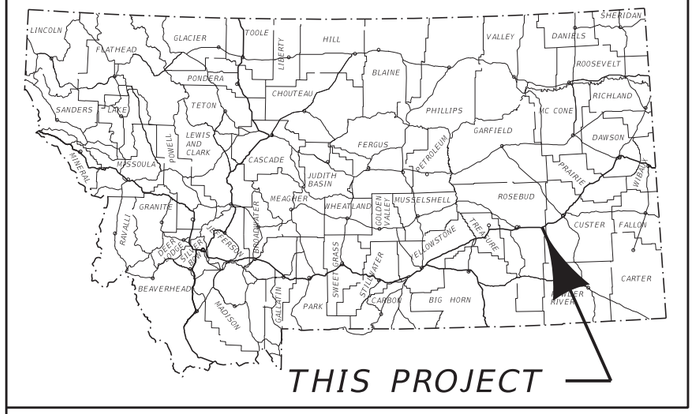
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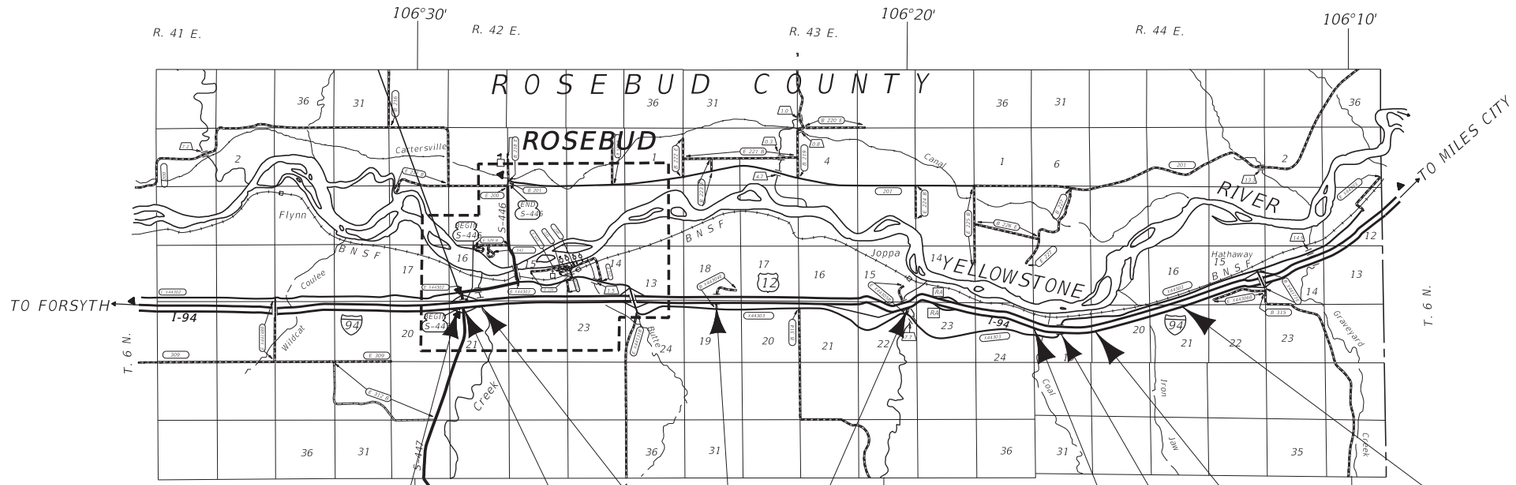

# MONTANA DEPARTMENT OF TRANSPORTATION

## FEDERAL AID PROJECT IM 94-3(82)104
## RESURFACING MILL & OVERLAY (EB ONLY)
## ROSEBUD INTERCHANGE - EAST
## ROSEBUD COUNTY

| PROJECT DESIGN DATA | | |
|---|---|---|
| PRESENT | 2023 | A.D.T. = 5,300 |
| LETTING | 2023 | A.D.T. = 5,300 |
| DESIGN | 2045 | A.D.T. = 7,360 |
| | | D.H.V. = 820 |
| | | TRUCKS = 22.0% |
| | | V. = 70 |
| | | 18 KIP ESAL'S = 740 |
| | | GROWTH RATE = 1.5% |

LENGTH 11.6 MILES

SURFACING SOURCES - CONTRACTOR FURNISHED




STA. 493+59.90 ON I-94-3(26)95 U1 =
STA. 493+59.90 BEG. IM 94-3(82)104

STA. 495+59.90
EXISITING 41.5' x 44.2' BR.
NBI: 100094103+09561
MTSID: 01951
RP: 104.0
THIS PROJECT

STA. 509+45.00
EXISITING 46.5' x 45.8' BR.
NBI: 100094104+02231
MTSID: 01953
RP: 104.2
THIS PROJECT

STA. 720+61.00
EXISITING 41.5' x 44.2' BR.
NBI: 100094108+02111
MTSID: 01956
RP: 108.2
THIS PROJECT

STA. 897+91.00
EXISITING 41.5' x 44.8' BR.
NBI: 100094111+05931
MTSID: 01958
RP: 111.6
NOT THIS PROJECT

STA. 1015+00.00 REST AREA
(EASTBOUND) ON I 94-3(23)105

STA. 1038+88.50
EXISITING 41.5' x 44.2' BR.
NBI: 100094114+02371
MTSID: 01961
RP: 114.2
THIS PROJECT

STA. 1091+59.90 BK. =
81+16.30 AH.

STA. 94+70.00 END IM 94-3(82)104 =
STA. 94+70.00 ON IM 94-3(27)114

THIS CONTRACT (EASTBOUND ONLY)
RP 103.9 TO RP 115.5

MONTANA
DEPARTMENT OF TRANSPORTATION

MALCOLM "MACK" LONG
DIRECTOR OF TRANSPORTATION

APPROVED BY:

HIGHWAYS
ENGINEER

MONTANA
DAMIAN KRINGS
12113PE
LICENSED
PROFESSIONAL ENGINEER

DocuSigned by:
Damian Krings
354C32D8BEB041E...

