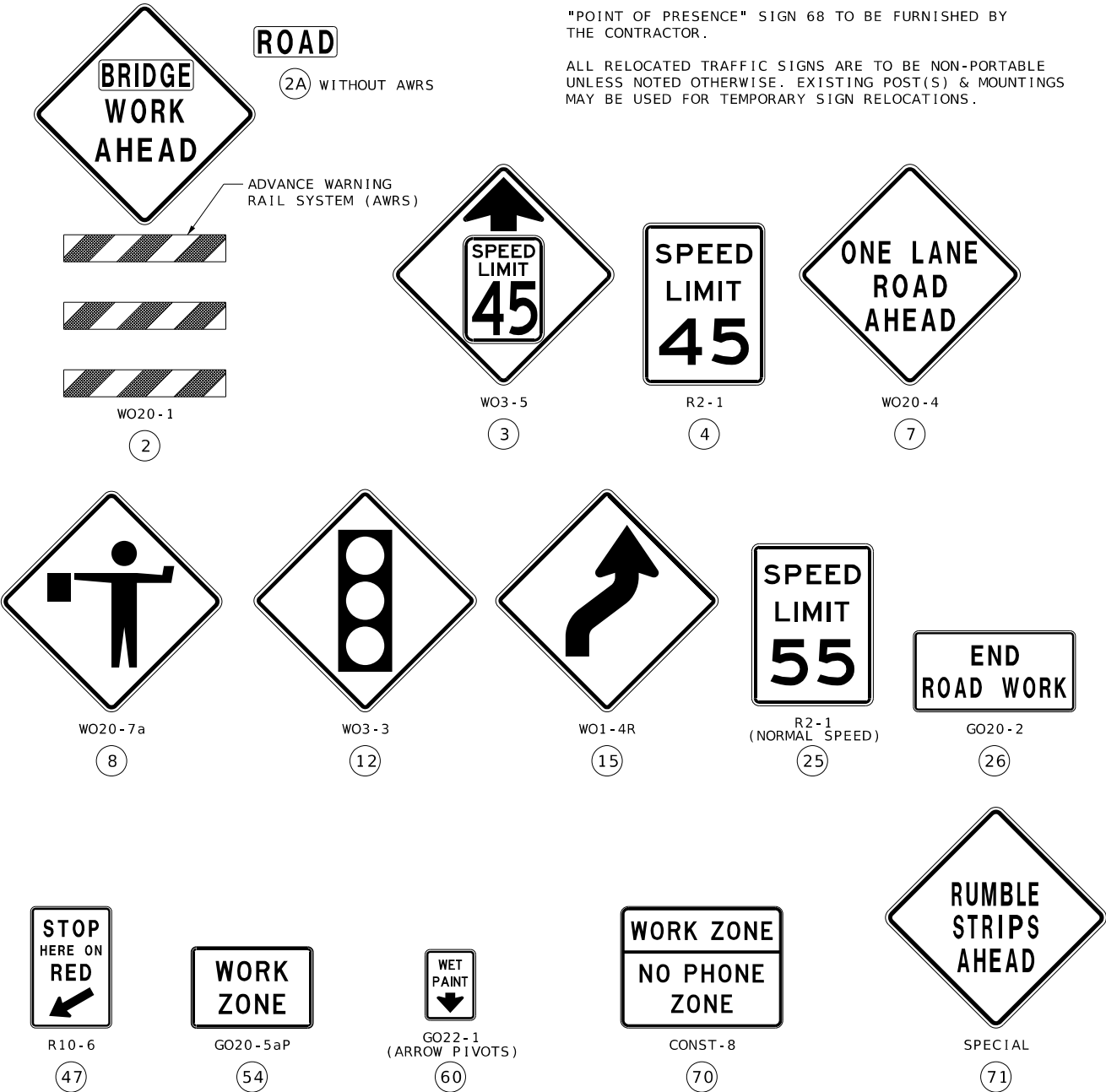


CONST-5P-60 SHF-FLAT SHEET FLUORESCENT:
1,500" Radius, No border, Yellow:
"Completed as Promised" Black, D 65% spacing:
Table of letter and object lefts

| | | | | | | | | | | |
|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| C | o | m | p | i | e | t | e | d | a | s |
| 1.500 | 4.875 | 7.875 | 12.375 | 15.375 | 16.625 | 19.375 | 21.500 | 24.250 | 29.000 | 31.875 |

| | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|
| P | r | o | m | i | s | e | d |
| 36.625 | 39.875 | 41.875 | 44.875 | 49.500 | 50.750 | 53.500 | 56.250 |

68 (2 SIGNS)



STATE OF MISSOURI
SCOTT MICHAEL
MCDONALD
NUMBER
PE-2018000240
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/03/2024

ROUTE
8
DISTRICT
CD

STATE
MO
SHEET NO.
10

COUNTY
WASHINGTON

JOB NO.
J5P3522

CONTRACT ID.

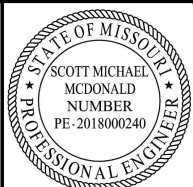
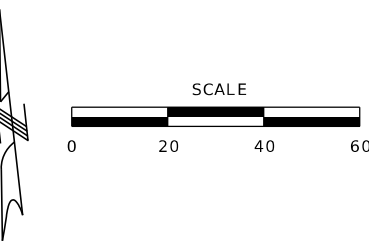
PROJECT NO.

BRIDGE NO.

DESCRIPTION
DATE

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

VEENSTRA & KIMM INC
Kansas City, Missouri 64159
816-781-0643 (FAX)
9788 N Ash Avenue
816-781-0643 (FAX)
Certificate of Authority No. 2002006347



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/03/2024

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| ROUTE | STATE |
| 8 | MO |

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| DISTRICT | SHEET NO. |
| CD | 11 |

COUNTY
WASHINGTON

JOB NO.
15P3522

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| CONTRACT ID. |
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| PROJECT NO. |
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BRIDGE NO.

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

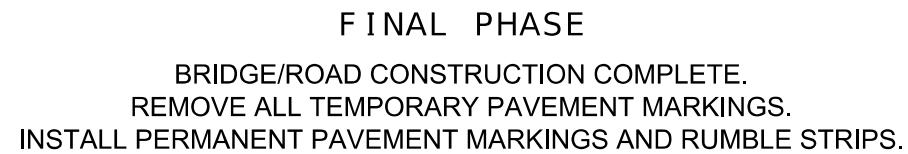
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



**VEENSTRA
& KIMM INC.**

9788 N Ash Avenue Kansas City, Missouri 64159
816-781-6182 816-781-0643 (FAX)
Certificate of Authority No. 2002006347

REMOVE ALL TEMPORARY PAVEMENT MARKING PRIOR TO INSTALLING PERMANENT PAVEMENT MARKING.



FINAL PHASE
PAVEMENT MARKING
SHEET 3 OF 3



Pouring and Finishing Slab:

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

Haunching:

Structural Steel Protective Coating:

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for Recoating of Structural Steel (System G) with inorganic zinc primer. The cost of surface preparation will be considered completely covered by the contract unit price per sq. foot for Surface Preparation for Recoating Structural Steel.

Field Coat(s): The color of the field coat shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract unit price per sq. foot for Finish Field Coat (System G).

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

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.

Diagram illustrating the cross-section of a bridge deck. The deck is supported by a central pier. The top layer is labeled "Steel corrugated bridge forms". The deck thickness is indicated as 82" on both sides of the pier. The pier is labeled "Form support". The diagram is marked with "A" at both ends, indicating a cross-section. The text "Per Design by Manufacturer" is written vertically on the right side.

Fill corrugations with foam (Typ.)

8 1/2"

1" CL. (Min.)

SECTION A-A

Remove $20\frac{1}{2}" \pm$ of wingwall from End Bent No. 1 as required for slab replacement. (Typ.)

Remove existing backwall to top const. joint.

The diagram shows a cross-section of a bridge structure. A solid hatched area represents the existing structure, while a dashed outline represents the proposed modification. The modification involves removing a portion of the wingwall and the backwall to the top construction joint. Arrows point from the text instructions to the corresponding parts of the diagram.

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.

