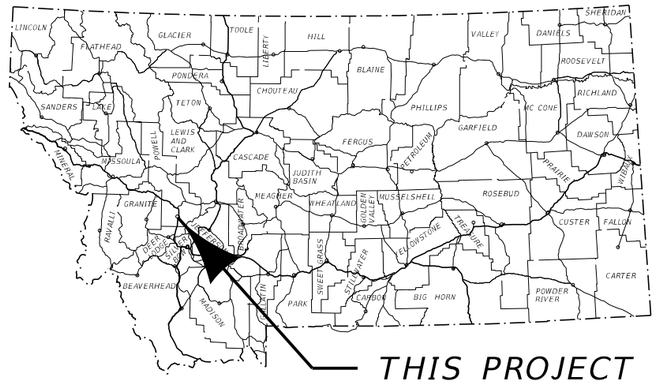
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# MONTANA DEPARTMENT OF TRANSPORTATION




## PROJECT DESIGN DATA

| | | |
|---|---|---|
| PRESENT | 2015 | A.D.T. = 70 |
| LETTING | 2019 | A.D.T. = 80 |
| DESIGN | 2039 | A.D.T. = 90 |
| | | D.H.V. = 10 |
| | | TRUCKS = 24.3% |
| | | V. = 30 MPH |
| | | 18 KIP ESAL'S = 6 |
| | | GROWTH RATE = 1.0% |

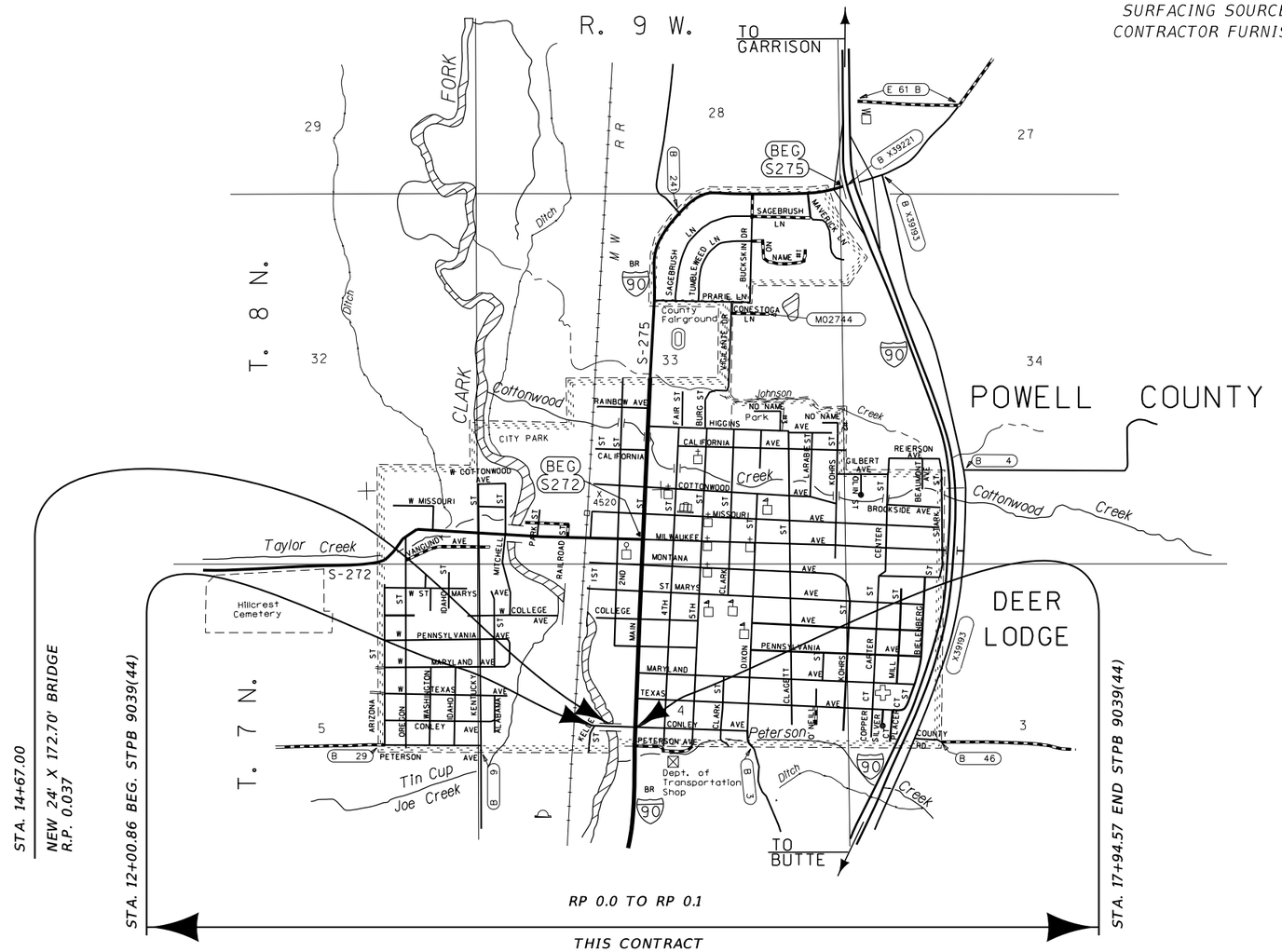
LETTING DATE - _____

CSF = 0.99923609

# FEDERAL AID PROJECT STPB 9039(44)
# BRIDGE REPLACEMENT
# CONLEY AVE BRIDGE - DEER LODGE
# POWELL COUNTY

## LENGTH 0.1 MILES

SURFACING SOURCES - CONTRACTOR FURNISHED




| PLANS PREPARED BY |
|---|
| GreatWest engineering<br>2501 Belt View Drive<br>Helena MT 59601 (406)449-8627 |

| RELATED PROJECTS |
|---|
| |

| ASSOCIATED PROJECT AGREEMENT NUMBERS | |
|---|---|
| R / W | STPB 9039(48) |
| I.C. | |
| P. E. | STPB 9039(43) |

GREAT WEST ENGINEERING

DocuSigned by:
Karl Yakawich
4791B33005A9454...
1/25/2021
DATE

KARL F. YAKAWICH 15133 PE LICENSED PROFESSIONAL ENGINEER MONTANA

MONTANA DEPARTMENT OF TRANSPORTATION

RECEIVED :
DocuSigned by:
Ryan Dell
9B9187ADDCB1490...
CONSULTANT DESIGN ENGINEER
1/26/2021
DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED :

DIVISION ADMINISTRATOR DATE

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | MDT | MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdTT.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | ROAD PLANS |
| 2 | | | 11/30/2020 | REVIEWED BY R. HOLM | 11/24/2020 | |
| | | | 8:59:28 AM lwilliams | CHECKED BY K. YAKAWICH | 11/24/2020 | UPN 8930000 |

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# NOTES

## BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

| | |
|---|---|
| COMP. AGGREGATE WEIGHT | = 3700 LBS. PER CUBIC YARD |
| COMP. WEIGHT OF PL. MIX BIT. SURF. | = 3855 LBS. PER CUBIC YARD |
| ASPHALT CEMENT - GRADE S - 3/8" AGG. | = 6.2% OF PL.MIX BIT.SURF. |
| BITUMINOUS MATERIAL | = 8.5 LBS. PER GAL. |
| EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES) | = 0.05 GAL. PER SQ.YARD (UNDILUTED) |
| SEAL | = 0.42 GAL. PER SQ.YARD |
| COVER | = 25 LBS. PER SQ.YARD |

## CLEARING AND GRUBBING

CLEAR AND GRUB TO CONSTRUCTION LIMITS. INCLUDE THE COST OF CLEARING AND GRUBBING IN THE UNIT PRICE BID FOR UNCLASSIFIED EXCAVATION.

## UTILITIES

CALL THE UTILITIES UNDERGROUND LOCATION CENTER (811) OR OTHER NOTIFICATION SYSTEM FOR THE MARKING AND LOCATION OF ALL LINES AND SERVICES BEFORE EXCAVATING. ALL CLEARANCES OR DEPTHS PROVIDED FOR UTILITIES ARE FROM EXISTING GROUND LINE.

## BY OTHERS

WATER VALVE BOX ADJUSTMENTS AND MANHOLE ADJUSTMENTS INDICATED TO BE COMPLETED BY OTHERS WILL BE COMPLETED BY THE CITY OF DEER LODGE PERSONEL

CONC. BLOCKS, BEAMS, AND JERSEY RAIL WEST OF BRIDGE TO BE MOVED OUTSIDE PROJECT LIMITS BY OWNER BEFORE CONSTRUCTION

## APPROACHES

CONSTRUCT APPROACHES TO A 24' FINISHED TOP ON A 39' SUBGRADE UNLESS NOTED OTHERWISE IN THE PLANS.

PROVIDE THE FOLLOWING SURFACING:
- 0.25' PLANT MIX BITUMINOUS SURF.
- 1.00' CRUSHED AGGREGATE COURSE

PLANT MIX SURFACE ALL PUBLIC AND PRIVATE APPROACHES TO R/W.

## DO NOT DISTURB

CULVERT LOCATED 40+99
POWER POLE LOCATED 12+97
POWER POLE LOCATED 16+47

## PUBLIC LAND SURVEY MONUMENTS

ALL MONUMENTS TO BE REMOVED AND RELOCATED OR RESET BY STATE FORCES.

## SOILS INFORMATION

SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION. THE LOCATION OF GEOTECHNICAL BORINGS IS SHOWN ON THE PLAN VIEW WITH THE FOLLOWING SYMBOL:

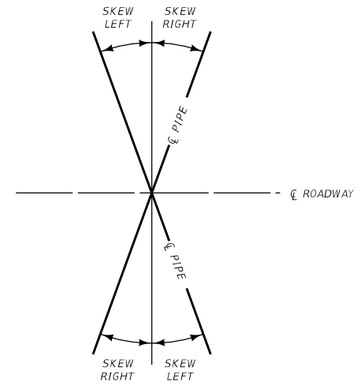
## GEOTECHNICAL BORING

BORING NUMBER

(GEOTECHNICAL BORING)

(PLAN VIEW)

## SKEW DIAGRAM




## APPROACHES (FOR INFORMATION ONLY)

| STATION | TYPE | linear feet: WIDTH | linear feet: RADIUS # LEFT | linear feet: RADIUS # RIGHT | linear feet: LENGTH | EXISTING SURFACING | feet: PMS THK. | feet: CAC THK. | PROPOSED SURFACE | tons: PLANT MIX BIT. SURF. COMM. PG 58-28 - MISC | cubic yards: CRUSHED AGG. COURSE | gallons: EMULSIFIED ASPHALT TACK | sq. yards: AGG. TREAT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15+84 | PRIVATE | 15 | 0 | 16 | 33.8 | ASPHALT/ CONCRETE | 0.25 | 1.00 | ASPHALT | 10 | 21 | 6 | 64 | PRIVATE APP LT |
| 17+31 | PRIVATE | 24 | 15 | 15 | 23.7 | ASPHALT | 0.25 | 1.00 | ASPHALT | 12 | 25 | 7 | 74 | PRIVATE APP LT |
| | | | | | | | | | | | | | | |
| SUBTOTAL | PRIVATE | | | | | | | | | 22 | 46 | 13 | 138 | |
| 16+16 | PUBLIC | 24 | 15 | 15 | 21.2 | GRAVEL | 0.25 | 1.00 | ASPHALT | 11 | 22 | 7 | 66 | PUBLIC APP RT (ALLEY) |
| | | | | | | | | | | | | | | |
| SUBTOTAL | PUBLIC | | | | | | | | | 11 | 22 | 7 | 66 | |

# ALL RADII MEASURED TO FRONT OF GUTTER OR EDGE OF SHOULDER
M.O.C. - MEASURED ON CADD

## WETLANDS

WETLANDS EXIST ADJACENT TO THE ROADWAY AND MAY EXIST BEYOND THE PROJECT LIMITS. WETLAND AREAS AND PERMANENT WETLAND IMPACT AREAS WITHIN THE PROJECT LIMITS HAVE BEEN DELINEATED AND ARE SHOWN ON THE PLANS. ANY ACTION IMPACTING WETLAND AREAS OUTSIDE OF THE PERMANENT IMPACT AREAS SHOWN IS THE RESPONSIBILITY OF THE CONTRACTOR.

DELINEATED WETLAND AREAS

PERMANENT WETLAND IMPACTED AREAS

TEMPORARY WETLAND IMPACT AREAS

## WETLAND DELINEATION TABLE

| WETLAND DESIGNATION | STATION FROM | STATION TO | WETLAND AREA (acres): DELINEATED AREA | WETLAND AREA (acres): TEMPORARY IMPACTED AREA ## | WETLAND AREA (acres): PERMANENT IMPACTED AREA | REMARKS |
|---|---|---|---|---|---|---|
| WL-1A # | | | 0.357 | | 0.003 | |
| WL-1B | | | 0.014 | | 0.004 | |
| WL-1C | | | 0.051 | | 0.000 | |
| WL-1D # | | | 0.058 | | 0.000 | |
| WL-2A | | | 0.099 | | 0.006 | |
| WL-2B | | | 0.005 | | 0.000 | |
| | | | | | | |
| TOTAL | | | 0.58 | 0.00 | 0.01 | |

# AREA OF EXISTING WETLAND EXTENDS BEYOND PLAN LIMITS
## TEMPORARY IMPACT AREAS ARE ESTIMATED AND PROVIDED FOR INFORMATIONAL PURPOSES ONLY. TEMPORARY WETLAND IMPACTS SHOWN IN THE TABLE AND ANY OTHER IMPACTS ASSOCIATED WITH CONTRACTOR OPERATIONS ARE TO BE PERMITTED BY CONTRACTOR.

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## CENTERLINE ALIGNMENT COORDINATE TABLE

| STATION | DESCRIPTION | N OR Y COORDINATE | E OR X COORDINATE | REMARKS |
|---|---|---|---|---|
| 10+00.00 | POT | 797,341.500 | 1,151,821.004 | BEGIN ALIGNMENT |
| 12+00.86 | POT | 797,323.922 | 1,152,021.093 | BEGIN STPB 9039(44) |
| 13+80.65 | POT | 797,308.189 | 1,152,200.191 | BRIDGE END |
| 15+53.35 | POT | 797,293.075 | 1,152,372.234 | BRIDGE END |
| 16+02.12 | PC | 797,288.808 | 1,152,420.813 | |
| 16+18.54 | PI | 797,287.371 | 1,152,437.172 | |
| 16+34.95 | PT | 797,287.010 | 1,152,453.590 | |
| 17+94.57 | POT | 797,283.505 | 1,152,613.173 | END STPB 9039(44) |
| 18+17.19 | POT | 797,283.008 | 1,152,635.788 | END ALIGNMENT |

GPK NAME: JOB893.GPK CHAIN NAME: DESIGN PROFILE NAME: DESIGN_P

# LINEAR AND LEVEL DATA

| | | |
|---|---|---|
| LENGTH OF ROADWAY (CONLEY AVENUE) | 2 LANE URBAN | 421.01 ft |
| LENGTH OF BRIDGE | 1 LANE URBAN | 172.70 ft |
| TOTAL LENGTH OF STPB 9039(44) | | 593.71 ft |

### BEARING SOURCE

GRID -- MONTANA COORDINATE SYSTEM NAD 83- 1992

### LEVEL DATUM SOURCE

NAVD 88 (ELEVATIONS DERIVED FROM DIFFERENTIAL LEVELS HOLDING GNSS DERIVED ELEVATIONS USING GEOID 03 AT BMS A8930 AND D8930)

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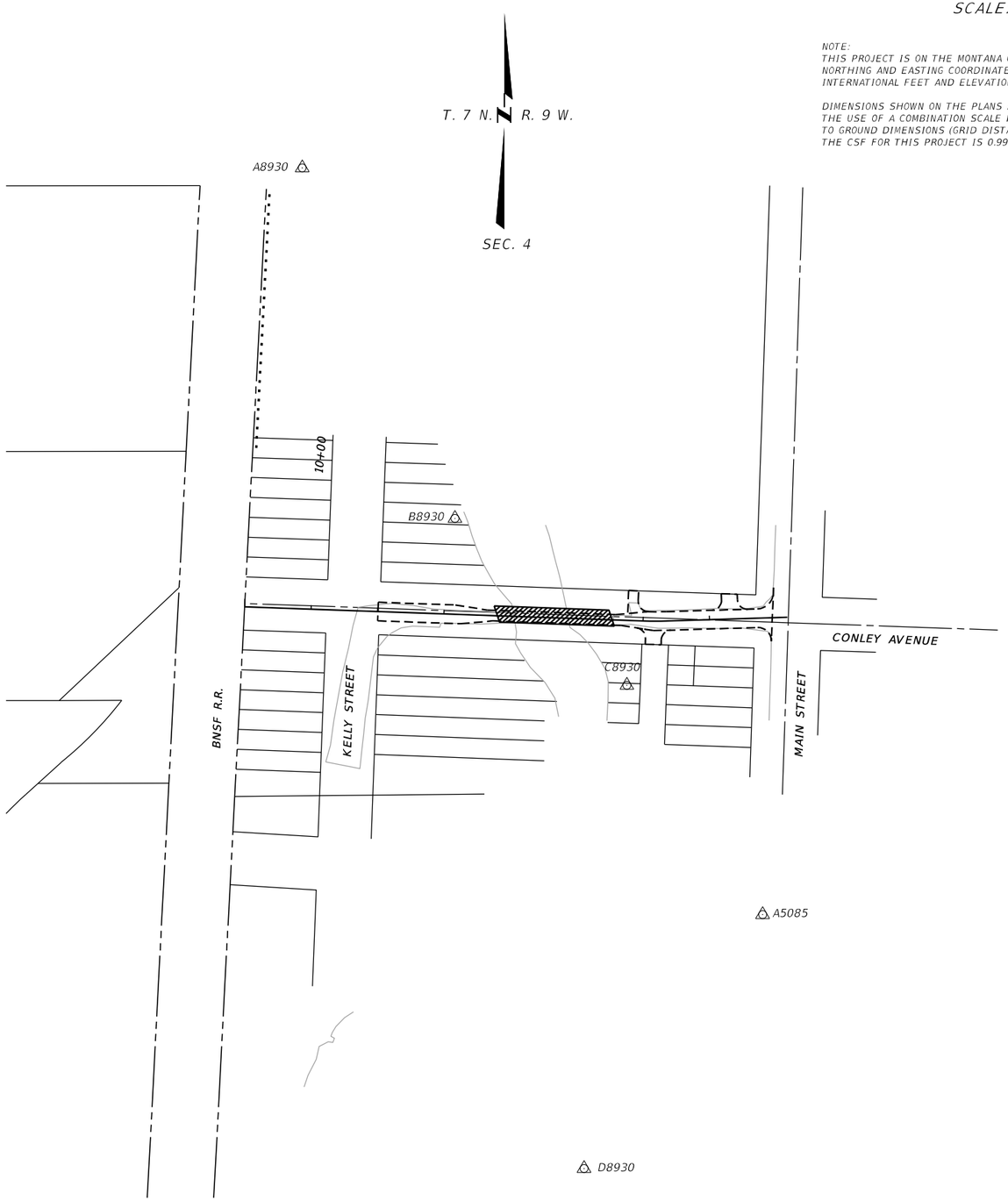


# CONTROL DIAGRAM

SCALE: 1"=1000'

NOTE:
THIS PROJECT IS ON THE MONTANA COORDINATE SYSTEM NAD83-1992.
NORTHING AND EASTING COORDINATES ARE EXPRESSED IN UNITS OF INTERNATIONAL FEET AND ELEVATIONS ARE IN UNITS OF U.S. SURVEY FEET.

DIMENSIONS SHOWN ON THE PLANS ARE GRID. ALL SURVEY AND STAKING REQUIRE THE USE OF A COMBINATION SCALE FACTOR (CSF) TO CONVERT GRID DIMENSIONS TO GROUND DIMENSIONS (GRID DISTANCE / CSF = GROUND DISTANCE).
THE CSF FOR THIS PROJECT IS 0.99923609.




## CONTROL ABSTRACT

| POINT NAME/NUMBER | N OR Y COORDINATE | E OR X COORDINATE | POINT ELEVATION | LOCATION AND DESCRIPTION |
|---|---|---|---|---|
| A5085 | 796,838.263 | 1,152,575.186 | 4527.81** | SET 2" ALUMINUM CAP STAMPED "A5085-2006" ON A 5/8" X 30" IRON REBAR. IT HAS A STEEL WITNESS POST 1 FT. BEHIND THE CONTROL POINT. IT IS APPROXIMATELY 0.55 MILES SOUTH OF THE POST OFFICE, LOCATED 25 FT. WEST OF PTW, 54 FT. NORTH OF SPEED LIMIT 35 SIGN, AND 50 FT. NORTHEAST OF THE END OF THE WOODEN FENCE. |
| A8930 | 797,996.536 | 1,151,942.041 | 4518.89 | SET 5/8"x30" REBAR W/ 2" MDT ALUMINUM CONTROL CAP STAMPED "A8930 2016", FLUSH TO THE GROUND, 733 FEET WEST OF MAIN STREET, 645 FEET NORTH OF CONLEY ST. 54 FEET EAST OF THE RAILROAD RIGHT-OF-WAY FENCE, 20 FEET WEST OF THE TOP OF BANK OF THE CLARK FORK RIVER. |
| B8930 | 797,457.698 | 1,152,144.094 | 4522.90 | SET 5/8"x30" REBAR W/ 2" MDT ALUMINUM CONTROL CAP STAMPED "B8930 2016", FLUSH TO THE GROUND, 490 FEET WEST OF MAIN STREET, 110 FEET NORTH OF CONLEY STREET, 6 FEET WEST OF THE TOP OF BANK OF THE CLARK FORK RIVER |
| C8930 | 797,193.573 | 1,152,389.206 | 4528.94 | SET 5/8"x30" REBAR W/ 2" MDT ALUMINUM CONTROL CAP STAMPED "C8930 2016", FLUSH TO THE GROUND, 213 FEET WEST OF MAIN STREET, 87 FEET SOUTH OF CENTERLINE CONLEY STREET, 67 FEET NORTH OF CHAIN LINK FENCE CORNER, 2 FEET EAST OF EDGE OF PAVEMENT OF WALKING PATH. |
| D8930 | 796,470.604 | 1,152,286.791 | 4520.35 | SET 5/8"x30" REBAR W/ 2" MDT ALUMINUM CONTROL CAP STAMPED "D8930 2016", FLUSH TO THE GROUND, 251 FEET WEST OF THE I-90 FRONTAGE ROAD, 39 FEET SOUTH WEST OF PARK BENCH, 12.5 FEET SOTHWEST OF CULVERT CROSSING THE WALKING PATH, 11 FEET EAST OF THE TOP OF BANK OF THE CLARK FORK RIVER, 3.5 FEET WEST OF THE EDGE OF PAVEMENT OF WALKING PATH. |

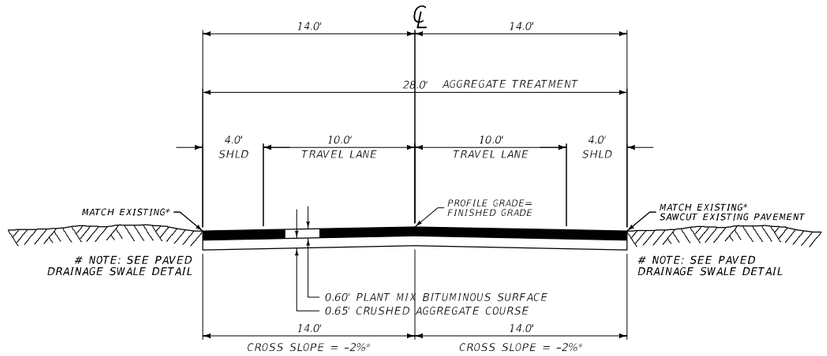
** WHEN USING A5085 IN CONJUNCTION WITH THIS PROJECT, AN ELEVATION OF 4527.81 WILL SUPERSEDE THE ELEVATION PUBLISHED BY UPN 5085.

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# TYPICAL SECTION NO. 1

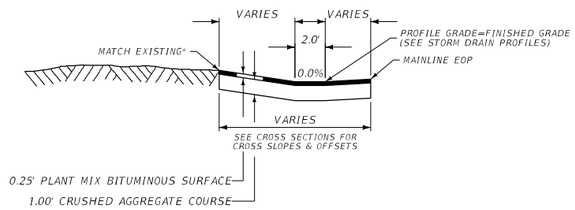
**MAINLINE**




* SEE CROSS SECTIONS FOR VARIABLE CROSS SLOPE AREAS

| | | | |
|---|---|---|---|
| 12+00.86 | TO | 12+40.00 | BEGIN PROJECT<br>(CROSS SLOPE VARIES, MATCH EDGE OF PVMT ELEV) |
| 12+40.00 | TO | 12+90.00 | TRANS TYP NO 1 TO TYP NO 2<br>(LT LANE -2.99% TO -2%, RT LANE -1.90% TO -2%) |
| 16+15.15 | TO | 17+72.10 | |
| 17+72.10 | TO | 17+94.57 | (TRANS. CROSS SLOPE TO MATCH EX. CROSS SLOPE)<br>END PROJECT |

## # PAVED DRAINAGE SWALE DETAIL (MIRROR FOR RT SIDE)




| | | | |
|---|---|---|---|
| 15+91.60 | TO | 17+17.86 | LT |
| 16+27.80 | TO | 17+92.07 | RT |
| 17+43.86 | TO | 17+97.34 | LT |

| QUANTITIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| UNIT | AGGREGATE | | | | | UNIT | BITUMINOUS MATERIAL | | |
| | | PLANT MIX | CR. AGG. COURSE | | | | | TACK | AGG. TREATMENT |
| AREA square feet | | 16.80 | 18.20 | | | square yards PER STATION | | 934 | 311 |
| cubic yards PER STATION | | 62.2 | 67.4 | | | gallons PER STATION | | 46.7 | |
| tons PER STATION | | 119.9 | | | | | | | |
| square yards PER STATION | | | | | | | | | |

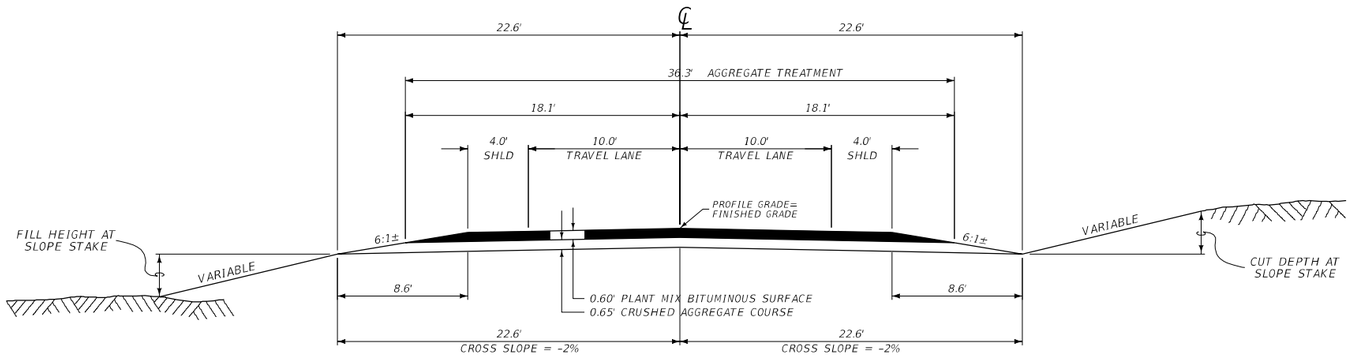
| * FILL SLOPES | |
|---|---|
| 0' - 10' | 4:1 |
| 10' - 20' | 4:1 |
| 20' - 30' | 4:1 |
| OVER 30' | 4:1 |

| * BACK SLOPES | |
|---|---|
| 0' - 5' | 4:1 |
| 5' - 10' | 4:1 |
| 10' - 15' | 4:1 |
| 15' - 20' | 4:1 |
| OVER 20' | 4:1 |

* SEE CROSS SECTIONS FOR DEVIATIONS

# TYPICAL SECTION NO. 2

**MAINLINE**




| | | | |
|---|---|---|---|
| 12+90.00 | TO | 13+17.03 | |
| 13+17.03 | TO | 13+65.03 | TRANS TYP NO 2 TO TYP NO 3, NO SIDEWALK LT<br>(LT LANE -2% TO -0.31%, RT LANE -2% TO -0.31%) |
| 13+65.03 | TO | 13+73.76 | CONT TRANS TYP NO 2 TO TYP NO 3, SIDEWALK LT<br>(LT LANE -0.31% TO 0%, RT LANE -0.31% TO 0%) |

| QUANTITIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| UNIT | AGGREGATE | | | | | UNIT | BITUMINOUS MATERIAL | | |
| | | PLANT MIX | CR. AGG. COURSE | | | | | TACK | AGG. TREATMENT |
| AREA square feet | | 19.28 | 26.47 | | | square yards PER STATION | | 1,209 | 403 |
| cubic yards PER STATION | | 71.4 | 98.0 | | | gallons PER STATION | | 60.5 | |
| tons PER STATION | | 137.6 | | | | | | | |
| square yards PER STATION | | | | | | | | | |

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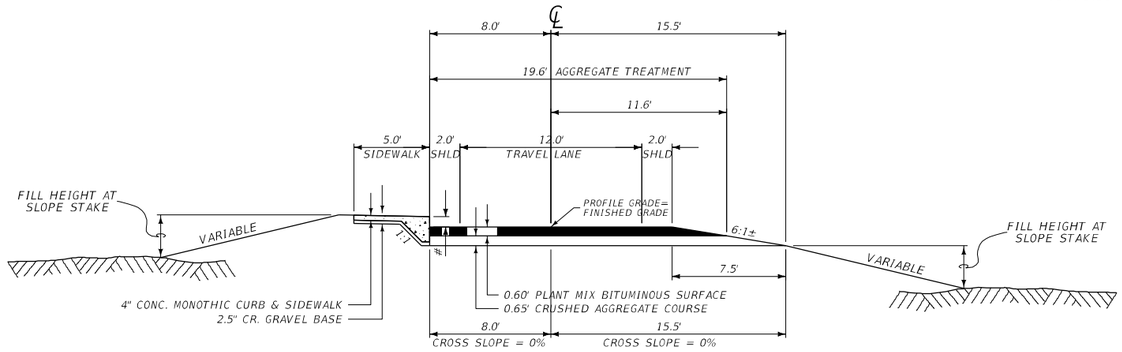
# TYPICAL SECTION NO. 3

**MAINLINE**

| | | | |
|---|---|---|---|
| 13+73.76 | TO | 13+80.65 B.E. | NO SURF INSLOPE RT |
| 15+53.35 B.E. | TO | 15+58.43 | NO SURF INSLOPE RT |
| 15+58.43 | TO | 15+76.60 | TRANS TYP NO 3 TO TYP NO 1, SIDEWALK LT (LT LANE 0% TO -0.64%, RT LANE 0% TO -0.64%) |
| 15+76.60 | TO | 16+15.15 | CONT TRANS TYP NO 3 TO TYP NO 1, NO SIDEWALK LT, NO SURF INSLOPE LT & RT (LT LANE -0.64% TO -2%, RT LANE -0.64% TO -2%) |

#CURB HEIGHT

13+65.03 - 0.00'
13+70.03 - 0.00'
13+78.03 - 0.67'
15+56.43 - 0.67'
15+68.14 - 0.00'
15+76.60 - 0.00'




## QUANTITIES

| UNIT | AGGREGATE | | | | | | UNIT | BITUMINOUS MATERIAL | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | PLANT MIX | CR. AGG. COURSE | | | | | | TACK | AGG. TREATMENT |
| AREA square feet | | 10.68 | 14.01 | | | | square yards PER STATION | | 653 | 218 |
| cubic yards PER STATION | | 39.6 | 51.9 | | | | gallons PER STATION | | 32.7 | |
| tons PER STATION | | 76.2 | | | | | | | | |
| square yards PER STATION | | | | | | | | | | |

| * FILL SLOPES | |
|---|---|
| 0' - 10' | 4:1 |
| 10' - 20' | 4:1 |
| 20' - 30' | 4:1 |
| OVER 30' | 4:1 |

| * BACK SLOPES | |
|---|---|
| 0' - 5' | 4:1 |
| 5' - 10' | 4:1 |
| 10' - 15' | 4:1 |
| 15' - 20' | 4:1 |
| OVER 20' | 4:1 |

* SEE CROSS SECTIONS FOR DEVIATIONS

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# SUMMARY

## GRADING

| STATION | cubic yards UNCL. EXC. | cubic yards EXCESS EXC. | cubic yards EMB.+ | REMARKS |
|---|---|---|---|---|
| 12+00.86 | | | | |
| | 227 | | 98 | |
| 13+80.65 B.E. | | | | |
| | | | | CONLEY AVE BRIDGE |
| 15+53.35 B.E. | | | | |
| | 764 | 672 | 221 | |
| 17+94.57 | | | | |
| | | | | |
| TOTAL | 991 | # 672 | # 319 | |

# FOR INFORMATION ONLY

## ADDITIONAL GRADING

| STATION FROM | STATION TO | cubic yards INCL. IN ROADWAY UNCL. EXC. | cubic yards INCL. IN ROADWAY EMB.+ | cubic yards ADD. UNCL. EXC. | REMARKS |
|---|---|---|---|---|---|
| 12+00.86 | 17+94.57 | | 60 | | TOPSOIL REPLACEMENT |
| 13+29.85 | 13+80.65 B.E. | 145 | -110 | | SUBEXCAVATION FOR BRIDGE END BACKFILL |
| 15+24.00 | 15+35.00 | 5 | | | GRADE TO DRAIN OUTLET |
| 15+53.35 B.E. | 16+06.04 | 235 | -25 | | SUBEXCAVATION FOR BRIDGE END BACKFILL |
| 15+84.10 | | 25 | | | PRIVATE APPROACH |
| 16+15.69 | | 20 | | | PUBLIC APPROACH |
| 17+31.00 | | 30 | | | PRIVATE APPROACH |
| 40+15.00 | 42+45.23 | 5 | 160 | | PEDESTRIAN TRAIL |
| 40+69.50 | 41+72.14 | 5 | | | OBLITERATE EX ASPHALT TRAIL |
| | | | | | |
| TOTAL | | ~ | ~ | 0 | |

## SURFACING

| STATION FROM | STATION TO | linear feet GROSS | linear feet NET | linear feet + | linear feet - | FOR | tons PLANT MIX BIT. SURF. COMM. PG 58-28 | tons PLANT MIX BIT. SURF. COMM. PG 58-28 - MISC | cubic yards CRUSHED AGG. COURSE | gals. EMULSIFIED ASPHALT TACK | square yards AGG. TREAT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12+00.86 | 12+40.00 | 39.14 | 39.14 | | | | 47 | | 26 | 18 | 122 | TYPICAL SECTION NO 1 |
| 12+40.00 | 12+90.00 | 50.00 | 50.00 | | | | 64 | | 41 | 27 | 179 | TRANS TYP SEC NO 1 TO TYP SEC NO 2 |
| 12+90.00 | 13+17.03 | 27.03 | 27.03 | | | | 37 | | 26 | 16 | 109 | TYPICAL SECTION NO 2 |
| 13+17.03 | 13+73.76 | 56.73 | 56.73 | | | | 61 | | 43 | 26 | 176 | TRANS TYP SEC NO 2 TO TYP SEC NO 3 |
| 13+73.76 | 13+80.65 B.E. | 6.89 | 6.89 | | | | 5 | | 4 | 2 | 15 | TYPICAL SECTION NO 3 |
| 13+80.65 B.E. | 15+53.35 B.E. | 172.70 | 0.00 | | 172.70 | BRIDGE | | | | | | |
| 15+53.35 B.E. | 15+58.43 | 5.08 | 5.08 | | | | 4 | | 3 | 2 | 11 | TYPICAL SECTION NO 3 |
| 15+58.43 | 16+15.15 | 56.72 | 56.72 | | | | 56 | | 34 | 23 | 150 | TRANS TYP SEC NO 3 TO TYP SEC NO 1 |
| 16+15.15 | 17+94.57 | 179.42 | 179.42 | | | | 215 | | 121 | 84 | 558 | TYPICAL SECTION NO 1 |
| | | | | | | | | | | | | |
| | | | | | | ADDITIONAL SURFACING | | 160 | 181 | 71 | 623 | |
| | | | | | | | | | | | | |
| TOTAL | | 593.71 | 421.01 | 0.00 | 172.70 | | 489 | 160 | 479 | 269 | 1,943 | |

## ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

| STATION FROM | STATION TO | linear feet GROSS | linear feet NET | linear feet + | linear feet - | FOR | tons PLANT MIX BIT. SURF. COMM. PG 58-28 | tons PLANT MIX BIT. SURF. COMM. PG 58-28 - MISC | cubic yards CRUSHED AGG. COURSE | gals. EMULSIFIED ASPHALT TACK | square yards AGG. TREAT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | APPROACHES | | 33 | 68 | 20 | 204 | |
| | | | | | | | | | | | | |
| 40+15.00 | 42+45.23 | | | | | PEDESTRIAN TRAIL | | 19 | 22 | 10 | | |
| | | | | | | | | | | | | |
| 15+91.60 | 17+17.86 | | | | | PAVED DRAINAGE SWALE | | 45 | 38 | 17 | 174 | LT |
| 16+27.80 | 17+92.07 | | | | | PAVED DRAINAGE SWALE | | 47 | 40 | 18 | 184 | RT |
| 17+43.86 | 17+97.34 | | | | | PAVED DRAINAGE SWALE | | 16 | 13 | 6 | 61 | LT |
| | | | | | | | | | | | | |
| SUBTOTAL | | ~ | ~ | ~ | ~ | | 0 | 160 | 181 | 71 | 623 | |

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AWARD COPY

# SUMMARY

## SIDEWALK

| STATION | | square yards | | | | | | | | linear feet | each | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CONCRETE SIDEWALK | | | | DETECTABLE WARNING DEVICES | | # REMOVE SIDEWALK | | WIDTH | SIDEWALK DRAIN | |
| | | 4" | | SPECIAL DESIGN | | TYPE 1 | | | | | | |
| FROM | TO | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | | | |
| 13+65.03 | 13+77.74 | | | 6.6 | | | | | | 5.0 | | MONOLITHIC CURB & SIDEWALK LT |
| 15+48.62 | 15+76.60 | | | 15.1 | | | | | | 5.0 | 1 | MONOLITHIC CURB & SIDEWALK LT |
| 15+68.49 | 15+81.29 | | | | | 2.0 | 2.0 | | | 9.0 | | PEDESTRIAN TRAIL CROSSING |
| | | | | | | | | | | | | |
| SUBTOTAL | | 0.0 | 0.0 | 21.7 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | ~ | 1 | |
| TOTAL | | 0.0 | | 21.7 | | 4.0 | | ~ | | ~ | 1 | |

# FOR INFORMATION ONLY - INCLUDE IN THE COST OF STREET EXCAVATION

## BIOENGINEERED BANK (LUMP SUM)

| STATION | | lump sum | cubic yards | | square yards | | linear feet | | each | acres | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BIOENGINEERED BANK | TOPSOIL | GRANULAR BEDDING MATERIAL | COIR NETTING | EROSION CONTROL BLANKET | 20" COIR LOGS | FASCINE | WILLOW CUTTINGS ## | SEED | |
| FROM | TO | | | | | LONG TERM | | | | | |
| 13+74.69 | 14+07.99 | 0.6 | 41 | 43 | 252 | | 161 | 80 | 1,110 | 0.1 | WEST BANK |
| 14+87.59 | 15+08.27 | 0.4 | 62 | | 141 | 63 | 90 | | 623 | 0.1 | EAST BANK |
| | | | | | | | | | | | |
| TOTAL | | 1 | #103 | #43 | #393 | #63 | #251 | #80 | #1,733 | #0.2 | |

# FOR INFORMATION ONLY

## RANDOM RIPRAP

| STATION | | cubic yards | | | | square yards | | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | RANDOM RIPRAP | | GRANULAR BEDDING MATERIAL # | BANK PROTECTION | GEOTEXTILE PERM. EROS. CNTRL. HIGH SURV. CLASS B | RIPRAP REVEGE-TATION | |
| FROM | TO | CL. I | CL. III | | TYPE 3 | | | |
| 13+59.03 | 13+65.03 | | | | 7.8 | 19 | | TYPE 3 BANK PROTECTION LT |
| 13+67.77 | 13+73.77 | | | | 7.8 | 19 | | TYPE 3 BANK PROTECTION RT |
| 13+73.09 | 14+16.31 | | 237.4 | 26 | | 243* | 66 | WEST BRIDGE END |
| 15+26.78 | 15+54.89 | | 108.8 | 10 | | 129* | 26 | EAST BRIDGE END |
| 15+29.75 | 15+35.66 | 3.2 | | | | 10 | | CLASS I RIPRAP APRON LT |
| 15+51.33 | 15+64.56 | | | | 5.2 | 12 | | TYPE 3 BANK PROTECTION LT |
| 15+62.80 | 15+72.52 | | | | 4.2 | 10 | | TYPE 3 BANK PROTECTION RT |
| | | | | | | | | |
| TOTAL | | 3.2 | 346.2 | ~ | 25.0 | 442 | 92 | |

# FOR INFORMATION ONLY - INCLUDED IN RIPRAP REVEGETATION BID ITEM

* 16 OZ/SY GEOTEXTILE REQUIRED UNDER CLASS 3 RIPRAP. SEE SPECIAL PROVISIONS.