12/12/2023
DATE

| ASSOCIATED PROJECT AGREEMENT NUMBERS | |
|---|---|
| R / W | |
| I.C. | |
| P. E. | IM 94-3(81)104 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | MONTANA Department of Transportation | C:\DGN\9403000rdtl001.dgn | DESIGNED BY | L. ZEIGLER | 10/7/2019 | ROAD PLANS |
| 2 | | 12/8/2023 | REVIEWED BY | | | |
| | | 10:21:02 AM CPS - U656+ | CHECKED BY | J. FLEMING | | UPN 9403000 |

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# TABLE OF CONTENTS


| ROAD PLANS | SHEET NO. |
|---|---|
| TITLE SHEET | 1 |
| TABLE OF CONTENTS | 2 |
| NOTES | 2 |
| TYPICAL SECTIONS | 3-5 |
| SUMMARIES | 6-8 |
| SURFACING | 6 |
| ADDITIONAL SURFACING | 6 |
| DIGOUT EXCAVATION | 7 |
| REMOVE BRIDGE APPROACH SLABS | 7 |
| GUARDRAIL | 7 |
| PAVEMENT MARKINGS | 8 |
| COLD MILLING | 8 |
| CURB | 8 |
| SIDEWALK | 8 |
| CATTLE GUARDS | 8 |
| MEDIAN CROSSOVER | 8 |
| CROSSOVER TRAFFIC CONTROL | 8 |
| RUMBLE STRIPS | 8 |
| DETAILS | 9-16 |
| EASTBOUND REST AREA | 9 |
| MODIFIED 30 YEAR BRIDGE END DETAIL | 10 |
| 12:1 MEDIAN CROSSOVER EB & WB; STA. 432+59 | 11 |
| 12:1 MEDIAN CROSSOVER EB & WB; STA. 107+65 | 12 |
| 12:1 MEDIAN CROSSOVER EXIT RAMP | 13 |
| 12:1 MEDIAN CROSSOVER ENTRANCE RAMP | 14 |
| SITE 5 CURB RAMP DETAIL | 15 |
| SITE 6 CURB RAMP DETAIL | 16 |

## SIGNING PLANS

| | |
|---|---|
| SUMMARY | S1 |
| SPECIFICATIONS | S2-S8 |
| DETAILS | S9-S10 |

## BRIDGE PLANS

| | |
|---|---|
| LIST OF DRAWINGS AND QUANTITIES | B1 |
| GEN. NOTES AND STANDARD DET. | B2 |
| RAIL REVISION DETAILS | B3 |


# 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 - 3/4" AGG. | = 4.7% OF PL.MIX BIT.SURF. |
| HYDRATED LIME | = 1.4% 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) |
| EMULSIFIED ASPHALT - FOG SEAL (RUMBLE STRIPS) | = 0.10 GAL. PER SQ.YARD (UNDILUTED) |
| SEAL | = 0.42 GAL. PER SQ.YARD |
| COVER | = 25 LBS. PER SQ.YARD |
| COLD MILLINGS | = 3,500 LBS. PER CUBIC YARD |

## COLD MILLINGS

THIS PROJECT IS EXPECTED TO GENERATE MILLINGS. SALVAGE ALL REMAINING MILLINGS NOT INCORPORATED INTO THE PROJECT TO FORSYTH MAINTENANCE YARD. CONTACT TERRY OMLAND 2 WEEKS PRIOR TO WORK AT (406)233-3623.

## AS-BUILTS

FOR HORIZONTAL ALIGNMENT AND STATIONING, REFER TO THE FOLLOWING "AS-BUILT" PROJECT(S):

I 94-3(3)114 (EAST END)
I94-3(30)105 U-1 (REST AREA)
I94-3(26)95 (WEST END)
I94-3(23)105 (MIDDLE)
IM 94-3(43)113 (REST AREA REHAB)

## 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.

## SALVAGE

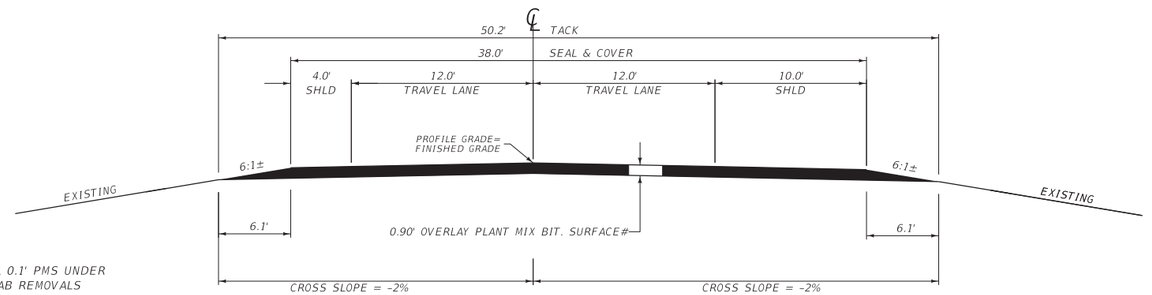
SALVAGE CATTLEGUARDS TO FORSYTH MAINTENANCE YARD. CONTACT TERRY OMLAND 2 WEEKS PRIOR TO THE WORK AT 406-233-3623.