Substructure Repair (Unformed)
(See Sec 704)



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/03/2024

| | |
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| ROUTE | STATE |
| 8 | MO |

| | |
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| DISTRICT | SHEET NO. |
| BR | 2 |

COUNTY
WASHINGTON

JOB NO.
J5P3522

| |
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| CONTRACT ID. |
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| PROJECT NO. |
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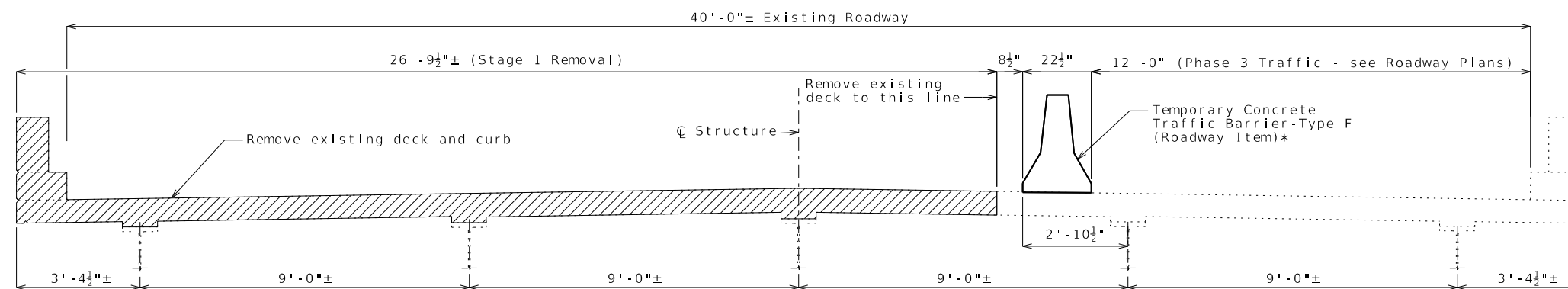
BRIDGE NO.
A19972[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSIONWAYS AND TR
COMMISSION

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

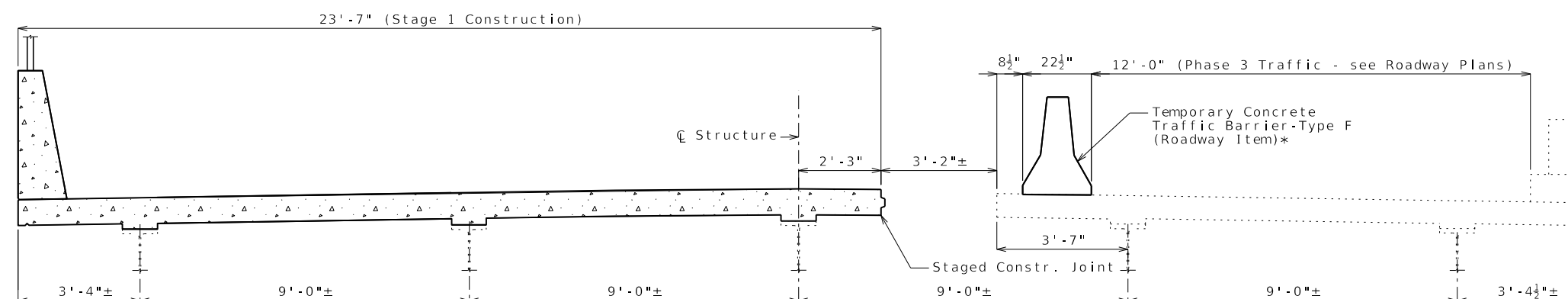


**VEENSTRA
& KIMM INC.**

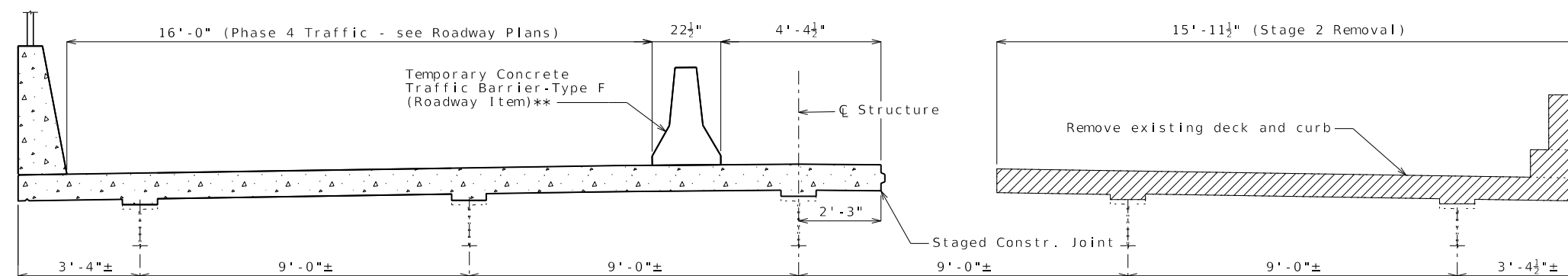
9788 N. Ash Kansas City, Missouri 64157
816-781-6182 816-781-0643 (FAX)
Certificate of Authority No. 2002006347



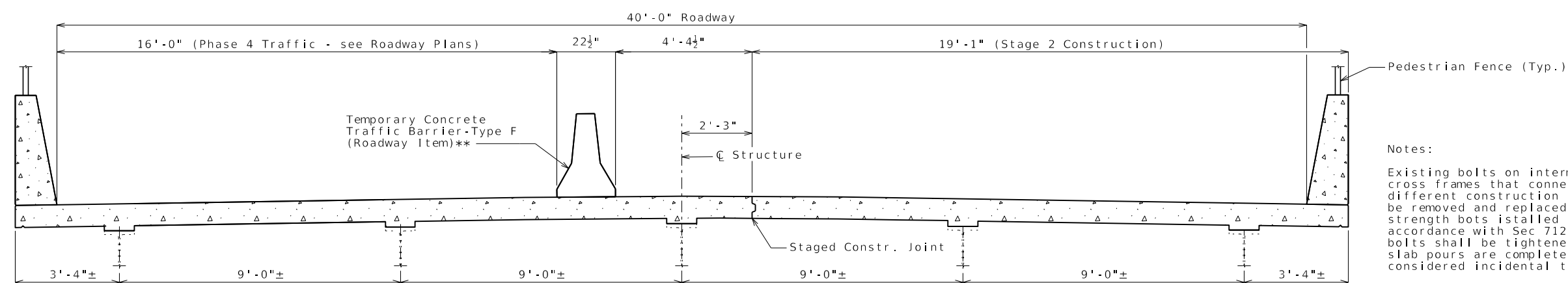
STAGE 1 REMOVAL



STAGE 1 CONSTRUCTION



STAGE 2 REMOVAL



STAGE 2 CONSTRUCTION

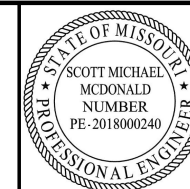
DETAILS SHOWING STAGED CONSTRUCTION

Notes:

Existing bolts on intermediate diaphragms and cross frames that connect beams under different construction staged slab pours shall be removed and replaced with new in kind high strength bolts installed snug tight and in accordance with Sec 712. The high strength bolts shall be tightened after both adjacent slab pours are completed. Cost will be considered incidental to other pay items.

*Method of attachment for temporary barrier shall be bolt through deck.