## REVEGETATION

| STATION | | lump sum | cubic yards # | square yards # | acres # | | | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | REVEGE-TATION | TOPSOIL SALVAGING & PLACING | EROSION CONTROL BLANKET | SEED | FERTILIZER | CONDITION SEEDBED | |
| FROM | TO | | | LONG TERM | | | | |
| 12+00.86 | 13+80.65 B.E. | 0.3 | 19 | | 0.1 | 0.1 | 0.1 | |
| 13+80.65 B.E. | 15+53.35 B.E. | 0.4 | 21 | 189 | 0.1 | 0.1 | 0.1 | INCLUDES AREA DISTURBED BY RIPRAP INSTALLATION |
| 15+53.35 B.E. | 17+94.57 | 0.3 | 27 | 243 | 0.1 | 0.1 | 0.1 | INCLUDES ALONG PEDESTRIAN TRAIL |
| | | | | | | | | |
| TOTAL | | 1 | ~ | ~ | ~ | ~ | ~ | |

# FOR INFORMATION ONLY

## DETOUR #

| STATION | | lump sum | REMARKS |
|---|---|---|---|
| | | CONST., MAINTAIN & REMOVE DETOUR | |
| FROM | TO | | |
| 12+63.08 | 16+59.19 | 1 | |
| | | | |
| TOTAL | | 1 | |

# SEE DETAIL

## BOLLARDS

| STATION | | each | | REMARKS |
|---|---|---|---|---|
| | | REMOVABLE BOLLARD | REMOVE BOLLARD | |
| FROM | TO | | | |
| 41+60.24 | 41+61.97 | | 2 | REMOVE EX BOLLARDS RT |
| | | | | |
| 41+86.87 | | 1 | | |
| | | | | |
| TOTAL | | 1 | 2 | |

## BRIDGE END BACKFILL

| STATION | | cubic yards | square yards | REMARKS |
|---|---|---|---|---|
| | | BRIDGE END BACKFILL | GEOTEXTILE SEPARATION | |
| FROM | TO | TYPE 3 | HIGH SURV. | |
| 13+29.85 | 13+80.65 B.E. | 243 | 202 | WEST BRIDGE END |
| 15+53.35 B.E. | 16+06.04 | 255 | 214 | EAST BRIDGE END |
| | | | | |
| TOTAL | | 498 | 416 | |

## FENCING

| STATION | | linear feet | | | REMARKS |
|---|---|---|---|---|---|
| | | RAIL FENCE | REMOVE FENCE | RESET FENCE | |
| FROM | TO | | | | |
| 41+61.42 | 41+85.78 | 25.0 | | | LOG 2-RAIL FENCE, CONCRETE POST BASES LT |
| 41+84.75 | 41+86.74 | 8.5 | | | LOG 2-RAIL FENCE, CONCRETE POST BASES RT |
| | | | | | |
| TOTAL | | 33.5 | 0.0 | 0.0 | |

## REMOVE STRUCTURE

| STATION | lump sum | REMARKS |
|---|---|---|
| | REMOVE STRUCTURE | |
| 14+79 | 1 | 20' X 152' CONCRETE BRIDGE, NBI NO. M39031000+00401 |
| | | |
| TOTAL | 1 | |

## TEMPORARY SHORING

| STATION | | lump sum | REMARKS |
|---|---|---|---|
| FROM | TO | | |
| 13+80.65 B.E. | 15+53.35 B.E. | 1 | TEMPORARY SHORING LT & RT FOR BRIDGE CONSTRUCTION & RIPRAP INSTALLATION |

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# SUMMARY

## STORM DRAIN PIPE #

| PIPE SECTION | | | linear feet: ALLOWABLE PIPE MATERIALS | | | | linear feet: STORM DRAIN PIPE ## | | | REMOVE STORM DRAIN | END SECTIONS * | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FROM | TO | NAME | RCP | CMP | PVC | HDPE | 12" | 18" | 24" | | | |
| DI-1 | OUT-1 | SL-1 | CL. 3 | | | | | 72.0 | | 51.5 | FETS | REMOVE EX STORM DRAIN 24' LT |
| DI-2 | DI-1 | SL-2 | CL. 3 | | | | | 34.3 | | | | |
| DI-3 | DI-2 | SL-3 | CL. 3 | | | | | 116.2 | | | | |
| DI-4 | DI-2 | SL-4 | CL. 5 | | | | 41.4 | | | | | |
| | | | | | | | | | | | | |
| TOTAL | | | ~ | ~ | ~ | ~ | 41.4 | 222.5 | 0.0 | 51.5 | | |

# FUNDING - CITY OF DEER LODGE 100%
## GRANULAR BEDDING MATERIAL INCIDENTAL TO STORM DRAIN PIPE, SEE DETAILED DRAWINGS FOR BEDDING QUANTITITES AND DETAILS.
* FOR INFORMATION ONLY

## STORM DRAIN STRUCTURE SCHEDULE #

| NAME | STATION | each: REMOVE DROP INLET | each: RESET DROP INLET | each: STORM DRAIN STRUCTURE SQUARE 32" | each: STORM DRAIN STRUCTURE ROUND 30" | 48" | 60" | 72" | each: TOP IRON ## MH LID | TYPE 1/3 | TYPE 5/6 | TYPE A | TYPE B | TYPE 2 | TYPE 4 | each: CONCRETE APRON | vertical feet: ADDITIONAL BARREL 32" | 30" | 48" | 60" | 72" | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OUT-1 | 15+34.69 LT | | | | | | | | | | | | | | | | | | | | | REFER TO STORM DRAIN PIPE SUMMARY |
| | 15+99.00 LT | 1 | | | | | | | | | | | | | | | | | | | | INCLUDE STEEL GRATE & CONCRETE "STORM INLET" |
| DI-1 | 16+06.99 LT | | | | | 1 | | | | 1 | | | | | | | | | 2.7 | | | INCLUDE 2.0' SUMP DEPTH, INCLUDE MANHOLE STEPS |
| DI-2 | 16+42.65 LT | | | | | 1 | | | | 1 | | | | | | | | | 2.5 | | | INCLUDE 2.0' SUMP DEPTH, INCLUDE MANHOLE STEPS |
| DI-3 | 17+58.68 LT | | | | | 1 | | | | 1 | | | | | | | | | 0.5 | | | INCLUDE 2.0' SUMP DEPTH, INCLUDE MANHOLE STEPS |
| DI-4 | 16+42.65 RT | | | | | 1 | | | | 1 | | | | | | | | | 1.6 | | | INCLUDE 2.0' SUMP DEPTH, INCLUDE MANHOLE STEPS |
| | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | 1 | 0 | 0 | 0 | 4 | 0 | 0 | ~ | ~ | ~ | ~ | ~ | ~ | ~ | 0 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 | |

# FUNDING - CITY OF DEER LODGE 100%
## FOR INFORMATION ONLY, INCIDENTAL TO STORM DRAIN STRUCTURE.

## ADJUST WATER & SEWER

| STATION | each: ADJUST WATER VALVE BOX #* LEFT | RIGHT | ADJUST MANHOLE #* LEFT | RIGHT | ABANDON SEWER SERVICE LEFT | RIGHT | REMARKS |
|---|---|---|---|---|---|---|---|
| 15+88.7 | | | 1 | | | | |
| 16+65.7 | | 1 | | | | | |
| 16+68.0 | | 1 | | | | | |
| 17+17.0 | | | | | 1 | | |
| 17+92.7 | | 1 | | | | | |
| 17+53.9 | | | | | 1 | | |
| | | | | | | | |
| SUBTOTAL | 0 | 3 | 1 | 0 | 2 | 0 | |
| TOTAL | ~ | | ~ | | 2 | | |

# FUNDING - CITY OF DEER LODGE 100%
* FOR INFORMATION ONLY - WORK TO BE COMPLETED BY THE CITY OF DEER LODGE PERSONNEL

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# HYDRAULIC DATA SUMMARY *

| STATION | STREAM NAME ( IF NAMED ) | SIZE / TYPE STRUCTURE (1)(1A) | DESIGN FLOOD | | | BASE FLOOD (1%) | | OVERTOPPING FLOOD (2)(3) | | | REMARKS (FLOOD OF RECORD, Qp(max), etc.) (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MAGNITUDE (cfs) | FREQUENCY (%) | H.W. ELEV. (ft) | MAGNITUDE (cfs) | H.W. ELEV. (ft) | MAGNITUDE (cfs) | APPROX. FREQUENCY (%) | H.W. ELEV. (ft) | |
| 14+67 | CLARK FORK RIVER | 152' - 2 SPAN BRIDGE | 2,535 | 4 | 4,519.25 | 3,735 | 4,520.59 | 5,382 | 0.2 | 4,522.17 | Qp (MAX) |

NOTES :

* H.W. ELEVATIONS SHOWN ARE BASED UPON PEAK FLOW ANALYSIS UNLESS NOTED IN REMARKS COLUMN.

(1) STRUCTURE SIZE OR TYPE AND RELATED HYDRAULIC DATA MAY NOT REFLECT CHANGES MADE DUE TO R/W OR OTHER CONSIDERATIONS (I.E., STOCKPASS ADDED, STRUCTURE SIZE OR TYPE CHANGED, ROAD GRADE CHANGED DURING CONSTRUCTION, ETC.)

(1A) BRIDGE LENGTH SHOWN EQUALS THE WATER SURFACE WIDTH IN THE OPENING AT THE DESIGN H.W. ELEVATION MEASURED NORMAL TO FLOW.

(2) OVERTOPPING IS DEFINED AS FLOW OVER THE ROAD, FLOW THROUGH A SIGNIFICANT RELIEF STRUCTURE OR FLOW OVER THE BASIN DIVIDE WHICHEVER IS LOWER.

(3) FOR THOSE CROSSINGS NOTED BY Qp(max) IN THE REMARKS COLUMN OVERTOPPING DOES NOT OCCUR AND THE FLOOD MAGNITUDE LISTED CORRESPONDS TO THE FLOOD OF SECTION 650.115 (a) (1) (ii) OF FEDERAL-AID POLICY GUIDE; SUBCHAPTER G, PART 650, SUBPART A (DEC. 1991)
THE FLOOD SPECIFIED IS SUBJECT TO STATE-OF-THE-ART CAPABILITY TO ESTIMATE THE EXCEEDANCE PROBABILITY.
( PIPES 0.5%; BRIDGE 0.2%)

(4) HIGH WATER ELEVATIONS MAY VARY SLIGHTLY DEPENDING UPON THE PIPE OPTION SELECTED.

(5) PROCEDURE MEMORANDUM NO.10, HYDRAULICS MANUAL CHAPTER 9 APPENDIX H.

| EXCEEDANCE | PROBABILITIES |
|---|---|
| 25 YEAR | 4 % CHANCE |
| 50 YEAR | 2 % CHANCE |
| 100 YEAR | 1 % CHANCE |
| 200 YEAR | .5% CHANCE |
| 500 YEAR | .2% CHANCE |

CONLEY AVE BRIDGE
DEER LODGE
POWELL CO.
STPB 9039(44)

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40+00

STA. 41+61 TO 41+86 RAIL FENCE

RESET KIOSK

EX. R/W

REMOVABLE BOLLARD (SEE DETAIL)

CONSTRUCTION LIMITS (TYP.)

SEE TYPICAL TRAIL SECTION

(PED)-PI 41+89.63

CONLEY AVENUE

(PED)-PI 42+11.84

EX. R/W

S 16° 58' 05" E

S 6° 07' 49" E

S 1° 48' 35" E

STA. 41+85 TO 41+87 RAIL FENCE

(PED)-PT 41+42.04

(PED)-PC 41+19.05

PI =40+95.66
Δ =91° 15' 49" (LT)
R =15'
T =15.33'
L =23.89'
E =6.45'

WARP FILL SLOPE TO PROVIDE CULVERT DRAINAGE, DO NOT DISTURB CULVERT

(PED)-POB 40+00.00

(PED)-PT 41+04.22

N 75° 11' 28" E

(PED)-PC 40+80.33

9.0'

S 13° 32' 43" E

OBLITERATE EX. ASPHALT TRAIL. INCIDENTAL TO UNCL. EXC.

PI =41+33.49
Δ =87° 50' 27" (RT)
R =15'
T =14.45'
L =23.00'
E =5.82'

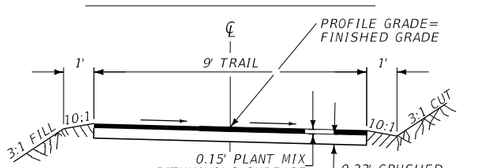
(PED)-PC 42+45.23

PI =42+90.97
Δ =6° 57' 04" (RT)
R =753'
T =45.73'
L =91.35'
E =1.39'

S 5° 08' 2

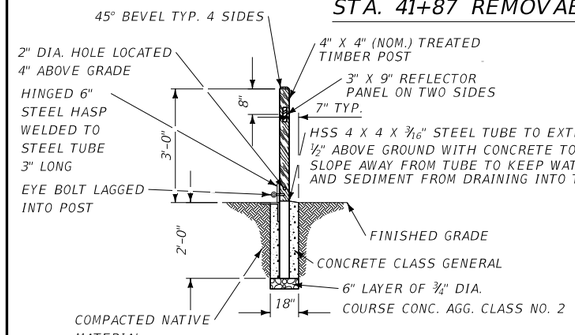
(PED)-PT 43+36.59

## TYPICAL TRAIL SECTION

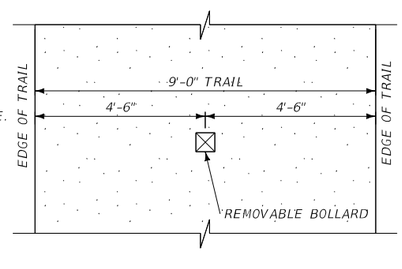



CROSS SLOPE = -1.5%

## STA. 41+87 REMOVABLE BOLLARD DETAIL




ELEVATION VIEW




PLAN VIEW



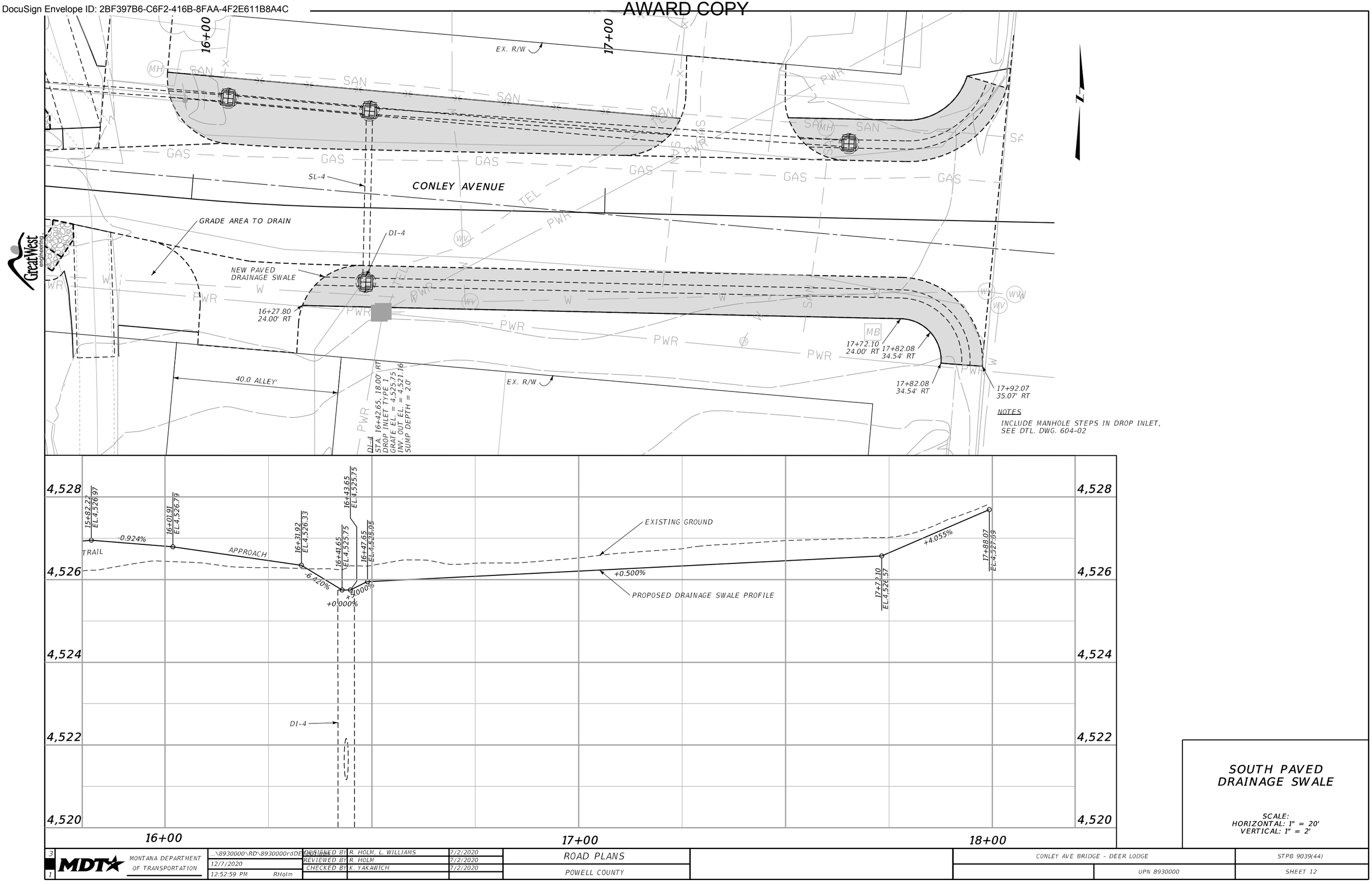

## PEDESTRIAN TRAIL PLAN & PROFILE

SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDES01.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 11/24/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| 2 | | 11/23/2020 | REVIEWED BY | R. HOLM | 11/24/2020 | | |
| | | 2:45:05 PM RHolm | CHECKED BY | K. YAKAWICH | 11/24/2020 | POWELL COUNTY | UPN 8930000 / SHEET 11 |

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## SOUTH PAVED DRAINAGE SWALE

SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 / 1 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDETAIL.dgn<br>12/7/2020<br>12:52:59 PM RHolm | DESIGNED BY R. HOLM, L. WILLIAMS 7/2/2020<br>REVIEWED BY R. HOLM 7/2/2020<br>CHECKED BY K. YAKAWICH 7/2/2020 | ROAD PLANS<br>POWELL COUNTY | | CONLEY AVE BRIDGE - DEER LODGE<br>UPN 8930000 | STPB 9039(44)<br>SHEET 12 |

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CLASS I RIPRAP APRON (SEE DETAIL)

OUT-1

GRADE TO DRAIN

15+91.60 30.03' LT

SL-1

16+00

WARP PAVED SWALE TO MATCH INLET GRATE (TYP. ALL INLETS)

DI-1

SL-2

DI-2

17+00

EX. R/W

SL-3

17+17.86 23.25' LT

17+43.86 24.00' LT

17+72.41 24.00' LT

17+82.61 28.01' LT

17+86.86 34.99' LT

17+96.50 32.32' LT

N

4520

4525

CONLEY AVENUE

SIDEWALK DRAIN (SEE DETAIL)

NEW PAVED DRAINAGE SWALE

DI-3

SL-4 12" X 37.4' RCP IRR CL. 5 @ 0.75%

DI-4

EX. R/W

STA. 15+24 TO 15+35 GRADE TO DRAIN OUTLET

OUT-1 STA. 15+34.69, 23.93' LT INV EL. = 4,519.28

STA. 15+59 NEW SIDEWALK DRAIN LT

DI-1 STA. 16+06.99, 24.95' LT DROP INLET TYPE 1 GRATE EL. = 4,525.50 INV. IN (E) EL. = 4,519.91 INV. OUT EL. = 4,519.81 SUMP DEPTH = 2.0'

DI-2 STA. 16+42.65, 23.36' LT DROP INLET TYPE 1 GRATE EL. = 4,525.67 INV. IN (E) EL. = 4,522.16 INV. IN (S) EL. = 4,520.88 INV. OUT EL. = 4,520.13 SUMP DEPTH = 2.0'

DI-3 STA. 17+58.68, 18.00' LT DROP INLET TYPE 1 GRATE EL. = 4,526.25 INV. OUT EL. = 4,522.72 SUMP DEPTH = 2.0'

NOTES

1. INCLUDE MANHOLE STEPS IN ALL DROP INLETS SEE DTL. DWG. 604-02

UTILITY CROSSINGS

16+42.7 11.6' LT GAS LINE X-ING STM DRN - 2.7' DEPTH
16+62.8 22.4' LT WATER LINE X-ING STM DRN - 6.4' DEPTH
17+08.9 20.3' LT TEL LINE X-ING STM DRN - DEPTH UNKNOWN
17+17.0 19.9' LT SEWER LINE X-ING STM DRN - 3.6' DEPTH
17+22.7 19.7' LT GAS LINE X-ING STM DRN - 2.7' DEPTH
17+27.4 19.5' LT POWER LINE X-ING STM DRN - 17.5' CLEAR
17+53.9 18.2' LT SEWER LINE X-ING STM DRN - 3.4' DEPTH

4,526
4,524
4,522
4,520

15+92.50 EL.4,526.56

16+06.00 EL.4,525.50

16+07.95 EL.4,525.50

17+13.65 EL.4,526.42

17+11.15 EL.4,526.00

17+49.05 EL.4,526.64

17+57.18 EL.4,526.25

17+60.80 EL.4,526.25

17+64.18 EL.4,526.45

17+92.64 EL.4,526.90

TRAIL

APPROACH

-8.199%

+0.000%

+0.495%

+16.599%

-4.822%

+0.000%

+5.000%

+1.250%

EXISTING GROUND

PROPOSED DRAINAGE SWALE PROFILE

REMOVE EXISTING 24" STORM DRAIN LT

REMOVE EXISTING 18" CSP STORM DRAIN LT

REMOVE EXISTING STORM INLET LT

BRIDGE RIPRAP

18" X 70.0' STM DR. WITH FETS @ 0.75%

18" X 30.3' STM DR. @ 0.75%

18" X 112.2' STM DR. @ 0.50%

TELEPHONE

GAS

SEWER (CUT, PLUG, AND ABANDON EXISTING SERVICE)

SEWER (CUT, PLUG, AND ABANDON EXISTING SERVICE)

WATER SERVICE

16+00

17+00

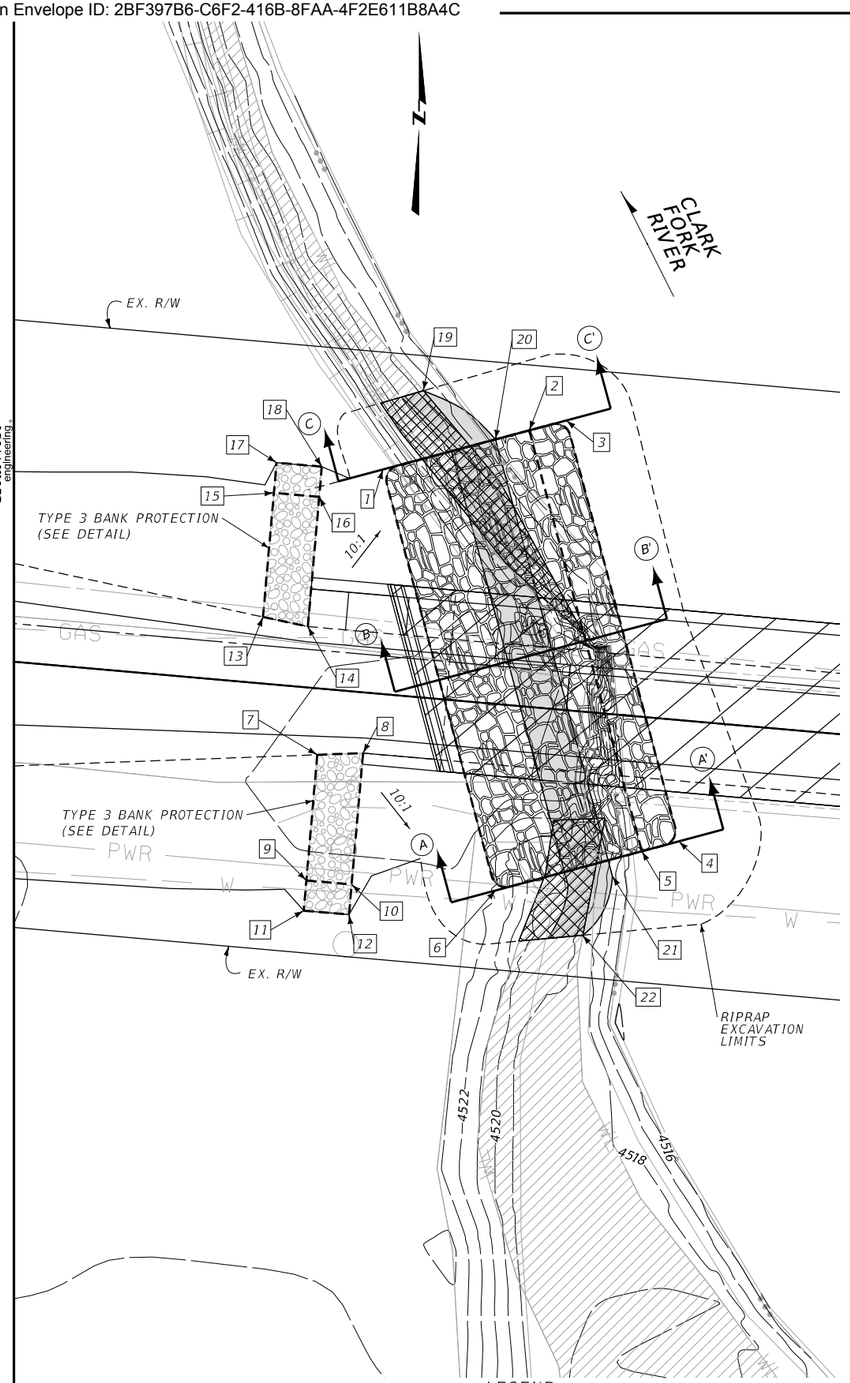
## NORTH PAVED DRAINAGE SWALE AND STORM DRAIN

SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDES.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 11/24/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| 1 | | 12/7/2020 | REVIEWED BY | R. HOLM | 11/24/2020 | | |
| | | 12:53:15 PM RHolm | CHECKED BY | K. YAKAWICH | 11/24/2020 | POWELL COUNTY | UPN 8930000 / SHEET 13 |

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| POINTS | N OR Y COORDINATE | E OR X COORDINATE | ELEVATION | REMARKS |
|---|---|---|---|---|
| 1 | 797,338.26 | 1,152,195.25 | 4,522.5 | TOP OF RIPRAP |
| 2 | 797,343.43 | 1,152,214.57 | 4,512.5 | TOE OF RIPRAP |
| 3 | 797,344.74 | 1,152,219.45 | 4,512.5 | TOE OF RIPRAP |
| 4 | 797,289.16 | 1,152,234.32 | 4,512.5 | TOE OF RIPRAP |
| 5 | 797,287.86 | 1,152,229.44 | 4,512.5 | TOE OF RIPRAP |
| 6 | 797,282.69 | 1,152,210.12 | 4,522.5 | TOP OF RIPRAP |
| 7 | 797,300.60 | 1,152,186.58 | 4,526.8 | TYPE 3 BANK PROTECTION |
| 8 | 797,300.82 | 1,152,192.63 | 4,526.9 | TYPE 3 BANK PROTECTION |
| 9 | 797,284.01 | 1,152,185.14 | 4,523.8 | TYPE 3 BANK PROTECTION |
| 10 | 797,283.49 | 1,152,191.12 | 4,523.8 | TYPE 3 BANK PROTECTION |
| 11 | 797,280.02 | 1,152,184.79 | 4,523.6 | TYPE 3 BANK PROTECTION |
| 12 | 797,279.50 | 1,152,190.77 | 4,523.6 | TYPE 3 BANK PROTECTION |
| 13 | 797,318.80 | 1,152,179.42 | 4,526.5 | TYPE 3 BANK PROTECTION |
| 14 | 797,317.53 | 1,152,185.33 | 4,526.7 | TYPE 3 BANK PROTECTION |
| 15 | 797,335.17 | 1,152,180.86 | 4,523.6 | TYPE 3 BANK PROTECTION |
| 16 | 797,334.65 | 1,152,186.83 | 4,523.7 | TYPE 3 BANK PROTECTION |
| 17 | 797,339.16 | 1,152,181.21 | 4,523.7 | TYPE 3 BANK PROTECTION |
| 18 | 797,338.63 | 1,152,187.19 | 4,523.8 | TYPE 3 BANK PROTECTION |
| 19 | 797,348.66 | 1,152,200.58 | 4,517.9 | BIOENGINEERED BANK |
| 20 | 797,342.24 | 1,152,210.12 | 4,517.9 | BIOENGINEERED BANK |
| 21 | 797,284.55 | 1,152,225.56 | 4,517.9 | BIOENGINEERED BANK |
| 22 | 797,276.78 | 1,152,221.60 | 4,517.9 | BIOENGINEERED BANK |
| 51 | 797,323.70 | 1,152,360.94 | 4,522.5 | TOP OF RIPRAP |
| 52 | 797,321.38 | 1,152,352.24 | 4,518.0 | TOE OF RIPRAP |
| 53 | 797,320.07 | 1,152,347.36 | 4,518.0 | TOE OF RIPRAP |
| 54 | 797,274.82 | 1,152,359.46 | 4,518.0 | TOE OF RIPRAP |
| 55 | 797,276.13 | 1,152,364.35 | 4,518.0 | TOE OF RIPRAP |
| 56 | 797,278.46 | 1,152,373.04 | 4,522.5 | TOP OF RIPRAP |
| 57 | 797,283.90 | 1,152,385.28 | 4,527.0 | TYPE 3 BANK PROTECTION |
| 58 | 797,282.85 | 1,152,390.14 | 4,527.4 | TYPE 3 BANK PROTECTION |
| 59 | 797,282.41 | 1,152,385.15 | 4,526.7 | TYPE 3 BANK PROTECTION |
| 60 | 797,279.25 | 1,152,390.26 | 4,526.8 | TYPE 3 BANK PROTECTION |
| 61 | 797,278.22 | 1,152,382.35 | 4,525.6 | TYPE 3 BANK PROTECTION |
| 62 | 797,274.88 | 1,152,387.34 | 4526.0 | TYPE 3 BANK PROTECTION |
| 63 | 797,274.89 | 1,152,380.12 | 4,525.3 | TYPE 3 BANK PROTECTION |
| 64 | 797,271.56 | 1,152,385.11 | 4,526.1 | TYPE 3 BANK PROTECTION |
| 65 | 797,305.57 | 1,152,378.42 | 4,528.2 | TYPE 3 BANK PROTECTION |
| 66 | 797,305.81 | 1,152,384.61 | 4,527.7 | TYPE 3 BANK PROTECTION |
| 67 | 797,307.06 | 1,152,378.56 | 4,527.6 | TYPE 3 BANK PROTECTION |
| 68 | 797,309.16 | 1,152,384.48 | 4,527.1 | TYPE 3 BANK PROTECTION |
| 69 | 797,311.60 | 1,152,374.69 | 4,525.4 | TYPE 3 BANK PROTECTION |
| 70 | 797,315.66 | 1,152,379.46 | 4,525.7 | TYPE 3 BANK PROTECTION |
| 71 | 797,314.64 | 1,152,372.10 | 4,525.5 | TYPE 3 BANK PROTECTION |
| 72 | 797,318.71 | 1,152,376.87 | 4,525.4 | TYPE 3 BANK PROTECTION |
| 73 | 797,317.09 | 1,152,308.33 | 4,517.5 | BIOENGINEERED BANK |
| 74 | 797,309.01 | 1,152,308.50 | 4,517.5 | BIOENGINEERED BANK |
| 75 | 797,298.69 | 1,152,308.17 | 4,517.5 | BIOENGINEERED BANK |
| 76 | 797,283.53 | 1,152,315.09 | 4,517.5 | BIOENGINEERED BANK |
| 77 | 797,276.07 | 1,152,321.16 | 4,517.5 | BIOENGINEERED BANK |

LEGEND

- CLASS III RIPRAP
- 20" DIA. COIR LOG BIOENGINEERED BANK
- XX POINT #
- TYPE 3 BANK PROTECTION (SEE DETAIL)
- X' SECTION CALLOUT

## RIPRAP AND BIOENGINEERED BANK LAYOUT

SCALE: 1" = 20'

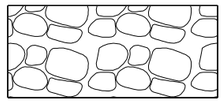
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDETAILS.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE | STPB 9039(44) |
| 2 | | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | | | |
| | | 2:45:29 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 | SHEET 14 |

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# DETAIL

## LEGEND



RANDOM RIPRAP

NATIVE MATERIAL

GRANULAR BEDDING MATERIAL

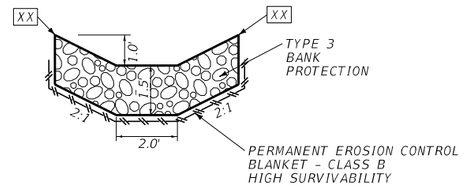
EXISTING GROUND

XX TYPICAL STAKING POINT LOCATION

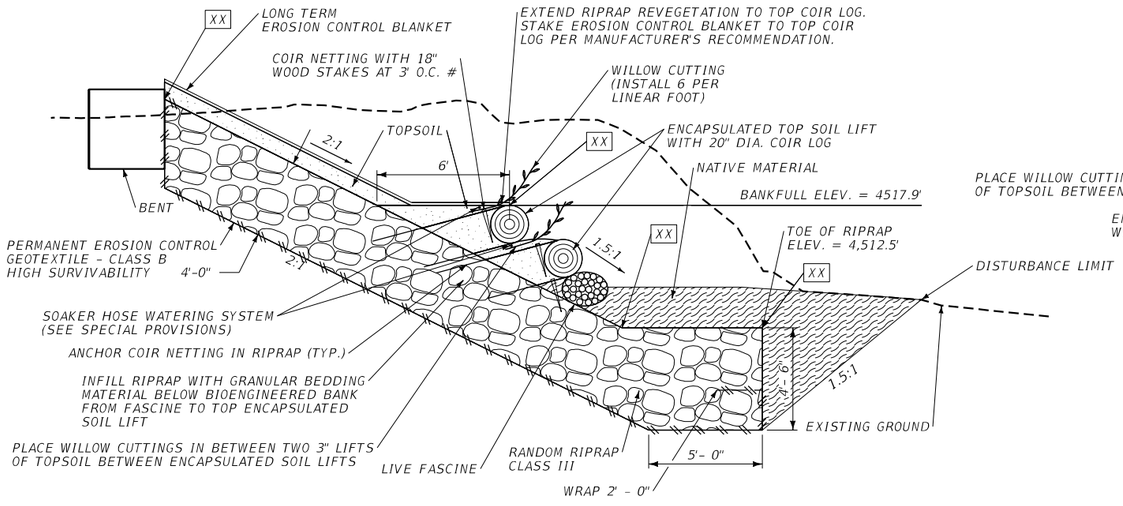
NOTES:

1. FILL RIPRAP VOIDS WITH GRANULAR BEDDING MATERIAL, OR A MATERIAL OF SIMILAR GRADATION OBTAINED ON SITE TO PROVIDE A UNIFORM SURFACE FOR THE PLACEMENT OF TOPSOIL AND BIOENGINEERED BANK COMPONENTS, AS APPROVED BY THE ENGINEER. BEDDING MATERIAL UNDER RIPRAP REVEGETATION IS INCLUDED IN THE RIPRAP REVEGETATION BID ITEM. BEDDING MATERIAL UNDER BIOENGINEERED BANK IS INCLUDED IN THE BIOENGINEERED BANK BID ITEM.
2. PLACE TOPSOIL WITH A MINIMUM THICKNESS OF 8".
3. BIOENGINEERED BANK DETAILS ARE TO BE USED AS A VISUAL GUIDE FOR RIPRAP REVEGETATION. REFER TO BANK SECTION DETAILS AND CROSS SECTIONS FOR SPECIFIC ELEVATIONS AND GEOMETRIC CONFIGURATION OF THE RIPRAP LAYOUT.
4. REFER TO THE SPECIAL PROVISIONS FOR PLANTING AND SEEDING SPECIFICATIONS.
5. MINIMIZE DISTURBANCE INSTALLING RIPRAP AND CONSTRUCTING BRIDGE.

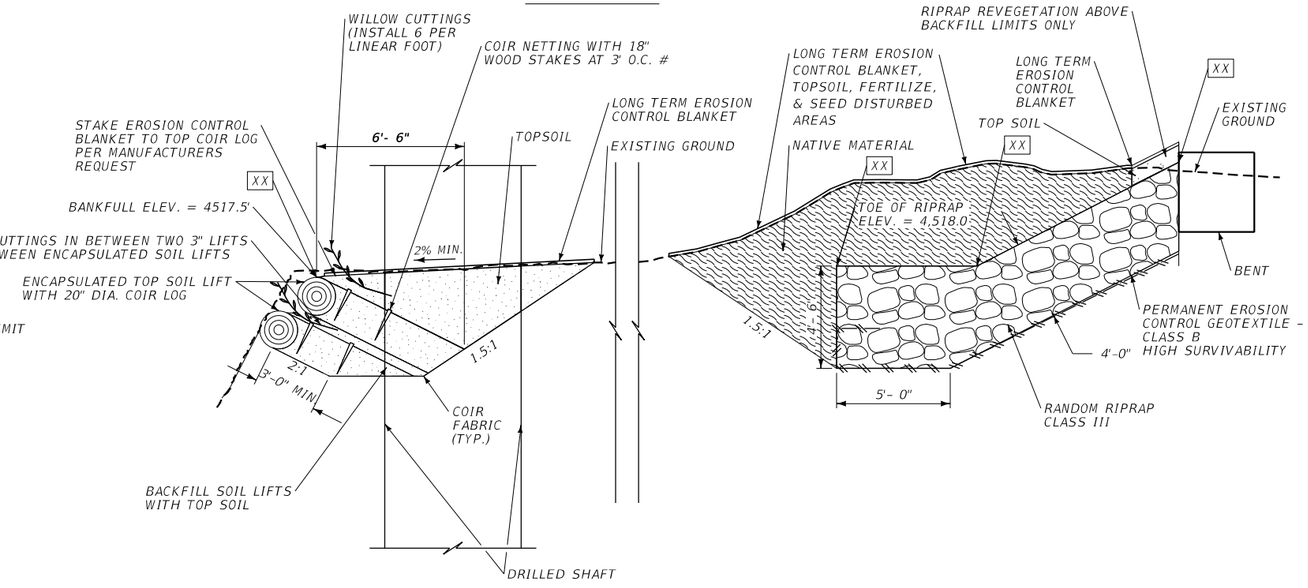
## TYPE 3 BANK PROTECTION DETAIL



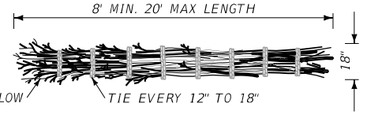

## WEST BANK




## EAST BANK




## FASCINE




NOTES:

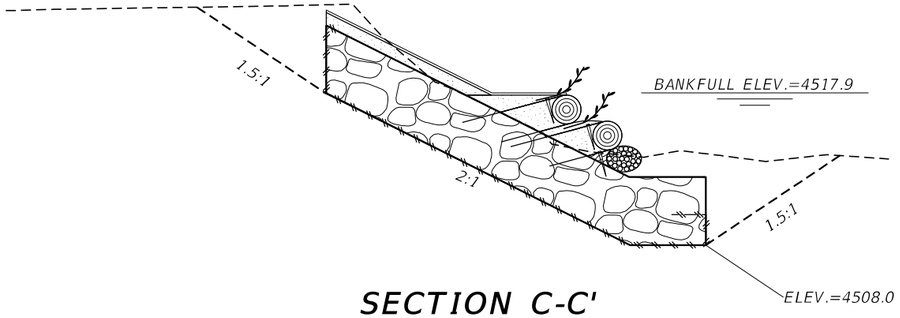
1. STAKE FASCINE EVERY 3' O.C.
2. OVERLAP ADJACENT FASCINE BUNDLES A MIN. OF 18". OVERLAP IN THE DOWNSTREAM DIRECTION TO PREVENT RIVER FLOW FROM DISLODGING FASCINE.
3. SUMMARY FRAME QUANTITY DOES NOT INCLUDE OVERLAP.