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# TYPICAL SECTION NO. 1

MAINLINE




# ADDITIONAL 0.1' PMS UNDER BRIDGE SLAB REMOVALS

493+59.90 TO 495+59.90 B.E. TYP. NO. 1
496+82.90 B.E. TO 498+82.90 TYP. NO. 1 THEN TO TYP. NO. 2

507+45.00 TO 509+45.00 B.E. TYP. NO. 1
511+18.00 B.E. TO 513+18.00 TYP. NO. 1 THEN TO TYP. NO. 2

718+61.00 TO 720+61.00 B.E. TYP. NO. 1
721+39.00 B.E. TO 723+39.00 TYP. NO. 1 THEN TO TYP. NO. 2

895+91.00 TO 897+91.00 B.E. TYP. 1
900+08.30 B.E. TO 902+08.30 THEN TO TYP. NO. 2

1036+88.50 TO 1038+88.50 B.E. TYP. NO. 1
1040+11.50 B.E. TO 1042+11.50 TYP. NO. 1 THEN TO TYP. NO. 2

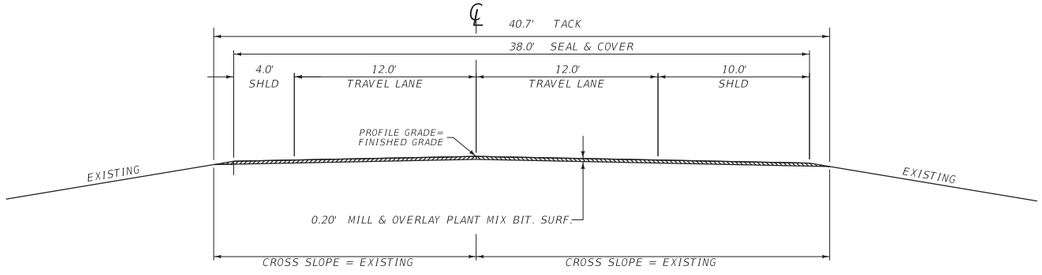
QUANTITIES

| UNIT | AGGREGATE | | | UNIT | BITUMINOUS MATERIAL | | |
|---|---|---|---|---|---|---|---|
| | COVER | PLANT MIX | | | ASPHALT CEMENT | SEAL | * EMULSIFIED ASPHALT TACK |
| AREA square feet | | 39.70 | | square yards PER STATION | | 422 | 1673 |
| cubic yards PER STATION | | 147.0 | | tons PER STATION | 13.32 | 0.75 | |
| tons PER STATION | | 283.3 | | gals PER STATION | | | 84 |
| square yards PER STATION | 422 | | | | | | |

* BASED ON 3 APPLICATIONS

# TYPICAL SECTION NO. 2

MAINLINE




498+82.90 TO 507+45.00 TYP. NO. 2 THEN TO TYP. NO. 1

513+18.00 TO 718+61.00 TYP. NO. 2 THEN TO TYP. NO. 1

723+39.00 TO 895+91.00 TYP. NO. 2 THEN TO TYP. NO. 1

902+08.30 TO 1036+88.50 TYP. NO. 2 TO TYP. NO. 1

1042+11.50
1089+88.40 BK. 1089+75.40 AH. + 13.00' EQUATION
1091+59.90 BK. 81+16.30 AH. + 101,043.60' EQUATION
94+70.00 TYP. NO 2

QUANTITIES

| UNIT | AGGREGATE | | UNIT | BITUMINOUS MATERIAL | | |
|---|---|---|---|---|---|---|
| | COVER | PLANT MIX | | ASPHALT CEMENT | SEAL | * EMULSIFIED ASPHALT TACK |
| AREA square feet | | 7.87 | square yards PER STATION | | 422 | 452 |
| cubic yards PER STATION | | 29.1 | tons PER STATION | 2.64 | 0.75 | |
| tons PER STATION | | 56.2 | gals PER STATION | | | 23 |
| square yards PER STATION | 422 | | | | | |

* BASED ON 1 APPLICATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MONTANA Department of Transportation | C:\DGN\9403000rdtyp002.dgn | DESIGNED BY | L. ZEIGLER | 10/7/2019 | ROAD PLANS | ROSEBUD INTERCHANGE - EAST / IM 94-3(82)104 |
| 2 | | 12/8/2023 | REVIEWED BY | | | | |
| | | 10:21:18 AM CPS - U6564 | CHECKED BY | | | ROSEBUD COUNTY | UPN 9403000 / 3 |

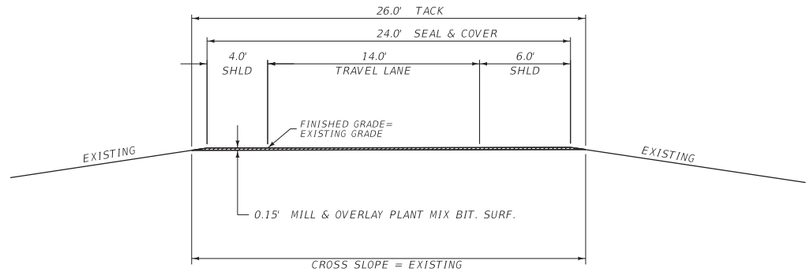
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# TYPICAL SECTION A

## REST AREA

1001+80.00 TO 1011+75.00 TYP. A THEN TYP. B
1021+50.00 TO 1025+46.10 TYP. A
1025+46.10 TO 1034+46.10 50:1 TAPER



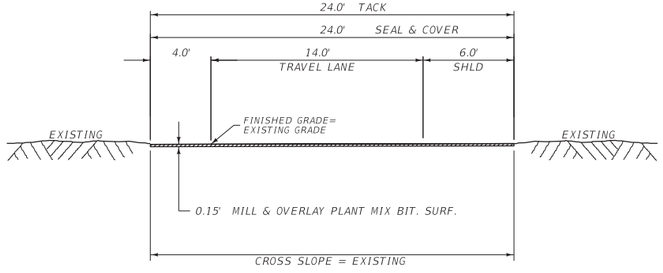

| QUANTITIES | | | | | | |
|---|---|---|---|---|---|---|
| UNIT | AGGREGATE | | UNIT | BITUMINOUS MATERIAL | | |
| | COVER | PLANT MIX | | ASPHALT CEMENT | SEAL | * EMULSIFIED ASPHALT TACK |
| AREA square feet | | 3.74 | square yards PER STATION | | 267 | 289 |
| cubic yards PER STATION | | 13.9 | tons PER STATION | 1.26 | 0.48 | |
| tons PER STATION | | 26.8 | gals PER STATION | | | 14 |
| square yards PER STATION | 267 | | | | | |