**Temporary barrier shall not be attached to the bridge.



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED

DATE PREPARED _____

06/03/2024

| ROUTE | STATE |
|-------|-------|
|-------|-------|

| | |
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| 8 | MO |
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| DISTRICT | SHEET NO |
| 55 | 5 |

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|----|---|
| BR | 3 |
|----|---|

COUNTY
WASHINGTON

WASHINGTON

LOS ANGELES

JOB NO.
1503522

| | |
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| JSP3522 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |
| A19972 | |
| DATE | DESCRIPTION |
| | |
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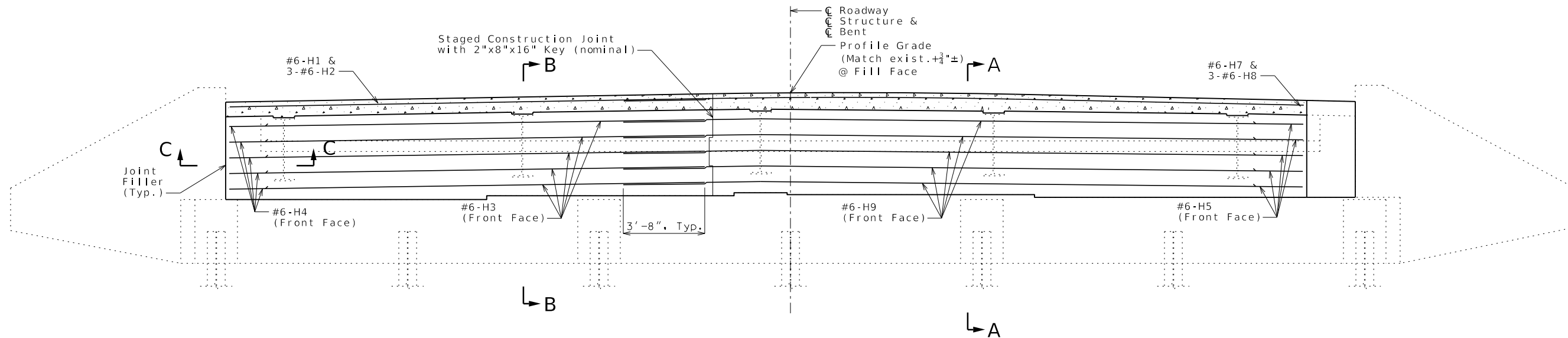
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102



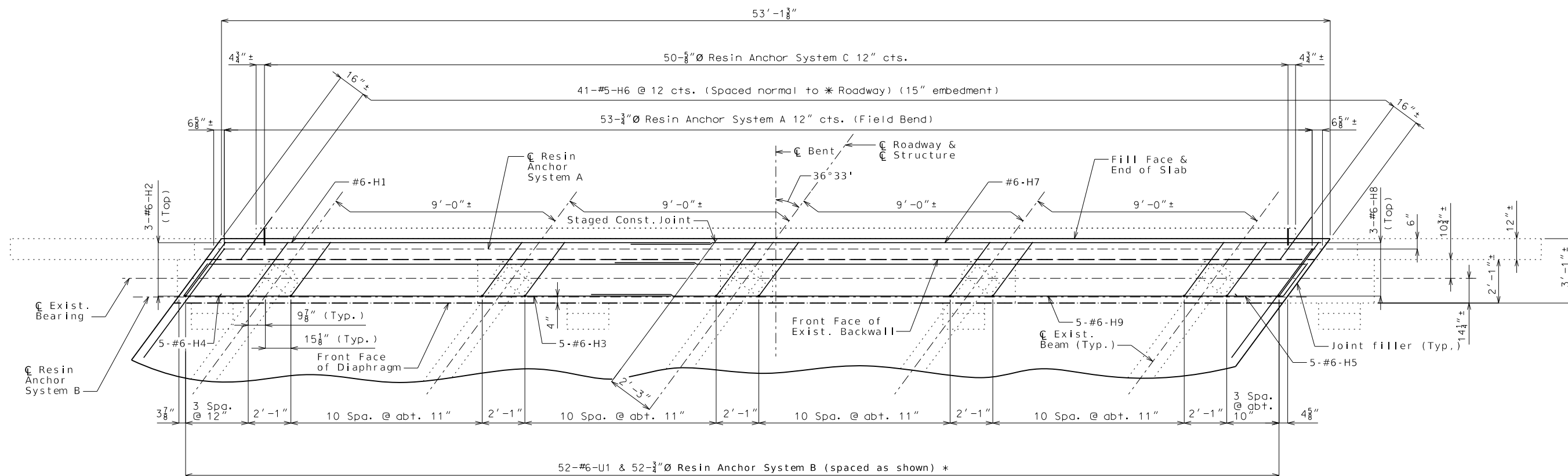
K & K
VEENSTRA & KIMM, INC.

7788 N. Ash **Kansas City, Missouri 64157**
816-781-6182 **816-781-0643 (FAX)**
Certificate of Authority No. 2002006347



SECTION NEAR END BENT

Notes: Resin anchors and U-bars not shown for clarity.
Existing steel end diaphragms not shown for clarity (leave in place).



PART PLAN

* Spacing shall be adjusted in the field to clear beam flanges, bearings and Staged Construction Joint by 1 1/2".

Notes:

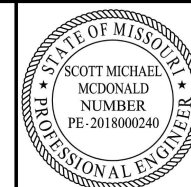
For Section A-A, B-B and C-C, see Sheet No. 7.
For Details of Resin Anchors, see Sheet No. 7.
Work this sheet with Sheet No. 7.

DETAILS OF END BENT NO. 1

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

Sheet No. 5 of 14

Detailed Oct. 2023
Checked Dec. 2023



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ELECTRONICALLY.