## BIOENGINEERED BANK TYPICAL SECTION

NO SCALE

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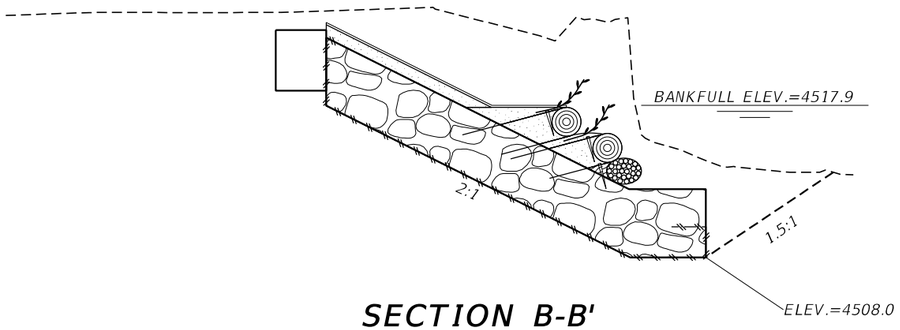
AWARD COPY



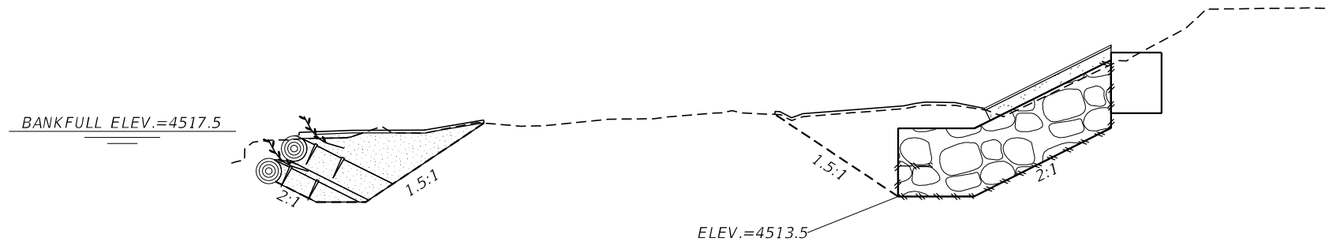

SECTION C-C'



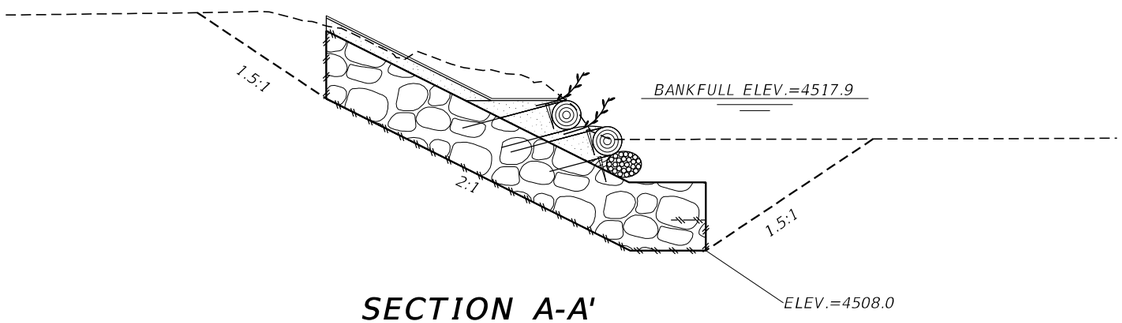

SECTION F-F'



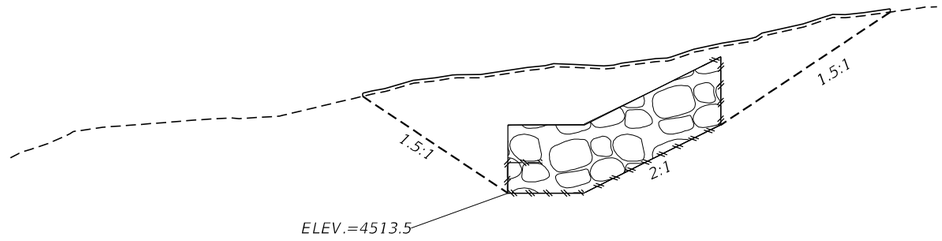

SECTION B-B'




SECTION E-E'




SECTION A-A'




SECTION D-D'

## BENTS 1 & 2 RIPRAP AND BIOENGINEERED BANK SECTIONS

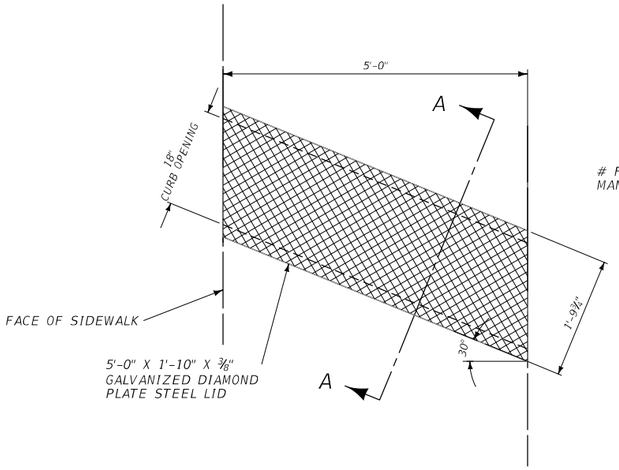
SCALE: 1" = 10'

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDES.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 7/2/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| 1 | | 11/23/2020 | REVIEWED BY | R. HOLM | 7/2/2020 | | |
| | | 2:45:34 PM RHolm | CHECKED BY | K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 16 |

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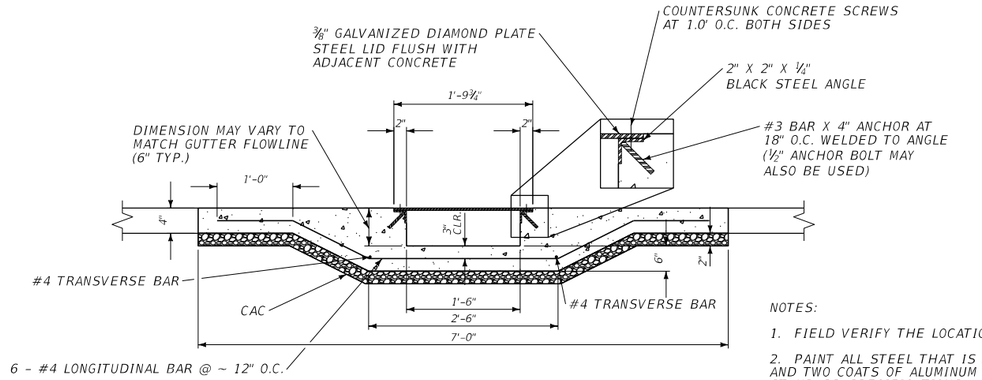
AWARD COPY

## STA 15+59 LT SIDEWALK DRAIN DETAIL




# FRAME OPENING IS PER MANUFACTURER'S RECOMMENDATION.

PLAN VIEW WITH FRAME
NO SCALE

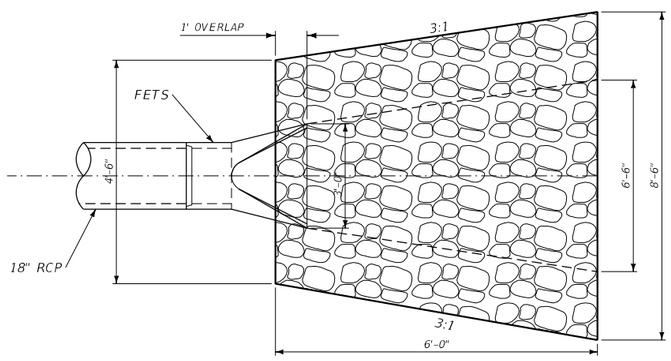



SECTION A-A
NO SCALE

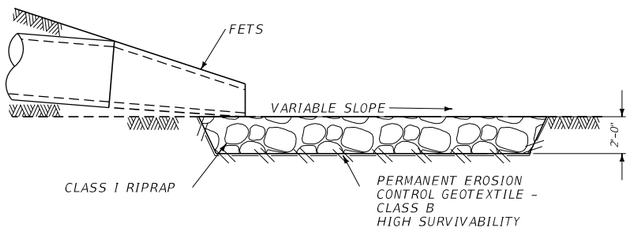
NOTES:

1. FIELD VERIFY THE LOCATION OF THE DRAIN WITH THE E.P.M.
2. PAINT ALL STEEL THAT IS NOT GALVANIZED WITH ONE COAT OF GALVANIZED PAINT AND TWO COATS OF ALUMINUM PAINT IN ACCORDANCE WITH SECTION 710 OF THE STANDARD SPECIFICATIONS.
3. USE STRUCTURAL STEEL MEETING THE REQUIREMENTS OF AASHTO M270 GRADE 36.
4. ATTACH GRATE TO FRAME WITH GALVANIZED, BOLTED CONNECTIONS PER MANUFACTURERS RECOMMENDATIONS. ENSURE FASTENERS DO NOT POSE A TRIP HAZARD.
5. INCLUDE COST OF ALL MATERIALS, TOOLS, LABOR & EQUIPMENT FOR THE COMPLETION OF THE DRAINAGE STRUCTURE IN SIDEWALK, COMPLETE AND IN PLACE, IN SIDEWALK DRAIN BID ITEM (PER EACH).

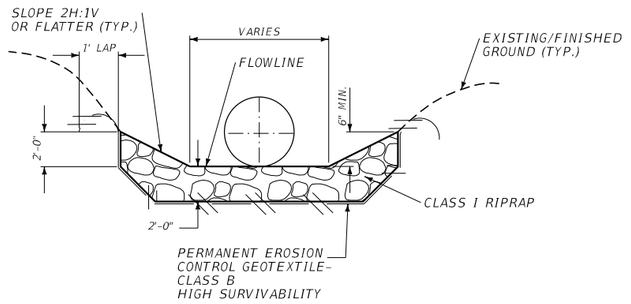
## STA 15+34 LT RIPRAP APRON




PLAN VIEW
NO SCALE




PROFILE VIEW
NO SCALE




ELEVATION VIEW
NO SCALE

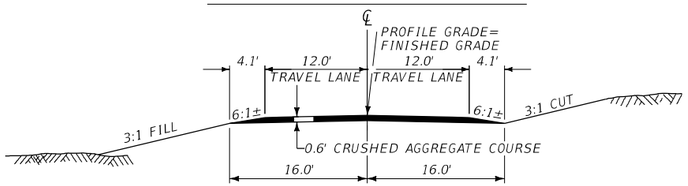
## SIDEWALK DRAIN AND RIPRAP APRON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDES01.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 11/24/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| 2 | | 11/23/2020 | REVIEWED BY | R. HOLM | 11/24/2020 | | |
| | | 2:45:37 PM RHolm | CHECKED BY | K. YAKAWICH | 11/24/2020 | POWELL COUNTY | UPN 8930000 / SHEET 17 |

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## TYPICAL DETOUR SECTION









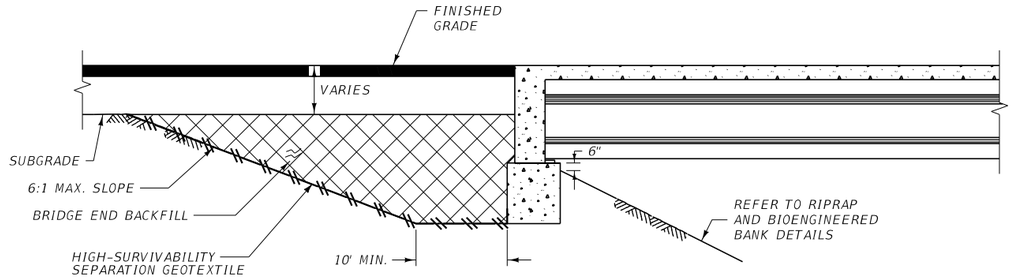

## WORK/DETOUR BRIDGE PLAN & PROFILE

(20 MPH DESIGN SPEED)
SCALE:
PLAN VIEW: 1" = 50'
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

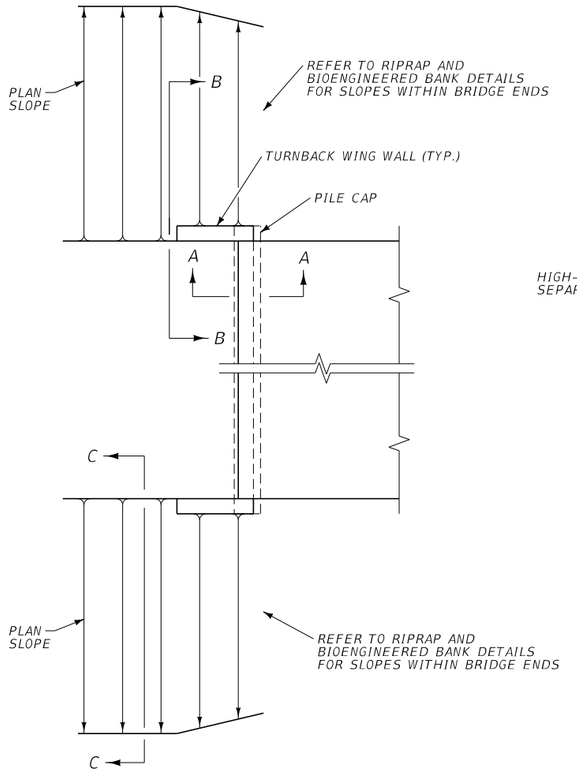
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 / 1 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDES.dgn<br>12/7/2020<br>10:48:14 AM RHolm | DESIGNED BY R. HOLM, L. WILLIAMS 12/7/2020<br>REVIEWED BY R. HOLM 12/7/2020<br>CHECKED BY K. YAKAWICH 12/7/2020 | ROAD PLANS<br>POWELL COUNTY | | CONLEY AVE BRIDGE - DEER LODGE<br>UPN 8930000 | STPB 9039(44)<br>SHEET 18 |

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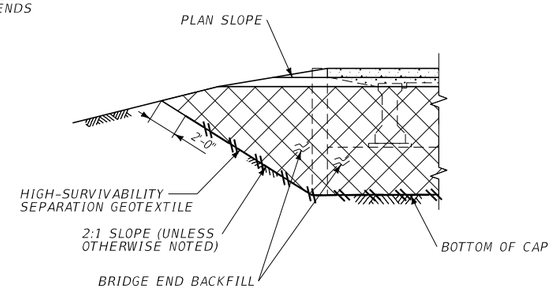
AWARD COPY



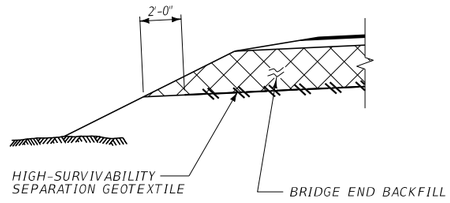

SECTION A-A




PLAN VIEW




SECTION B-B




SECTION C-C

## BRIDGE END BACKFILL

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdDES01.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE | STPB 9039(44) |
| 1 | | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | | | |
| | | 2:45:40 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | POWELL COUNTY | UPN 8930000 | SHEET 19 |

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GreatWest engineering

BNSF R.R.

KELLY STREET

CLARK FORK RIVER

MAIN STREET

CONLEY AVENUE

T. 7 N. R. 9 W. SEC. 4

POB 10+00.00

10+00

12+00.86 (MAINLINE)
BEG. PROJECT

17+94.57 (MAINLINE)
END PROJECT

Wetland ID = WL-1B
Measured Area = 0.014 ac
Impacted Area = 0.004 ac

Wetland ID = WL-1A
Measured Area = 0.357 ac
Impacted Area = 0.003 ac

Wetland ID = WL-1C
Measured Area = 0.051 ac
Impacted Area = 0.000 ac

Wetland ID = WL-2B
Measured Area = 0.005 ac
Impacted Area = 0.000 ac

Wetland ID = WL-2A
Measured Area = 0.099 ac
Impacted Area = 0.006 ac

Wetland ID = WL-1D
Measured Area = 0.058 ac
Impacted Area = 0.000 ac

PI =16+18.54
Δ =3° 45' 44" (LT)
R =500'
T =16.42'
L =32.83'
E =0.27'
S =NC

S 84° 58' 46" E
S 88° 44' 31" E

PA-5
PA-6

ST-1
ST-2
ST-3
ST-4
ST-4A

40' ALLEY

R 25.0'
R 20.0'

EX. R/W

80'

9+99.33 34.98' FND. R/W MONUMENT
10+00.67 R/W 44.97' FND. R/W MONUMENT
R/W 17+65.80 44.73' FND. R/W MONUMENT
R/W 17+70.92 35.05' FND. R/W MONUMENT

12+80.00 BEG. 50' CONST. PMT. BEG. ACQ. RT
13+58.08 BEG. 10' CONST. PMT. BEG. AOC. LT
13+76.69 R/W 44.97' CALC. R/W MONUMENT
14+04.74 BEG. DNRC PARCEL
14+76.78 R/W 44.97' CALC. R/W MONUMENT 14+71.43
10' TO 100' CONST. PMT. 14+71.43
14+86.94 END DNRC PARCEL
R/W 14+09.41 34.97' CALC. R/W MONUMENT
R/W 15+19.47 34.97' CALC. R/W MONUMENT
100' CONST. PMT. 14+71.43
100' TO 52' CONST. PMT. 15+21.34
52' CONST. PMT. 15+21.34
END 52' CONST. PMT. END ACQ. LT 15+76.82
PC 16+02.12
PT 16+34.95
POE 18+17.19
16+73.45 END 50' CONST. PMT. END AOC. RT
14+67 NEW 24' X 172.70' BRIDGE
14+79 20' X 152' BRIDGE IN PL REMOVE
15+14 12" CSP IN PL LT DO NOT DISTURB
15+45 TO 15+97 24"/18" CSP IN PL LT REMOVE
15+88 SAN. SEWER MANHOLE ADJUST TO GRADE
15+99 INLET IN PL LT REMOVE

UTILITY CROSSINGS
11+96.05 POWER LINE X-ING ℄ - 37.7' CLEAR
12+63.55 POWER LINE X-ING ℄ - 31.2' CLEAR
16+64.36 WATER LINE X-ING ℄ - DEPTH 6.6'
16+77.58 TEL LINE X-ING ℄ - DEPTH UNKNOWN
16+92.31 POWER LINE X-ING ℄ - 24.3' CLEAR
17+15.90 SEWER LINE X-ING ℄ - DEPTH 3.2'
17+52.13 SEWER LINE X-ING ℄ - DEPTH 3.1'

ADJUST TO GRADE (BY OTHERS)
15+88.7 - 30.5' LT SANITARY SEWER MANHOLE
16+65.7 - 6.9' RT WATER VALVE BOX
16+68.0 - 22.2' RT WATER VALVE BOX
17+92.7 - 16.9' RT WATER VALVE BOX

13+73 TO 14+16 CLASS III RIPRAP
15+27 TO 15+55 CLASS III RIPRAP
15+84 PRIVATE APP LT
16+16 PUBLIC APP RT
17+31 PRIVATE APP LT

13+75 TO 14+08 BIOENGINEERED BANK
14+88 TO 15+08 BIOENGINEERED BANK

PAVED SWALE: LT
PAVED SWALE: RT

13+54.65 EL.4,527.15
13+80.65 B.E. EL.4,527.67
14+67.00 EL.4,529.40
15+53.35 B.E. EL.4,527.67
17+94.57 EL.4,527.25
12+00.86 EL.4,522.65
12+60.91 EL.4,523.40
16+23.50 EL.4,526.27
17+50.00 EL.4,526.90

120' VC
110' VC
50' VC
173' VC

+4.000%
+2.000%
+2.000%
+2.000%
-2.000%
+0.500%
+0.500%
+0.787%
+1.250%

13+29 TO 13+81 B.E. BRIDGE END BACKFILL AND SUB EXCAVATION
13+59 TO 13+66 LT
13+68 TO 13+74 RT
TYPE 3 BANK PROTECTION AND GETOTEXTILE (SEE DETAIL)

15+53 B.E. TO 16+07 BRIDGE END BACKFILL AND SUB EXCAVATION
15+30 TO 15+36 LT CLASS I RIPRAP APRON AND GEOTEXTILE (SEE DETAIL)

17+80 TO 17+97 LT REMOVE CURB AND GUTTER
15+53 TO 15+65 LT
15+63 TO 15+73 RT
TYPE 3 BANK PROTECTION AND GETOTEXTILE (SEE DETAIL)

+92 +18 +44 +97
+28 +92
+68 +81
+65 +78 +49 +77

DETECTABLE WARNING DEVICES ON TRAIL
MONOLITHIC CURB & SIDEWALK LT

4,540
4,530
4,520
4,510
4,500

10+00 12+00 14+00 16+00 18+00

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MDT | MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdPLOTS.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | ROAD PLANS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| 2 | | | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | | |
| | | | 2:45:42 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 20 |

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# SUMMARY
# SIGNING & DELINEATION QUANTITIES

| MATERIAL | TOTAL | UNIT |
|---|---|---|
| SIGNS-SHEET ALUMINUM-REFLECTIVE SHEETING(IV) | 10.0 | SQ. FOOT |
| SIGNS-SHEET ALUMINUM-REFLECTIVE SHEETING(XI) | 29.8 | SQ. FOOT |
| | . | . |
| SIGNS-ALUMINUM SHEET INCREMENT SHEETING (IV) | . | SQ. FOOT |
| SIGNS-ALUMINUM SHEET INCREMENT SHEETING (XI) | . | SQ. FOOT |
| OVERLAY-SHEET ALUMINUM | . | SQ. FOOT |
| POSTS-STEEL "U" | 80 | POUNDS |
| POLES-TREATED WOOD-4" DIA. | 10 | LINEAR FT. |
| POLES-TREATED WOOD-5" DIA. | . | LINEAR FT. |
| . | . | . |
| POLES-TREATED TIMBER-CLASS 4 | . | LINEAR FT. |
| POLES-TREATED TIMBER-CLASS 3 | . | LINEAR FT. |
| POSTS-TUBULAR STEEL (ROUND) | . | POUNDS |
| POSTS-TUBULAR STEEL (SQUARE PERFORATED) | 186 | POUNDS |
| POSTS-STRUCTURAL STEEL | . | POUNDS |
| OVERHEAD STRUCTURE-METAL-CANTILEVER | . | EACH |
| OVERHEAD STRUCTURE-METAL-BRIDGE | . | EACH |
| | . | . |
| HIGHWAY TRAFFIC STRIPING-WHITE | . | GAL.(S) |
| HIGHWAY TRAFFIC STRIPING-YELLOW | . | GAL.(S) |
| WORDS & SYMBOLS | . | GAL.(S) |
| . | . | . |
| DELINEATOR-DESIGN A | . | EACH |
| DELINEATOR-DESIGN B | . | EACH |
| DELINEATOR-DESIGN C | . | EACH |
| DELINEATOR-DESIGN D | . | EACH |
| DELINEATOR-DESIGN E | . | EACH |
| DELINEATOR-DESIGN F | . | EACH |
| DELINEATOR-DESIGN G | . | EACH |
| DELINEATOR-DESIGN H | . | EACH |
| REMOVE SIGNS | 3 | EACH |
| REMOVE SIGNS-GUIDE | . | EACH |
| RESET SIGNS | 2 | EACH |
| RESET SIGNS-GUIDE | 1 | EACH |
| | . | . |
| FRANGIBLE SIGN POST BREAKAWAY DEVICE- | . | EACH |
| FRANGIBLE SIGN POST BREAKAWAY DEVICE- | . | EACH |
| . | . | . |
| . | . | . |
| SQUARE TUBULAR SLIPBASE BREAKAWAY DEVICE-3" | . | EACH |

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# SIGN LOCATION AND SPECIFICATIONS

| STATION | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG TYPE: BACK-GROUND | REFL SHTG TYPE: LEGEND | FEET: CLEARANCE | FEET: SIGN SUPPORT SPACING | FEET: TYPE OF SUPPORT | FEET: CANTILEVER | FEET: SUPPORT LENGTH (ESTIMATED) | FEET: SUPPORT LENGTH (INSTALLED) | FEET: MOUNTING HEIGHT | FEET: FOUNDATION DEPTH | SIGN PANEL (SQ. FT.): SHEET ALUMINUM | SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT | SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY | TIMBER POLE (LINEAR FT.): 4" TOP DIA. | TIMBER POLE (LINEAR FT.): 5" TOP DIA. | STEEL POST(LBS.): ROUND TUBULAR | STEEL POST(LBS.): SQUARE TUBULAR | STEEL POST(LBS.): STRUCTURAL STEEL | STEEL POST(LBS.): "U" POST | BREAKAWAY | SIGNS GUIDE: REMOVE | SIGNS GUIDE: RESET | REMOVE | RESET | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONLEY AVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11+67 LT | | D3-1 D3-1 | USE AS IS | | | | | | | | | | | | | | | | | | | | | | | | | D3-1 = CONLEY AVE D3-1 = KELLY ST |
| 13+63 LT | | OM3-L | 12X36 | XI | | 1-0 | | 2LB STL U POST | | 10-0 | | 4-0 | 3-0 | 3.0(XI) | | | | | | | | 20 | | | | | | NEW OBJECT MARKER |
| 13+72 RT | | OM3-R | 12X36 | XI | | 1-0 | | 2LB STL U POST | | 10-0 | | 4-0 | 3-0 | 3.0(XI) | | | | | | | | 20 | | | | | | NEW OBJECT MARKER |
| 15+60 LT | | OM3-R | 12X36 | XI | | 1-0 | | 2LB STL U POST | | 10-0 | | 4-0 | 3-0 | 3.0(XI) | | | | | | | | 20 | | | | | | NEW OBJECT MARKER |
| 15+69 RT | | OM3-L | 12X36 | XI | | 1-0 | | 2LB STL U POST | | 10-0 | | 4-0 | 3-0 | 3.0(XI) | | | | | | | | 20 | | | | | | NEW OBJECT MARKER |
| 16+08 LT | | W14-1 | 30X30 | XI | | 5-0 | | 2½" SQ. TUBE | | 12-0 | | 7-0 | 3-0 | 6.3(XI) | | | | | | 61 | | | ▲ | 1 | | | | REPLACE EXISTING DEAD END SIGN |
| 16+38 LT | | W5-3 | 30X30 | XI | | 5-0 | | 2½" SQ. TUBE | | 12-0 | | 7-0 | 3-0 | 6.3(XI) | | | | | | 61 | | | ▲ | | | | | W5-3 = ONE LANE BRIDGE NEW |
| 17+71 LT | | BY OTHERS | | | | | | | | | | | | | | | | | | | | | | | | | | LAST SPIKE PRIVATE EXHIBITS |
| 17+86 RT | | (2) D3-1 (2) D3-1 | 30X10 42X10 | IV IV | IV IV | | | | | | | | | 4.2(IV) 5.8(IV) | | | | | | | | | | | | | | (2) D3-1 = MAIN ST (2) D3-1 = CONLEY AVE |
| | | R1-1 | 30X30 | XI | XI | 6-0 | | 2½" SQ. TUBE | | 12-10 | | 7-0 | 3-0 | 5.2(XI) | | | | | | 64 | | | ▲ | 1 | | | | REPLACE EXISTING STOP SIGN |
| PEDESTRIAN TRAIL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41+46 LT | | TRAIL KIOSK | RESET | | | 4-0 | | | | | | | | | | | | | | | | | | | | 1 | | RESET TRAIL KIOSK |
| 41+66 RT | | (3) BY OTHERS | REUSE | | | 4-0 | | 4" Dia. POLE | | 8-6 | | 4-0 | 3-0 | | | | 10 | | | | | | | 1 | | | | (3) SIGNS |
| 42+24 LT | | TRAIL MAP | RESET | | | 4-0 | | | | | | | | | | | | | | | | | | | 1 | | | PRIVATE SIGN WITH INTEGRAL SIGN SUPPORT AND POLE |
| 42+27 RT | | HISTORIC SIGN | | | | 4-0 | | | | | | | | | | | | | | | | | | | | | | NEW HISTORIC SIGN SEE SPECIAL PROVISIONS |
| 42+36 RT | | (4) BY OTHERS | RESET | | | 4-0 | | | | | | | | | | | | | | | | | | | 1 | | | (4) SIGNS |
| TOTALS | | | | | | | | | | | | | | 10.0(IV) 29.8(XI) | | | 10 | | | 186 | | 80 | | 3 | 2 | | 1 | |

▲ = SINGLE SQUARE TUBE REQUIRED. MOUNTED IN HEAVY DUTY STUB.

| SQUARE TUBE SUPPORT | | |
|---|---|---|
| TUBE SIZE | WEIGHT | WALL THICKNESS |
| 2" | 2.42 lbs/ft | 0.105" (12 GAUGE) |
| 2¼" | 2.77 lbs/ft | 0.105" (12 GAUGE) |
| 2½" | 3.14 lbs/ft | 0.105" (12 GAUGE) |

| SQUARE TUBE ANCHOR | | |
|---|---|---|
| TUBE SIZE | WEIGHT | WALL THICKNESS |
| 2½" | 18.36 lbs ea. | 0.135" |
| 3" | 22.98 lbs ea. | 0.188" |

For estimating purposes only.

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GreatWest engineering

STA. 12+00.86 (MAINLINE)
BEGIN STPB 9039(44)

11+67
USE AS IS
D3-1 (CONLEY AVE)
D3-1 (KELLY ST)

CONLEY AVE
KELLY ST

EX. R/W

13+63
NEW
OM3-L

13+72
NEW
OM3-R

15+00

15+60
NEW
OM3-R

15+69
NEW
OM3-L

15+70
HISTORICAL BRIDGE
SIGN

HISTORIC SIGN

41+66
REUSE

NO MTR VEH
ICY TRAILS
POWELL CO.

41+46
TRAIL KIOSK
RESET

TRAIL KIOSK

PARK SIGN
PET WASTE
ICE WARNING
ICY TRAILS

42+36
RESET

TRAIL MAP

42+24
TRAIL MAP
RESET

PI =16+18.54
Δ =3° 45' 44" (LT)
R =500'
T =16.42'
L =32.83'
E =0.27'
S =NC

PC 16+02.12

PT 16+34.95

16+08
REPLACE
W14-1

DEAD END

16+38
NEW
W5-3

ONE LANE BRIDGE

17+71
BY OTHERS

PRIVATE SIGN

POE 17+87.13

S 84° 58' 46" E

S 88° 44' 31" E

EX. R/W

EX. R/W

EX. R/W

STOP

CONLEY AVE

MAIN ST

17+86
NEW
(4) D3-1
REPLACE
R1-1

STA. 17+94.57 (MAINLINE)
END STPB 9039(44)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\SI\8930000siPLN01.dgn | DESIGNED BY L. WILLIAMS | 4/7/2020 | SIGNING PLANS | CONLEY AVE BRIDGE - DEER LODGE | STPB 9039(44) |
| 2 | | 4/7/2020 | REVIEWED BY K. YAKAWICH | 4/7/2020 | | | |
| 1 | | 2:49:01 PM lwilliams | CHECKED BY R. HOLM | 4/7/2020 | POWELL COUNTY | UPN 8930000 | S3 |

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| ASSOCIATED PROJECT AGREEMENT NUMBERS | |
|---|---|
| P. E. | STPB 9039(43) |

# MONTANA DEPARTMENT OF TRANSPORTATION

# BRIDGE PLANS AND QUANTITIES

## FEDERAL AID PROJECT STPB 9039(43)

## CONLEY AVE BRIDGE – DEER LODGE

## POWELL COUNTY

| BRIDGE IDENTIFICATION | |
|---|---|
| MDT STR ID | NBI NUMBER |
| 04955 | M39031000+00401 |

BY _____

DATE _____

MONTANA
KARL F. YAKAWICH
15133 PE
PROFESSIONAL ENGINEER
LICENSED

SCALES SHOWN ON BRIDGE PLAN SHEETS ARE FOR FULL SIZE (22 X 34) PRINTS
REDUCED PRINTS ARE APPROXIMATELY ONE-HALF ORIGINAL SCALE

**APPROVED**
**By Karl Yakawich at 7:39 am, Dec 14, 2020**

## LIST OF DRAWINGS


| SHEET NO. | DWG. NO. | TITLE |
|---|---|---|
| **BRIDGE DRAWINGS** | | |
| B1 | 24266 | LIST OF DRAWINGS & ESTIMATED BRIDGE PLAN QUANTITIES |
| B2 | 24267 | GENERAL LAYOUT AT STA. 14+67.00 |
| B3 | 24268 | FOOTING PLAN |
| B4 | 24269 | BENT NO. 1 & BENT NO. 3 |
| B5 | 24270 | BENT NO. 1 & NO. 3 DETAILS |
| B6 | 24271 | BENT NO. 1 & NO. 3 WINGWALL DETAILS |
| B7 | 24272 | BENT NO. 1 & NO. 3 WINGWALL DETAILS |
| B8 | 24273 | BENT NO. 2 |
| B9 | 24274 | BENT NO. 2 DRILLED SHAFT DETAILS |
| B10 | 24275 | ERECTION PLAN |
| B11 | 24276 | MISCELLANEOUS DETAILS |
| B12 | 24277 | BEAM DETAILS SPAN NO. 1 |
| B13 | 24278 | BEAM DETAILS SPAN NO. 2 |
| B14 | 24279 | BRIDGE BARRIER RAIL ELEVATION & DETAILS |
| B15 | 24280 | BRIDGE BARRIER RAIL DETAILS |

| DWG. NO. | TITLE |
|---|---|
| **STANDARD DRAWINGS** | |
| PSD (APPROVED 1-30-15) | STANDARD PILE SPLICE DETAILS AND PILE TIPS |


**ESTIMATED BRIDGE PLAN QUANTITIES**

| MDT STRUCTURE NUMBER 04955 LOCATION | LENGTH (FT) | CONCRETE - CLASS STRUCTURE ($YD^3$) | CONCRETE - CLASS STRUCTURE LOW SLUMP ($YD^3$) | CONCRETE - CLASS DRILLED SHAFT ($YD^3$) | PRESTRESSED BEAMS TYPE BULB TEE (FT) | REINFORCING STEEL | | STRUCTURAL STEEL - MISC (LS) | DRILLED SHAFT - 6.0 FT (FT) | TEMPORARY DRILLED SHAFT CASING (FT) | THERMAL INTEGRITY PROFILER (EACH) | RE-DRIVE TEST PILE (EACH) | DYNAMIC LOAD TEST (EACH) | FURNISH STEEL PILE - PIPE (LB) | DRIVE STEEL PILE (FT) | PILE CONICAL DRIVING POINT (EACH) | ANTI-GRAFFITI COATING ($YD^2$) | BARRIER RAIL-CAST IN PLACE-BR-CSC (FT) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | REGULAR (LB) | EPOXY (LB) | | | | | | | | | | | |
| BENT NO. 1 | | 30.5 | | | | 3131 | !423 | | | | | 1 | 1 | 26165 | 304.4 | 6 | 37.0 | 0 |
| BENT NO. 2 | | 21.9 | | 72.4 | | 16634 | 0 | | 70 | 70 | 1 | | | | | | 36.0 | 0 |
| BENT NO. 3 | | 30.5 | | | | 3131 | !423 | | | | | 1 | 1 | 30638 | 358.4 | 6 | 37.0 | 0 |
| SUPERSTRUCTURE | 170.0 | | 16.0 | | 673 | 0 | 9545 | 1 | | | | | | | | | 246.0 | 387.2 |
| TOTAL | 170.0 | 82.9 | 16.0 | 72.4 | 673 | 22896 | 12391 | 1 | 70 | 70 | 1 | 2 | 2 | 56803 | 662.8 | 12 | 356.0 | 387.2 |

SHEET NO. B1

LIST OF DRAWINGS & ESTIMATED BRIDGE PLAN QUANTITIES

SCALE: No Scale

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| REVISED | REVISED | REVISED | REVISED | CHECKED | 09-11-20 | K.F.Y. |
| | | | | DRAWN | 09-11-20 | P.K.S. |
| | | | | DESIGNED | 09-11-20 | G.C.G. |

C:\DGN\B9300000rdQSHz01.dgn

MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

12/2/2020 4:43:43 PM

ROUTE L-39-1272N

REF POINT 0+0.04

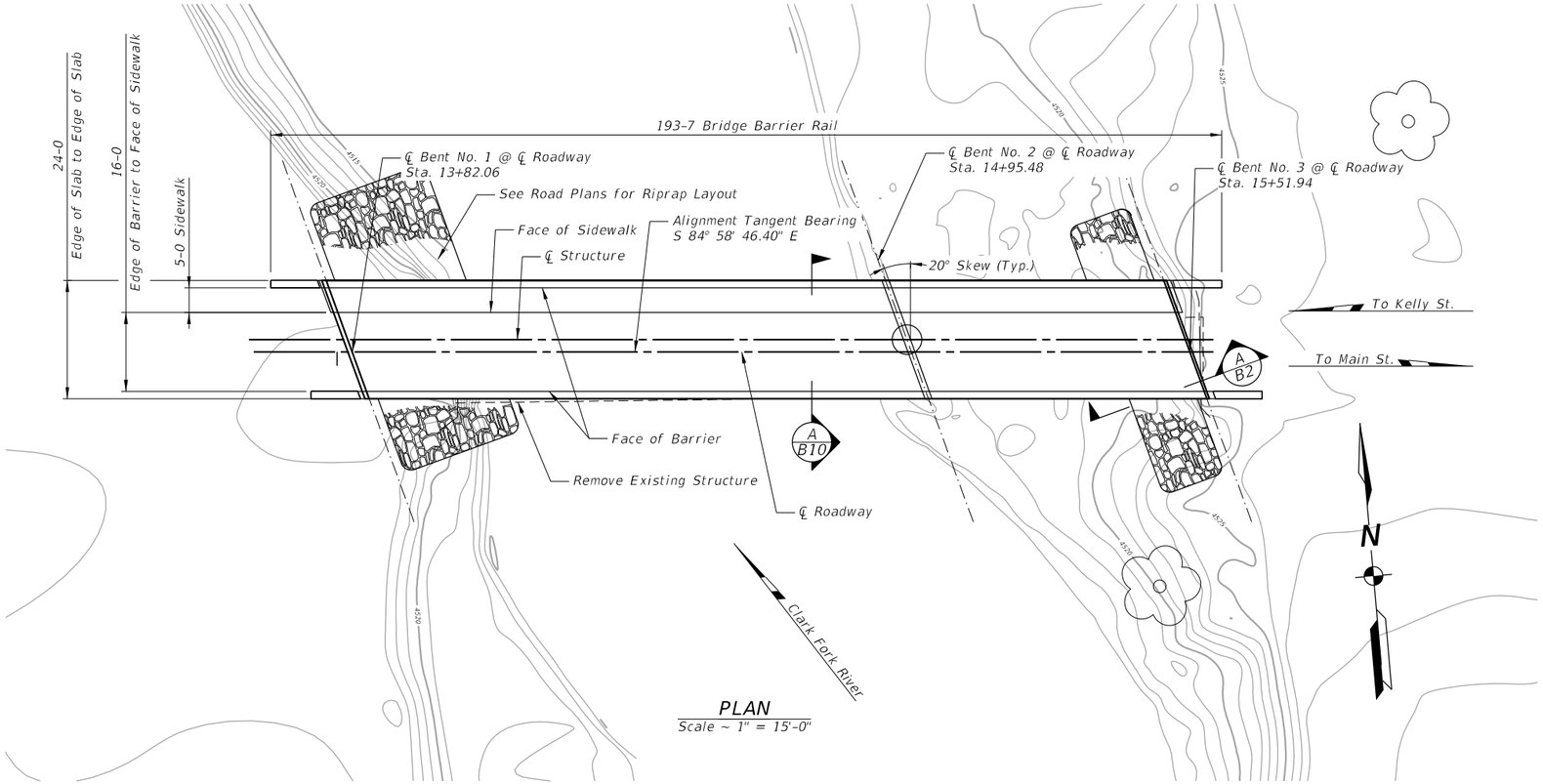
MDT STR. ID 04955

UPN NUMBER 8930000

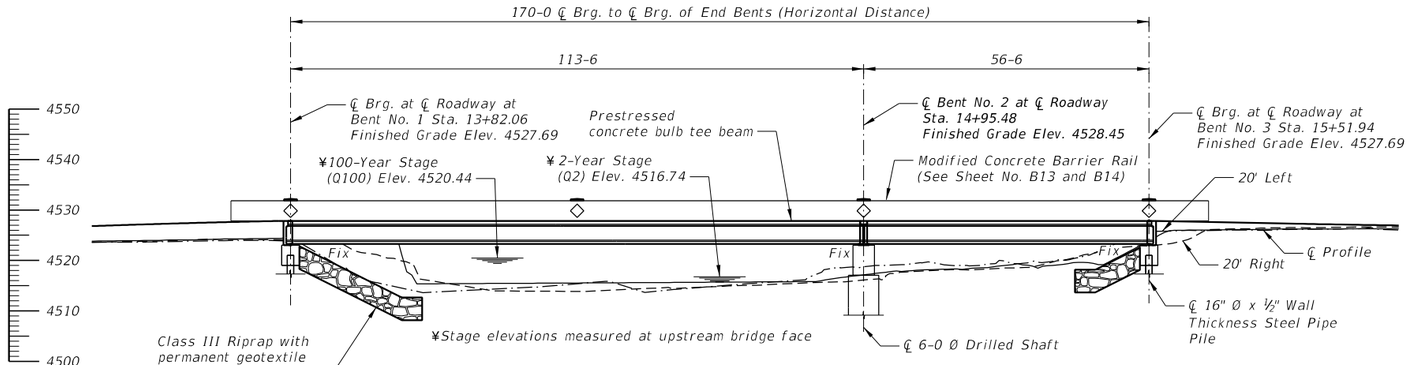
DRAWING NO. 24266

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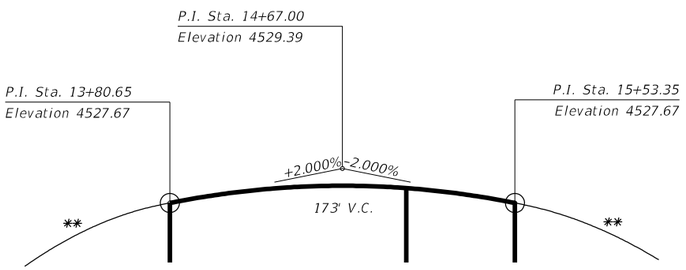
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PLAN
Scale ~ 1" = 15'-0"

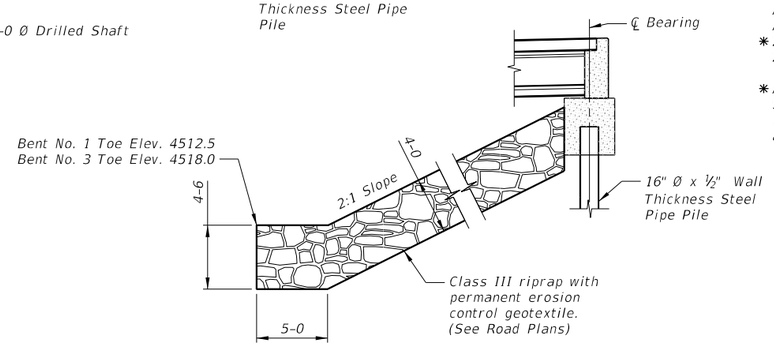



ELEVATION
Scale ~ 1" = 15'-0"




PROFILE GRADE
No Scale

** Note: See Road Plans




A/B2 RIPRAP CROSS-SECTION
Scale: 3/16" = 1'-0"

## NOTES

FINISHED GRADE: Finished grade of bridge at centerline roadway is the same as the Profile Grade shown on Road Plans.