* BASED ON ONE APPLICATION

# TYPICAL SECTION B

## REST AREA

1011+75.00 TO 1021+50.00 TYP. B THEN A




| QUANTITIES | | | | | | |
|---|---|---|---|---|---|---|
| UNIT | AGGREGATE | | UNIT | BITUMINOUS MATERIAL | | |
| | COVER | PLANT MIX | | ASPHALT CEMENT | SEAL | * EMULSIFIED ASPHALT TACK |
| AREA square feet | | 3.60 | square yards PER STATION | | 267 | 267 |
| cubic yards PER STATION | | 13.3 | tons PER STATION | 1.20 | 0.48 | |
| tons PER STATION | | 25.6 | gals PER STATION | | | 13 |
| square yards PER STATION | 267 | | | | | |

* BASED ON ONE APPLICATION

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# TYPICAL SECTION C

RAMP

WEST ROSEBUD INTERCHANGE

472+04.00 TO 479+50.00 (50:1 TAPER TO "B4" RAMP) TYP. C

479+50.00 TO 496+42.20 "B4" EB EXIT RAMP TYP. C

496+37.60 TO 504+95.00 "B3" EB ENTRANCE RAMP TYP. C

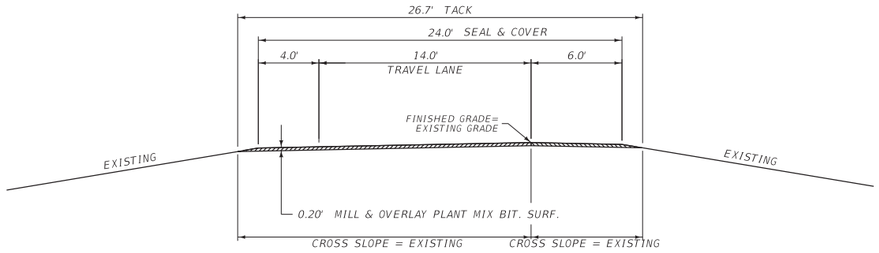
504+95.00 TO 513+95.00 (50:1 TAPER FROM "B3" RAMP) TYP. C

EAST ROSEBUD INTERCHANGE

632+52.00 TO 647+59.90 "R4" EB EXIT RAMP TYP. C

647+04.40 TO 656+44.00 "R3" EB ENTRANCE RAMP TYP. C

656+44.00 TO 665+44.00 (50:1 TAPER FROM "R3" RAMP) TYP. C




| QUANTITIES | | | | | | |
|---|---|---|---|---|---|---|
| UNIT | AGGREGATE | | UNIT | BITUMINOUS MATERIAL | | |
| | COVER | PLANT MIX | | ASPHALT CEMENT | SEAL | * EMULSIFIED ASPHALT TACK |
| AREA square feet | | 5.07 | square yards PER STATION | | 267 | 297 |
| cubic yards PER STATION | | 18.8 | tons PER STATION | 1.70 | 0.48 | |
| tons PER STATION | | 36.2 | gals PER STATION | | | 15 |
| square yards PER STATION | 267 | | | | | |