DATE PREPARED
06/03/2024

ROUTE 8 STATE MO

DISTRICT BR SHEET NO. 5

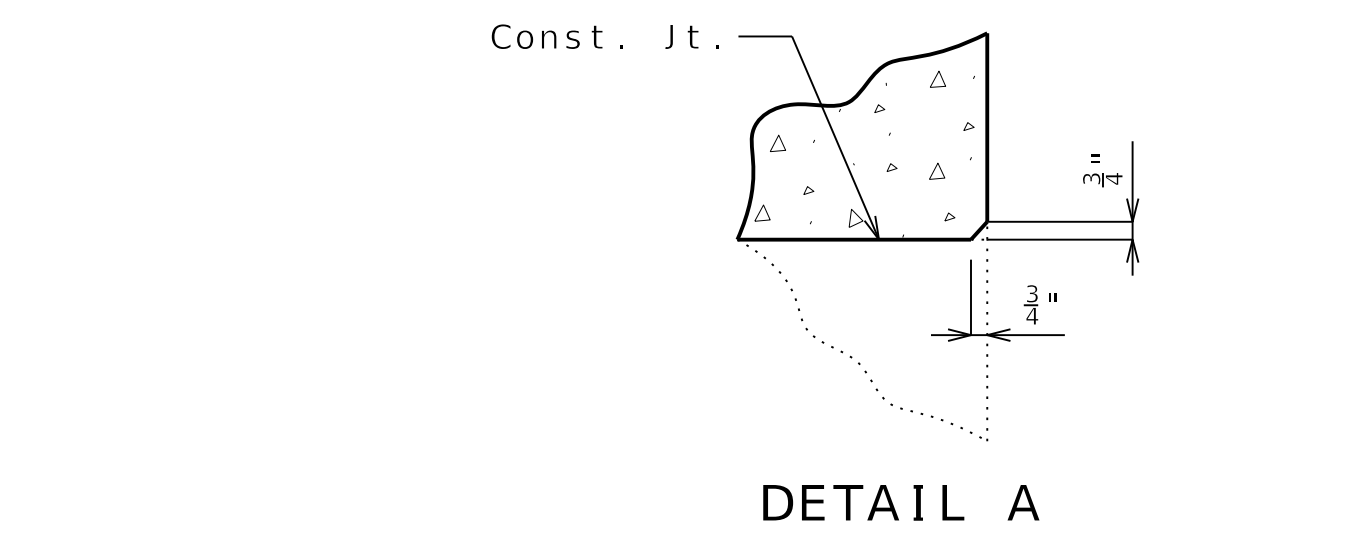
COUNTY WASHINGTON

JOB NO. J5P3522

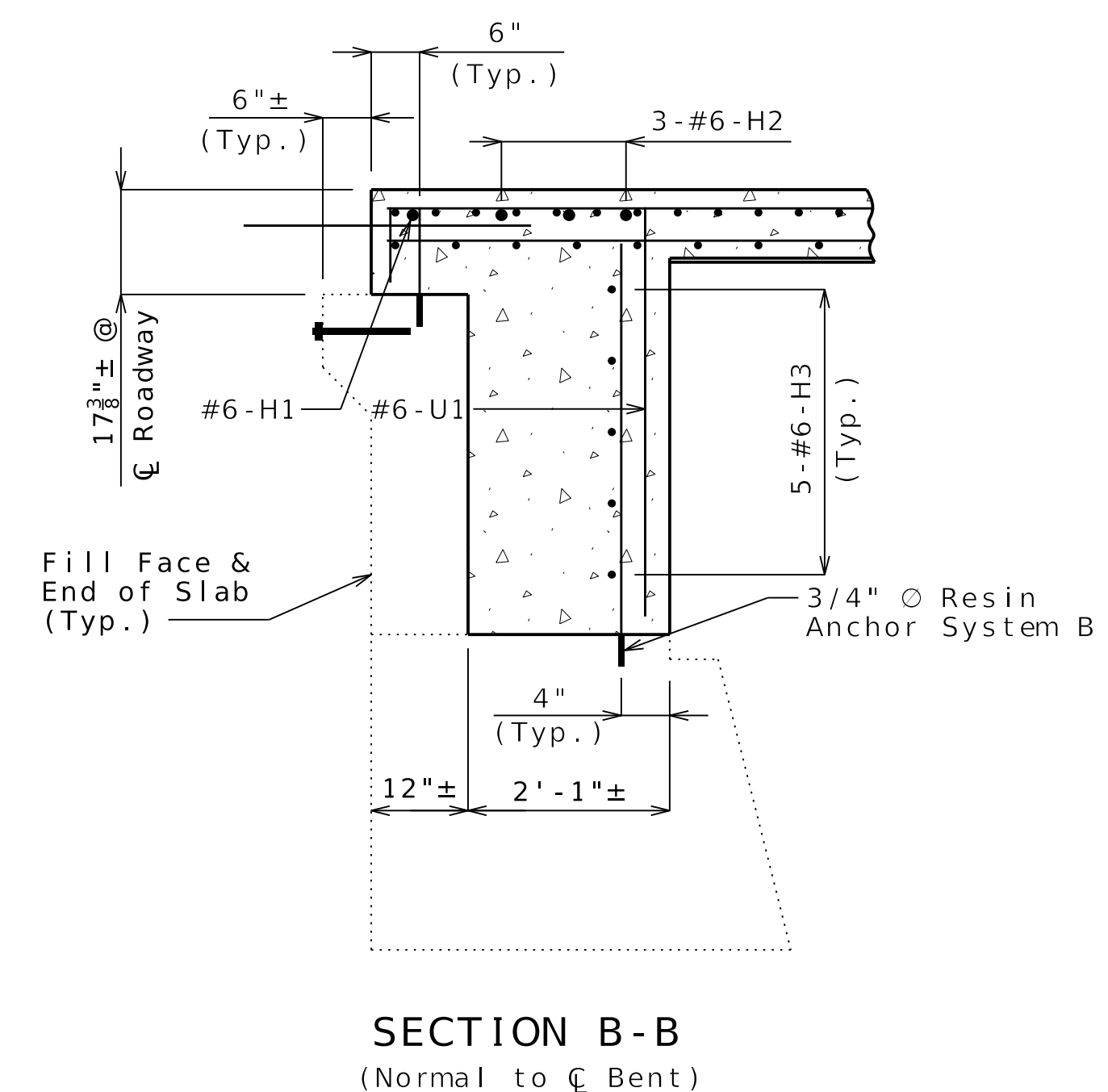
CONTRACT ID.

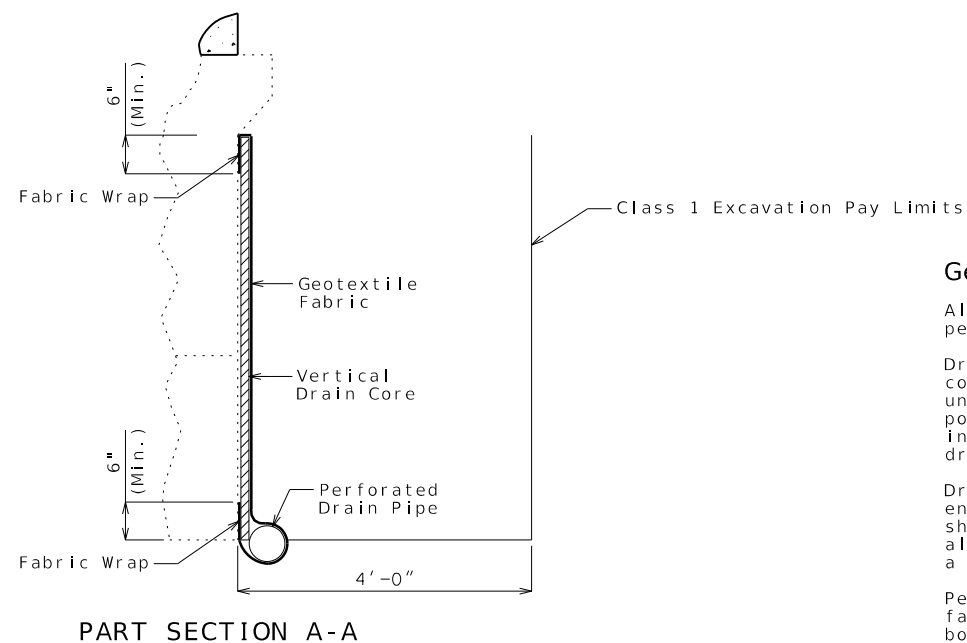
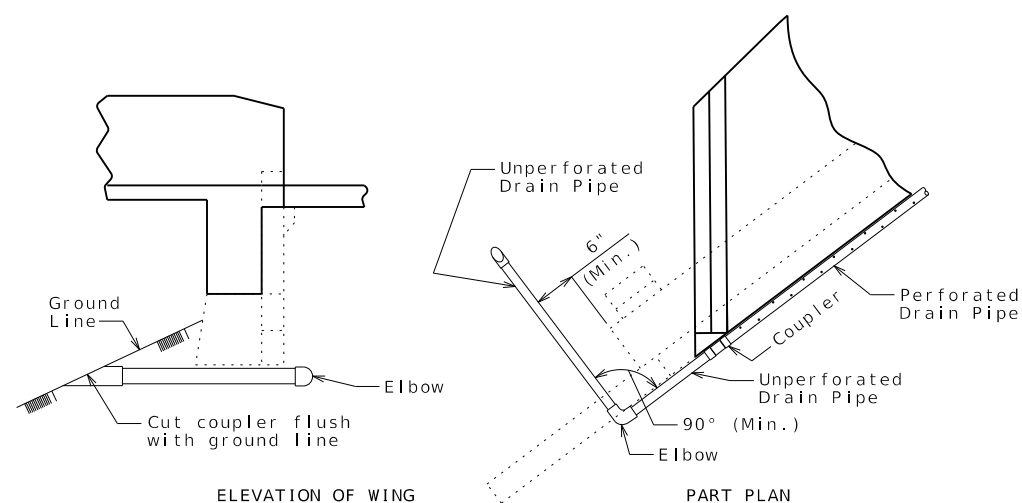
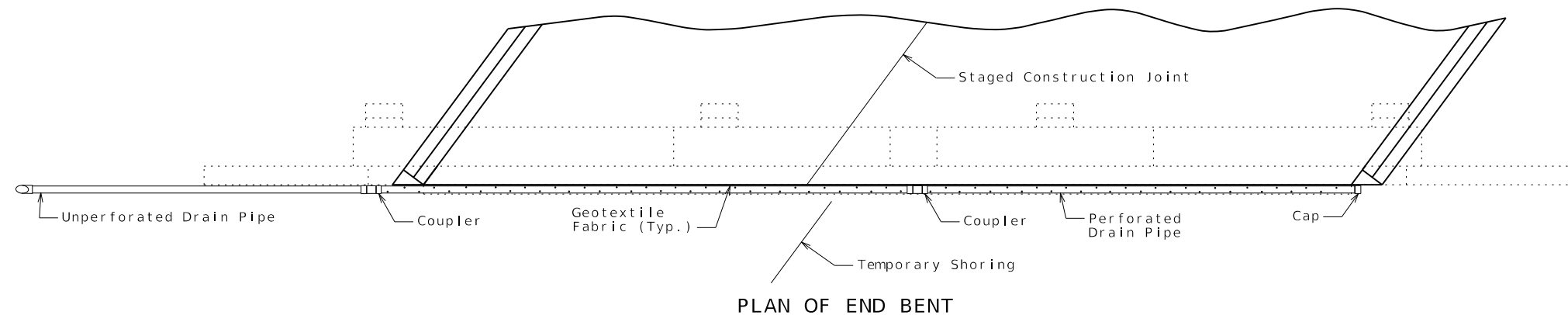
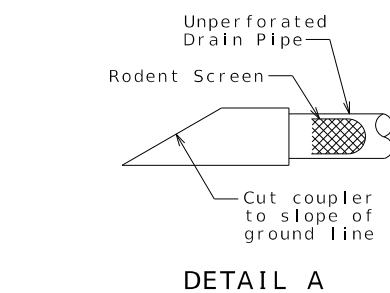
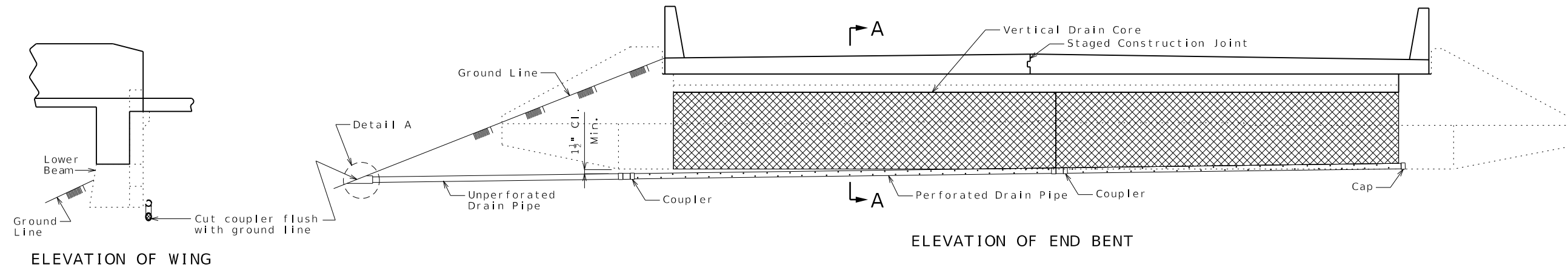
PROJECT NO.