LIVE LOAD: Standard HL-93 loading.

SPECIFICATIONS: Montana Department of Transportation Standard and Supplemental Specifications for Road and Bridge Construction; 2020 Edition; V1.2 and any amendments thereto, and the Special Provisions govern unless otherwise noted. The design was prepared in accordance with AASHTO LRFD Bridge Design Specifications, Eigth edition – with current Interim revisions.

REINFORCING STEEL: Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31 Grade 60 or ASTM Specification A 706 Grade 60 as specified. Include all costs associated with furnishing and placing new reinforcing steel in the unit price bid for either Reinforcing Steel, Reinforcing Steel – Epoxy or Reinforcing Steel – Seismic.

REINFORCING STEEL SUFFIX:
The suffix E denotes epoxy coated reinforcing steel. The suffix W denotes A706 reinforcing steel.

REINFORCING STEEL COVER: Unless specified otherwise on the drawings, the minimum concrete cover measured from the face of the concrete to the face of any reinforcing steel is 2" except as noted below:

| | |
|---|---|
| Bottom of Slab | 1" |
| Top of Slab | 2½" |
| Bottom of Abutment Caps | 3" |
| Concrete Barriers & Curbs | 1½" |

Concrete cover to any tie bar is ½" less than what is listed above.

CAST IN PLACE CONCRETE: Unless otherwise approved or specified, use Concrete Class Structure for all substructure concrete and Concrete Class Structure – Low Slump for all sidewalk and barrier concrete.

CONCRETE STRENGTH: For structural design purposes only, use f'c = 4000 p.s.i. for Concrete Class Structure & Class Structure – Low Slump.

PRESTRESSED CONCRETE BEAMS: Use Class Pre concrete that includes 4-6% entrained air. Maximum f'c = 7.5 ksi.

STRUCTURE EXCAVATION: Include structure excavation in the unit price bid for Concrete Class Structure.

TRAFFIC CONTROL PLAN AND SEQUENCE OF OPERATIONS:
See Special Provisions.

EXISTING STRUCTURE: Remove the existing structure (see Road Plan sheets and Special Provisions).

STATE PLANE COORDINATES: Stations shown on the bridge plans are state plane grid stations based on (NAD83-1992). Dimensions shown on the bridge plans are horizontal ground distances and not state plane grid distances. The combination scale factor (CSF) at this location is 0.99923609.

Horizontal ground distance x CSF = Grid Distance
Grid Distance/CSF = Distance to stake.

## HYDRAULIC DATA

| | |
|---|---|
| Drift: | LIGHT |
| Low Scour Elevation: | 4501.4' |
| Ice: | MODERATE |
| Drainage Area: | 1,001 sq. mi. |
| ✱ 2-year Stage (Q2): | 4517.23' |
| 100 yr. Flood Flow: | 3735 cfs |
| ✱ 100 yr. Flood Stage (Q100): | 4520.59' |
| 100yr. Flood Velocity: | 5.54 fps |
| Actual Low Beam Elevation: | 4523.25' |
| Allowable Low Beam Elevation: | 4523.00' |
| ✱ 25 yr. Flood Flow: | 2535 cfs |
| 25 yr. Flood Stage: | 4519.25' |

✱ Also see Hydraulic Data Summary sheet. Stage elevations are measured approximately 110 feet upstream of the proposed bridge and include backwater.

SHEET NO. B2

GENERAL LAYOUT

SCALE: As Noted

BRIDGE OVER
THE CLARK FORK RIVER

AT STA.
14+67.00

FEDERAL AID PROJECT
STPB 9039(43)

COUNTY
POWELL COUNTY

| | | | | | |
|---|---|---|---|---|---|
| REVISED | | | | K.F.Y. | |
| REVISED | | | | P.K.S. | |
| REVISED | 09-11-20 | | | G.C.G. | |
| CHECKED | 09-11-20 | | | | |
| DRAWN | 09-11-20 | | | | |
| DESIGNED | 09-11-20 | | | | |

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MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

12/2/2020 4:44:11 PM

ROUTE
L-39-1272N

REF POINT
0+0.04

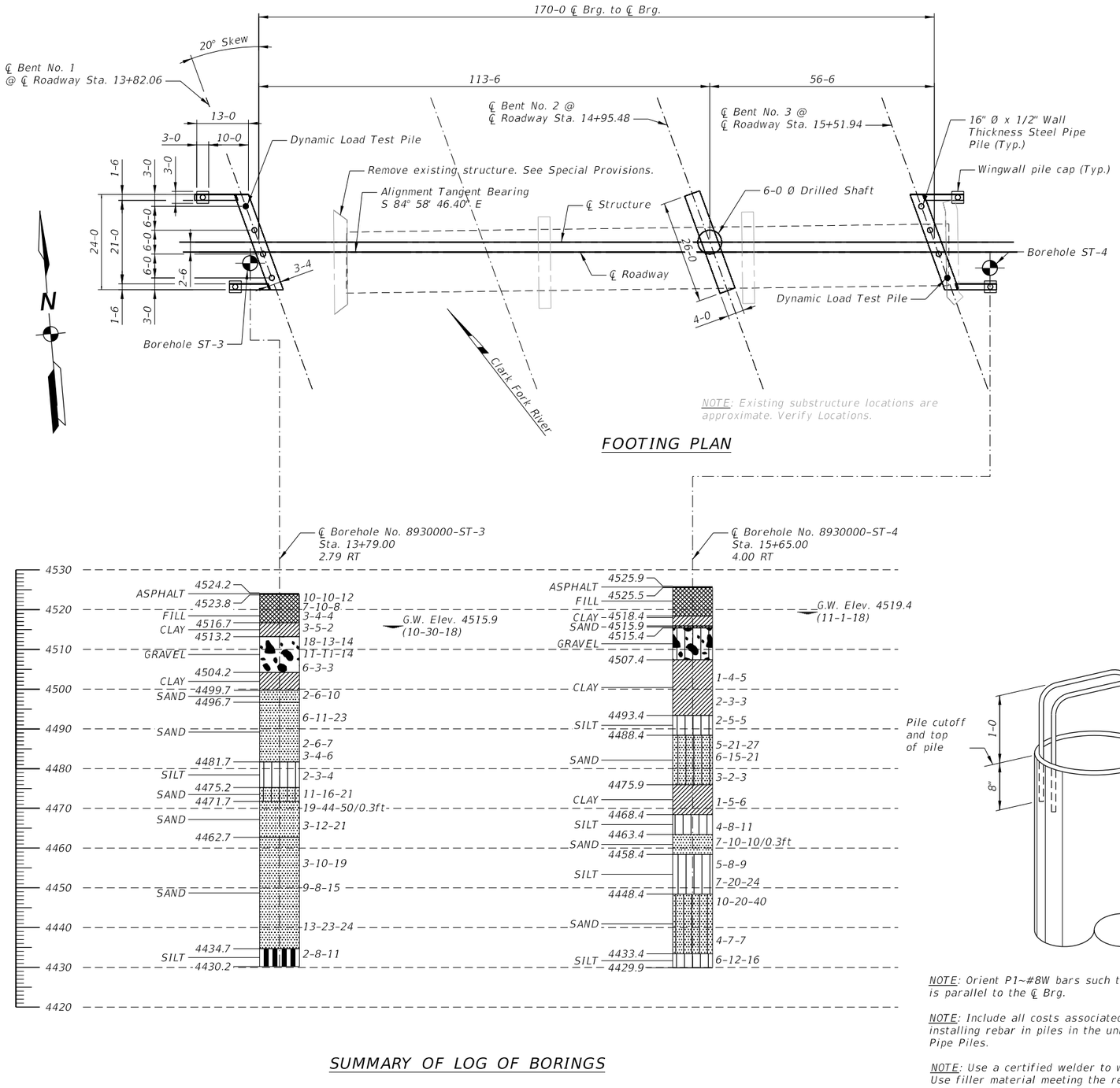
MDT STR. ID
04955

UPN NUMBER
8930000

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## FOOTING PLAN




## SUMMARY OF LOG OF BORINGS

| PILE INFORMATION | | | | | |
|---|---|---|---|---|---|
| LOCATION | DESIGN PILE TIP ELEVATION | MAXIMUM PILE CUT-OFF ELEVATION (FT) | PILE TIP TREATMENT | REQUIRED BEARING RESISTANCE DURING DRIVING (KIPS) | MAXIMUM PILE REACTION UNDER SERVICE I (KIPS) |
| BENT NO. 1 | 4469.00 | 4520.88 | SNUB NOSE CONICAL | 430.0 | 197.0 |
| BENT NO. 3 | 4460.00 | 4520.88 | SNUB NOSE CONICAL | 291.0 | 130.9 |

| DRILLED SHAFT INFORMATION | | | | | |
|---|---|---|---|---|---|
| LOCATION | DESIGN 6.0 FOOT DRILLED SHAFT TIP ELEVATION | TOP OF 6.0 FOOT DRILLED SHAFT ELEVATION | ESTIMATED DRILLED SHAFT LENGTH (FT) | APPROXIMATE GROUND ELEVATION | APPROXIMATE LENGTH OF DRILLED SHAFT BELOW GROUND |
| BENT NO. 2 | 4448.50 | 4517.64 | 69.14 | 4516.50 | 68.00 |

NOTE: Extend temporary drilled shaft casing to bottom of shaft elevation 4448.50.

| COORDINATE TABLE | | | |
|---|---|---|---|
| LOCATION | N OR Y COORDINATE | E OR X COORDINATE | DESCRIPTION |
| BENT NO. 1 | 797308.065 | 1152201.603 | CL Brg. at Bent No. 1 & CL Structure |
| PIER NO. 2 | 797300.708 | 1152313.895 | CL Brg. at Bent No. 2 & CL Structure 7 Drilled Shaft |
| PIER NO. 3 | 797293.199 | 1152370.822 | CL Brg. at Bent No. 3 & CL Structure |

## NOTES

SOILS AND FOUNDATION MATERIALS: The Footing Plan shows points where SK Geotechnical drilled boreholes.

The series of numbers on the Log of Borings shows the number of blows from a 140 pound hammer with a 30" drop required to drive a 2" split spoon sampler 6" (Standard Penetration Test). The length of the split spoon sampler is 18". The sampler length is measured as three 6" intervals. If the split spoon sampler did not penetrate 6" after 50 blows, the Log of Borings shows the measured penetration within that particular interval.

See the Special Provisions for original boring logs and additional subsurface information.

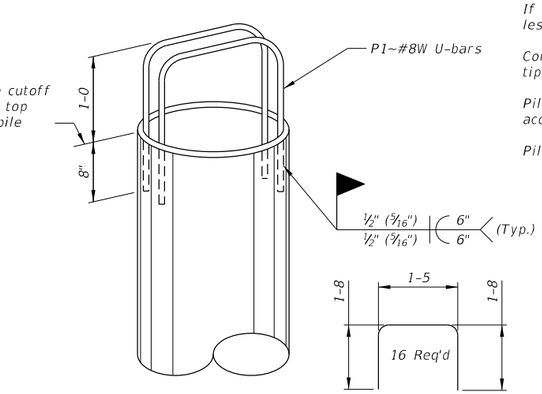
Dimensions for Bent No. 1 are typical for Bent No. 3.

If the project manager requires a re-drive, re-drive piles not less than 24 hours after initial driving.

Contact the MDT Geotechnical Section at (406)444-6281 if pile tip elevations deviate more than 1 foot from the elevation indicated.

Pile furnished quantities increased by 10' (5' each test pile) to accommodate PDA tests.

Piles are to be fitted with Snub Nose Conical Point.

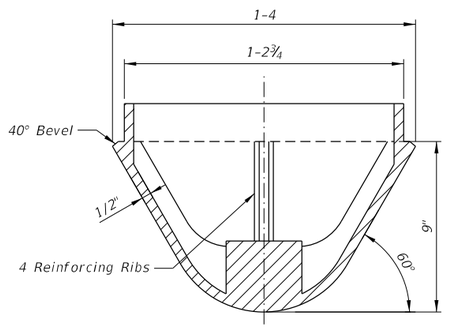



NOTE: Orient P1~#8W bars such that the top of the bar is parallel to the ℄ Brg.

NOTE: Include all costs associated with furnishing and installing rebar in piles in the unit price bid for Furnish Pipe Piles.

NOTE: Use a certified welder to weld according to AWS D1.4. Use filler material meeting the requirements of AWS A5.5.

A/B2 PILE REINFORCING DETAIL
Not To Scale




B/B2 SNUB NOSE CONICAL POINT
Not To Scale

SHEET NO. B3

FOOTING PLAN

SCALE: 1" = 15'-0"

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | | | |
|---|---|---|---|
| REVISED | | | |
| REVISED | | | |
| REVISED | | | |
| REVISED | | | |
| CHECKED | 09-11-20 | K.F.Y. | |
| DRAWN | 09-11-20 | P.K.S. | |
| DESIGNED | 09-11-20 | G.C.G. | |

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MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

ROUTE L-39-1272N

REF POINT 0+0.04

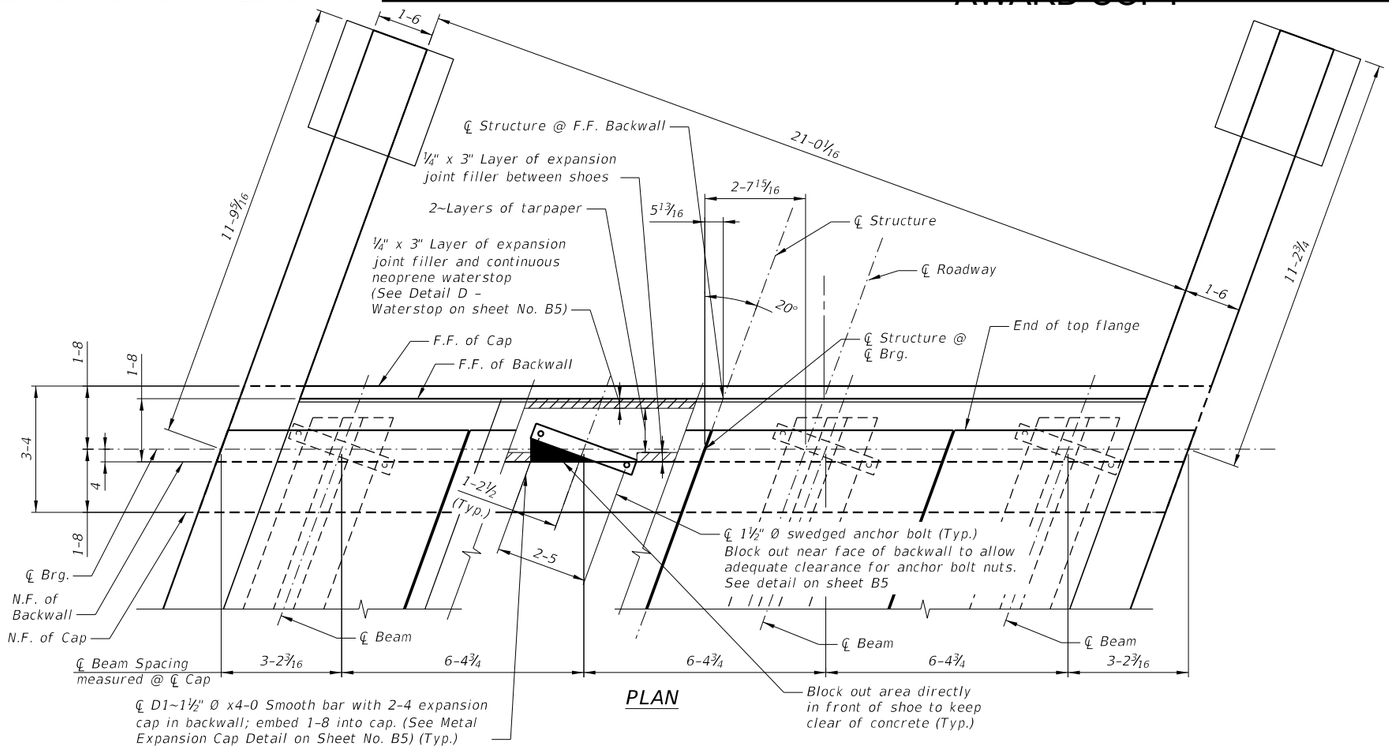
MDT STR. ID 04955

UPN NUMBER 8930000

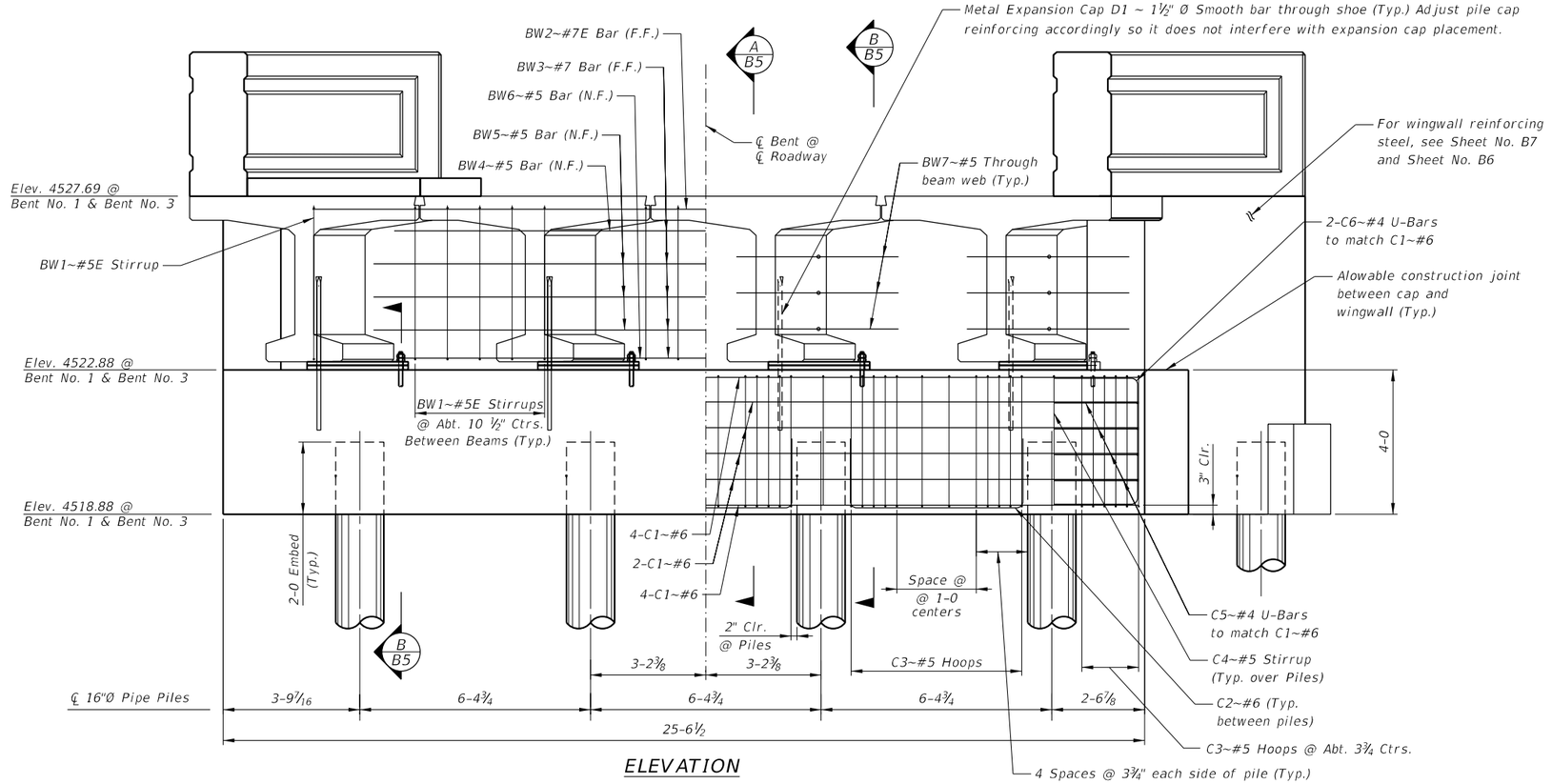
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PLAN




ELEVATION

NOTE: For cap and backwall reinforcement see Sheet B7.

NOTE: Include all costs associated with furnishing and placing the expansion joint filler, tarpaper and neoprene waterstop in the unit price bid for Concrete Class Structure.

NOTE: Securely nail expansion joint filler to pile cap concrete and hold in proper position while placing backwall concrete.

NOTE: N.F. denotes near face.
F.F. denotes fill face.

NOTE: Lap #4 bars 2'-0 minimum.
Lap #5 bars 2'-6 minimum.
Lap #6 bars 3'-0 minimum.
Lap #5E bars 3'-0 minimum.

NOTE: Finish beam seats level to the elevations shown on this drawing.

NOTE: Ensure reinforcing steel does not interfere with anchor bolt placement.

NOTE: Use Concrete Class Structure for all concrete in backwall and cap.

SHEET NO. B4

BENT NO. 1 & BENT NO. 3

SCALE: 3/8" = 1'-0"

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | K.F.Y. | |
| | | | | | P.K.S. | |
| REVISED | REVISED | REVISED | REVISED | CHECKED | 09-11-20 | G.C.G. |
| | | | | DRAWN | 09-11-20 | |
| | | | | DESIGNED | 09-11-20 | |

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MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

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ROUTE L-39-1272N

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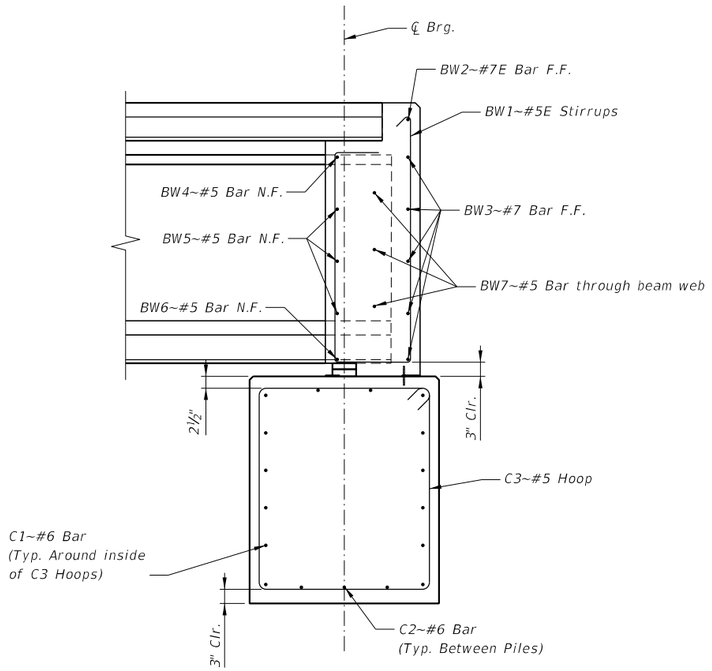
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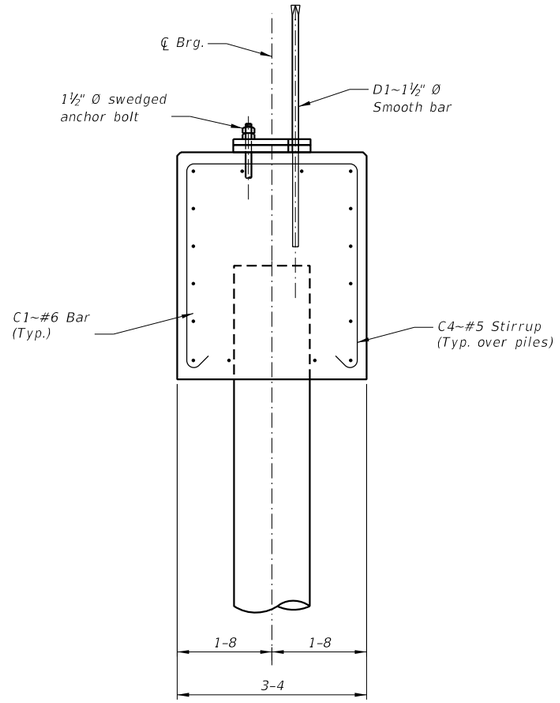
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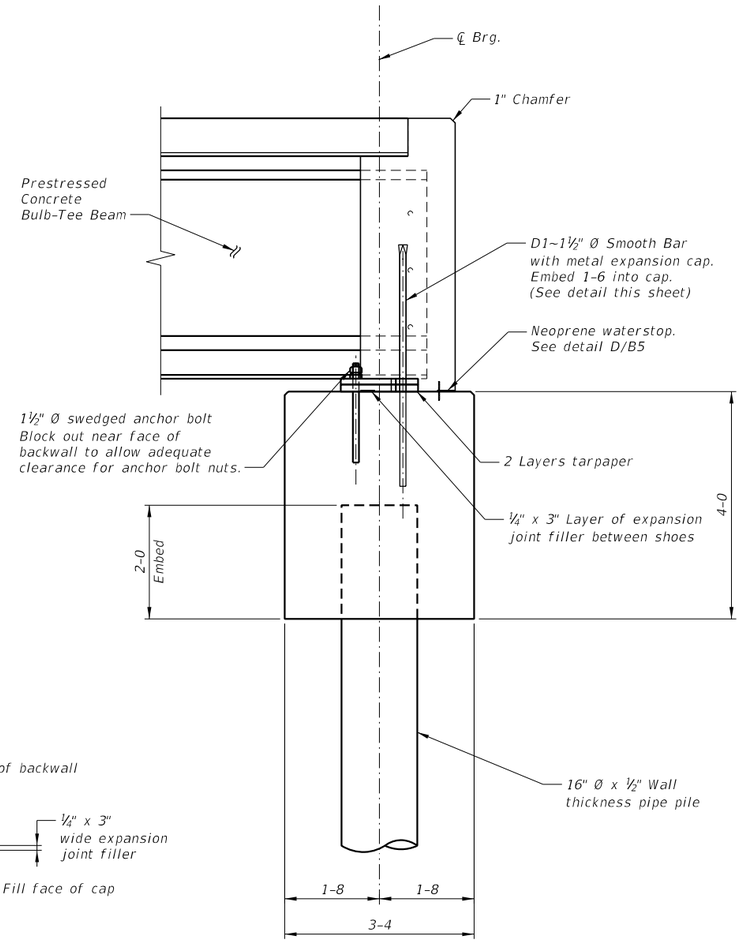
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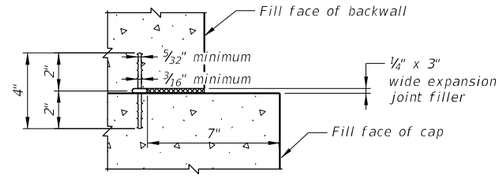

A/B5 SECTION A




B/B5 SECTION B

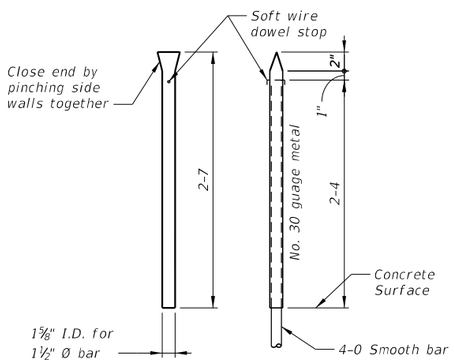



C/B5 SECTION C

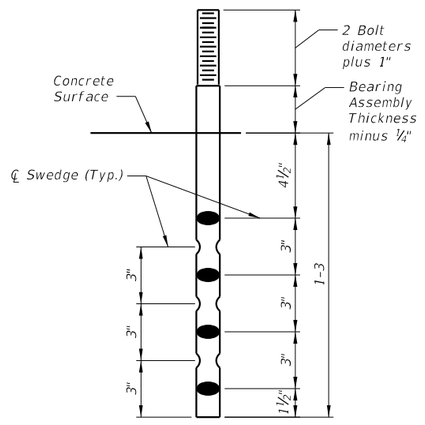



NOTE: Hold waterstop in accurate position while placing concrete.

D/B5 WATERSTOP DETAIL
No Scale

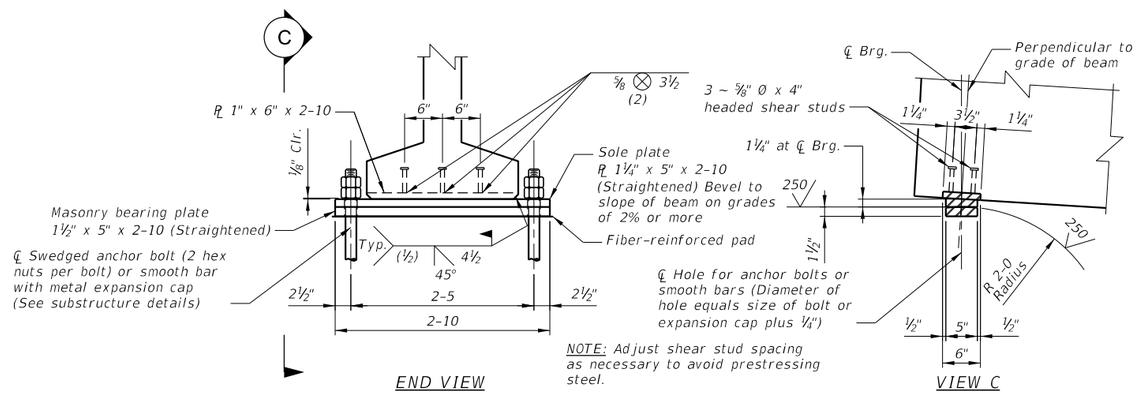



METAL EXPANSION CAP DETAIL
No Scale




Make swedge deformations 3/16"deep minimum without removing metal.

ANCHOR BOLT DETAIL
No Scale




END VIEW

NOTE: Adjust shear stud spacing as necessary to avoid prestressing steel.

VIEW C

FIXED BEARING DETAILS
No Scale

SHEET NO. B5

BENT NO. 1 & NO. 3 DETAILS

SCALE: ¾" = 1'-0" or As Noted

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | | | |
|---|---|---|---|
| REVISED | | | |
| REVISED | | | |
| REVISED | | | |
| REVISED | | | |
| CHECKED | 09-11-20 | K.F.Y. | |
| DRAWN | 09-11-20 | P.K.S. | |
| DESIGNED | 09-11-20 | G.C.G. | |

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BRIDGE BUREAU
MONTANA DEPARTMENT OF TRANSPORTATION

ROUTE L-39-1272N

REF POINT 0+0.04

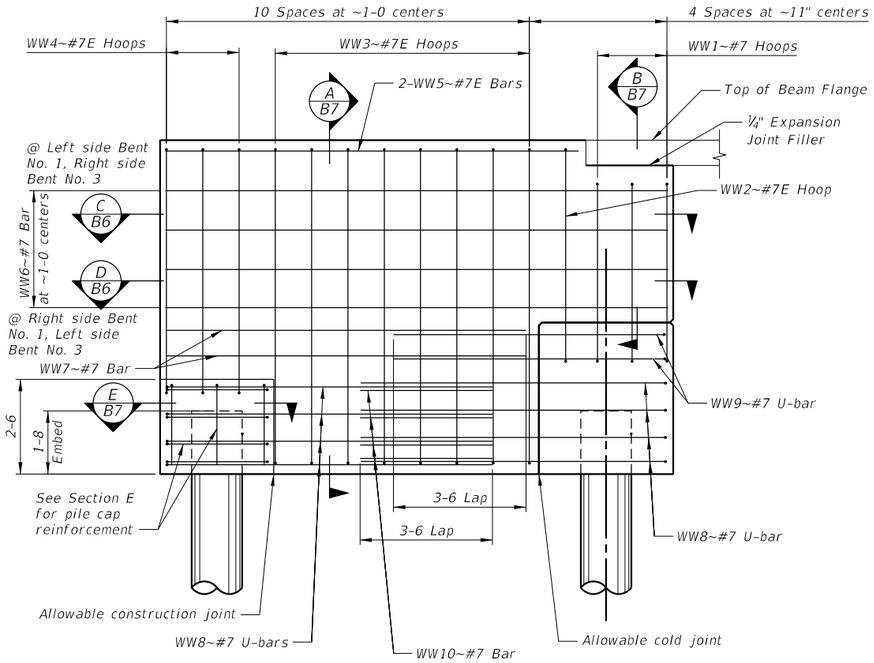
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UPN NUMBER 8930000

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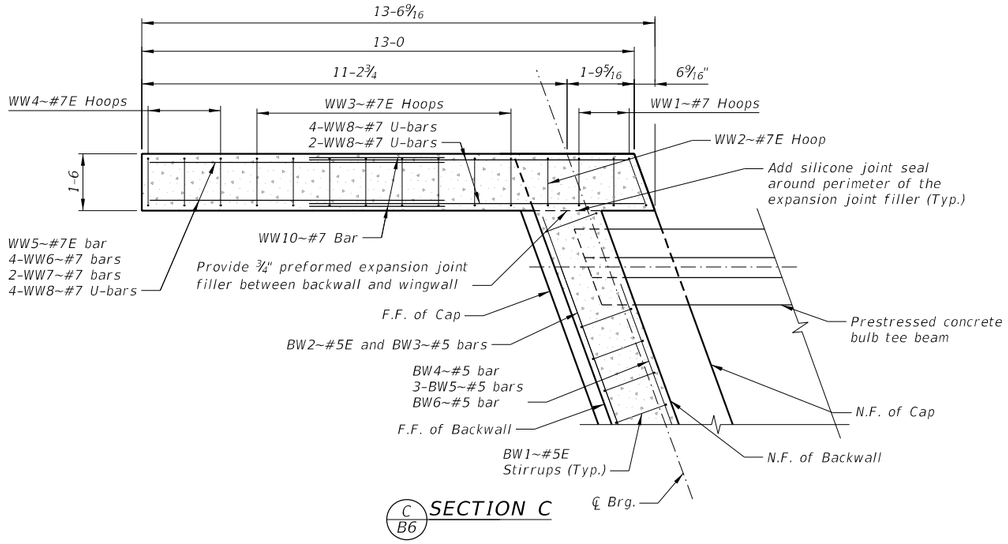
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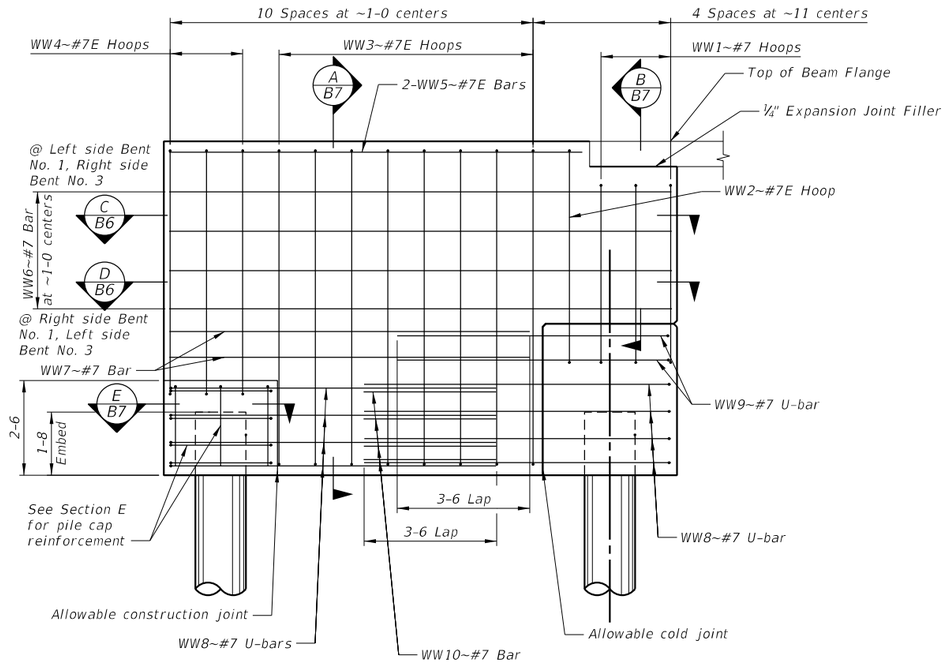



ELEVATION - NEAR FACE

Bent No. 1 shown ahead on line, Bent No. 3 opposite hand

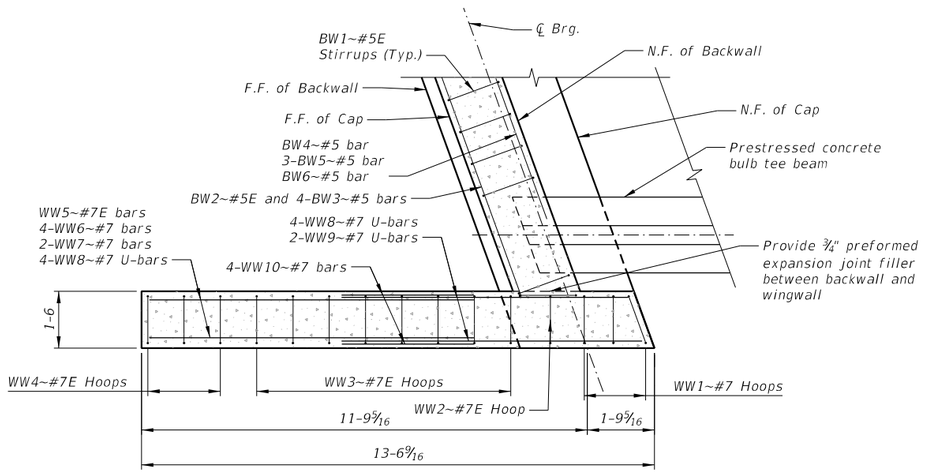



C B6 SECTION C




ELEVATION - FILL FACE

Bent No. 1 shown ahead on line. Bent No. 3 oppisite hand




D B6 SECTION D

SHEET NO. B6

BENT NO. 1 AND NO. 3 WINGWALL DETAILS

SCALE: ½" = 1'-0"