* BASED ON ONE APPLICATION

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# SUMMARY

## SURFACING

| STATION FROM | STATION TO | linear feet GROSS | linear feet NET | linear feet + | linear feet - | FOR | tons HYDRATED LIME | AGGREGATE square yards COVER TYPE 2 | AGGREGATE tons PLANT MIX BIT. SURF. - 3/4" | AGGREGATE cubic yards CRUSHED AGG. COURSE | BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28 | BITUMINOUS MATERIAL tons EMULSIFIED ASPHALT CHFRS-2P | BITUMINOUS MATERIAL gals. EMULSIFIED ASPHALT TACK | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EASTBOUND | | | | | | | | | | | | | | |
| 493+59.90 | | | | | | | | | | | | | | |
| 495+59.90 B.E. | 496+82.90 B.E. | | | | 121.10 | STRUCTURE - WEST ROSEBUD INTERCHANGE | | | | | | | | |
| | 498+82.90 | 523.00 | 401.90 | | | | | 1,696 | 1,151 | | 53.5 | 3.0 | 338 | TYP. NO. 1 |
| 498+82.90 | 507+45.00 | 862.10 | 862.10 | | | | | 3,638 | 485 | | 22.8 | 6.5 | 198 | TYP. NO. 2 |
| 507+45.00 | | | | | | | | | | | | | | |
| 509+45.00 B.E. | 511+18.00 B.E. | | | | 173.00 | STRUCTURE - ROSEBUD CREEK | | | | | | | | |
| | 513+18.00 | 573.00 | 400.00 | | | | | 1,688 | 1,145 | | 53.3 | 3.0 | 336 | TYP. NO. 1 |
| 513+18.00 | | | | | | | | | | | | | | |
| 545+82.00 BK | 545+90.20 AH | | | | 8.20 | PROJECT EQUATION | | | | | | | | |
| 630+01.20 BK | 630+00.00 AH | | | 1.20 | | PROJECT EQUATION | | | | | | | | |
| | 718+61.00 | 20,543.00 | 20,536.00 | | | | | 86,662 | 11,541 | | 542.2 | 154.0 | 4,723 | TYP. NO. 2 |
| 718+61.00 | | | | | | | | | | | | | | |
| 720+61.00 B.E. | 721+39.00 B.E. | | | | 78.00 | STRUCTURE - SEP. COUNTRY RD. | | | | | | | | |
| | 723+39.00 | 478.00 | 400.00 | | | | | 1,688 | 1,145 | | 53.3 | 3.0 | 336 | TYP. NO. 1 |
| 723+39.00 | | | | | | | | | | | | | | |
| 844+65.80 BK | 844+96.50 AH | | | | 30.70 | PROJECT EQUATION | | | | | | | | |
| 891+72.10 BK | 890+81.40 AH | | | 90.70 | | PROJECT EQUATION | | | | | | | | |
| | 895+91.00 | 17,252.00 | 17,312.00 | | | | | 73,057 | 9,729 | | 457.0 | 129.8 | 3,982 | TYP. NO. 2 |
| 895+91.00 | | | | | | | | | | | | | | |
| 897+91.00 B.E. | 900+08.30 B.E. | | | | 217.30 | STRUCTURE - SWEENEY CREEK | | | | | | | | |
| | 902+08.30 | 617.30 | 400.00 | | | | | 1,688 | 1,145 | | 53.3 | 3.0 | 336 | TYP. NO. 1 |
| 902+08.30 | | | | | | | | | | | | | | TYP. NO. 2 |
| 959+97.00 BK | 960+00.40 AH | | | | 3.40 | PROJECT EQUATION | | | | | | | | |
| 994+43.10 BK | 994+47.30 AH | | | | 4.20 | PROJECT EQUATION | | | | | | | | |
| | 1036+88.50 | 13,480.20 | 13,472.60 | | | | | 56,854 | 7,572 | | 355.7 | 101.0 | 3,099 | TYP. NO. 2 |
| 1036+88.50 | | | | | | | | | | | | | | |
| 1038+88.50 B.E. | 1040+11.50 B.E. | | | | 123.00 | STRUCTURE - SEP. COUNTRY RD. | | | | | | | | |
| | 1042+11.50 | 523.00 | 400.00 | | | | | 1,688 | 1,145 | | 53.3 | 3.0 | 336 | TYP. NO. 1 |
| 1042+11.50 | | | | | | | | | | | | | | |
| 1044+25.10 BK | 1044+05.10 AH | | | 20.00 | | PROJECT EQUATION | | | | | | | | |
| 1046+29.90 BK | 1043+43.50 AH | | | 286.40 | | PROJECT EQUATION | | | | | | | | |
| 1089+88.40 BK | 1089+75.40 AH | | | 13.00 | | PROJECT EQUATION | | | | | | | | |
| 1091+59.90 BK | 81+16.30 AH | | | 101,043.60 | | PROJECT EQUATION | | | | | | | | |
| | 94+70.00 | -94,741.50 | 6,621.50 | | | | | 27,943 | 3,721 | | 174.8 | 49.7 | 1,523 | TYP. NO. 2 |
| | | | | | | | | | | | | | | |
| | | | | | | ADDITIONAL SURFACING | | 28,171 | 3,838 | 240 | 189.5 | 49.4 | 1,512 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| TOTAL | | -39,889.90 | 60,806.10 | 101,454.90 | 758.90 | | 597 | 284,773 | 42,618 | 240 | 2,008.6 | 505.4 | 16,719 | |

## ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

| STATION FROM | STATION TO | linear feet GROSS | linear feet NET | linear feet + | linear feet - | FOR | HYDRATED LIME | AGGREGATE square yards COVER TYPE 2 | AGGREGATE tons PLANT MIX BIT. SURF. - 3/4" | AGGREGATE cubic yards CRUSHED AGG. COURSE | BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28 | BITUMINOUS MATERIAL tons EMULSIFIED ASPHALT CHFRS-2P | BITUMINOUS MATERIAL gals. EMULSIFIED ASPHALT TACK | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST ROSEBUD INTERCHANGE | | | | | | | | | | | | | | |
| 479+50.00 | 496+42.20 | 1,692.20 | 1,692.20 | | | "B4" EB ENTRANCE RAMP | | 4,518 | 613 | | 28.8 | 8.1 | 254 | TYP. C |
| 494+34.20 | 495+24.20 | 40.00 | 40.00 | | | CATTLEGUARD AREA | | | 48 | 60 | 2.3 | | | 0.7' PL. MIX, 0.9' CAC |
| 496+37.60 | 504+95.00 | 857.40 | 857.40 | | | "B3" EB EXIT RAMP | | 2,289 | 310 | | 14.6 | 4.1 | 129 | TYP. C |
| 497+55.60 | 497+95.60 | 40.00 | 40.00 | | | CATTLEGUARD AREA | | | 48 | 60 | 2.3 | | | 0.7' PL. MIX, 0.9' CAC |
| 504+95.00 | 513+95.00 | 900.00 | 900.00 | | | 50:1 TAPER TO MAINLINE | | 1,202 | 163 | | 7.7 | 1.6 | 68 | TYP. C |
| EAST ROSEBUD INTERCHANGE | | | | | | | | | | | | | | |
| 632+52.00 | 647+59.90 | 1,507.90 | 1,507.90 | | | "R4" EB ENTRANCE RAMP | | 4,026 | 546 | | 25.6 | 7.2 | 226 | TYP. C |
| 646+01.90 | 646+41.90 | 40.00 | 40.00 | | | CATTLEGUARD AREA | | | 48 | 60 | 2.3 | | | 0.7' PL. MIX, 0.9' CAC |
| 647+04.40 | 656+44.00 | 939.60 | 939.60 | | | "R3" EB EXIT RAMP | | 2,509 | 340 | | 16.0 | 4.5 | 141 | TYP. C |
| 648+22.40 | 648+62.40 | 40.00 | 40.00 | | | CATTLEGUARD AREA | | | 48 | 60 | 2.3 | | | 0.7' PL. MIX, 0.9' CAC |
| 656+44.00 | 665+44.00 | 900.00 | 900.00 | | | 50:1 TAPER TO MAINLINE | | 1,202 | 163 | | 7.7 | 1.6 | 68 | TYP. C |
| REST AREA | | | | | | | | | | | | | | |
| 997+00.00 | 1011+75.00 | 1,475.00 | 995.00 | | | REST AREA | | 2,657 | 267 | | 12.5 | 4.8 | 139 | TYP. A |
| 1011+75.00 | 1021+50.00 | 975.00 | 975.00 | | | REST AREA | | 2,603 | 250 | | 11.7 | 4.7 | 127 | TYP. B |
| 1011+75.00 | 1021+50.00 | | | | | CAR PARK & FILLETS | | 5,208 | 502 | | 28.1 | 9.3 | 260 | TYP. A (AREA MEASURED IN CADD) |
| 1021+50.00 | 1025+46.10 | 396.10 | 396.10 | | | REST AREA | | 1,058 | 106 | | 5.9 | 1.9 | 55 | TYP. A |
| 1025+46.10 | 1034+46.10 | 900.00 | 900.00 | | | 50:1 TAPER TO MAINLINE | | 900 | 87 | | 4.9 | 1.6 | 45 | TYP. A |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | LEVELING | | | 300 | | 16.8 | | | RP 113.5 TO 114.0 |
| | | | | | | | | | | | | | | |
| TOTAL | | ~ | ~ | ~ | ~ | | ~ | 28,171 | 3,838 | 240 | 189.5 | 49.4 | 1,512 | |