BRIDGE NO. A19972



SECTION A-A
(Normal to C Bent)

[illegible]



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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ELECTRONICALLY.

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| DATE PREPARED |
| 06/03/2024 |

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| DISTRICT | SHEET NO. |
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COUNTY
WASHINGTON

JOB NO.
J5P3522

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| BRIDGE NO. |
| A19972 |

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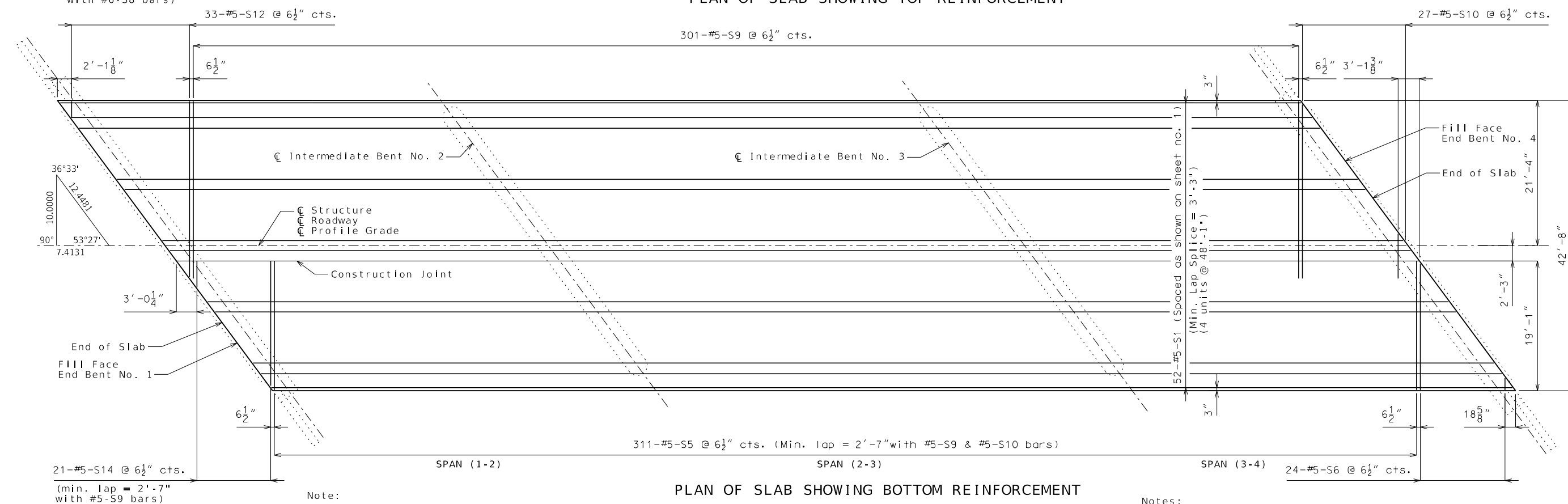
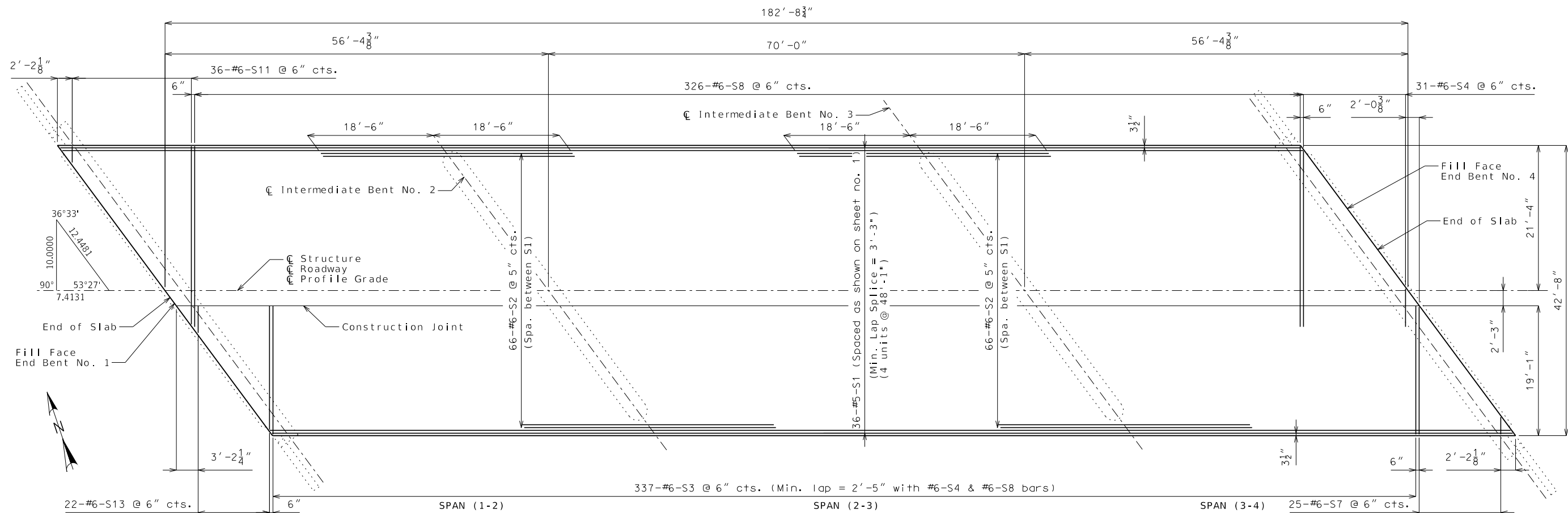
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



**VEENSTRA
& KIM INC.**

39788 N. Ash Kansas City, Missouri 64157
816-781-6182 816-781-0643 (FAX)
Certificate of Authority No. 2002006347



Note:

At the Contractor's option, lap splices for transverse bars may be substituted with mechanical bar splices at no additional cost to the project.

Notes :

For details of barrier, see Sheets No. 10 & 11.
Longitudinal slab dimensions are measured horizontally.

For Slab Section, see Sheet No. 1.