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | | | | |
|---|---|---|---|---|
| REVISED | | | CHECKED | 09-11-20 K.F.Y. |
| REVISED | | | DRAWN | 09-11-20 P.K.S. |
| REVISED | | | DESIGNED | 09-11-20 G.C.G. |

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BRIDGE BUREAU

ROUTE L-39-1272N

REF POINT 0+0.04

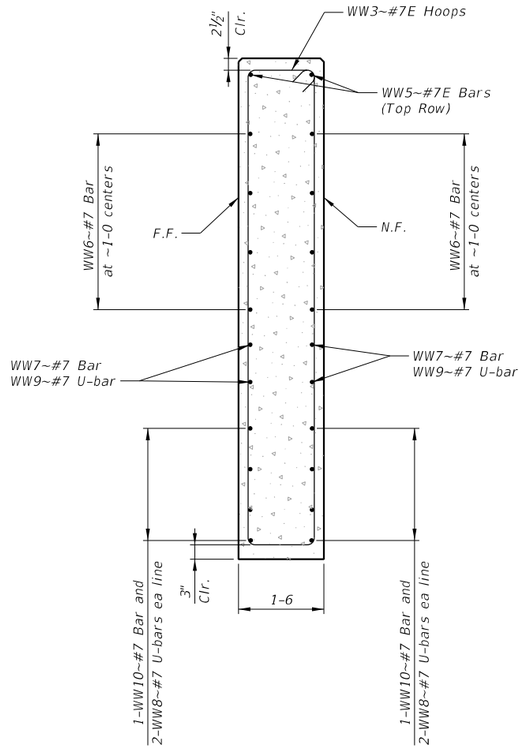
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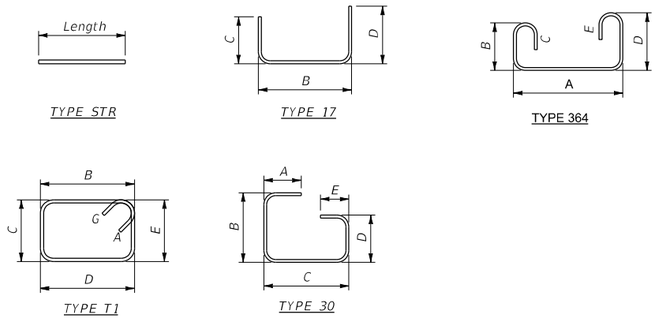
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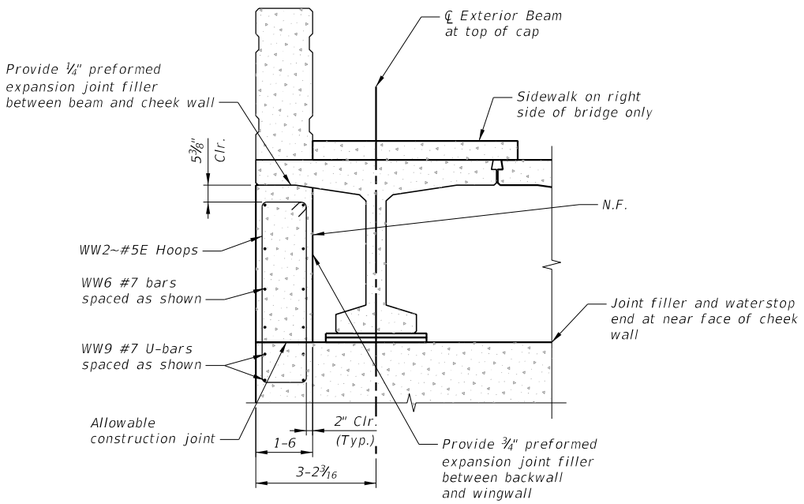

A/B7 SECTION A

## BILL OF REINFORCING STEEL

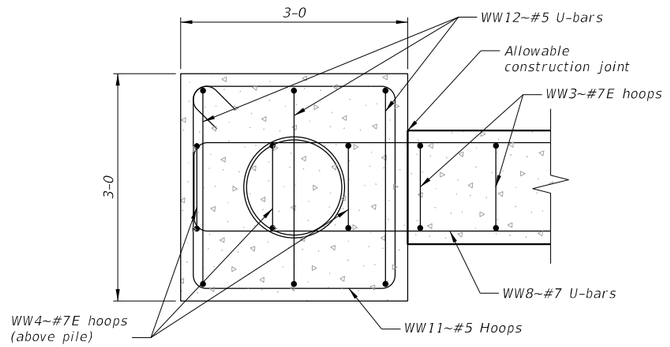
FOR ONE BENT ONLY
(ALL DIMENSIONS ARE OUT TO OUT)




| Mark | Size | No. | Type | Length | A | B | C | D | E | G | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C1 | 6 | 16 | STR | 25-2½ | | | | | | | |
| C2 | 6 | 3 | 17 | 8-7 | | 4-9 | 1-11 | 1-11 | | | |
| C3 | 5 | 48 | T1 | 14-0 | 0-5½ | 3-6½ | 3-0 | 3-6½ | 3-0 | 0-5½ | |
| C4 | 5 | 4 | 364 | 10-9 | 3-0 | 3-6½ | | 3-6½ | 0-4 | | |
| C5 | 4 | 8 | 17 | 7-6½ | | 2-10½ | 2-4 | 2-4 | | | |
| C6 | 4 | 4 | 17 | 8-1 | | 3-5 | 2-4 | 2-4 | | | |
| | | | | | | | | | | | |
| BW1 | 5E | 15 | 30 | 10-6 | 0-5½ | 4-4 | 1-4 | 3-8 | 0-9 | | |
| BW2 | 7E | 1 | STR | 25-2½ | | | | | | | |
| BW3 | 7 | 5 | STR | 25-2½ | | | | | | | |
| BW4 | 5 | 3 | STR | 3-9 | | | | | | | |
| BW5 | 5 | 9 | STR | 5-6 | | | | | | | |
| BW6 | 5 | 3 | STR | 3-11 | | | | | | | |
| BW7 | 5 | 12 | STR | 4-6 | | | | | | | |
| | | | | | | | | | | | |
| WW1 | 7E | 8 | T1 | 14-7 | 0-5½ | 5-8 | 1-2 | 5-8 | 1-2 | 0-5½ | |
| WW2 | 7E | 2 | T1 | 12-9 | 0-5½ | 4-9 | 1-2 | 4-9 | 1-2 | 0-5½ | |
| WW3 | 7E | 14 | T1 | 19-11½ | 0-5½ | 8-4½ | 1-2 | 8-4½ | 1-2 | 0-5½ | |
| WW4 | 7E | 6 | T1 | 16-3 | 0-5½ | 6-6 | 1-2 | 6-6 | 1-2 | 0-5½ | |
| WW5 | 7E | 4 | STR | 11-7½ | | | | | | | |
| WW6 | 7 | 16 | STR | 12-8 | | | | | | | |
| WW7 | 7 | 8 | STR | 9-0½ | | | | | | | |
| WW8 | 7 | 16 | 17 | 17-4 | | 1-2 | 8-1 | 8-1 | | | |
| WW9 | 7 | 4 | 17 | 15-4 | | 1-2 | 7-1 | 7-1 | | | |
| WW10 | 7 | 16 | STR | 3-7 | | | | | | | |
| WW11 | 5 | 8 | T1 | 11-7 | 0-5½ | 2-8 | 2-8 | 2-8 | 2-8 | 0-5½ | |
| WW12 | 5 | 6 | 17 | 6-9½ | | 2-6½ | 2-1½ | 2-1½ | | | |
| | | | | | | | | | | | |
| D1 | 1½" | 4 | STR | 3-2 | | | | | | | |




B/B7 SECTION B




E/B7 SECTION E
Scale ~ 1" = 1'-0"

SHEET NO.
B7

BENT NO. 1 & NO. 3
WINGWALL DETAILS

SCALE: ½" = 1'-0" U.N.O.

BRIDGE OVER
THE CLARK FORK RIVER

AT STA.
14+67.00

FEDERAL AID PROJECT
STPB 9039(43)

COUNTY
POWELL COUNTY

| | | | |
|---|---|---|---|
| REVISED | | | |
| REVISED | | | |
| REVISED | | | |
| REVISED | | | |
| CHECKED | 09-11-20 | K.F.Y. | |
| DRAWN | 09-11-20 | P.K.S. | |
| DESIGNED | 09-11-20 | G.C.G. | |

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

ROUTE
L-39-1272N

REF POINT
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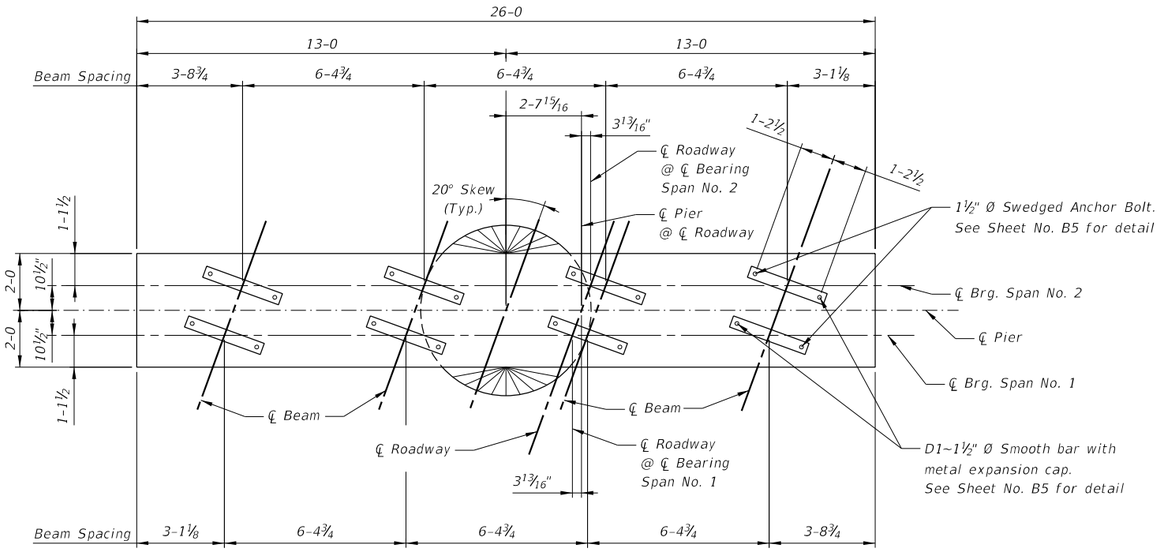
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8930000

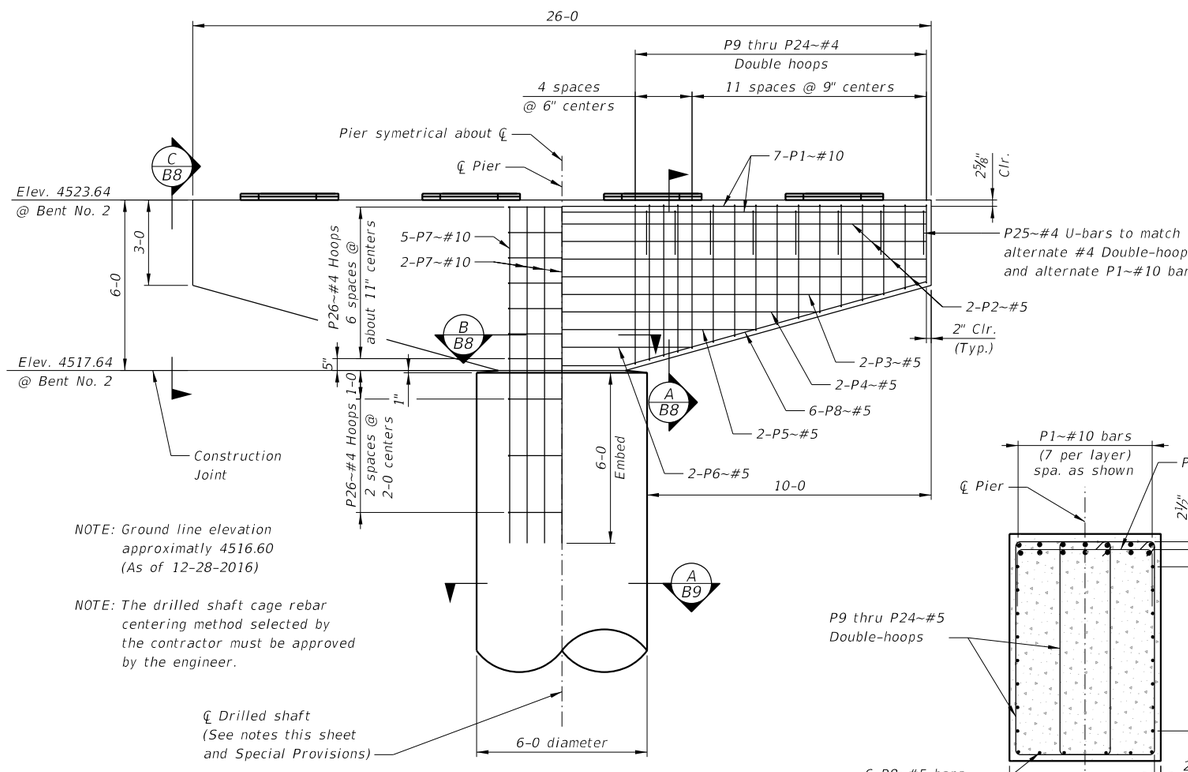
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PLAN




NOTE: Ground line elevation approximatly 4516.60 (As of 12-28-2016)

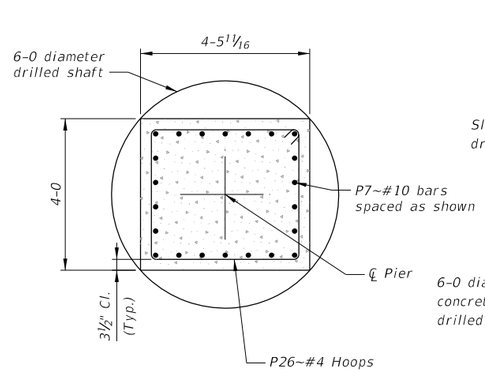
NOTE: The drilled shaft cage rebar centering method selected by the contractor must be approved by the engineer.

ELEVATION

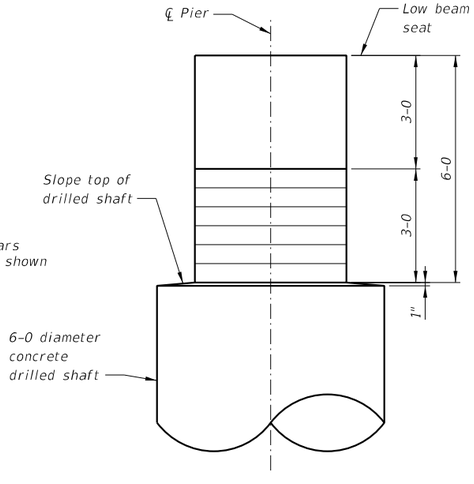
Note: Shaft reinforcing not shown for clarity.




A B8 SECTION A



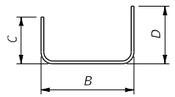

B B8 SECTION B



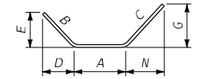

C B8 SECTION C

## BILL OF REINFORCING STEEL

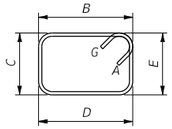
(ALL DIMENSIONS ARE OUT TO OUT)



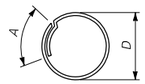

TYPE 17



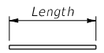

TYPE 29




TYPE T1




TYPE T3




TYPE STR

| Mark | Size | No. | Type | Length | A | B | C | D | E | G | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | 10 | 14 | STR | 25-8 | | | | | | | |
| P2 | 5 | 8 | STR | 25-8 | | | | | | | |
| P3 | 5 | 2 | STR | 22-5½ | | | | | | | |
| P4 | 5 | 2 | STR | 18-0 | | | | | | | |
| P5 | 5 | 2 | STR | 13-7 | | | | | | | |
| P6 | 5 | 2 | STR | 9-1½ | | | | | | | |
| P7 | 10 | 20 | STR | 11-10½ | | | | | | | |
| P8 | 6 | 5 | 29 | 25-7½ | 4-5 | 11-0 | 11-0 | 10-7 | 2-11½ | 2-11½ | 10-7 |
| P9 | 5 | 2 | T1 | 17-1 | 0-5½ | 5-7 | 2-6 | 5-7 | 2-6 | 0-5½ | |
| P10 | 5 | 2 | T1 | 16-9 | 0-5½ | 5-5 | 2-6 | 5-5 | 2-6 | 0-5½ | |
| P11 | 5 | 2 | T1 | 16-6 | 0-5½ | 5-3½ | 2-6 | 5-3½ | 2-6 | 0-5½ | |
| P12 | 5 | 2 | T1 | 16-3½ | 0-5½ | 5-2 | 2-6 | 5-2 | 2-6 | 0-5½ | |
| P13 | 5 | 2 | T1 | 15-11 | 0-5½ | 5-0 | 2-6 | 5-0 | 2-6 | 0-5½ | |
| P14 | 5 | 2 | T1 | 15-6 | 0-5½ | 4-9½ | 2-6 | 4-9½ | 2-6 | 0-5½ | |
| P15 | 5 | 2 | T1 | 15-1 | 0-5½ | 4-7 | 2-6 | 4-7 | 2-6 | 0-5½ | |
| P16 | 5 | 2 | T1 | 14-8 | 0-5½ | 4-4½ | 2-6 | 4-4½ | 2-6 | 0-5½ | |
| P17 | 5 | 2 | T1 | 14-3 | 0-5½ | 4-2 | 2-6 | 4-2 | 2-6 | 0-5½ | |
| P18 | 5 | 2 | T1 | 13-10 | 0-5½ | 3-11½ | 2-6 | 3-11½ | 2-6 | 0-5½ | |
| P19 | 5 | 2 | T1 | 13-5 | 0-5½ | 3-9 | 2-6 | 3-9 | 2-6 | 0-5½ | |
| P20 | 5 | 2 | T1 | 13-0 | 0-5½ | 3-6½ | 2-6 | 3-6½ | 2-6 | 0-5½ | |
| P21 | 5 | 2 | T1 | 12-7 | 0-5½ | 3-4 | 2-6 | 3-4 | 2-6 | 0-5½ | |
| P22 | 5 | 2 | T1 | 12-2 | 0-5½ | 3-1½ | 2-6 | 3-1½ | 2-6 | 0-5½ | |
| P23 | 5 | 2 | T1 | 11-9 | 0-5½ | 2-11 | 2-6 | 2-11 | 2-6 | 0-5½ | |
| P24 | 5 | 2 | T1 | 11-3 | 0-5½ | 2-8 | 2-6 | 2-8 | 2-6 | 0-5½ | |
| P25 | 4 | 16 | 17 | 6-6½ | | 3-6½ | 1-6 | 1-6 | | | |
| P26 | 4 | 10 | T1 | 15-6 | 0-5½ | 3-10½ | 3-5 | 3-10½ | 3-5 | 0-5½ | |

SHEET NO. B8

BENT NO. 2

SCALE: ⅜" = 1'-0"

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

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| REVISED | | | | |
| REVISED | | | | |
| REVISED | | | | |
| REVISED | CHECKED | 09-11-20 | K.F.Y. | |
| | DRAWN | 09-11-20 | P.K.S. | |
| | DESIGNED | 09-11-20 | G.C.G. | |

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MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

ROUTE L-39-1272N

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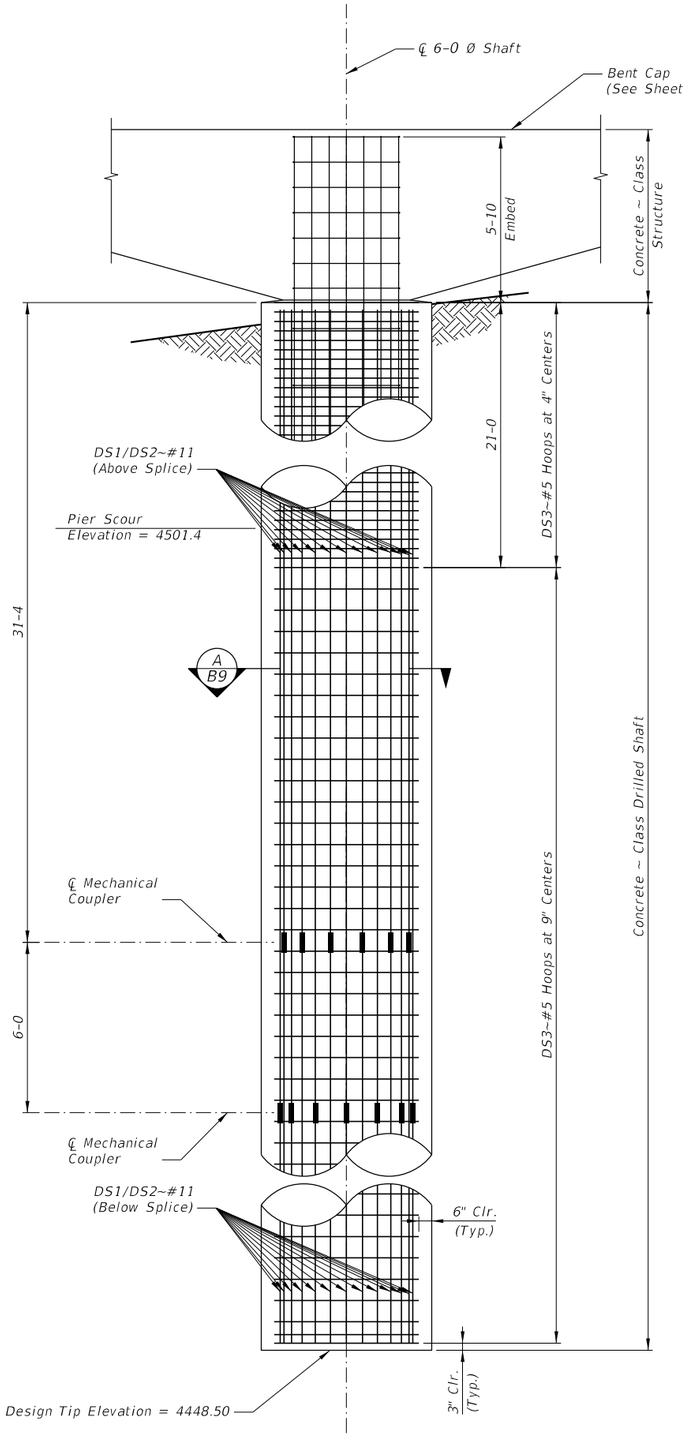
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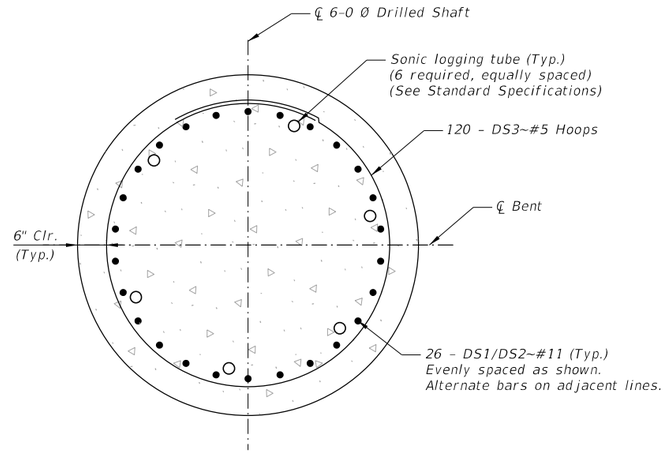
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DRILLED SHAFT ELEVATION

Scale ~ ⅜" = 1'-0"

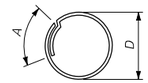



A/B9 DRILLED SHAFT SECTION

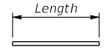
Scale ~ ¾" = 1'-0"

## BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)




TYPE T3




TYPE STR

| Mark | Size | No. | Type | Length | A | B | C | D | E | G | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DS1 | 11 | 26 | STR | 31-4 | | | | | | | |
| DS2 | 11 | 26 | STR | 37-4 | | | | | | | |
| DS3 | 5 | 130 | T3 | 22-1 | 2-7 | | | 4-11½ | | | |
| | | | | | | | | | | | |
| D10 | 1½ Ø | 8 | STR | 3-2 | | | | | | | |

NOTES:

Use mechanical splices for #11 drilled shaft bars. Alternate location of mechanical splices as shown.

Reinforcing steel lengths shown do not include any modifications required to install splices.

Ensure CSL lubes extend to bottom of shaft.

Alternate DS1 and DS2 Bars on adjacent lines to stagger the mechanical splices. DS1 Bars shall be mechanically spliced to DS2 Bars.

SHEET NO. B9

BENT NO. 2
DRILLED SHAFT DETAILS

SCALE: As Noted

BRIDGE OVER
THE CLARK FORK RIVER

AT STA.
14+67.00

FEDERAL AID PROJECT
STPB 9039(43)

COUNTY
POWELL COUNTY

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| REVISED | | | | G.C.G. | |
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ROUTE
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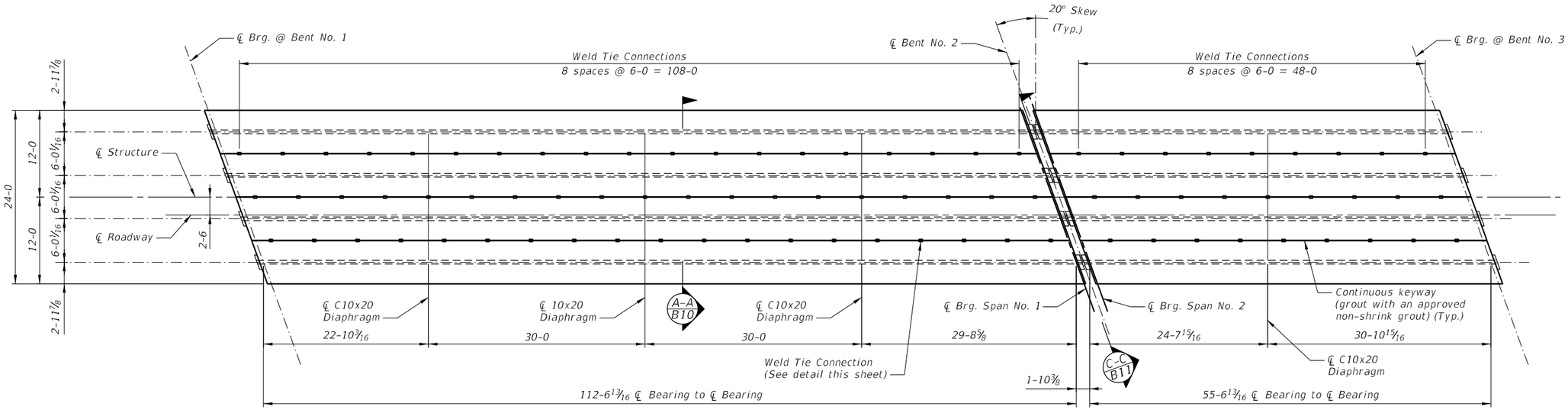
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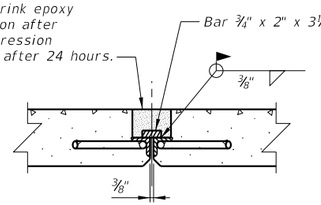
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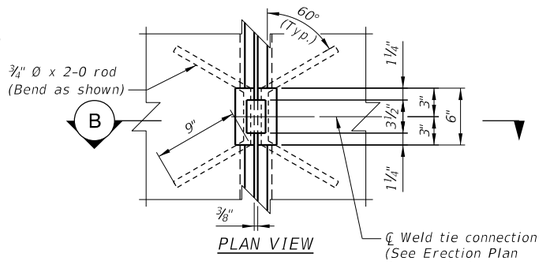



## ERECTION PLAN
Scale ~ ⅛" = 1'-0"

Continuous keyway
(Fill with non-shrink grout)
Use structural non-shrink epoxy grout with no expansion after 7 days. Minimum compression strength of 4,000 psi after 24 hours.

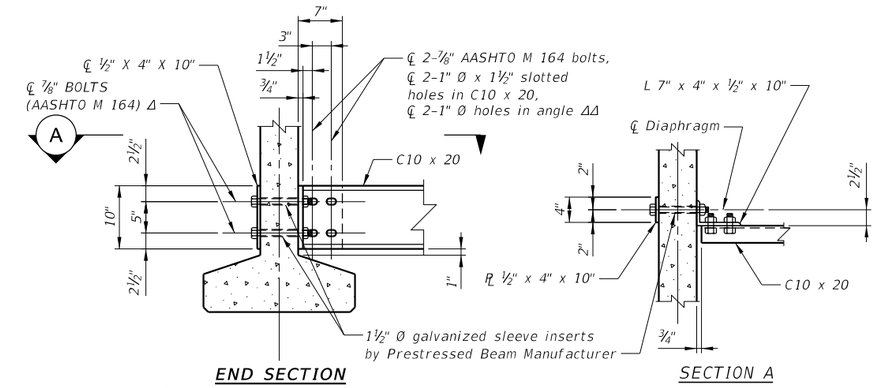



SECTION B




PLAN VIEW

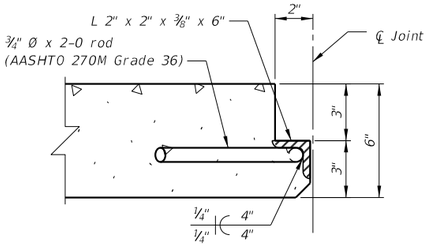
## WELD TIE CONNECTION DETAILS
No Scale



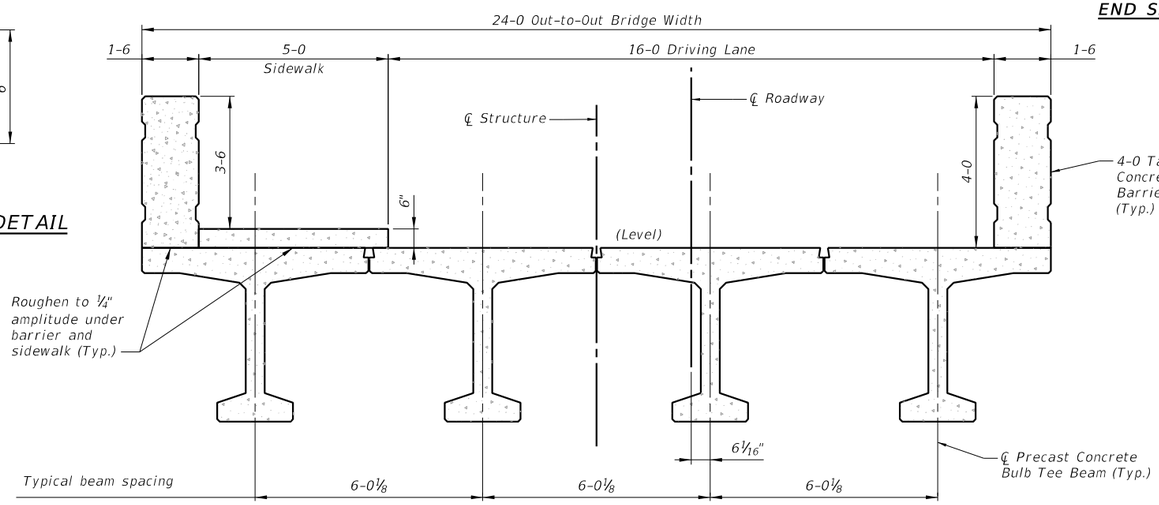

END SECTION

SECTION A

## DIAPHRAGM DETAILS
Scale ~ 1" = 1'-0"




## BULB TEE JOINT CONNECTION DETAIL
No Scale




A-A B10 TYPICAL BULB TEE BRIDGE SECTION
Scale ~ ⅜" = 1'-0"

## DIAPHRAGM NOTES

Paint steel diaphragms in acordance with the Standard Specifications.

Include all costs associated with furnishing and placing steel diaphragms, channels, plates, angles and bolts incidental to the diaphragms in the lump sum bid for Structural Steel.

Middle diaphragm: Use the slotted holes to adjust for the bulb tee web being out of plumb while the C20 x 20 is level. Provide a minimum ⅜" gap between the end of the C10 x 20 and the L 7 x 4 x ½. Show the assembled detail on the shop drawings.

Δ Tighten bolts in accordance with the Turn-of-Nut Tightening Standard Specification, Sec. 556.03.9, to half of the value specified in Table 556-6.

ΔΔ Tighten bolts in accordance with the Turn-of-Nut Tightening Standard Specification, Sec. 556.03.9, to the full value specified in Table 556-6.

Install diaphragms immediately after setting the beams in place. Tighten the bolts through the beam web and hand-tighten the channel to the clip angle bolts. Perform the final tightening of the channel to the clip angle bolts after field leveling and welding the tie connections, but prior to welding bearings and grouting the keyway.

Include all costs to furnish, place and weld bars, rods, and angles, non-shrink grout and other incidentals incorporated in the beam in the unit price bid for Prestressed Beam - Bulb Tee.

SHEET NO. B10

ERECTION PLAN

SCALE: As Noted

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| REVISED | REVISED | REVISED | CHECKED | DRAWN | DESIGNED |
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MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

ROUTE L-39-1272N

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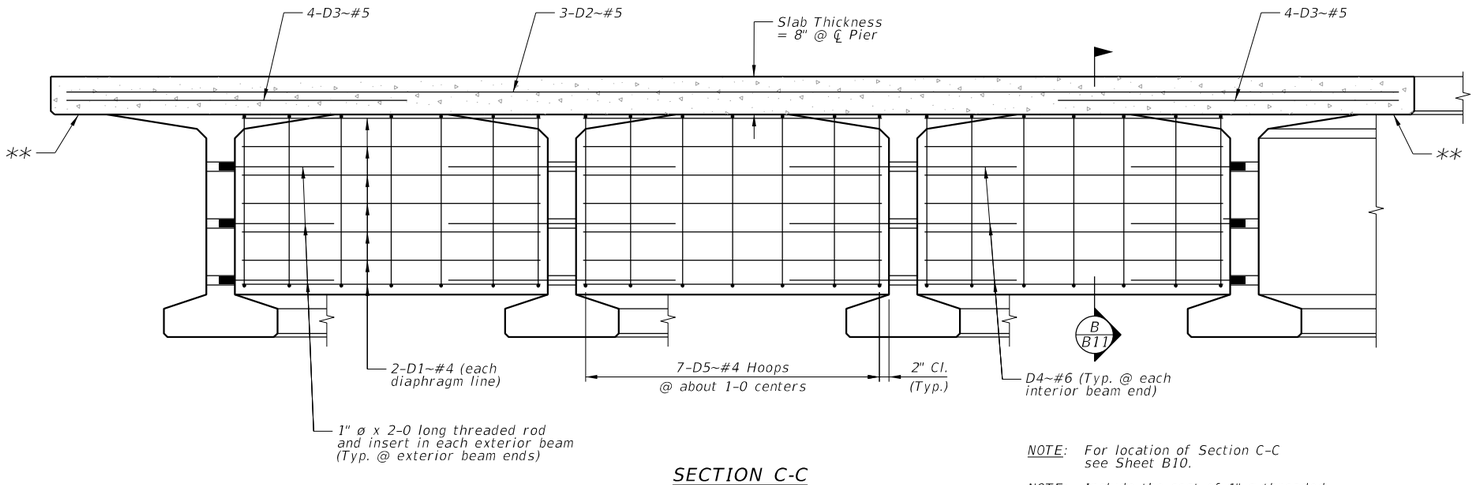
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SECTION C-C
Scale: 3/4" = 1-0

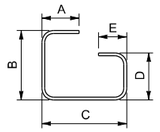
NOTE: For location of Section C-C see Sheet B10.

NOTE: Include the cost of 1" ø threaded rod and inserts in the unit price bid for Prestressed Beam - Bulb tee.

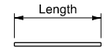
NOTE: Lap #4 bars 1-6 minimum.

NOTE: All concrete in Diaphragm is Concrete Class Structure.

## BILL OF REINFORCING STEEL (ALL DIMENSIONS ARE OUT TO OUT)

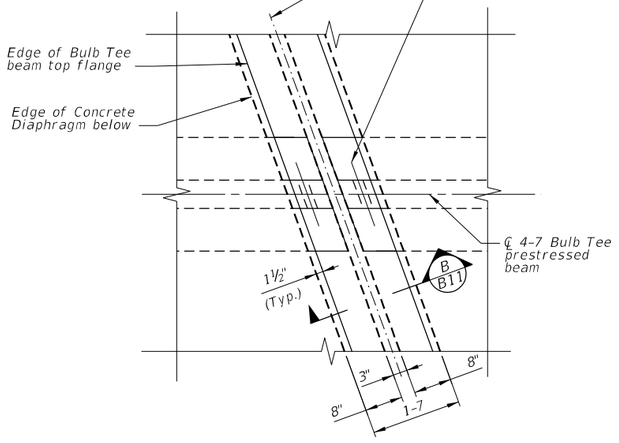



TYPE 30

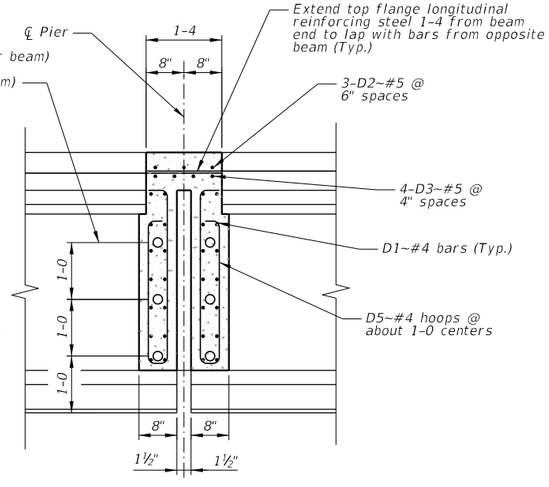



TYPE STR

| Mark | Size | No. | Type | Length | A | B | C | D | E |
|---|---|---|---|---|---|---|---|---|---|
| D1 | 4 | 84 | STR | 5-6 | | | | | |
| D2 | 5 | 3 | STR | 25-2 | | | | | |
| D3 | 5 | 8 | STR | 6-0 | | | | | |
| D4 | 6 | 12 | STR | 4-0 | | | | | |
| D5 | 4 | 42 | 30 | 6-5½ | 4 | 3-0½ | 4 | 2-6 | 3 |




PLAN




SECTION B-B

** NOTE: Clip in Bulb Tee top flange extends to the edge of the exterior overhang of the exterior beams. As there is no diaphragm of these locations, the contractor must form the extension of the bulb Tee slab. At contractor's discretion, provide inserts to hold forms.