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# SUMMARY

## DIGOUT EXCAVATION *

| STATION | | cubic yards | | REMARKS |
|---|---|---|---|---|
| | | DIGOUT EXCAVATION | | |
| FROM | TO | | | |
| 493+59.90 | 495+39.90 | 510 | | WEST ROSEBUD INTERCHANGE |
| 497+02.90 | 498+82.90 | 510 | | WEST ROSEBUD INTERCHANGE |
| 507+45.00 | 509+25.00 | 510 | | ROSEBUD CREEK |
| 511+38.00 | 513+18.00 | 510 | | ROSEBUD CREEK |
| 718+61.00 | 720+41.00 | 510 | | SEP. COUNTRY RD. |
| 721+59.00 | 723+39.00 | 510 | | SEP. COUNTRY RD. |
| 895+91.00 | 897+91.00 B.E. | 567 | | SWEENEY CREEK |
| 900+08.30 B.E. | 902+08.30 | 567 | | SWEENEY CREEK |
| 1036+88.50 | 1038+68.50 | 510 | | SEP. COUNTRY RD. |
| 1040+31.50 | 1042+11.50 | 510 | | SEP. COUNTRY RD. |
| TOTAL | | 5,214 | | |

* SEE MODIFIED 30 YEAR BRIDGE END DETAIL

## REMOVE BRIDGE APPROACH SLABS

| STATION | | square yards | REMARKS |
|---|---|---|---|
| | | REMOVE BRIDGE APP. SLABS | |
| FROM | TO | | |
| 495+39.90 | 495+59.90 B.E. | 84 | WEST ROSEBUD INTERCHANGE |
| 496+82.90 B.E. | 497+02.90 | 84 | WEST ROSEBUD INTERCHANGE |
| 509+25.00 | 509+45.00 B.E. | 84 | ROSEBUD CREEK |
| 511+18.00 B.E. | 511+38.00 | 84 | ROSEBUD CREEK |
| 720+41.00 | 720+61.00 B.E. | 84 | SEP. COUNTRY RD. |
| 721+39.00 B.E. | 721+59.00 | 84 | SEP. COUNTRY RD. |
| 1038+68.50 | 1038+88.50 B.E. | 84 | SEP. COUNTRY RD. |
| 1040+11.50 B.E. | 1040+31.50 | 84 | SEP. COUNTRY RD. |
| | | | |
| | | | |
| EASTBOUND TOTAL | | 672 | |