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| 06/03/2024 |
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
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COUNTY
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J5P3522

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|-----------------------------|-----------------|
| DATE PREPARED 06/03/2024 | |
| ROUTE 8 | STATE MO |
| DISTRICT BR | SHEET NO. 10 |
| COUNTY WASHINGTON | |
| JOB NO. J5P3522 | |
| CONTRACT ID. | |

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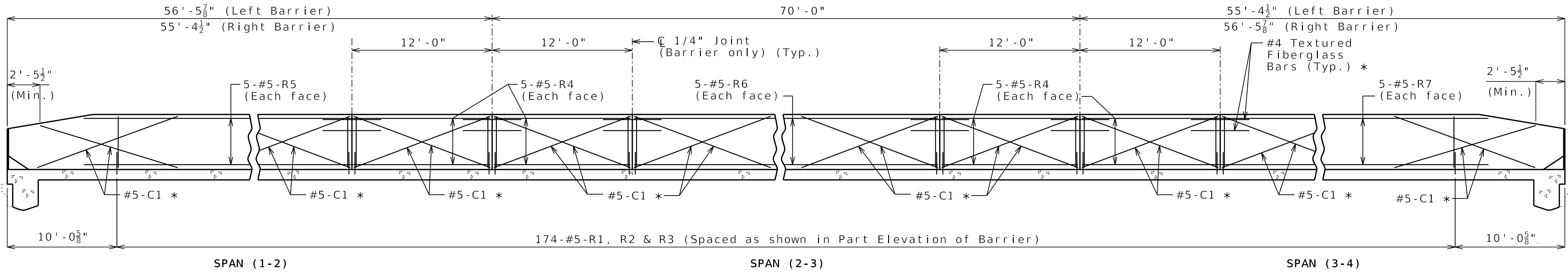
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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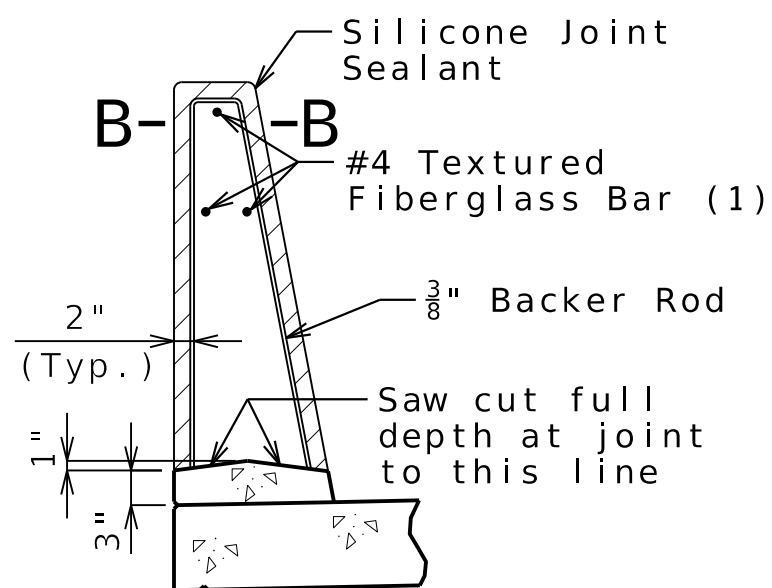
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VEENSTRA & KIMM INC.

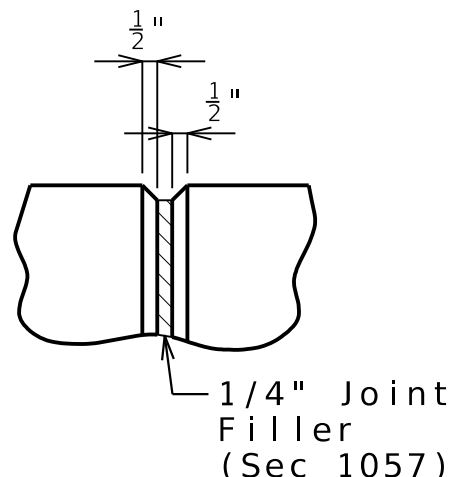
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816-781-0643 (FAX)
Certificate of Authority No. 2002006347



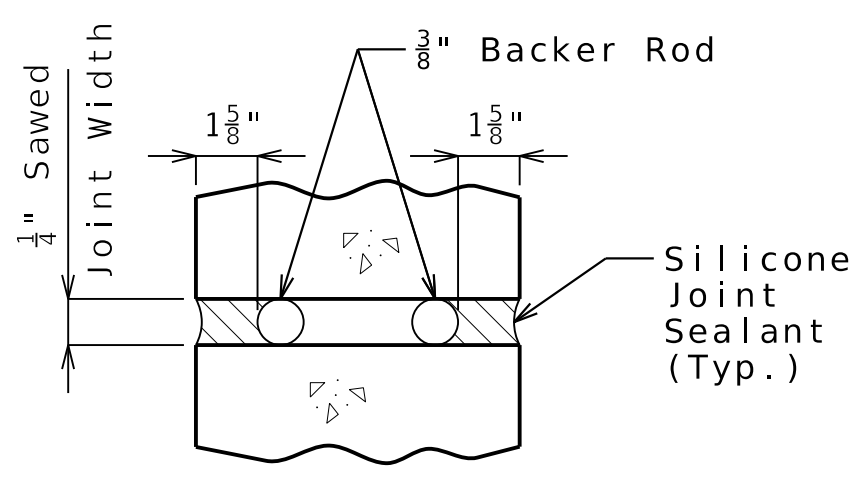
ELEVATION OF BARRIER
(Left barrier shown, right barrier similar)
Longitudinal dimensions are horizontal.