CONCRETE DIAPHRAGM DETAILS
Scale: 3/4" = 1-0

SHEET NO. B11

MISCELLANEOUS DETAILS

SCALE: Scale: As Noted

BRIDGE OVER
THE CLARK FORK RIVER

AT STA.
14+67.00

FEDERAL AID PROJECT
STPB 9039(43)

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BRIDGE BUREAU

ROUTE
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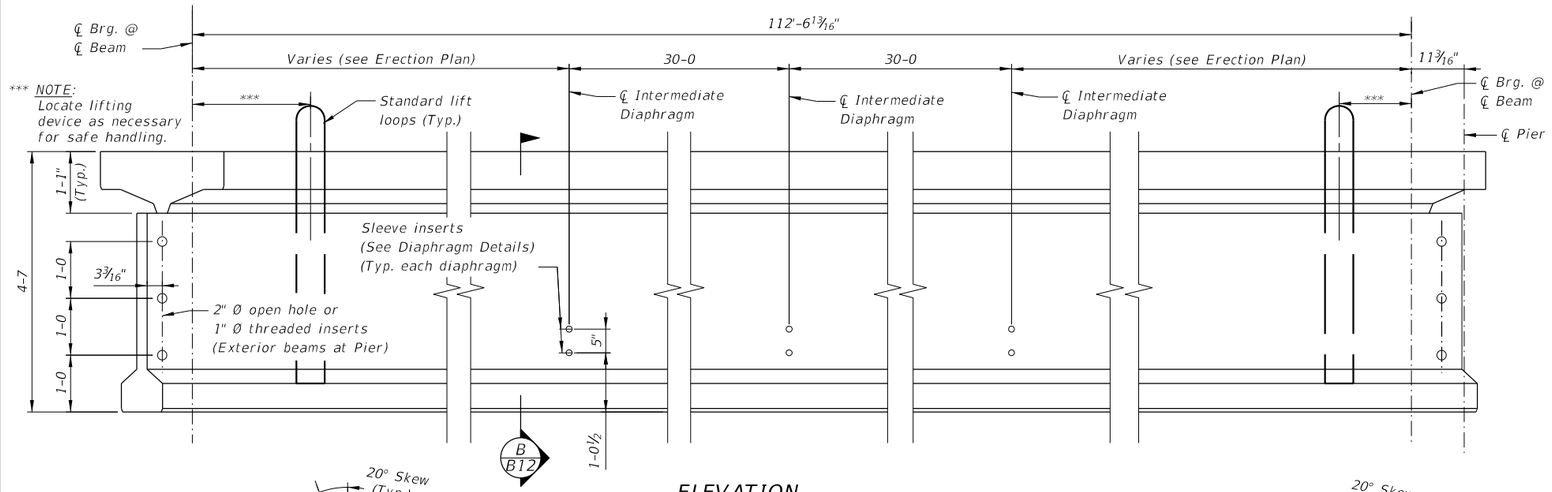
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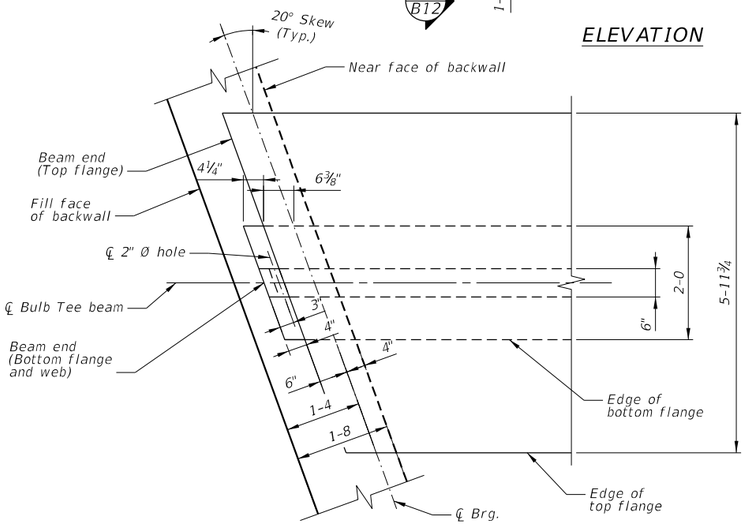
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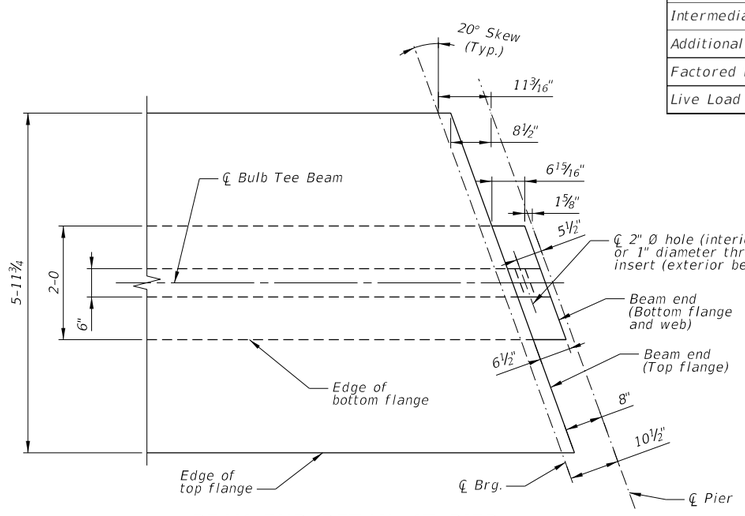



## ELEVATION




## BEAM END DETAIL AT BENT

Interior beam shown. Exterior beam simular



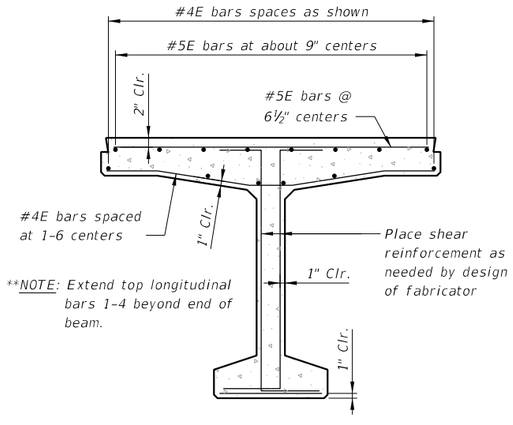

## BEAM END DETAIL AT PIER

Interior beam shown, Exterior beam similar

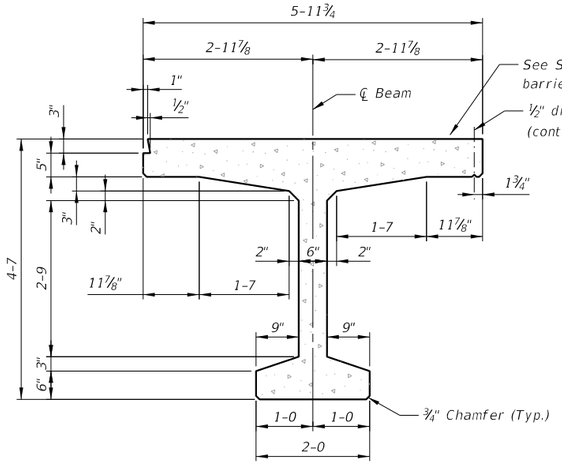
| PRESTRESSED BEAM DESIGN PARAMETERS | |
|---|---|
| AASHTO Specifications | LRFD 8th edition with current interims |
| Structure Type | Simple Span |
| Prestressing Strand | 270 ksi Low Relaxation – (0.500" or 0.600" diameter) |
| Shear Reinforcing | AASHTO M 31 Grade 60 |
| Alternate Shear Reinforcing | Welded Wire Reinforcement – AASHTO M55, M221, or MS4 |
| Section Property Calculations | Gross Section |
| Prestress Loss Method | Approximate Losses per LRFD 5.9.5 and 5.9.5.3 |
| Shear Computation Method | Sectional Model per LRFD 5.8.3 |
| Beam / Slab Interface | N/A |
| Load Rating Requirements | AASHTO LRFR Design Load |

| PRESTRESSED BEAM LOAD TABLE | | |
|---|---|---|
| LOAD TYPE | LOADS | APPLICATION METHOD |
| Barrier Load | 0.900 kip/ft per rail | Ext. Beams Only |
| Sidewalk | 0.375 kip/ft | Ext. Beam Only |
| Future Wearing Surface | 0.035 kip/ft$^2$ applied between curbs | Equally to all beams |
| Intermediate Diaphragms | 0.140 kip/bay @ 1/4 points | At point load |
| Additional Dead Load | -------- | -------- |
| Factored Moment | Mu = 8519.2 kip-ft | ΔΔ |
| Live Load | LRFD – HL-93 | per AASHTO LRFD |

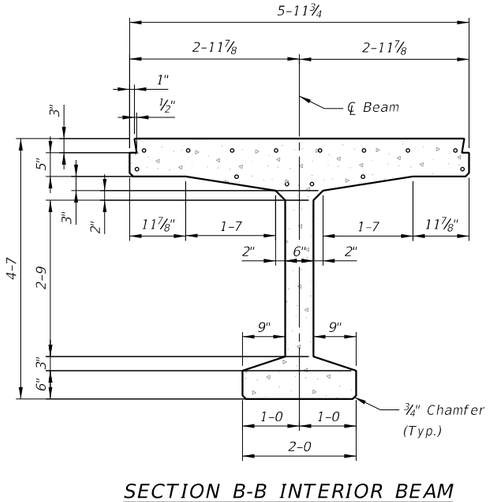
NOTE: See Sheet B12 for beam notes.




## REINFORCING PLACEMENT DETAIL




## SECTION B-B EXTERIOR BEAM




## SECTION B-B INTERIOR BEAM

SHEET NO. B12

BEAM DETAILS
SPAN NO. 1

SCALE: 3/4" = 1'-0"

BRIDGE OVER
THE CLARK FORK RIVER

AT STA.
14+67.00

FEDERAL AID PROJECT
STPB 9039(43)

COUNTY
POWELL COUNTY

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MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

ROUTE
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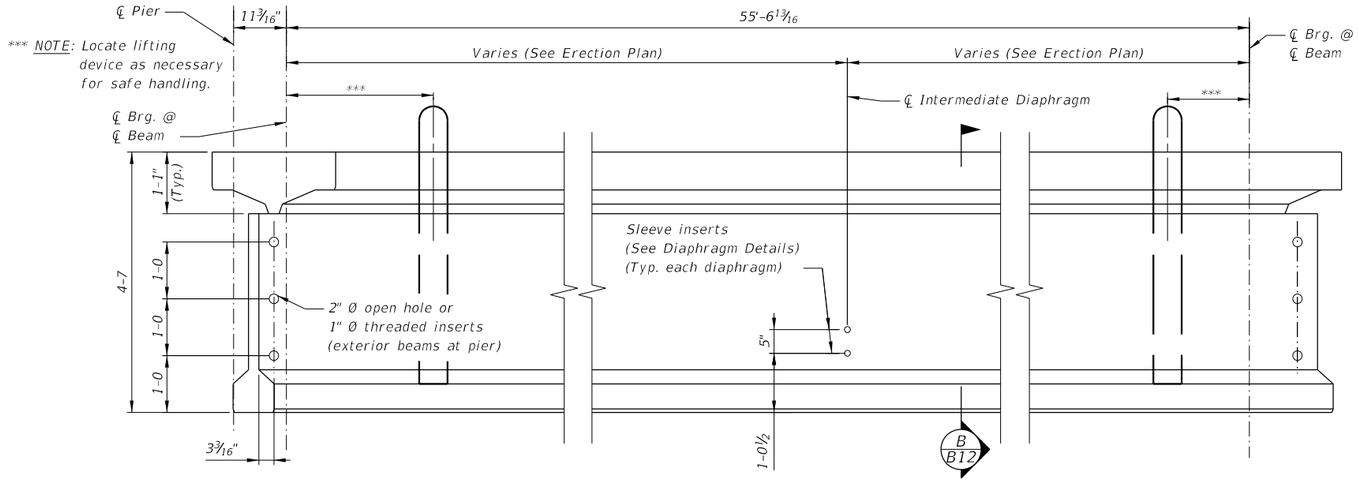
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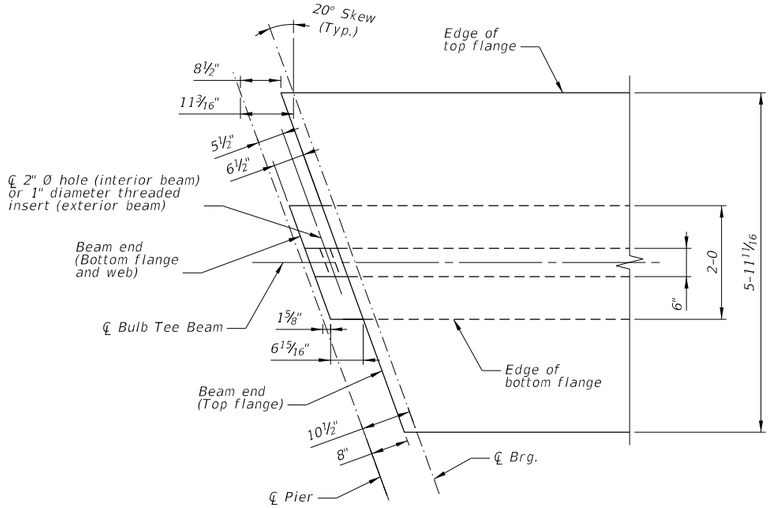
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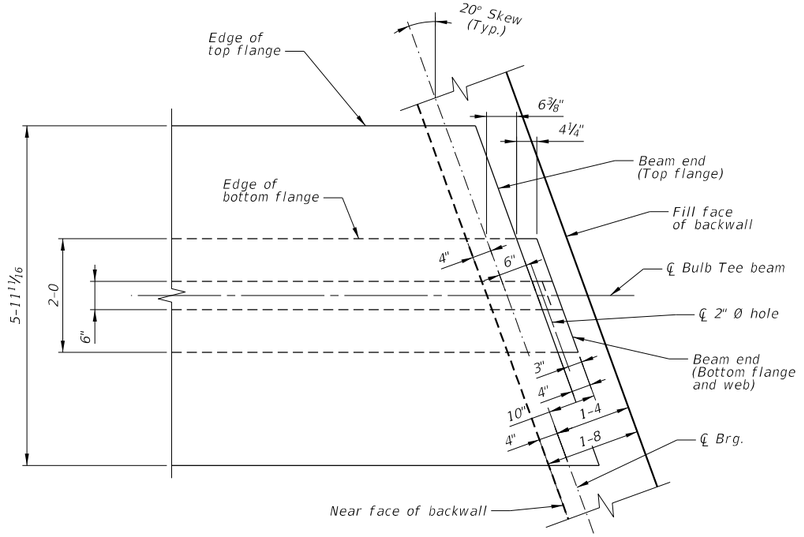



ELEVATION




BEAM END DETAIL AT PIER

Interior beam shown. Exterior beam simular




BEAM END DETAIL AT BENT

Interior beam shown. Exterior bam simular.

| PRESTRESSED BEAM DESIGN PARAMETERS | |
|---|---|
| AASHTO Specifications | LRFD 8th edition with current interims |
| Structure Type | Simple Span |
| Prestressing Strand | 270 ksi Low Relaxation – (0.500" or 0.600" diameter) |
| Shear Reinforcing | AASHTO M 31 Grade 60 |
| Alternate Shear Reinforcing | Welded Wire Reinforcement – AASHTO M55, M221, or MS4 |
| Section Property Calculations | Gross Section |
| Prestress Loss Method | Approximate Losses per LRFD 5.9.5 and 5.9.5.3 |
| Shear Computation Method | Sectional Model per LRFD 5.8.3 |
| Beam / Slab Interface | N/A |
| Load Rating Requirements | AASHTO LRFR Design Load |

| PRESTRESSED BEAM LOAD TABLE | | |
|---|---|---|
| LOAD TYPE | LOADS | APPLICATION METHOD |
| Barrier Load | 0.900 kip/ft per rail | Ext. Beams Only |
| Sidewalk | 0.375 kip/ft | Ext. Beam Only |
| Future Wearing Surface | 0.035 kip/ft$^2$ applied between curbs | Equally to all beams |
| Intermediate Diaphragms | 0.140 kip/bay @ 1/2 points | Point Load at location |
| Additional Dead Load | -------- | -------- |
| Factored Moment | Mu = 8519.2 kip-ft | ΔΔ |
| Live Load | LRFD – HL-93 | per AASHTO LRFD |

## NOTES

SPECIFICATIONS: See Prestressed Beam Design Parameters Table for design specifications.

Design and fabricate the beam to support the dead load and live loads to provide a minimum ultimate capacity shown in the Prestress Beam Design Parameters table. Show stresses in the beam under each loading condition that is anticipated in the manufacture, handling and service life of the beam.

PRESTRESSING STEEL: Use 0.500" diameter or 0.600" diameter, 7 wire strand prestressing steel.

HARDWARE: Obtain the Engineer's approval for all embedded plates, threaded inserts, hold down devices, lifting devices and any other hardware incorporated in the beam prior to fabrication. Provide stainless steel for all hardware incorporated into beam and curb in accordance with AASHTO M270 M Grade 36 unless noted otherwise.

BEAM LENGTH: Increase the overall length of the beam 0.0075" per foot of length to allow for elastic shortening, shrinkage and creep.

REINFORCING STEEL: See General Layout, Sheet No. B2. Epoxy coat all reinforcing in top mat of beam flange, curb, and incidentals.

VARIATIONS: Do not change the general shape, the deck width or span lengths from those shown on the Bridge drawings without the prior approval of the Engineer. Obtain approval from the Engineer for any variation requiring the alteration of backwall, bearings, bent and rail as shown on the Bridge drawings.

FABRICATOR NOTE: Include an allowance for 3" of asphalt surfacing (0.035 k.s.f.) in lieu of the usual 0.010 kips per square foot. Apply rail loads to the exterior beam only. Rough broom finish the top surface of the beam in accordance with Subsection 552.03.11(A) of the Standard Specifications.

NOTE: Hold all galvanized pipe sleeves in accurate position while placing concrete for the beam.

NOTE: Use structural steel meeting the requirements of AASHTO M270 M Grade 36 for all hardware unless noted otherwise.

PRESTRESSED CONCRETE BULB TEE BEAMS: The beams will be fabricated in accordance with the details shown on this sheet. Maximum f'c (Compressive strength of concrete in 28 days) for design is 7.5 k.s.i. and minimum f'c is 6.5 k.s.i. All values shown in the prestressed Beam Design Parameters table are based on the beam sections shown on this sheet.

NOTE: See Sheet No. B18 for Fixed Shoe Details.

NOTE: 5/8" Ø threaded inserts. Match the rail post spacing (Typ. both sides). Offset the insert longitudinally to avoid the embedded rail post plate and reinforcing. Minimum safe tension working load (capacity) for inserts is 2000 pounds.

SHEET NO. B13

BEAM DETAILS
SPAN NO. 2

SCALE: 3/4" = 1'-0"

BRIDGE OVER
THE CLARK FORK RIVER

AT STA.
14+67.00

FEDERAL AID PROJECT
STPB 9039(43)

COUNTY
POWELL COUNTY

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| REVISED | | | | | K.F.Y. | | |
| REVISED | | | | | P.K.S. | | |
| REVISED | | | | | G.C.G. | | |
| REVISED | | | | | | | |
| CHECKED | 09-11-20 | | | | | | |
| DRAWN | 09-11-20 | | | | | | |
| DESIGNED | 09-11-20 | | | | | | |

C:\DGN\8930000\brBMBz13.dgn

MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

12/2/2020 4:46:05 PM

ROUTE
L-39-1272N

REF POINT
0+0.04

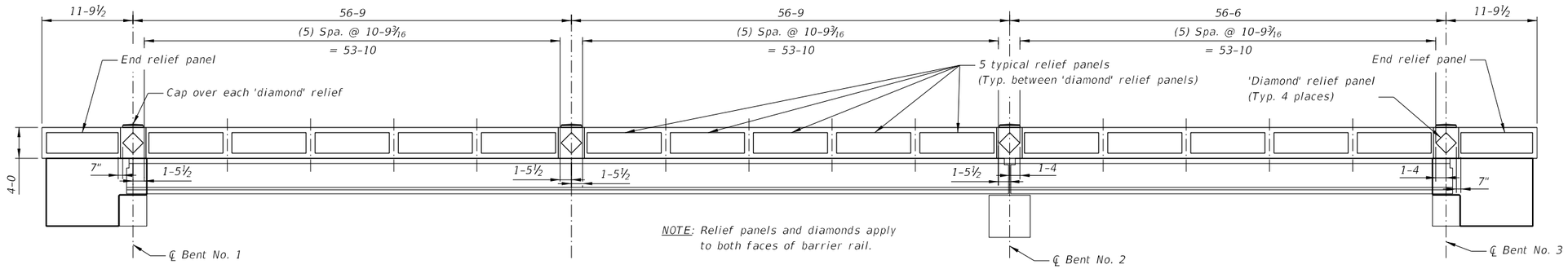
MDT STR. ID
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UPN NUMBER
8930000

DRAWING NO.
24278

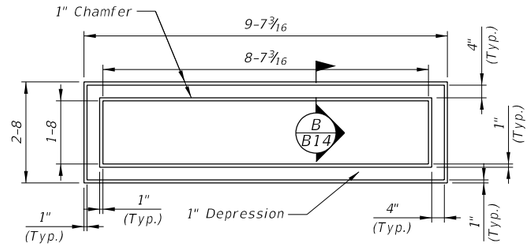
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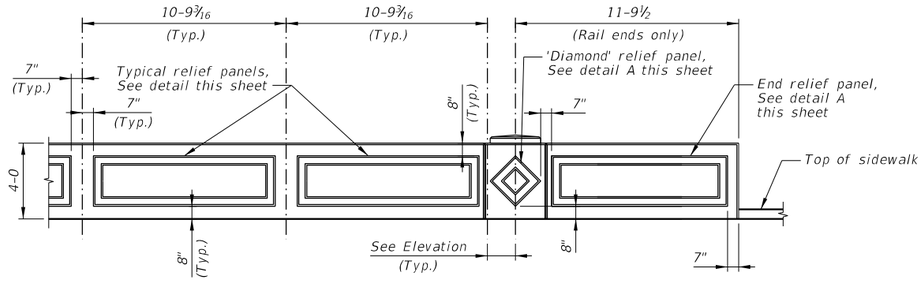



## BARRIER RAIL ELEVATION

Scale ~ ⅛" = 1'-0"

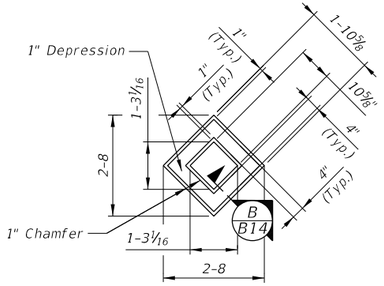



## TYPICAL RELIEF PANEL

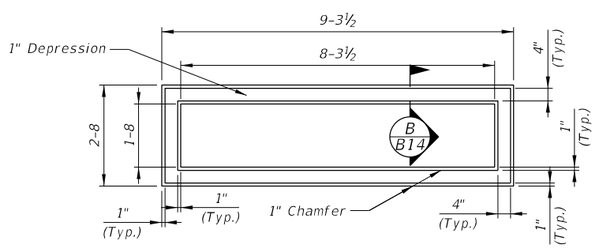



## BARRIER RELIEF CONFIGURATION

Scale ~ ¼" = 1'-0"



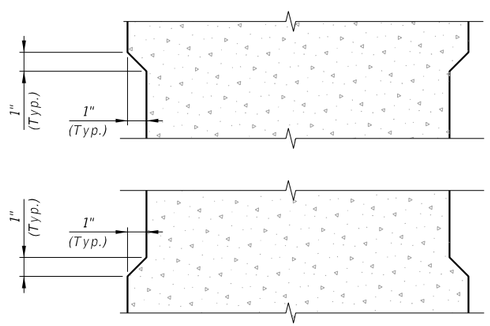

## 'DIAMOND' RELIEF PANEL




## END RELIEF PANEL

A B14 PANEL RELIEF DETAILS

Scale ~ ½" = 1'-0"




B B14 SECTION B

Scale ~ 3" = 1'-0"

## NOTES

PAYMENT: Include all costs associated with furnishing and placing reinforcing steel in the barrier in the unit price for Reinforcing Steel Epoxy Coated or Regular. Include all other costs associated with the barrier as shown in the unit price bid for Barrier Rail Cast-In-Place BR.

REINFORCING STEEL: All barrier reinforcing steel is epoxy coated.

SHEET NO. B14

BRIDGE BARRIER RAIL ELEVATIONS & DETAILS

SCALE: As Noted

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | | |
|---|---|---|
| REVISED | | |
| REVISED | | |
| REVISED | | |
| CHECKED | 09-11-20 | K.F.Y. |
| DRAWN | 09-11-20 | P.K.S. |
| DESIGNED | 09-11-20 | G.C.G. |

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12/2/2020 4:46:16 PM

MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

ROUTE L-39-1272N

REF POINT 0+0.04

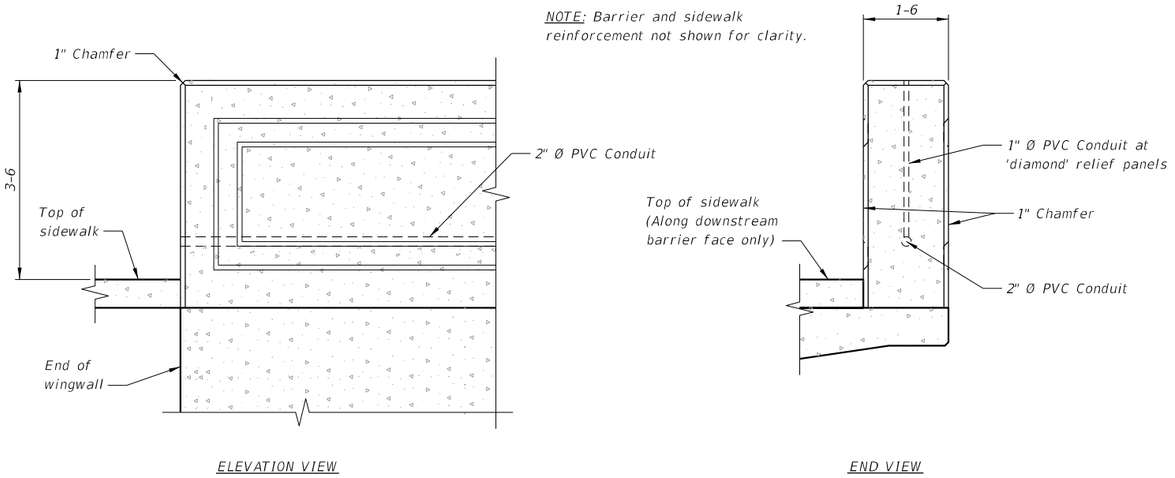
MDT STR. ID 04955

UPN NUMBER 8930000

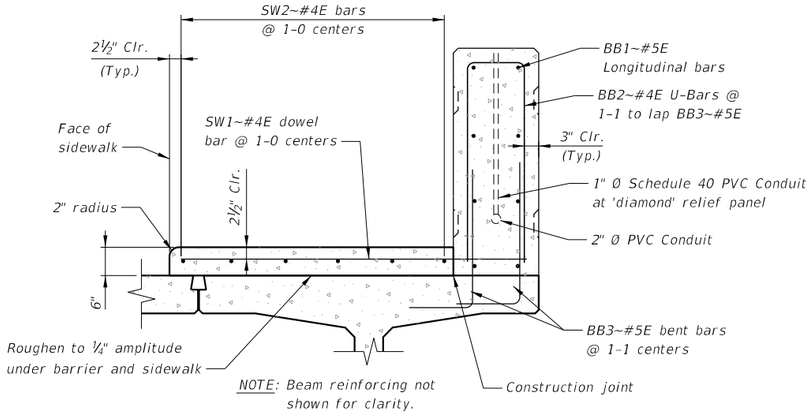
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AWARD COPY



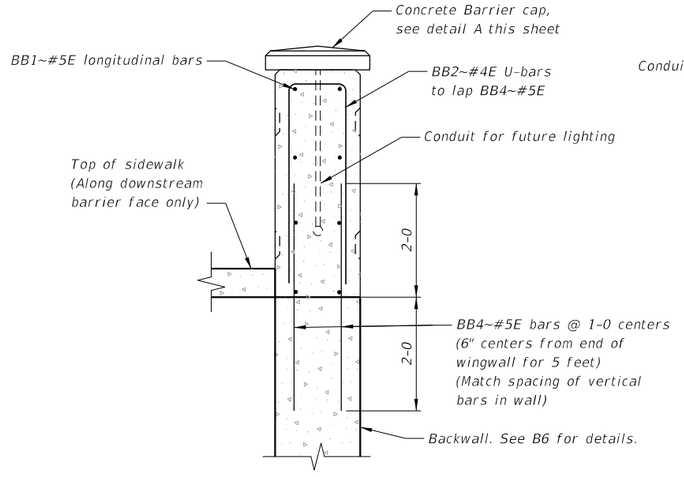

## BARRIER END DETAILS




## BARRIER AND SIDEWALK REINFORCING DETAIL

INTERIOR BARRIER SECTIONS:
Lc = 16-0
Rw = 83.82k

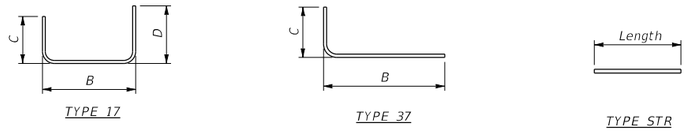
DISCOUNTINUOUS BARRIER ENDS:
Lc = 5-3
Rw = 67.2k



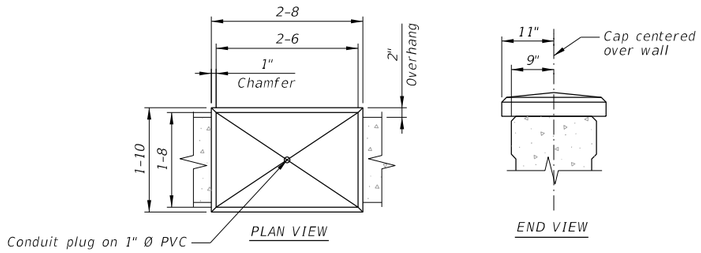

## BARRIER ATTACHMENT TO WINGWALLS

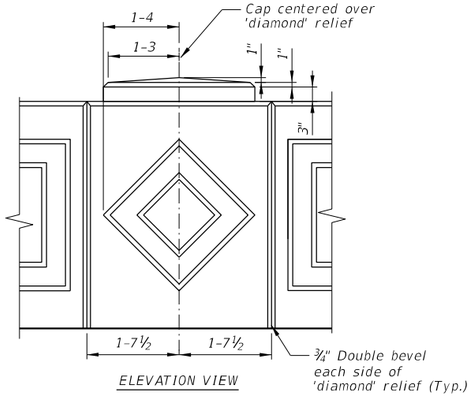
## BILL OF REINFORCING STEEL

FOR ONE BARRIER ONLY
(ALL DIMENSIONS ARE OUT TO OUT)




| Mark | Size | No. | Type | Length | A | B | C | D | E | G | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SW1 | 4E | 193 | STR | 6-1 | | | | | | | |
| SW2 | 4E | 6 | STR | 193-3 | | | | | | | |
| | | | | | | | | | | | |
| BB1 | 5E | 8 | STR | 193-3 | | | | | | | |
| BB2 | 4E | 191 | 17 | 8-0 | | 1-0 | 3-6 | 3-6 | | | |
| BB3 | 5E | 314 | 37 | 3-0 | | 2-0 | 1-0 | | | | |
| BB4 | 5E | 68 | STR | 4-0 | | | | | | | |




A / B15 BARRIER CAP DETAILS

SHEET NO. B15

BRIDGE BARRIER RAIL DETAILS

SCALE: ¾" = 1'-0"

BRIDGE OVER THE CLARK FORK RIVER

AT STA. 14+67.00

FEDERAL AID PROJECT STPB 9039(43)

COUNTY POWELL COUNTY

| | REVISED | REVISED | REVISED | CHECKED | DRAWN | DESIGNED |
|---|---|---|---|---|---|---|
| | | | | K.F.Y. | P.K.S. | G.C.G. |
| | | | | 09-11-20 | 09-11-20 | 09-11-20 |

C:\DGN\8930000brDETz15.dgn

12/2/2020 4:46:20 PM BRIDGE BUREAU

MONTANA DEPARTMENT OF TRANSPORTATION

ROUTE L-39-1272N

REF POINT 0+0.04

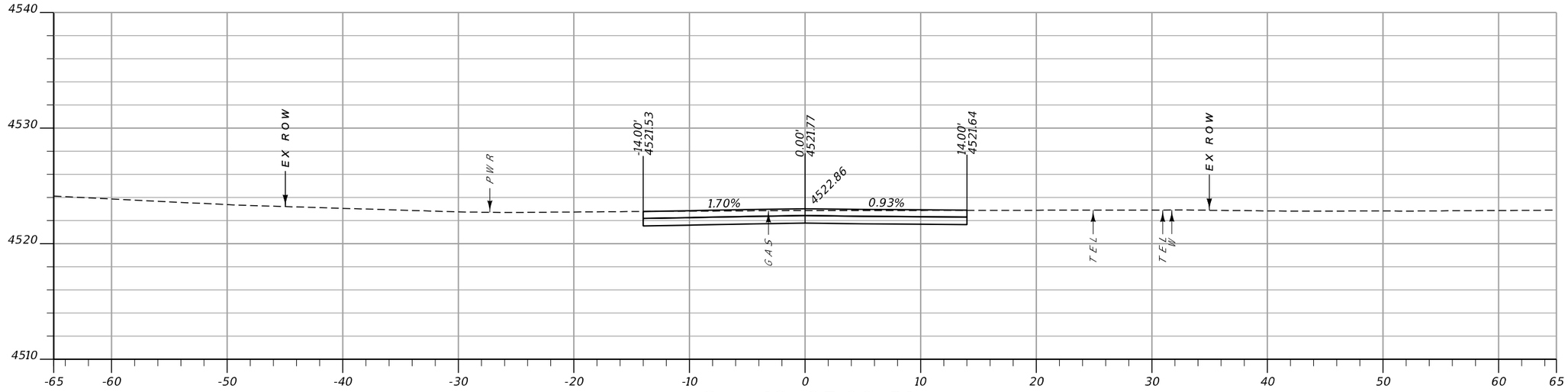
MDT STR. ID 04955

UPN NUMBER 8930000

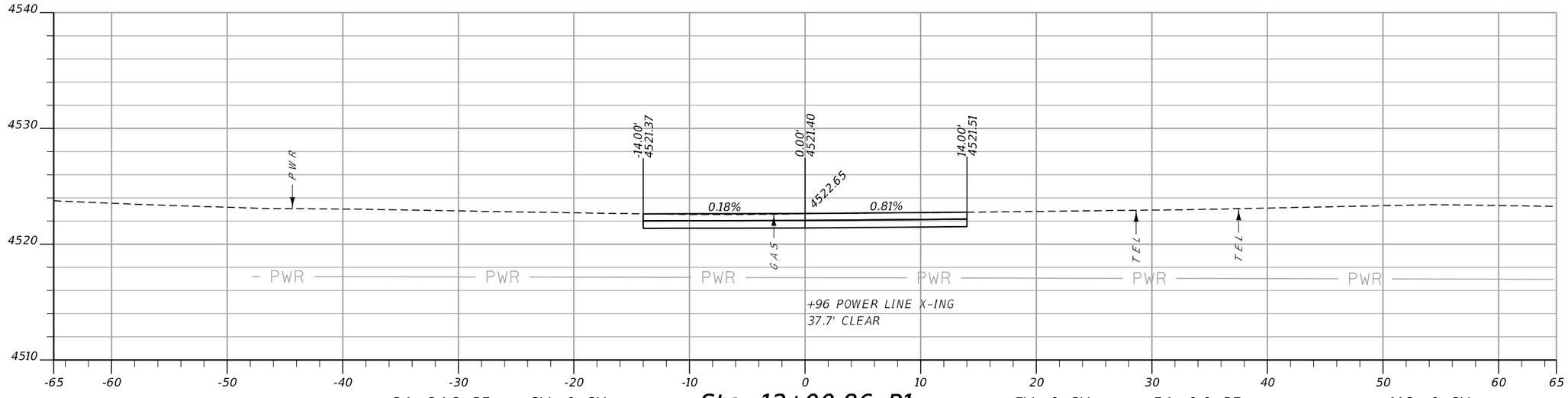
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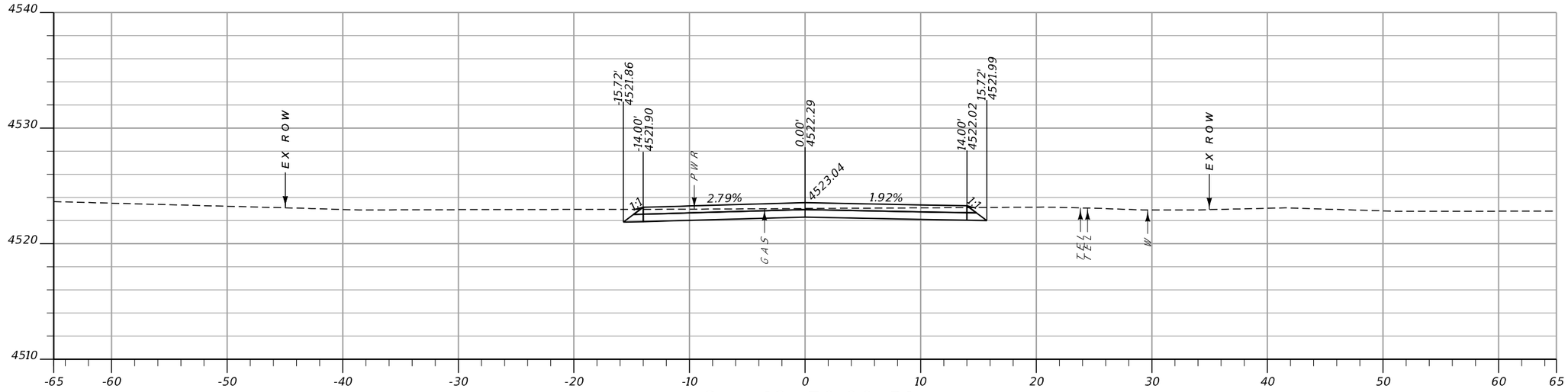



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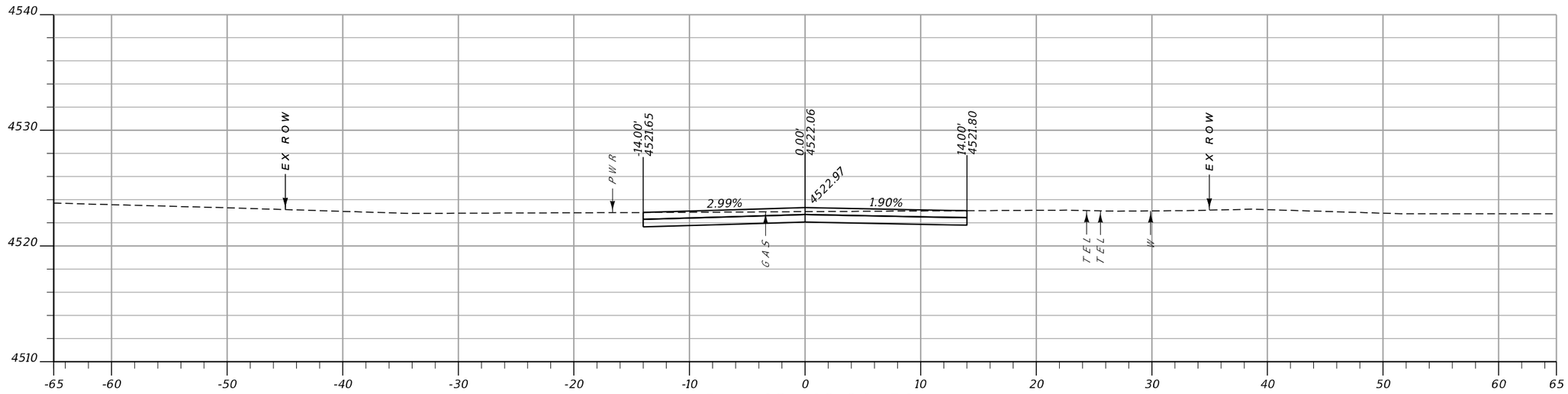
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| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY | R. HOLM | 11/24/2020 | | |
| | 4:51:27 PM RHolm | CHECKED BY | K. YAKAWICH | 11/24/2020 | POWELL COUNTY | UPN 8930000 / SHEET 1 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






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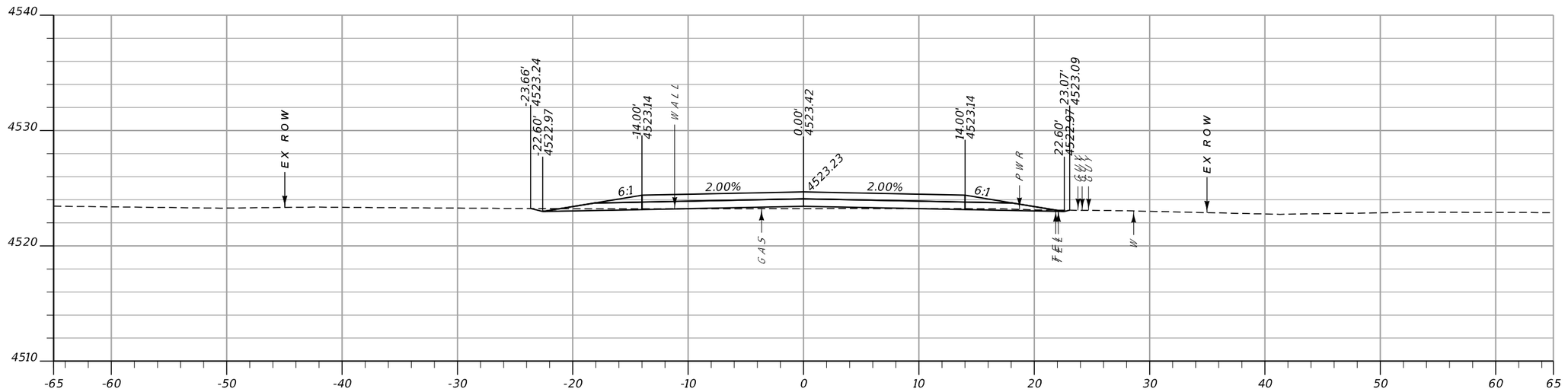