## GUARDRAIL

| STATION | | linear feet | | | | | | | | each | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | REMOVE GUARDRAIL | | BOX BEAM GUARDRAIL | | MGS GUARDRAIL | | TEMPORARY GUARDRAIL | | MASH BOX BEAM TERMINAL SECTION MBEAT | | MASH W-BEAM TERMINAL SECTION | | BOX BEAM ONE-WAY DEPARTURE TERMINAL SECTION | | TEMP GD RAIL-STL/BR APPR-TYI | | TEMP OPTIONAL TERMINAL SECTION | | METAL GUARDRAIL BRIDGE APPROACH SECTION TYPE 1 | | BOX BEAM BRIDGE APPROACH SECTION TYPE 3 | | REMARKS |
| FROM | TO | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | |
| EASTBOUND: | | | | | | | | | | | | | | | | | | | | | | | | |
| 492+52.88 | 495+58.82 | 292.7 | | 270.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. |
| 492+88.88 | 495+58.82 | | 252.0 | | 234.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| 496+83.98 | 498+81.92 | 300.0 | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAIL) |
| 496+83.98 | 498+81.92 | | | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| 501+87.98 "B3" RAMP | 509+43.92 | | 853.0 | | 720.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| 506+37.98 | 509+43.92 | 300.0 | | 270.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAIL) |
| 511+19.08 | 513+17.02 | 300.0 | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAIL) |
| 511+70.10 | 519+92.04 | | 810.0 | | 810.0 | | | | | | 1 | | | | | | | | | | | | | RT. |
| 548+86.50 | 557+74.39 | | 902.0 | | 864.0 | | | | | | 2 | | | | | | | | | | | | | RT. |
| 584+00.10 | 590+35.98 | | 667.5 | | 612.0 | | | | | | 2 | | | | | | | | | | | | | RT. |
| 613+52.81 "R4" RAMP | 646+30.00 | | 3,313.3 | | 3,258.0 | | | | | | 1 | | | | 1 | | | | | | | | | RT. |
| 639+68.63 | 642+62.51 | | 313.3 | | 270.0 | | | | | | 2 | | | | | | | | | | | | | RT. |
| 702+56.92 | 720+74.86 | | 1,817.0 | | 1,782.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| 717+68.92 | 720+74.86 | 300.0 | | 270.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAI) |
| 719+90.16 | 721+88.10 | 300.0 | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAIL) |
| 719+90.16 | 721+88.10 | | | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| 863+90.97 | 898+04.86 | | 3,464.0 | | 3,402.0 | | | | | | 1 | | | | | | | | | | | | | RT. (USE EXISTING BOX BEAM BRIDGE APP. SECTION) |
| 895+04.92 | 898+04.86 | 306.0 | | 288.0 | | | | | | 1 | | | | | | | | | | | | | | LT. (USE EXISTING BOX BEAM BRIDGE APP. SECTION) |
| 899+94.44 | 900+42.38 | 51.0 | | 36.0 | | | | | | 1 | | | | | | | | | | | | | | LT. (USE EXISTING BOX BEAM BRIDGE APP. SECTION) |
| 899+94.44 | 904+02.38 | | 410.0 | | 396.0 | | | | | | 1 | | | | | | | | | | | | | RT. (USE EXISTING BOX BEAM BRIDGE APP. SECTION) |
| 946+16.43 | 951+26.31 | | 527.9 | | 486.0 | | | | | | 2 | | | | | | | | | | | | | RT. |
| 953+61.26 | 959+07.15 | | 562.3 | | 522.0 | | | | | | 2 | | | | | | | | | | | | | RT. |
| 1026+09.48 | 1038+87.42 | | 1,267.0 | | 1,242.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| 1035+81.48 | 1038+87.42 | 300.0 | | 270.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAIL) |
| 1040+12.58 | 1042+10.52 | 300.0 | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. (REMOVE BULLNOSE GUARDRAIL) |
| 1040+12.58 | 1042+10.52 | | | | 162.0 | | | | | | 1 | | | | | | | | | | | | 1 | RT. |
| WESTBOUND: | | | | | | | | | | | | | | | | | | | | | | | | |
| 494+65.65 | 495+50.02 | | | | | | | 25.0 | | | | | | | | 1 | | 1 | | | | | | LT. |
| 493+75.02 | 495+50.02 | | | | | | 137.5 | | | | | | 1 | | | | | | | | | | | RT. |
| 496+75.18 | 499+81.12 | 267.6 | | 270.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. |
| 496+76.18 | 499+84.56 | | | | | | 250.0 | | | | | | 1 | | | | | | | | | | | RT. |
| 508+59.55 | 509+43.92 | | | | | | | 25.0 | | | | | | | | 1 | | 1 | | | | | | LT. |
| 507+68.92 | 509+43.92 | | | | | | 137.5 | | | | | | 1 | | | | | | | | | | | RT. |
| 511+19.08 | 514+27.46 | | | | | | 250.0 | | | | | | 1 | | | | | | | | | | | RT. |
| 524+43.29 | 524+78.04 | 48.0 | | | | | | | | | | 1 | | | | | | | | | | | | LT. |
| 557+86.98 | 558+55.73 | | | | | | | | | | | 2 | | | | | | | | | | | | LT. |
| 592+23.68 | 592+92.43 | 60.0 | | | | | | | | | | 2 | | | | | | | | | | | | LT. |
| 605+16.63 | 605+85.38 | 60.0 | | | | | | | | | | 2 | | | | | | | | | | | | LT. |
| 629+11.74 | 629+80.49 | 60.0 | | | | | | | | | | 2 | | | | | | | | | | | | LT. |
| 648+19.67 | 648+88.42 | 60.0 | | | | | | | | | | 2 | | | | | | | | | | | | LT. |
| 711+10.55 | 711+44.96 | 12.0 | | | | | | | | | | 1 | | | | | | | | | | | | LT. |
| 718+84.92 | 720+59.92 | | | | | | 137.5 | | | | | | 1 | | | | | | | | | | | RT. |
| 721+40.08 | 724+48.46 | | | | | | 250.0 | | | | | | 1 | | | | | | | | | | | RT. |
| 726+54.67 | 726+89.04 | 48.0 | | | | | | | | | | 1 | | | | | | | | | | | | LT. |
| 863+34.95 | 863+46.89 | | 8.0 | | | | | | | | 1 | | | | | | | | | | | | | RT. |
| 889+12.59 | 889+46.96 | 48.0 | | | | | | | | | | 1 | | | | | | | | | | | | LT. |
| 906+85.86 | 907+20.34 | 48.0 | | | | | | | | | | 1 | | | | | | | | | | | | LT. |
| 903+25.97 | 903+60.34 | | 48.0 | | | | | | | | | | 1 | | | | | | | | | | | RT. |
| 959+85.09 | 960+19.46 | 48.0 | | | | | | | | | | 1 | | | | | | | | | | | | LT. |
| 1038+02.81 | 1038+87.18 | | | | | | | 25.0 | | | | | | | | 1 | | 1 | | | | | | LT. |
| 1037+12.18 | 1038+87.18 | | | | | | 137.5 | | | | | | 1 | | | | | | | | | | | RT. |
| 1041+84.02 | 1044+89.96 | 235.0 | | 270.0 | | | | | | 1 | | | | | | | | | | | | 1 | | LT. |
| 1041+84.02 | 1044+92.40 | | | | | | 250.0 | | | | | | 1 | | | | | | | | | | | RT. |
| SUBTOTAL | | 3,744.3 | 15,275.1 | 2,592.0 | 15,084.0 | | 1,550.0 | 75.0 | | 12 | 22 | 16 | 9 | | 1 | 3 | | 3 | | | 8 | 10 | 7 | |
| TOTAL | | 19,019.4 | | 17,676.0 | | 1,550.0 | | 75.0 | | 34 | | 25 | | 1 | | 3 | | 3 | | 8 | | !7 | | |