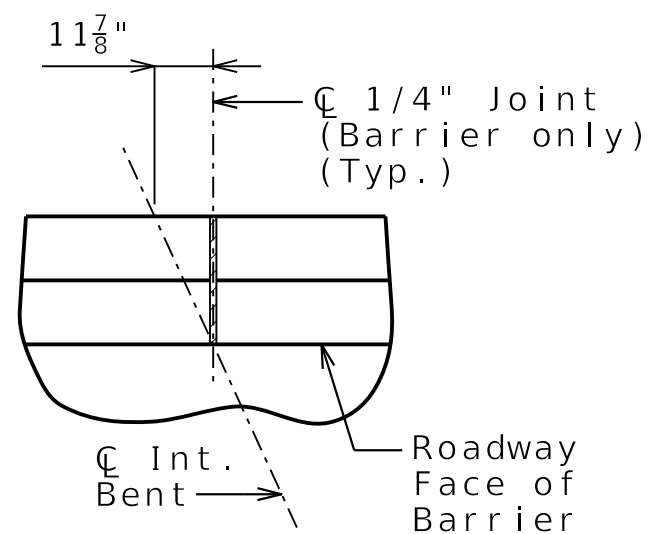
SECTION THRU
SAW CUT JOINT



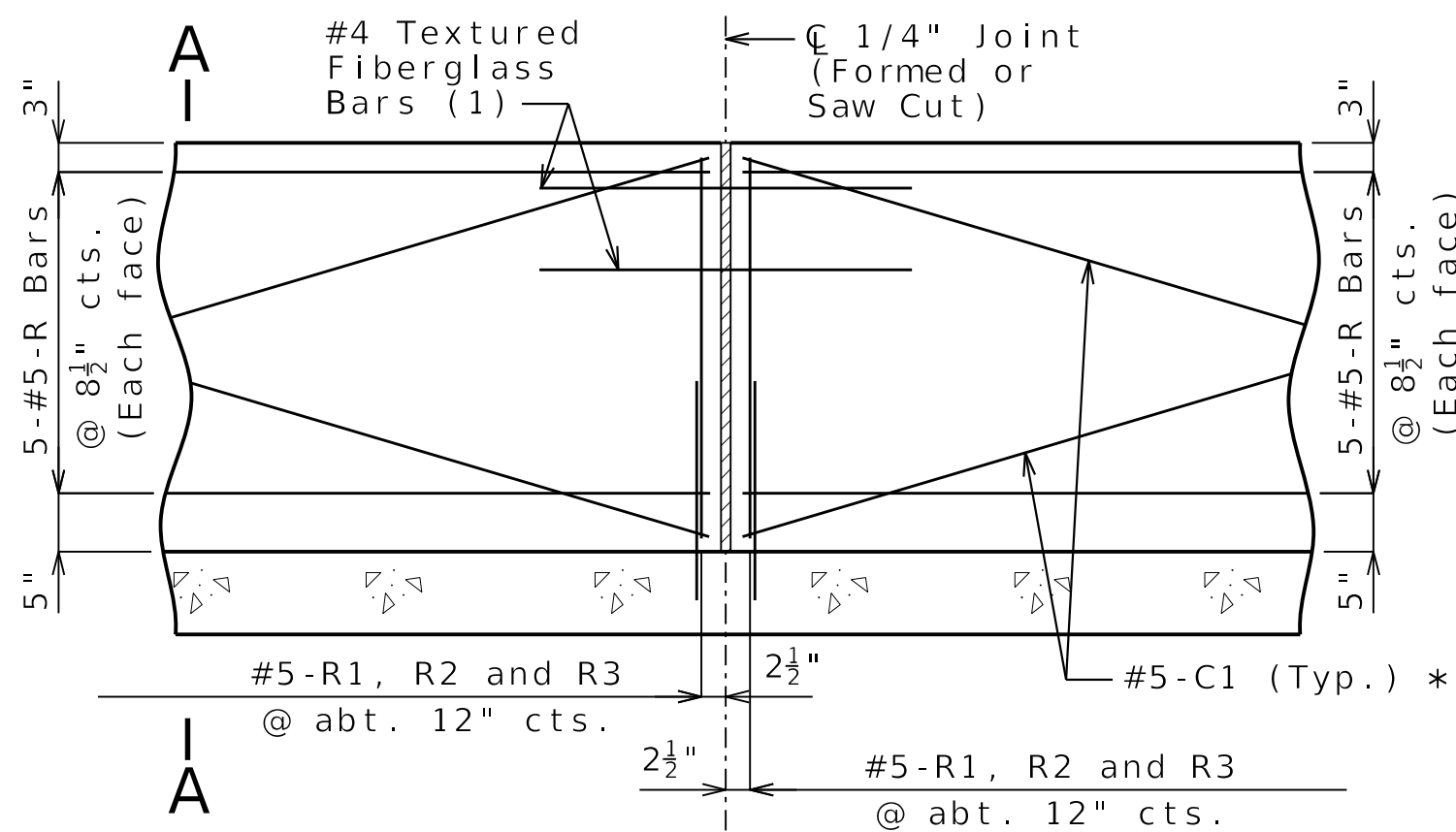
PART ELEVATION
AT FORMED JOINT



SECTION B-B

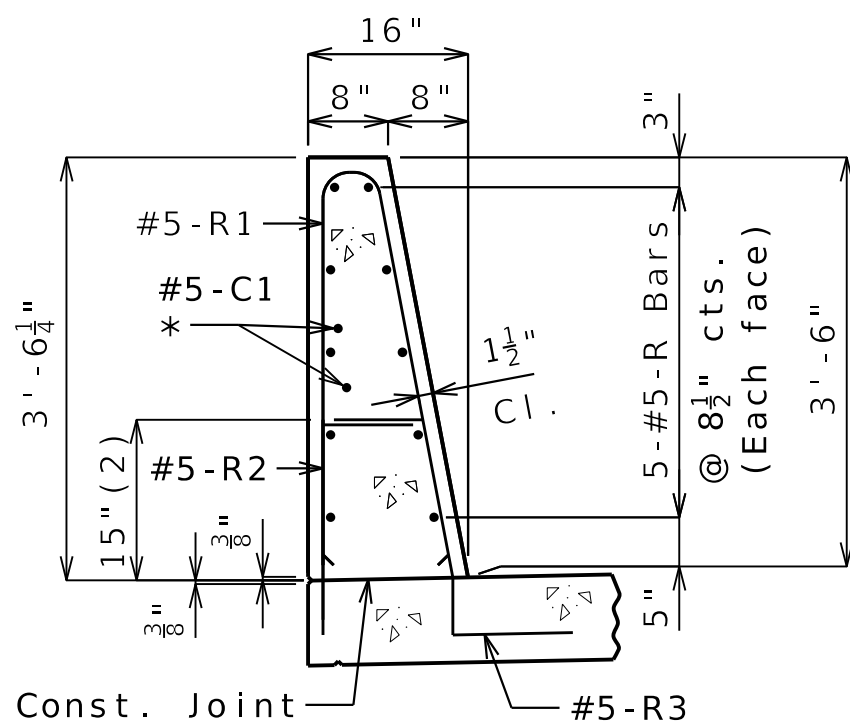


PART PLAN SHOWING
JOINT LOCATION



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

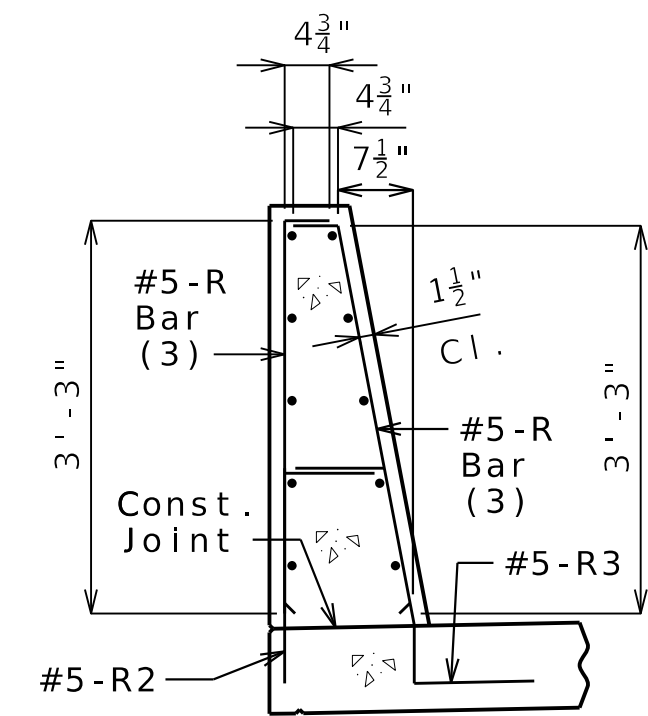


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

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 D 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 D Barrier.

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

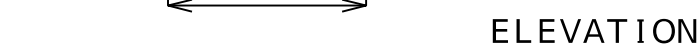
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

TYPE D BARRIER

Sheet No. 10 of 14

Detailed Oct. 2023
Checked Dec. 2023

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



* 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) 2-#5-K13 @ $4\frac{1}{2}$ " cts., each face
- (6) 3 spaces @ $3\frac{1}{16}$ "
- (7) Spaced as shown, each face
- (8) 2-#5-K13 (Roadway face)
- (9) To top of bar

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.

Minimum clearance to reinforcing steel shall be 1 1/2".

Use a minimum lap of 3'-1" between horizontal K bars and R bars.



(Other K bars not shown for clarity)

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

All dimensions are out to out.



DATE PREPARED

06 / 03 / 2024

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| NO. & QUANTITY OF CANS | COLOR, LABEL, BRAND, & SIZE |

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| DISTRICT | SHEET NO. |
| BB | 11 |

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| BR | 11 |
| COUNTY | |

WASHINGTON

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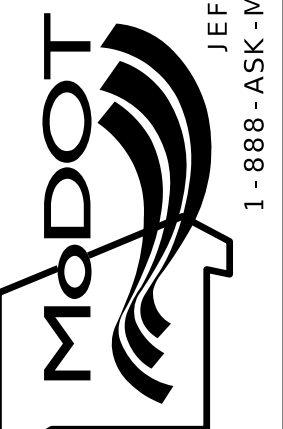
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PROJECT NO.

PROJECT NO.

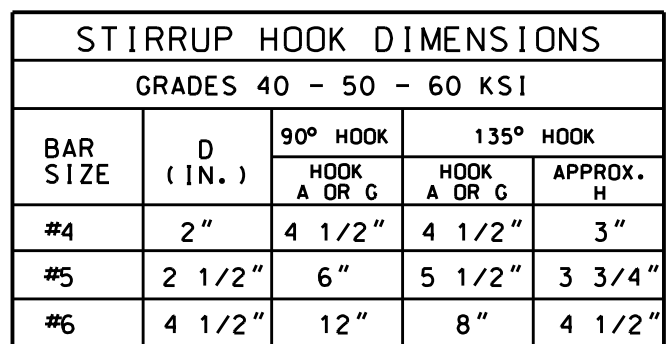
BRIDGE NO.