CA: 30.1 SF CV: 17 CY **Sta. 12+40.00 R1** FV: 0 CY FA: 0.0 SF MO: 47 CY

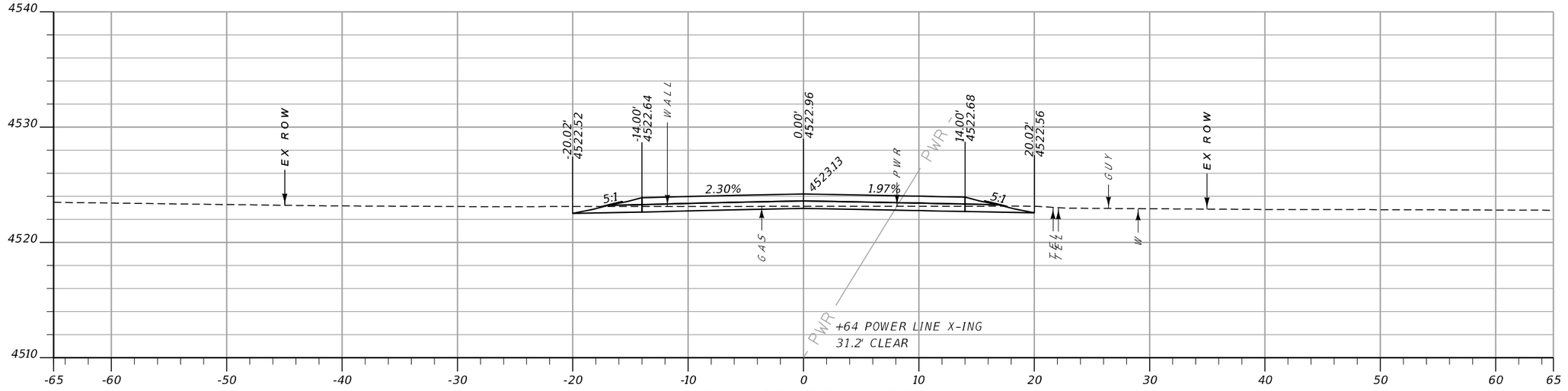
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|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE – DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY | R. HOLM | 7/2/2020 | | |
| | 4:51:28 PM RHolm | CHECKED BY | K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 2 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






CA: 2.8 SF CV: 5 CY **Sta. 12+90.00 R1** FV: 1 CY FA: 1.9 SF MO: 81 CY

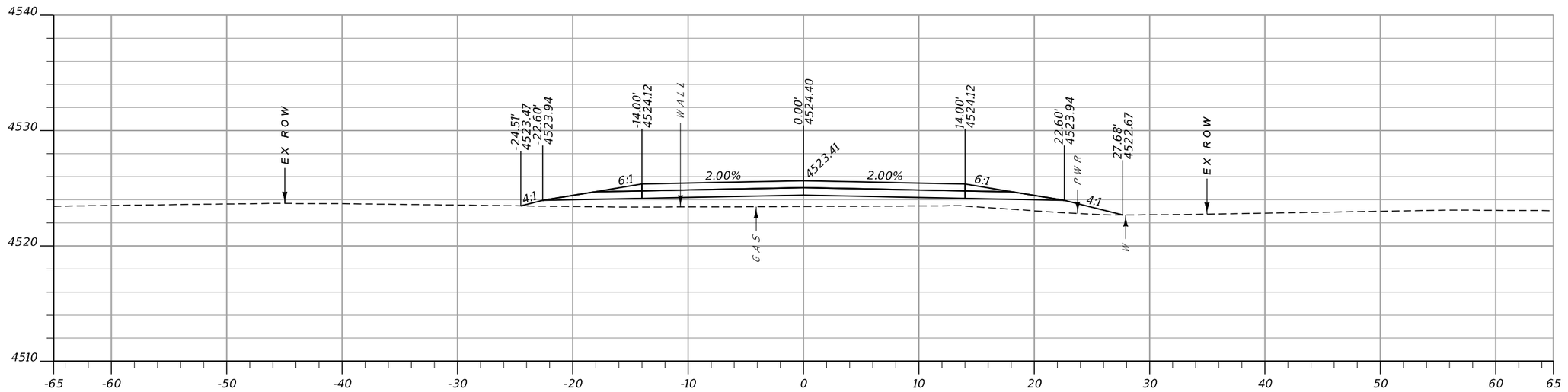



CA: 13.7 SF CV: 19 CY **Sta. 12+75.00 R1** FV: 0 CY FA: 0.0 SF MO: 77 CY

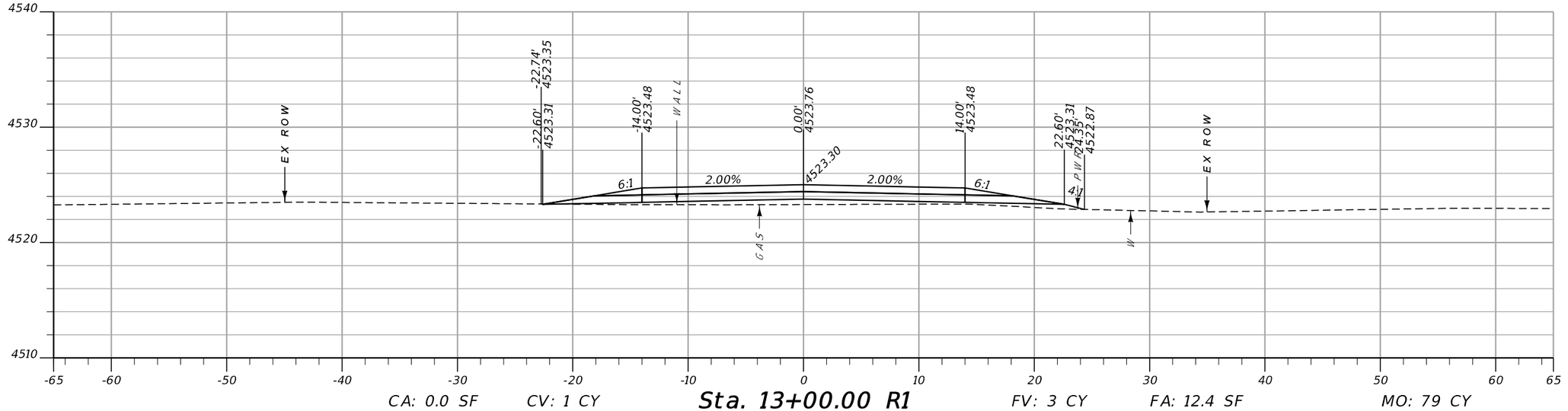
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| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | POWELL COUNTY | UPN 8930000 / SHEET 3 |
| | 4:51:29 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | | |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






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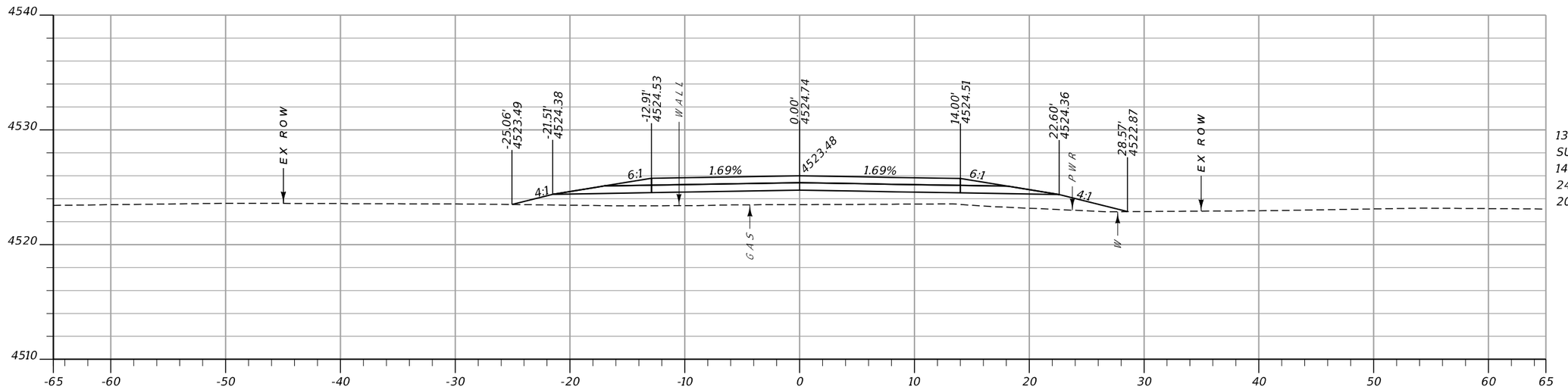



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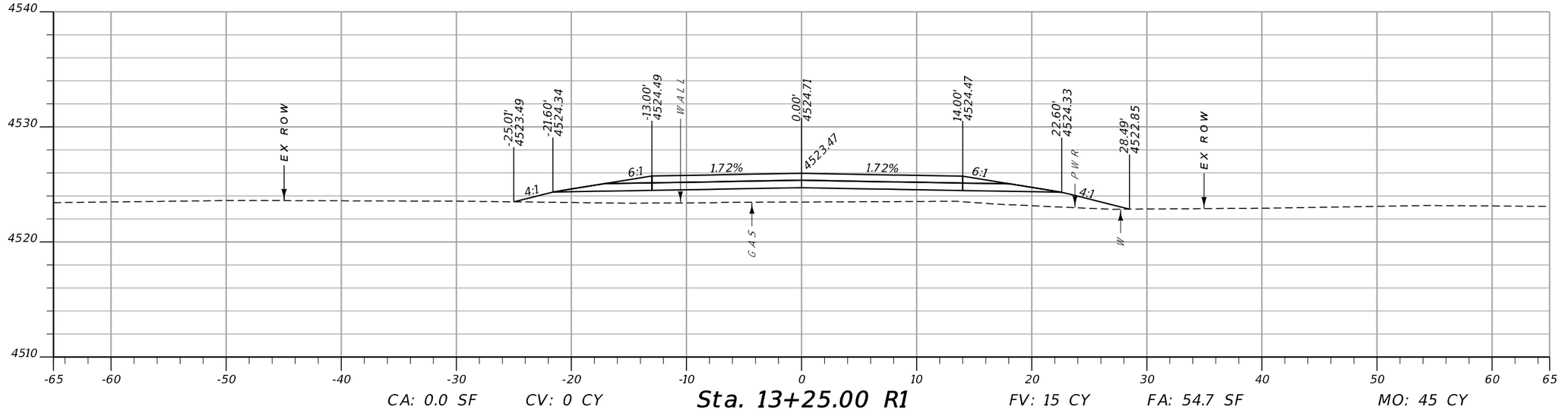
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DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






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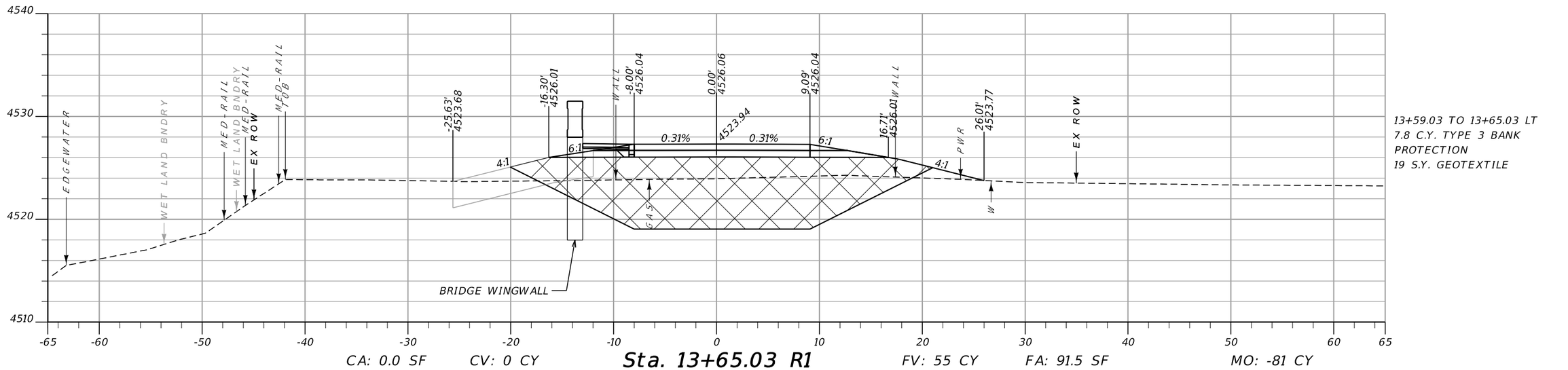


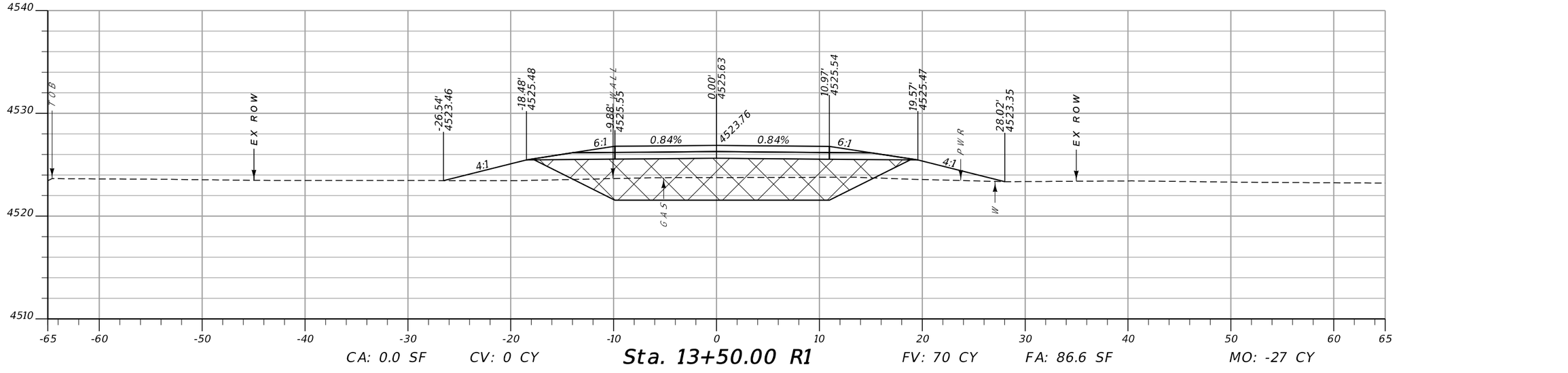

CA: 0.0 SF CV: 0 CY **Sta. 13+25.00 R1** FV: 15 CY FA: 54.7 SF MO: 45 CY

| | | | | | |
|---|---|---|---|---|---|
| MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | | |
| | 4:51:32 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 5 |

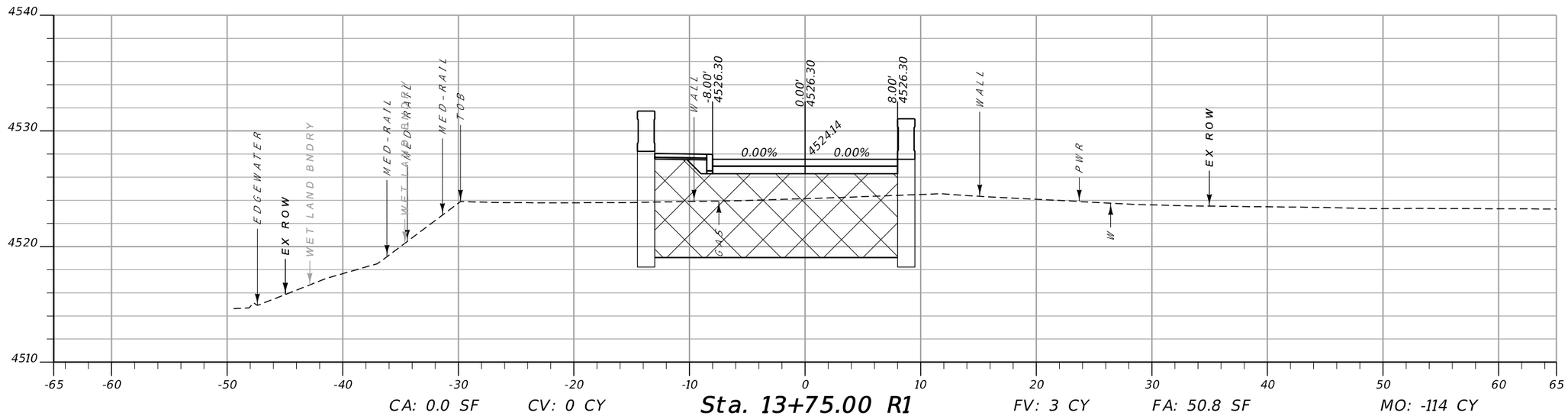
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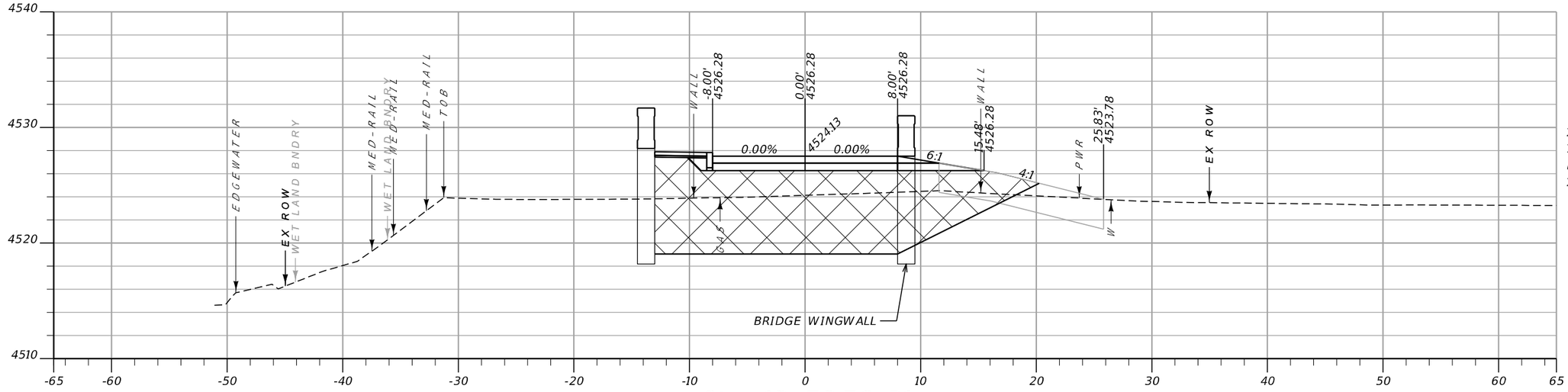



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| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAYOUT.dgn<br>11/23/2020<br>4:51:33 PM RHolm | DESIGNED BY | R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS<br>POWELL COUNTY | CONLEY AVE BRIDGE – DEER LODGE<br>UPN 8930000 | STPB 9039(44)<br>SHEET 6 |
| | | REVIEWED BY | R. HOLM | 7/2/2020 | | | |
| | | CHECKED BY | K. YAKAWICH | 7/2/2020 | | | |




CA: 0.0 SF CV: 0 CY **Sta. 13+75.00 R1** FV: 3 CY FA: 50.8 SF MO: -114 CY

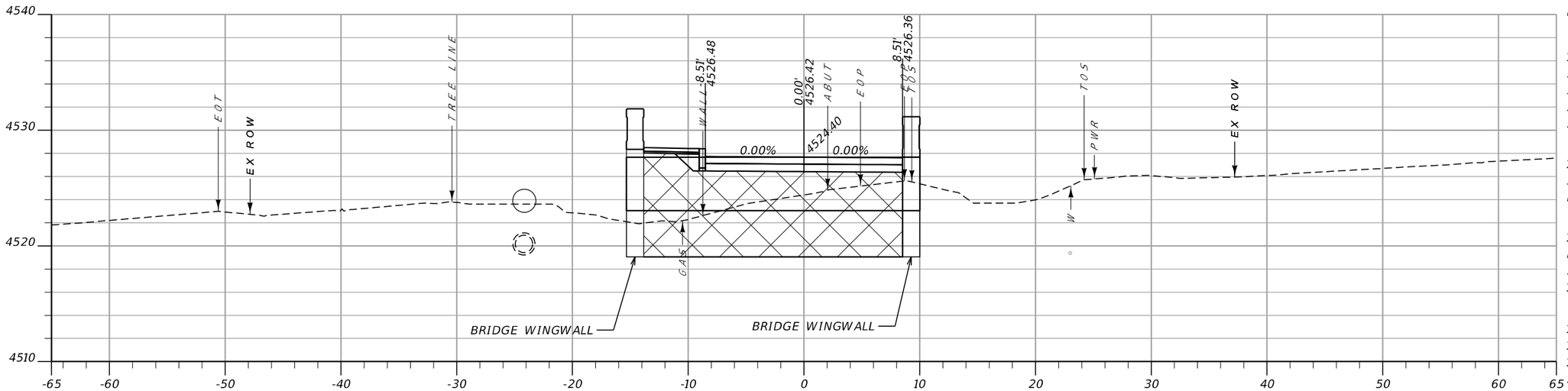



13+67.77 TO 13+73.77 RT
7.8 C.Y. TYPE 3 BANK PROTECTION
19 S.Y. GEOTEXTILE

CA: 0.0 SF CV: 0 CY **Sta. 13+73.76 R1** FV: 30 CY FA: 74.4 SF MO: -111 CY

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






CA: 0.0 SF CV: 0 CY **Sta. 15+53.35 B.E. - SKEWED** FV: 0 CY FA: 59.2 SF MO: 389 CY

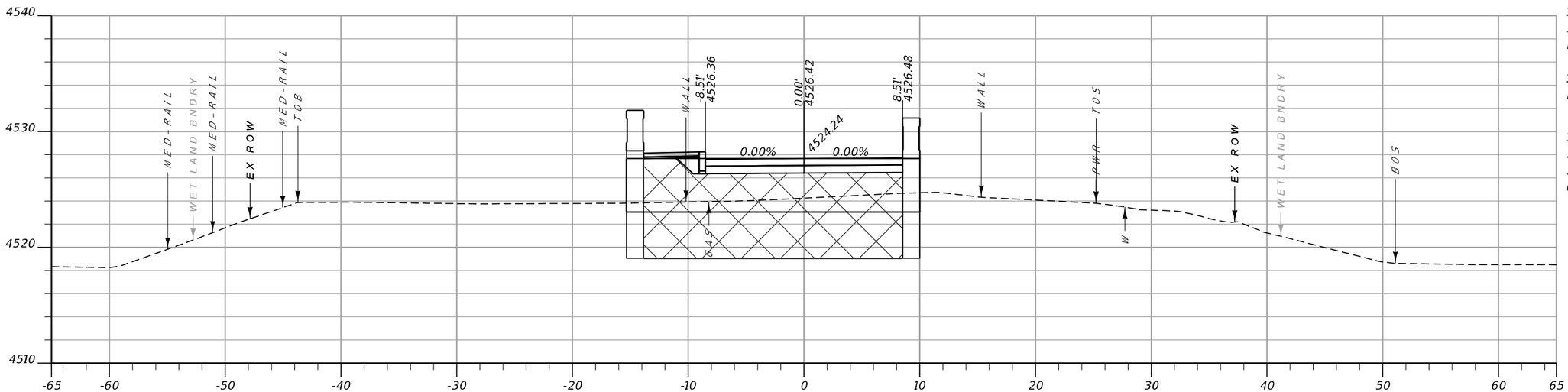
*SL-1, 15+34.69 TO 16+06.99 LT*
*NEW 18" X 72.0' STM DR.*

*15+53.35 B.E. TO 16+06.04*
*SUBEXCAVATION*
*235 C.Y. EXC.*
*255 C.Y. BRIDGE END BACKFILL*
*214 S.Y. GEOTEXTILE*

*15+45 TO 15+97*
*24"/18" X 52' CSP IN PL. LT*
*REMOVE*

*15+29.75 TO 15+35.66*
*RIPRAP APRON LT*
*3.2 C.Y. CL. I RIPRAP*
*10 S.Y. GEOTEXTILE*

*15+26.78 TO 15+54.89*
*108.8 C.Y. CL. III RIPRAP*
*129 S.Y. GEOTEXTILE*
*26 S.Y. RIPRAP REVEGETATION*




CA: 0.0 SF CV: 0 CY **Sta. 13+80.65 B.E. - SKEWED** FV: 12 CY FA: 51.2 SF MO: 129 CY

*15+14*
*12" X 54' CSP IN PL. LT*
*DO NOT DISTURB*

*14+79*
*20' X 152' BRIDGE IN PL.*
*REMOVE*

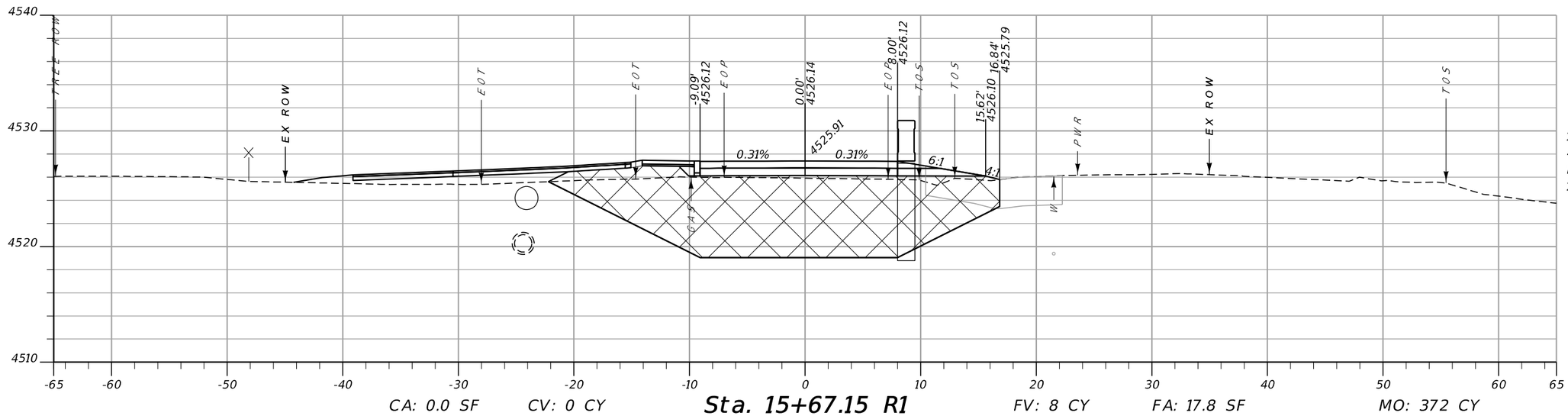
*14+67*
*NEW 24.00' X 172.70' BRIDGE*

*13+73.09 TO 14+16.31*
*237.4 C.Y. CL. III RIPRAP*
*243 S.Y. GEOTEXTILE*
*66 S.Y. RIPRAP REVEGETATION*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY | R. HOLM | 11/24/2020 | | | |
| | 4:51:35 PM RHolm | CHECKED BY | K. YAKAWICH | 11/24/2020 | POWELL COUNTY | | UPN 8930000 / SHEET 8 |

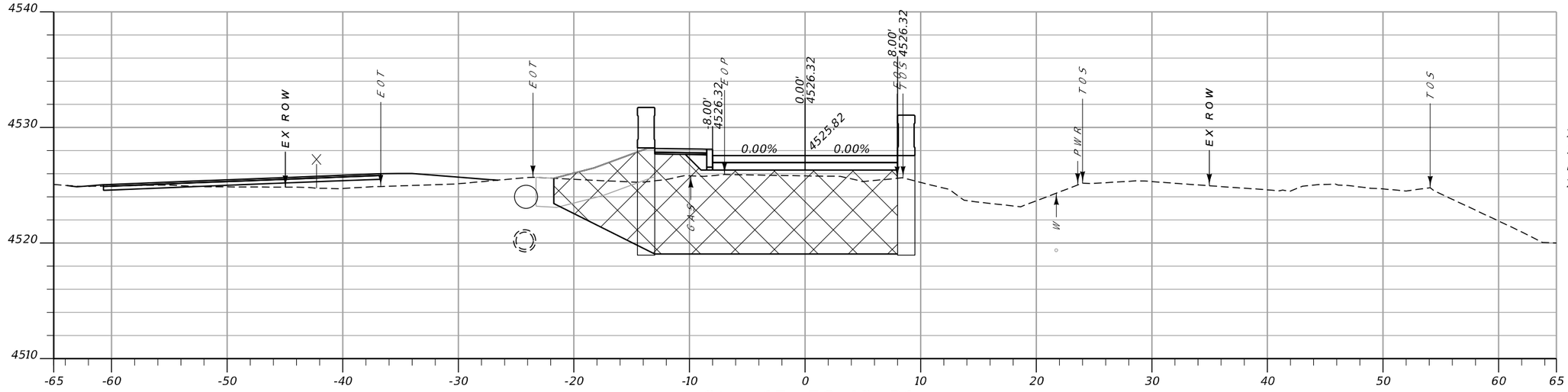
DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






15+62.80 TO 15+72.52 RT
4.2 C.Y. TYPE 3 BANK PROTECTION
10 S.Y. GEOTEXTILE

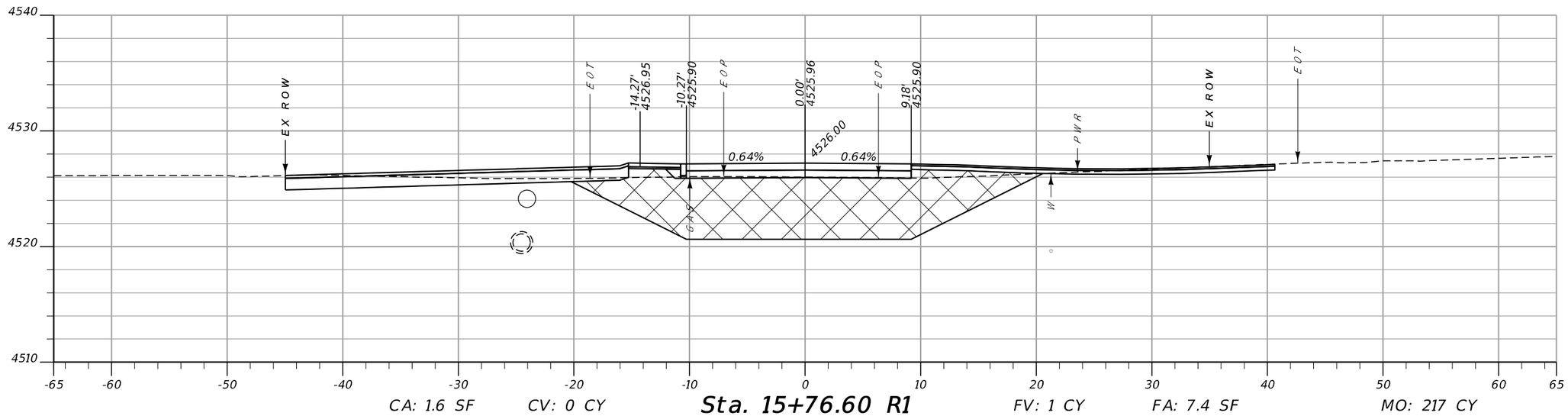
CA: 0.0 SF CV: 0 CY **Sta. 15+67.15 R1** FV: 8 CY FA: 17.8 SF MO: 372 CY



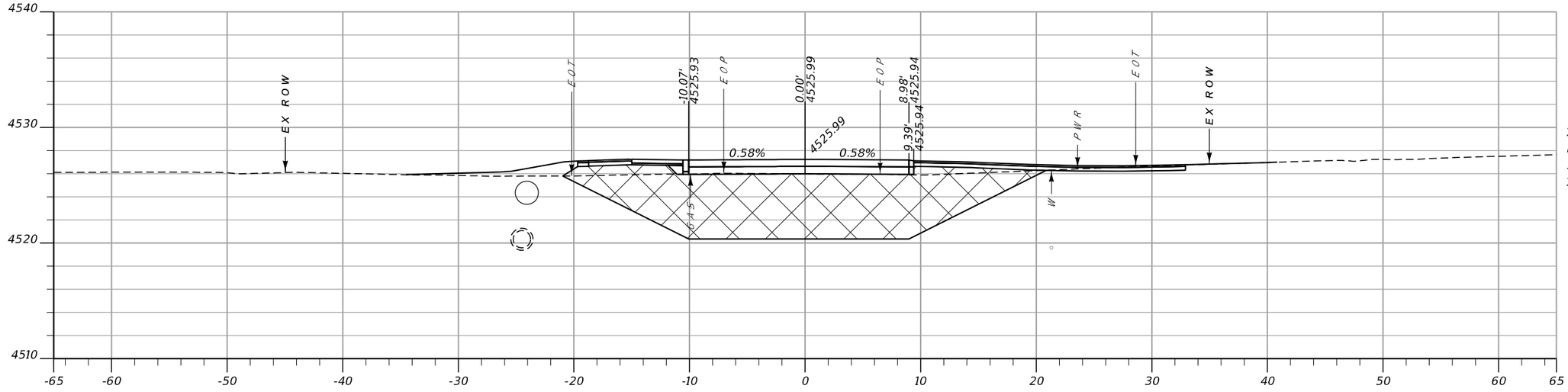

15+51.33 TO 15+64.56 LT
5.2 C.Y. TYPE 3 BANK PROTECTION
12 S.Y. GEOTEXTILE

CA: 0.0 SF CV: 0 CY **Sta. 15+58.43 R1** FV: 9 CY FA: 29.9 SF MO: 380 CY

| | | | | | |
|---|---|---|---|---|---|
| MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE – DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 9 |
| | 4:51:36 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | | |




CA: 1.6 SF CV: 0 CY **Sta. 15+76.60 R1** FV: 1 CY FA: 7.4 SF MO: 217 CY



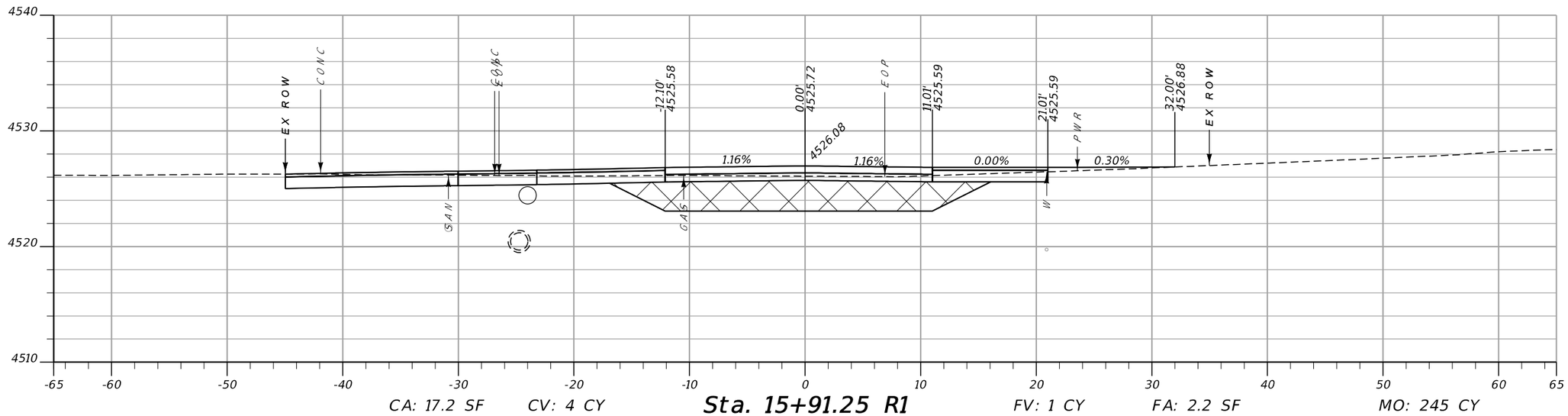

CA: 0.5 SF CV: 0 CY **Sta. 15+75.00 R1** FV: 4 CY FA: 18.5 SF MO: 218 CY

15+68 TO 15+81
PAVED PEDESTRIAN TRAIL
5 C.Y. EXC.
160 C.Y. EMB.+

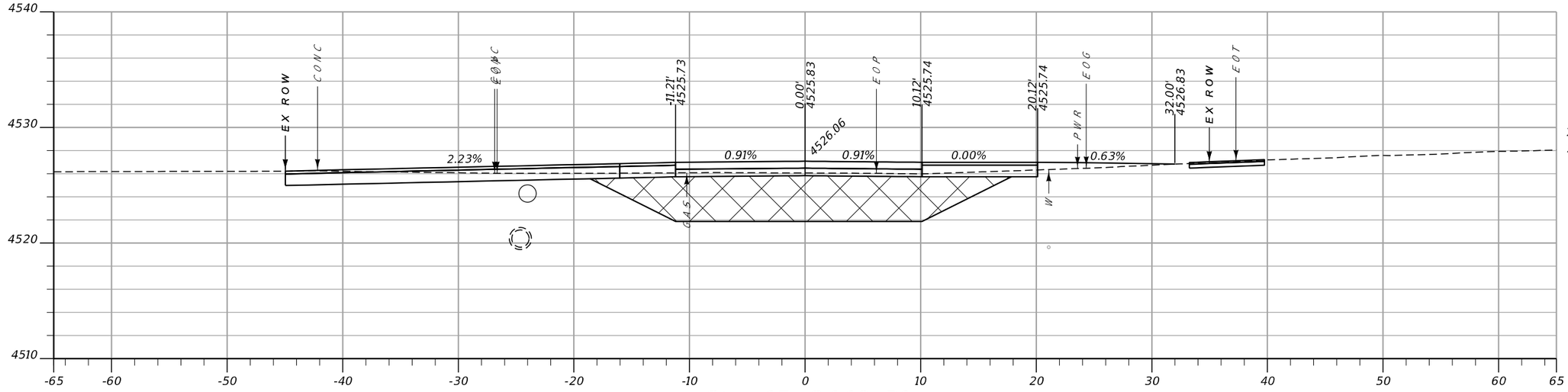
| | | | | | |
|---|---|---|---|---|---|
| MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE – DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 10 |
| | 4:51:38 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | | |

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CA: 17.2 SF CV: 4 CY **Sta. 15+91.25 R1** FV: 1 CY FA: 2.2 SF MO: 245 CY

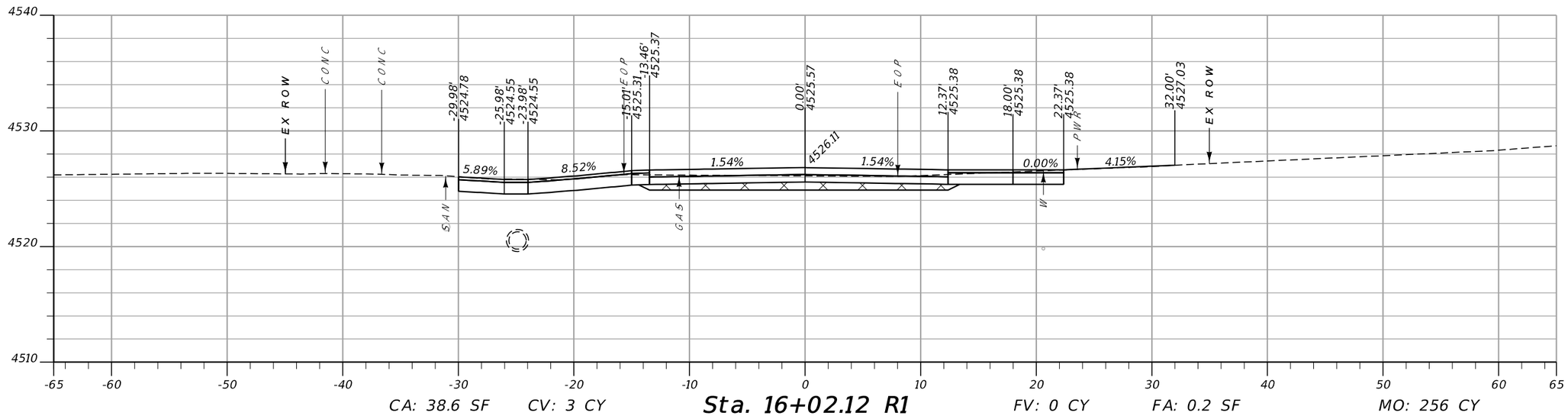



CA: 10.0 SF CV: 2 CY **Sta. 15+84.10 R1** FV: 2 CY FA: 4.3 SF MO: 242 CY

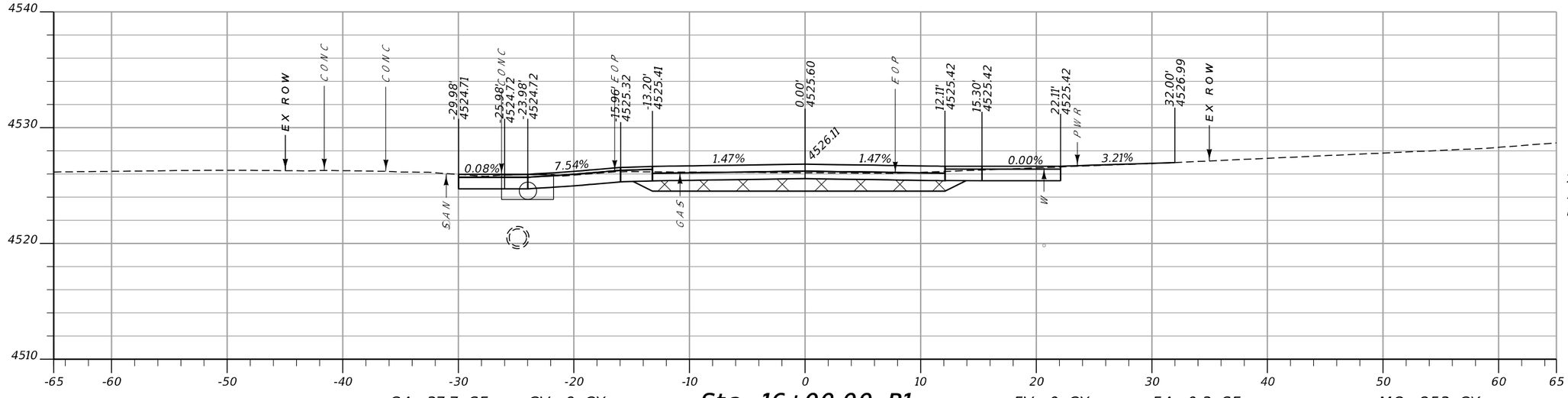
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|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | | | |
| | 4:51:39 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | POWELL COUNTY | | UPN 8930000 / SHEET 11 |