A19972

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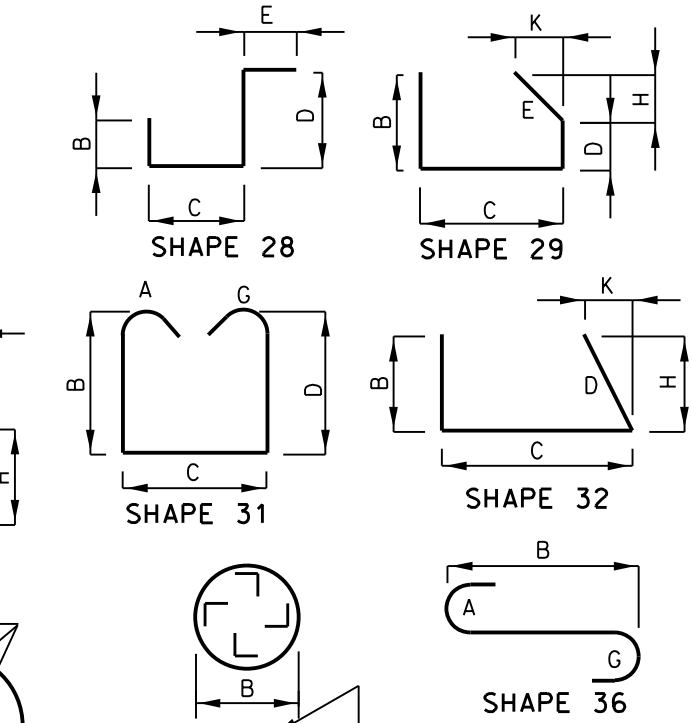
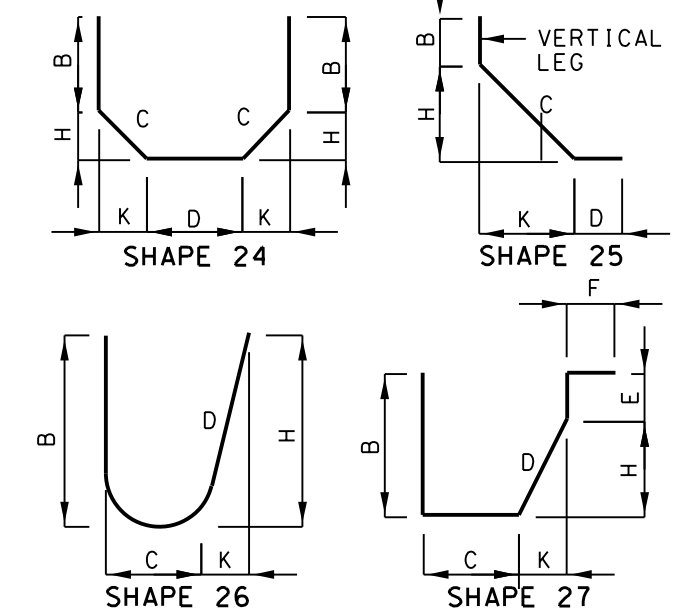
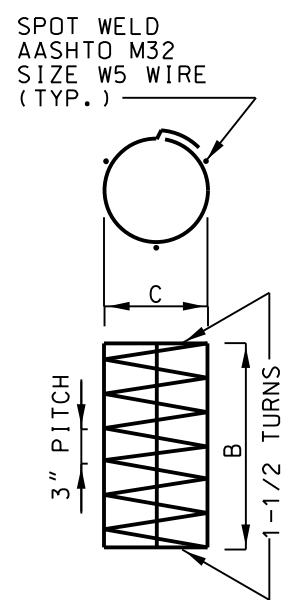
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| END HOOK DIMENSIONS | | | | | |
|---------------------|------------|------------|---------|-----------|---|
| BAR SIZE | D (IN.) | ALL GRADES | | | |
| | | 180° HOOKS | | 90° HOOKS | |
| | | A OR G | J | A OR G | J |
| #3 | 2 1/4" | 5" | 3" | 6"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

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS. REINFORCING STEEL (GRADE 60) $F_y = 60,000$ PSI.

| NO. | REQ'D. | MARK NO. | LOCATION | EPOXY | (E) | SHAPE NO. | STIRUP (S) | SUBSTR. (X) | VARIES (V) | NO. EACH | DIMENSIONS | | | | | | | NOMINAL LENGTH | ACTUAL LENGTH | WEIGHT | | | | | | | |
|-----|--------|----------|-------------------|-------|-----|-----------|------------|-------------|------------|----------|------------|-----|-------|-----|-----|-----|-----|----------------|---------------|--------|--------|-------|-----|-----|-----|-----|-----|
| | | | | | | | | | | | B | | C | | D | | E | | | | F | | H | | K | | |
| | | | | | | | | | | | FT. | IN. | FT. | IN. | FT. | IN. | FT. | | | | IN. | FT. | IN. | FT. | IN. | FT. | IN. |
| | | | SUPERSTRUCTURE | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | SLAB | | | | | | | | | | | | | | | | | | | | | | | | |
| 352 | 5 | S1 | SLAB | E | 20 | | | | | | 48 | 1 | 0.000 | | | | | 48 | 1 | 48 | 1 | 17653 | | | | | |
| 132 | 6 | S2 | SLAB | E | 20 | | | | | | 37 | 0 | 0.000 | | | | | 37 | 0 | 37 | 0 | 7336 | | | | | |
| 337 | 6 | S3 | SLAB | E | 20 | | | | | | 18 | 10 | 0.000 | | | | | 18 | 10 | 18 | 10 | 9533 | | | | | |
| 31 | 6 | S4 | SLAB | E | 20 | | | | V | 1 | 5 | 6 | 0.000 | | | | | 5 | 6 | 5 | 6 | | | | | | |
| | | | INCR. = 8.125 IN. | | | | | | | | 25 | 9 | 0.750 | | | | | 25 | 10 | 25 | 10 | 729 | | | | | |
| 311 | 5 | S5 | SLAB | E | 20 | | | | | | 18 | 10 | 0.000 | | | | | 18 | 10 | 18 | 10 | 6109 | | | | | |
| 24 | 5 | S6 | SLAB | E | 20 | | | | V | 1 | 1 | 9 | 0.000 | | | | | 1 | 9 | 1 | 9 | | | | | | |
| | | | INCR. = 8.750 IN. | | | | | | | | 18 | 6 | 0.250 | | | | | 18 | 6 | 18 | 6 | 253 | | | | | |
| 25 | 6 | S7 | SLAB | E | 20 | | | | V | 1 | 2 | 6 | 0.000 | | | | | 2 | 6 | 2 | 6 | | | | | | |
| | | | INCR. = 8.125 IN. | | | | | | | | 18 | 9 | 0.000 | | | | | 18 | 9 | 18 | 9 | 399 | | | | | |
| 326 | 6 | S8 | SLAB | E | 20 | | | | | | 26 | 6 | 0.000 | | | | | 26 | 6 | 26 | 6 | 12976 | | | | | |
| 301 | 5 | S9 | SLAB | E | 20 | | | | | | 26 | 3 | 0.000 | | | | | 26 | 3 | 26 | 3 | 8241 | | | | | |
| 27 | 5 | S10 | SLAB | E | 20 | | | | V | 1 | 6 | 9 | 0.000 | | | | | 6 | 9 | 6 | 9 | | | | | | |
| | | | INCR. = 8.750 IN. | | | | | | | | 25 | 8 | 0.500 | | | | | 25 | 9 | 25 | 9 | 458 | | | | | |
| 36 | 6 | S11 | SLAB | E | 20 | | | | V | 1 | 2 | 4 | 0.000 | | | | | 2 | 4 | 2 | 4 | | | | | | |
| | | | INCR. = 8.125 IN. | | | | | | | | 26 | 0 | 0.375 | | | | | 26 | 0 | 26 | 0 | 766 | | | | | |
| 33 | 5 | S12 | SLAB | E | 20 | | | | V | 1 | 2 | 5 | 0.000 | | | | | 2 | 5 | 2 | 5 | | | | | | |
| | | | INCR. = 8.750 IN. | | | | | | | | 25 | 9 | 0.000 | | | | | 25 | 9 | 25 | 9 | 485 | | | | | |
| 22 | 6 | S13 | SLAB | E | 20 | | | | V | 1 | 3 | 11 | 0.375 | | | | | 3 | 11 | 3 | 11 | | | | | | |
| | | | INCR. = 8.125 IN. | | | | | | | | 18 | 2 | 0.000 | | | | | 18 | 2 | 18 | 2 | 365 | | | | | |
| 21 | 5 | S14 | SLAB | E | 20 | | | | V | 1 | 3 | 9 | 0.000 | | | | | 3 | 9 | 3 | 9 | | | | | | |
| | | | INCR. = 8.750 IN. | | | | | | | | 18 | 4 | 0.000 | | | | | 18 | 4 | 18 | 4 | 242 | | | | | |
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| | | | TOTALS | | | | | | | | | | | | | | | | | | | | | | | | |
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| | 6 | | | E | | | | | | | | | | | | | | | | | | | | | | | |



Sheet No. 14 of 14