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AWARD COPY




CA: 38.6 SF CV: 3 CY **Sta. 16+02.12 R1** FV: 0 CY FA: 0.2 SF MO: 256 CY



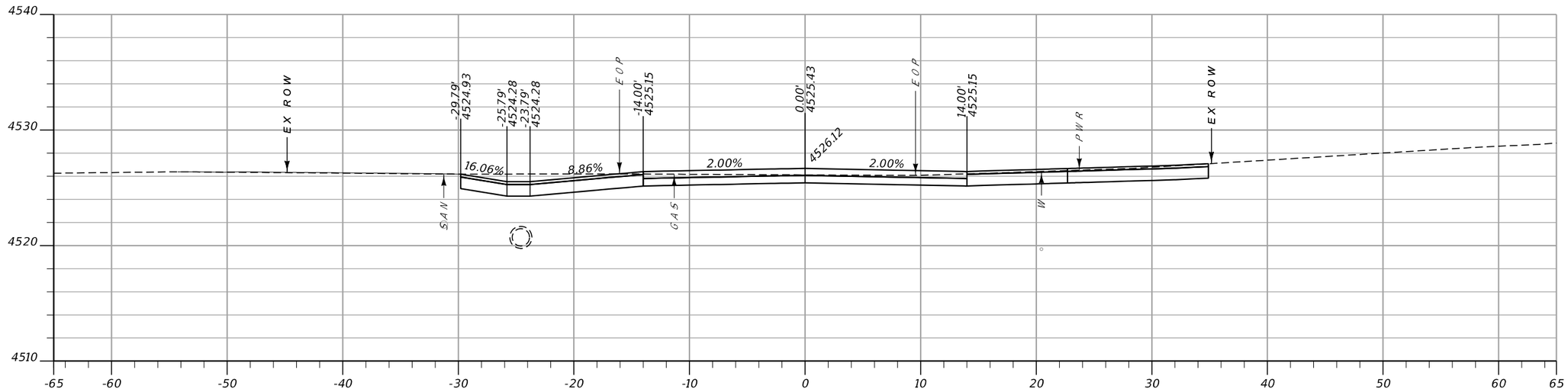

15+99
STM INLET IN PL. LT
REMOVE

CA: 37.7 SF CV: 9 CY **Sta. 16+00.00 R1** FV: 0 CY FA: 0.3 SF MO: 253 CY

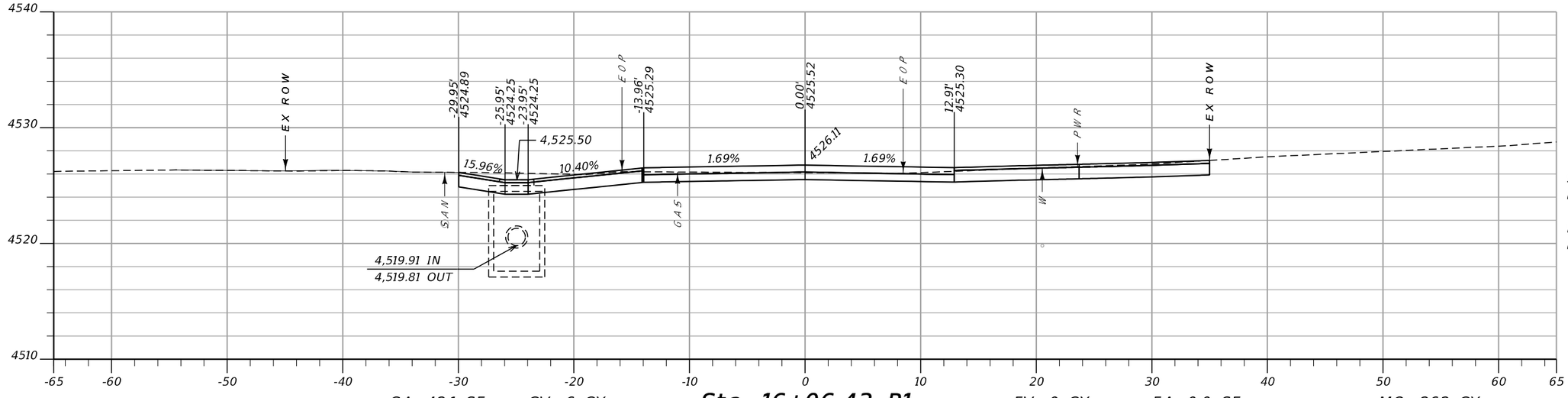
| | | | | | | |
|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY | R. HOLM | 7/2/2020 | | |
| | 4:51:40 PM RHolm | CHECKED BY | K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 12 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C






CA: 48.0 SF CV: 15 CY **Sta. 16+15.15 R1** FV: 0 CY FA: 0.0 SF MO: 277 CY




CA: 42.1 SF CV: 6 CY **Sta. 16+06.43 R1** FV: 0 CY FA: 0.0 SF MO: 262 CY

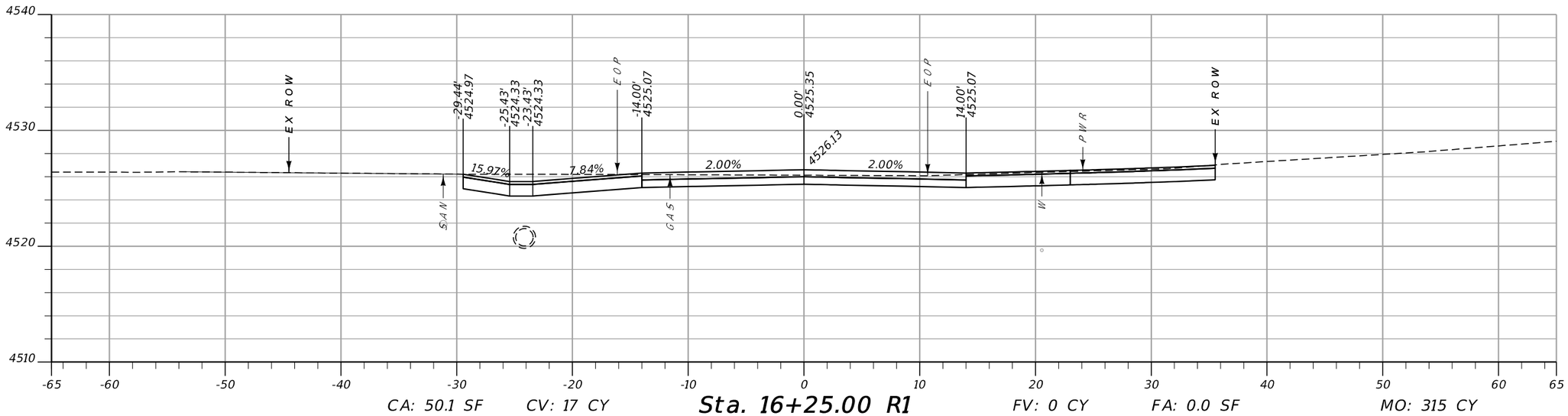
SL-2, 16+06.99 TO 16+42.65 LT
NEW 18" X 34.3' STM DR.

DI-1, 16+06.99, 24.95' LT
NEW D.I. TYPE 1

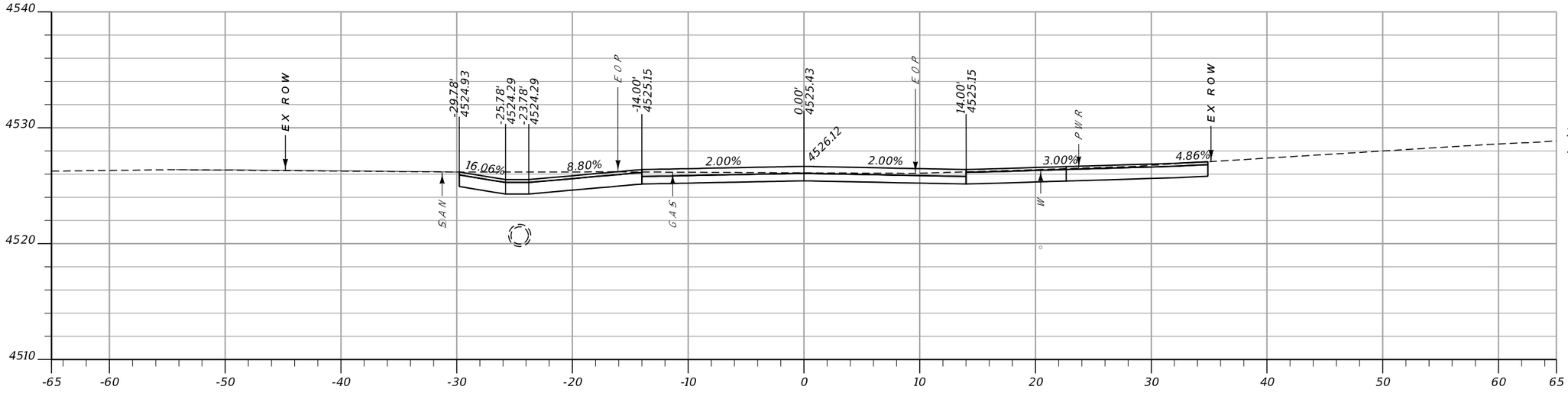
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|---|---|---|---|---|---|---|
| MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAYOUT.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | | CONLEY AVE BRIDGE - DEER LODGE | STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | | | | |
| | 4:51:41 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | POWELL COUNTY | | UPN 8930000 | SHEET 13 |

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AWARD COPY




CA: 50.1 SF CV: 17 CY **Sta. 16+25.00 R1** FV: 0 CY FA: 0.0 SF MO: 315 CY



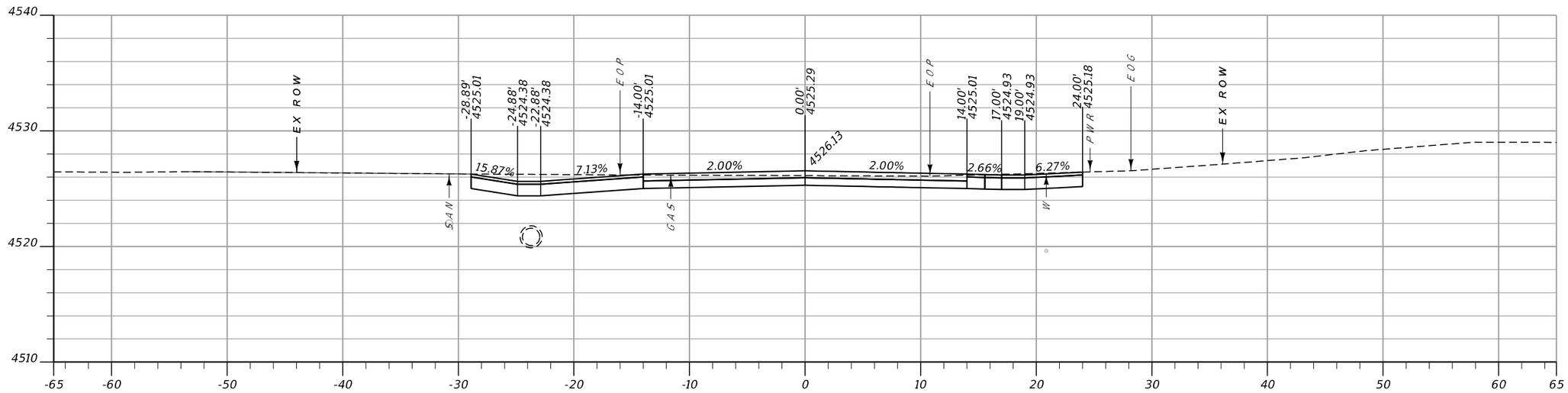

16+16 PUBLIC APP. RT
20 C.Y. EXC.

CA: 48.2 SF CV: 1 CY **Sta. 16+15.69 R1** FV: 0 CY FA: 0.0 SF MO: 298 CY

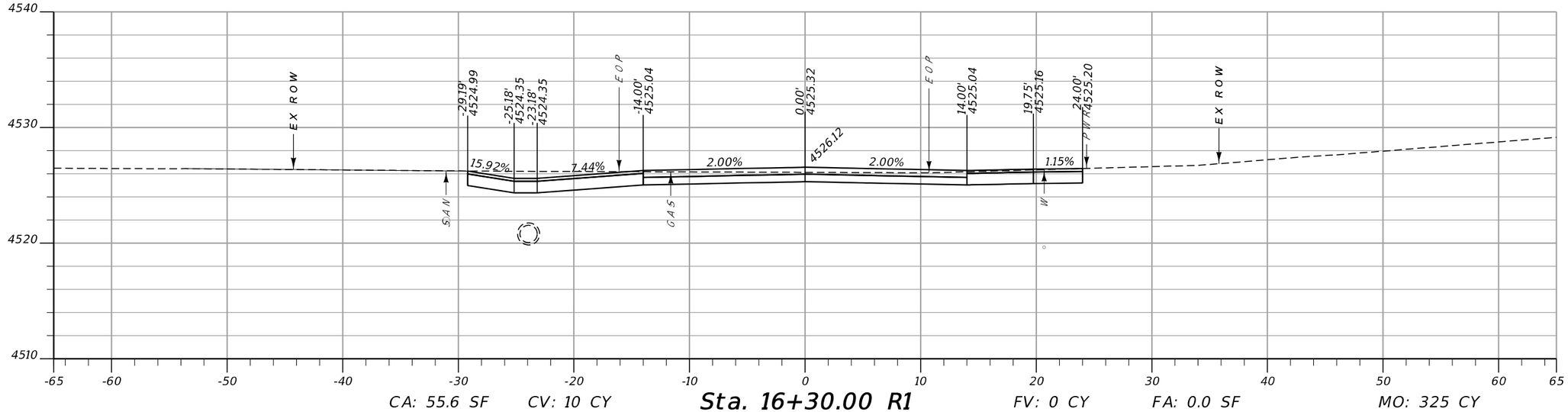
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|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY | R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY | R. HOLM | 7/2/2020 | | |
| | 4:51:42 PM RHolm | CHECKED BY | K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 14 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C

AWARD COPY




CA: 61.9 SF CV: 11 CY **Sta. 16+34.95 R1** FV: 0 CY FA: 0.0 SF MO: 335 CY

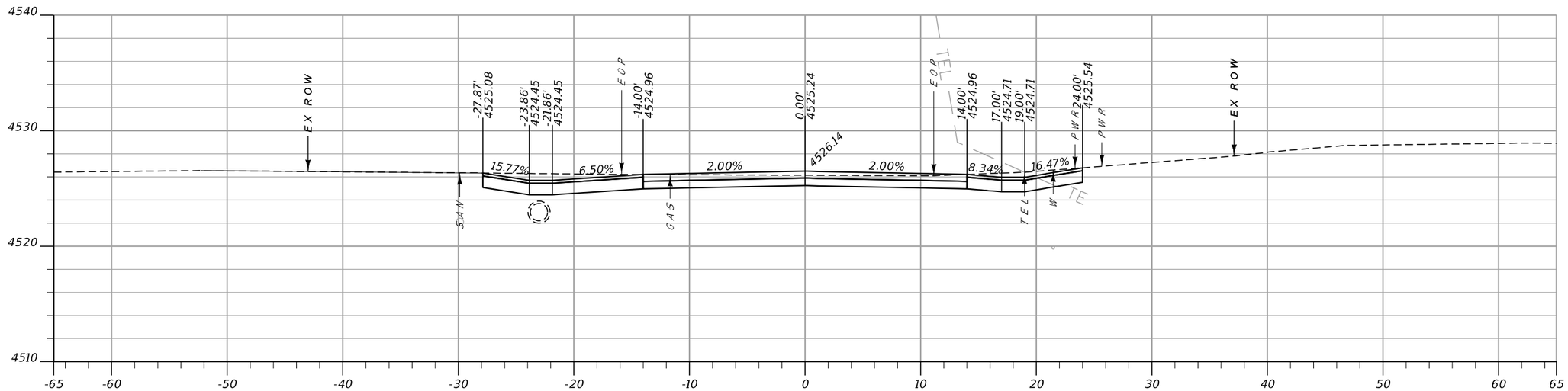



CA: 55.6 SF CV: 10 CY **Sta. 16+30.00 R1** FV: 0 CY FA: 0.0 SF MO: 325 CY

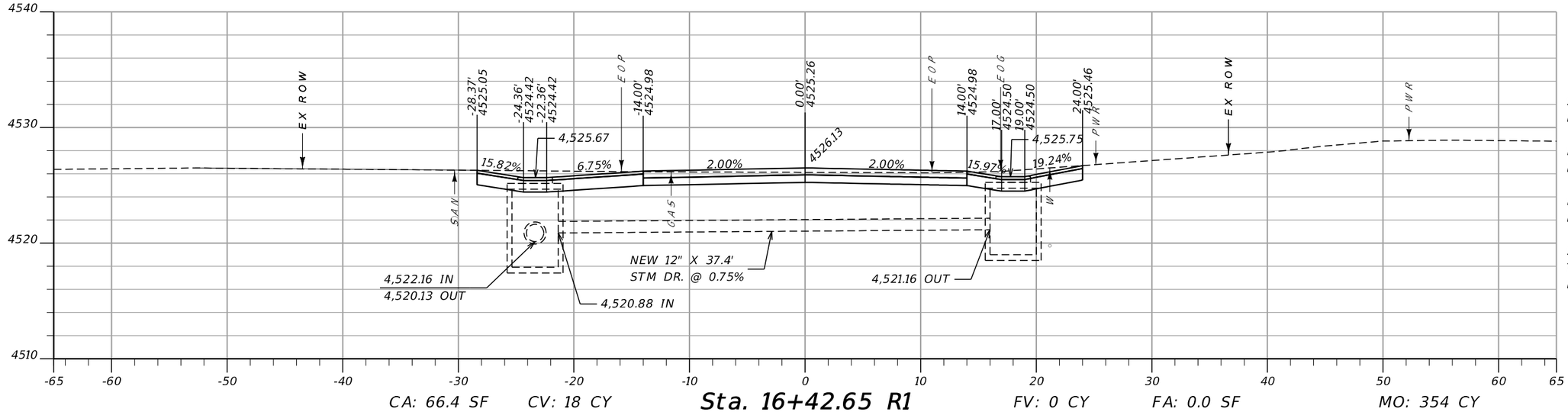
| | | | | | |
|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | | |
| | 4:51:44 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 15 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C

AWARD COPY




CA: 66.1 SF CV: 18 CY **Sta. 16+50.00 R1** FV: 0 CY FA: 0.0 SF MO: 372 CY




CA: 66.4 SF CV: 18 CY **Sta. 16+42.65 R1** FV: 0 CY FA: 0.0 SF MO: 354 CY

SL-3, 16+42.65 TO 17+58.68 LT
NEW 18" X 116.2' STM DR.

DI-2, 16+42.65, 23.36' LT
NEW D.I. TYPE 1

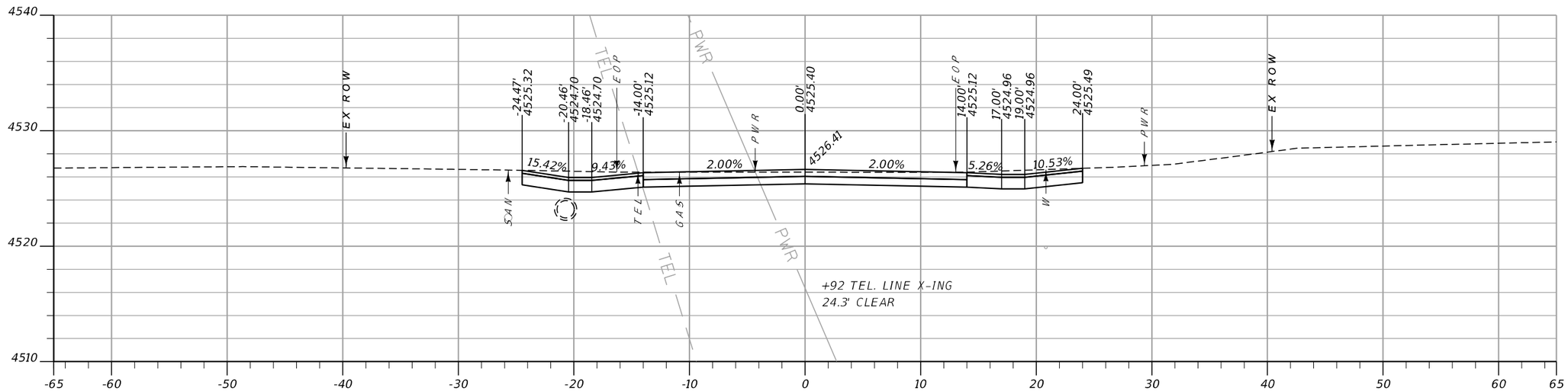
DI-4, 16+42.65, 18.00' RT
NEW D.I. TYPE 1

SL-4, 16+42.65, 18.00' RT
TO 23.36' LT
NEW 12" X 41.4' STM DR.

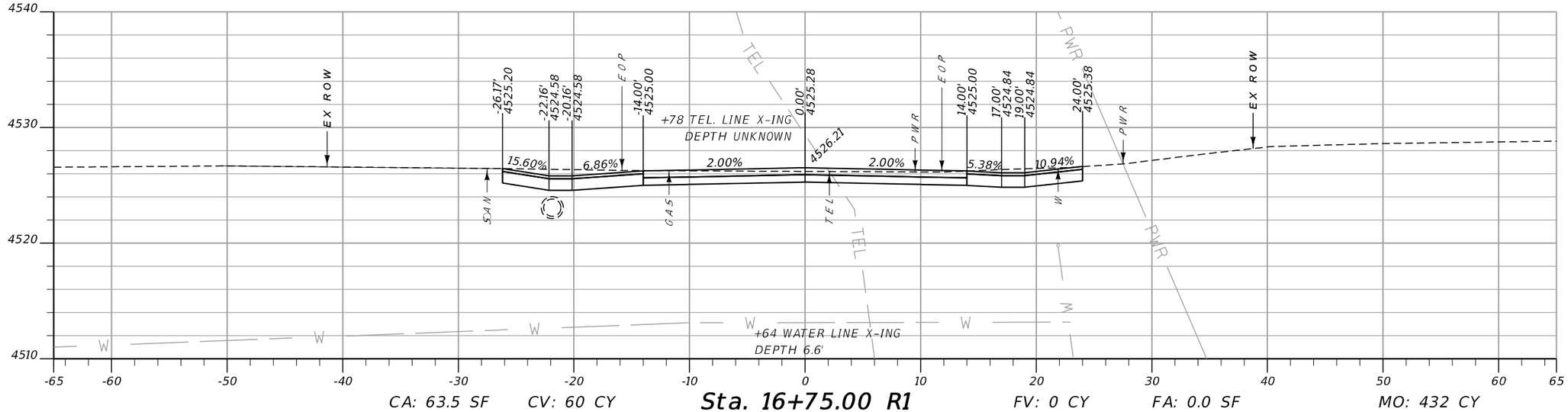
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|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | | | |
| | 4:51:45 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | POWELL COUNTY | | UPN 8930000 / SHEET 16 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C



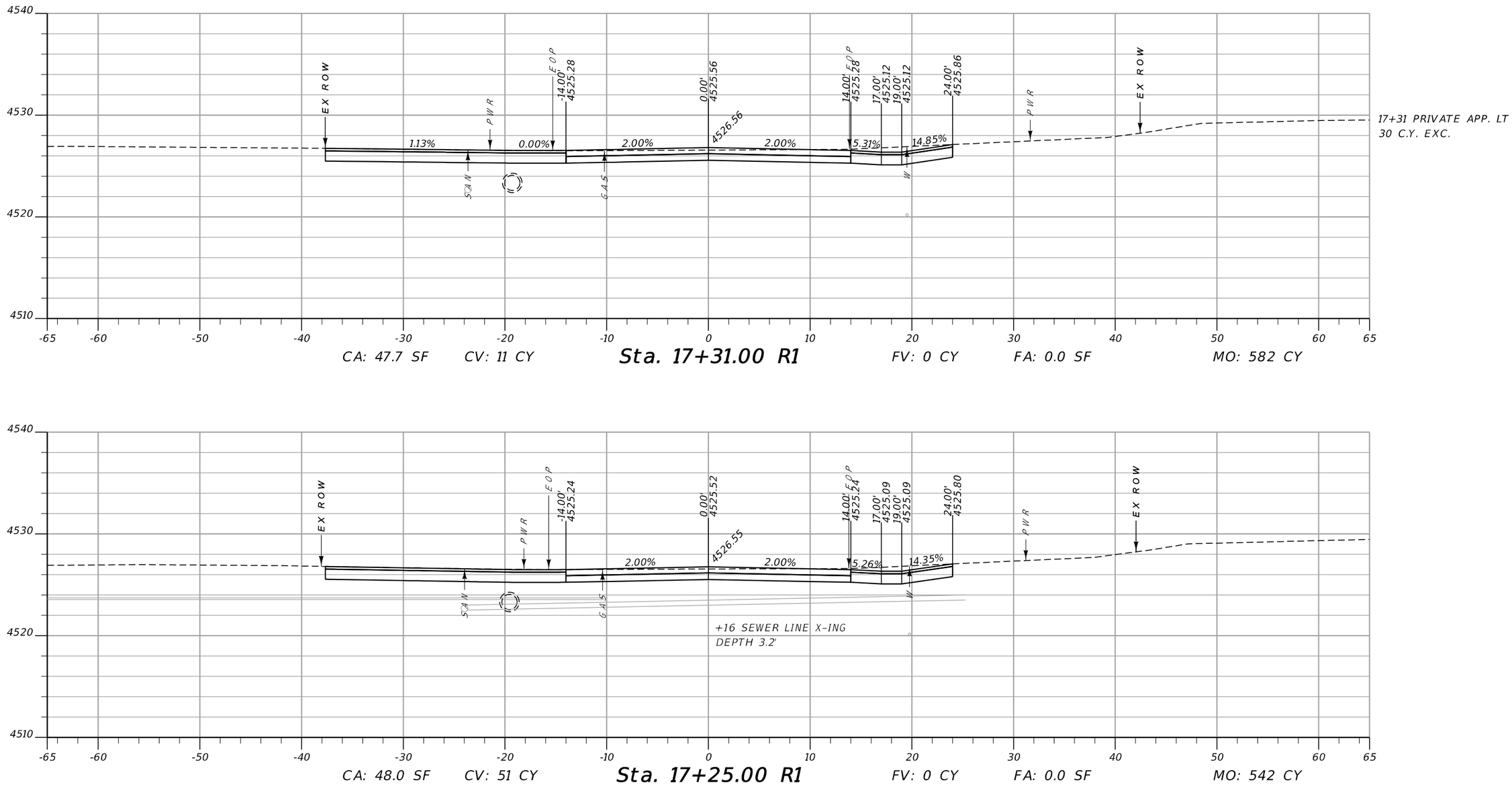



CA: 63.1 SF CV: 59 CY **Sta. 17+00.00 R1** FV: 0 CY FA: 0.0 SF MO: 490 CY




CA: 63.5 SF CV: 60 CY **Sta. 16+75.00 R1** FV: 0 CY FA: 0.0 SF MO: 432 CY

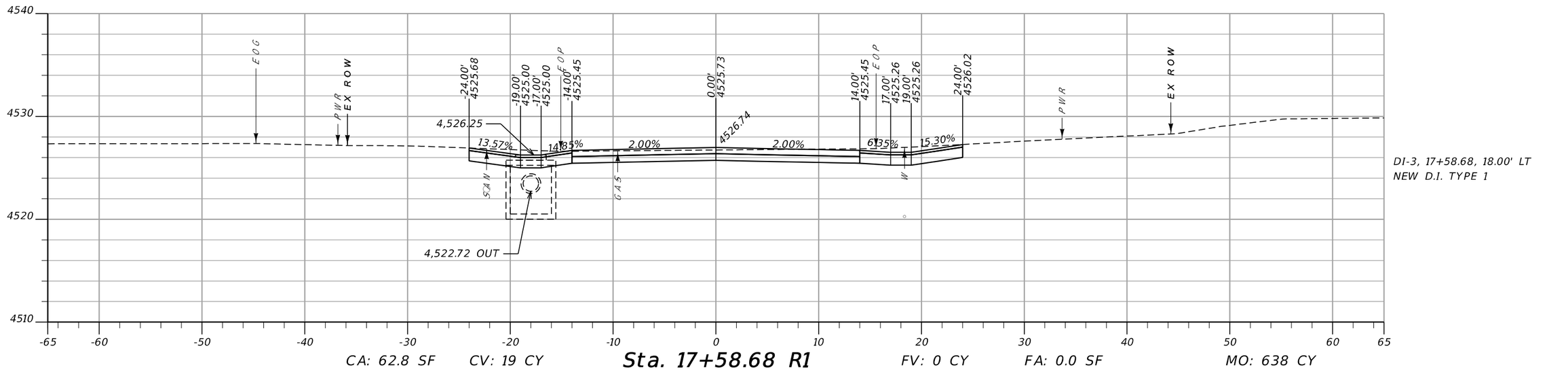
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| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAYOUT.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | | |
| | 4:51:46 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | POWELL COUNTY | UPN 8930000 / SHEET 17 |

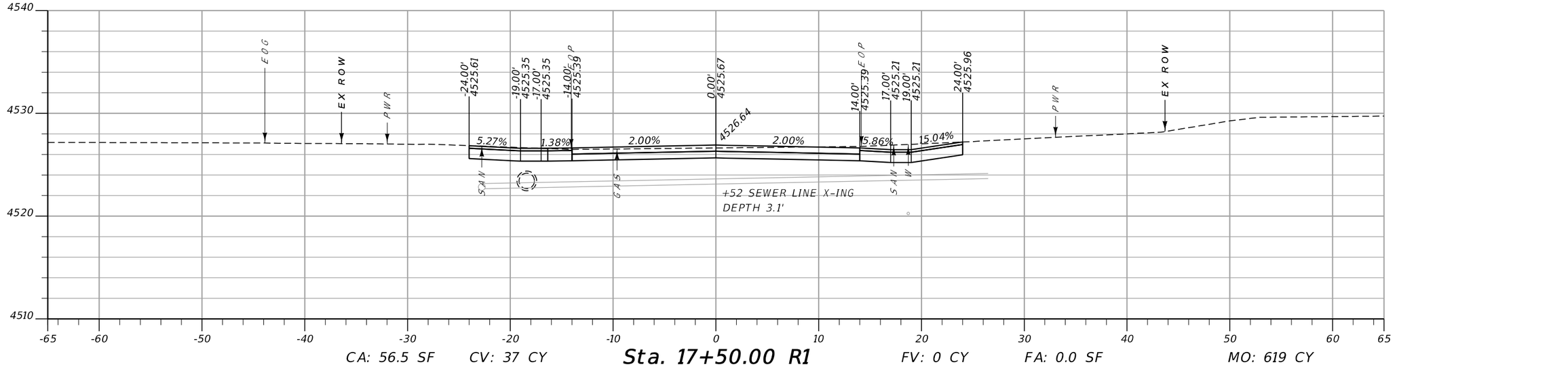



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| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | | | UPN 8930000 / SHEET 18 |
| | 4:51:47 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | POWELL COUNTY | | |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C

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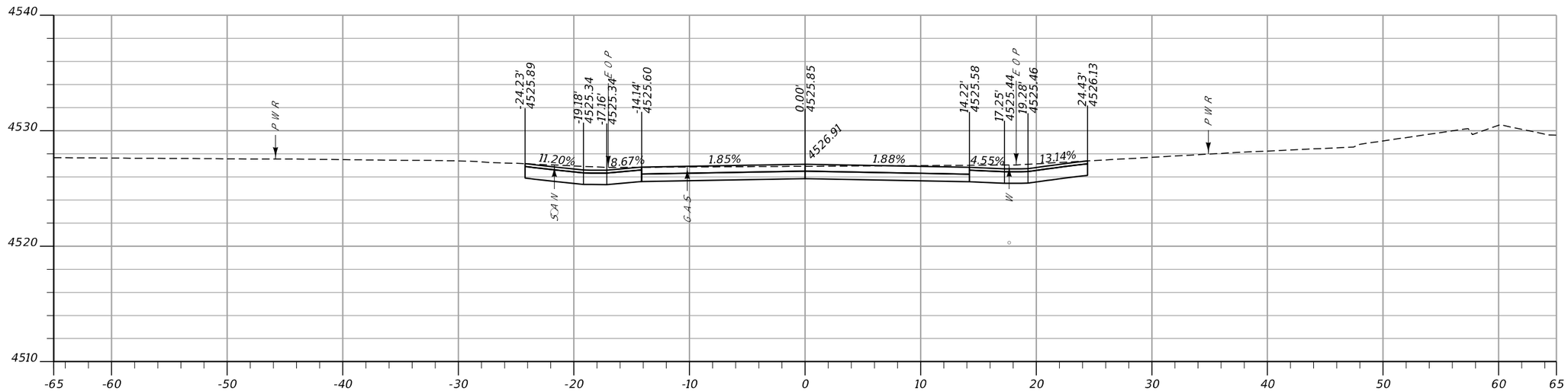


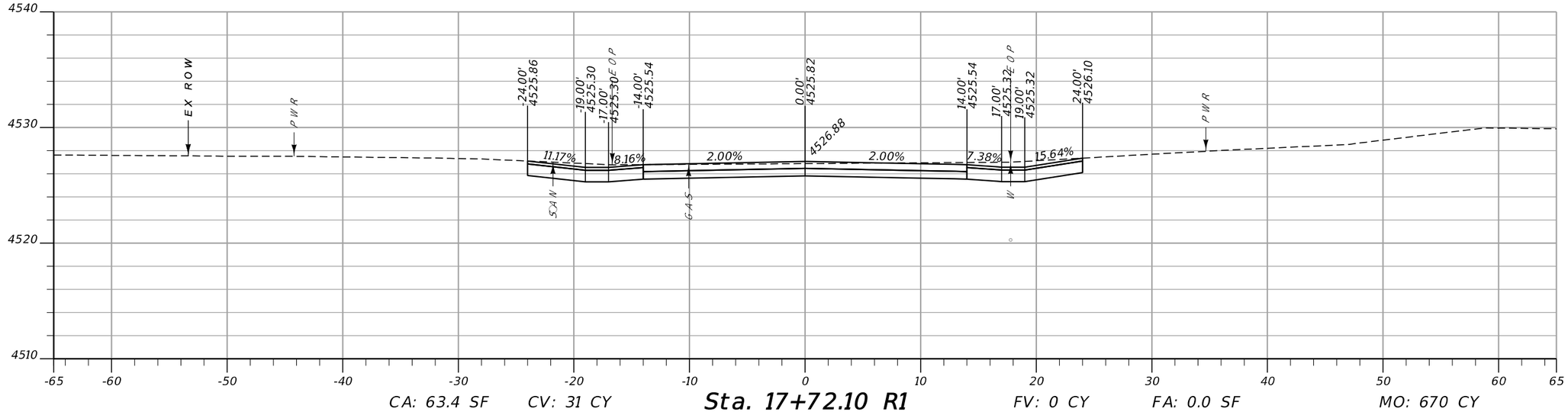

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|---|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 11/24/2020 | MAINLINE CROSS SECTIONS | | CONLEY AVE BRIDGE - DEER LODGE | STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 11/24/2020 | | | | |
| | 4:51:48 PM RHolm | CHECKED BY K. YAKAWICH | 11/24/2020 | POWELL COUNTY | | UPN 8930000 | SHEET 19 |

DocuSign Envelope ID: 2BF397B6-C6F2-416B-8FAA-4F2E611B8A4C

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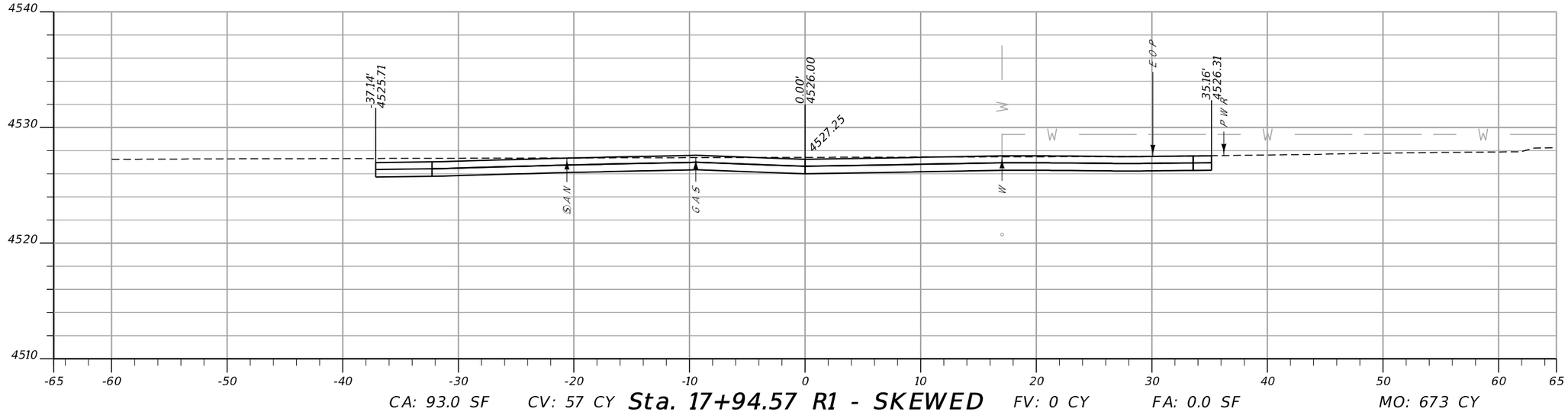

CA: 63.5 SF CV: 7 CY **Sta. 17+75.00 R1** FV: 0 CY FA: 0.0 SF MO: 676 CY




CA: 63.4 SF CV: 31 CY **Sta. 17+72.10 R1** FV: 0 CY FA: 0.0 SF MO: 670 CY

| | | | | | |
|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAY.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 20 |
| | 4:51:50 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | | |

AWARD COPY




CA: 93.0 SF CV: 57 CY **Sta. 17+94.57 R1 - SKEWED** FV: 0 CY FA: 0.0 SF MO: 673 CY

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|---|---|---|---|---|---|
| MDT MONTANA DEPARTMENT OF TRANSPORTATION | ...\8930000\RD\8930000rdLAYOUT.dgn | DESIGNED BY R. HOLM, L. WILLIAMS | 7/2/2020 | MAINLINE CROSS SECTIONS | CONLEY AVE BRIDGE - DEER LODGE / STPB 9039(44) |
| | 11/23/2020 | REVIEWED BY R. HOLM | 7/2/2020 | | |
| | 4:51:51 PM RHolm | CHECKED BY K. YAKAWICH | 7/2/2020 | POWELL COUNTY | UPN 8930000 / SHEET 21 |