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# SUMMARY

## COLD MILLING

| STATION FROM | STATION TO | sq. yards COLD MILLING 0.15 ft | sq. yards COLD MILLING 0.20 ft | REMARKS |
|---|---|---|---|---|
| EASTBOUND | | | | |
| 498+82.90 | 507+45.00 | | 3,899 | TYP. NO. 2 |
| 513+18.00 | 718+61.00 | | 92,900 | TYP. NO. 2 |
| 723+39.00 | 895+91.00 | | 78,017 | TYP. NO. 2 |
| 902+08.30 | 1036+88.50 | | 60,960 | TYP. NO. 2 |
| 1024+11.50 | 94+70.00 | | 36,698 | TYP. NO. 2 |
| WEST ROSEBUD INTERCHANGE | | | | |
| 479+50.00 | 496+42.20 | | 5,020 | "B4" EB ENTRANCE RAMP TYP. C |
| 496+37.60 | 504+95.00 | | 2,544 | "B3" EB EXIT RAMP |
| 504+95.00 | 513+95.00 | | 1,335 | 50:1 TAPER TO MAINLINE TYP. C |
| EAST ROSEBUD INTERCHANGE | | | | |
| 632+52.00 | 647+59.90 | | 4,473 | "R4" EB ENTRANCE RAMP TYP. C |
| 647+04.40 | 656+44.00 | | 2,787 | "R3" EB EXIT RAMP TYP. C |
| 656+44.00 | 665+44.00 | | 1,335 | 50:1 TAPER TO MAINLINE TYP. C |
| EASTBOUND REST AREA | | | | |
| 997+00.00 | 1011+75.00 | 2,874 | | REST AREA TYP. A |
| 1011+75.00 | 1021+50.00 | 2,600 | | REST AREA TYP. B |
| 1011+75.00 | 1021+50.00 | 5,208 | | CAR PARK & FILLETS TYP. A |
| 1021+50.00 | 1025+46.10 | 1,144 | | REST AREA TYP. A |
| 1025+46.10 | 1034+46.10 | 1,300 | | 50:1 TAPER TO MAINLINE |
| SUBTOTAL | | 13,126 | 289,968 | |
| TOTAL | | 303,094 | | |

## CROSSOVER TRAFFIC CONTROL

| STATION FROM | STATION TO | each TRAFFIC CONTROL-CROSSOVER | miles TRAFFIC CONTROL-TWO WAY TRAFFIC | REMARKS |
|---|---|---|---|---|
| 432+59 | 443+15 | 1 | | EB & WB CROSSOVER |
| 443+15 | 107+65 | | 12.8 | WESTBOJND |
| 619+65 | 630+21 | 1 | | EXIT RAMP |
| 657+55 | 668+11 | 1 | | ENTRANCE RAMP |
| 107+65 | 114+49 | 1 | | EB & WB CROSSOVER |
| TOTAL | | 4 | 12.8 | |

## PAVEMENT MARKINGS

| ITEM | UNIT | INTERIM APPLICATION # | FINAL APPLICATION | TOTAL |
|---|---|---|---|---|
| STRIPING - WHITE PAINT | gallon | 630 | | 630 |
| STRIPING - YELLOW PAINT | gallon | 470 | | 470 |
| WORDS & SYMBOLS - WHITE PAINT | gallon | 6 | | 6 |
| STRIPING - WHITE EPOXY | gallon | | 420 | 420 |
| STRIPING - YELLOW EPOXY | gallon | | 315 | 315 |
| WORDS & SYMBOLS - WHITE EPOXY | gallon | | 4 | 4 |
| FINAL SWEEP AND BROOM | course mile | | | 12.6 |

# BASED ON 2 APPLICATIONS.

## MEDIAN CROSSOVER

| STATION FROM | STATION TO | each CROSSOVER-CONST., MAINTAIN, REMOVE | each CROSSOVER-CONST., MAINTAIN, CLOSE | each CROSSOVER RECLAMATION | REMARKS |
|---|---|---|---|---|---|
| 432+59 | 443+15 | | 1 | 1 | EB & WB CROSSOVER |
| 619+65 | 630+21 | 1 | | 1 | EXIT RAMP |
| 657+55 | 668+11 | 1 | | 1 | ENTRANCE RAMP |
| 107+65 | 114+49 | | 1 | 1 | EB & WB CROSSOVER |
| TOTAL | | 2 | 2 | 4 | |

## CATTLE GUARD

| STATION | each CATTLE GUARD LIGHT DUTY 24 ft | each CATTLE GUARD HEAVY DUTY 24 ft | each REMOVE CATTLE GUARD | REMARKS |
|---|---|---|---|---|
| WEST ROSEBUD INTERCHANGE | | | | |
| 495+04.20 | | | 1 | "B4" EB ENTRANCE RAMP |
| 497+75.60 | | | 1 | "B3" EB EXIT RAMP |
| EAST ROSEBUD INTERCHANGE | | | | |
| 646+21.90 | | | 1 | "R4" EB ENTRANCE RAMP |
| 648+42.40 | | | 1 | "R3" EB EXIT RAMP |
| TOTAL | | | 4 | |

## RUMBLE STRIPS

| STATION FROM | STATION TO | miles RUMBLE STRIPS CONTINUOUS | miles RUMBLE STRIPS INTERMITTENT | gals EMULSIFIED ASPHALT FOG SEAL # | REMARKS |
|---|---|---|---|---|---|
| 493+59.90 | 94+70.00 | 11.4 | 11.0 | 2,636 | |
| SUBTOTAL | | 11.4 | 11.0 | 2,636 | |
| TOTAL | | 22.4 | | ~ | |

# FOR INFORMATION ONLY, INCLUDE IN THE COST OF RUMBLE STRIPS

## SIDEWALK *

| STATION FROM | STATION TO | sq. yards CONCRETE SIDEWALK 4" LEFT | sq. yards CONCRETE SIDEWALK 4" RIGHT | sq. yards DETECTABLE WARNING DEVICES TYPE 1 LEFT | sq. yards DETECTABLE WARNING DEVICES TYPE 1 RIGHT | sq. yards REMOVE SIDEWALK # LEFT | sq. yards REMOVE SIDEWALK # RIGHT | REMARKS |
|---|---|---|---|---|---|---|---|---|
| REST AREA | | | | | | | | |
| 1016+08.60 | 1016+50.00 | 29.8 | | 0.9 | | 29.8 | | SITE 5 |
| 1016+50.00 | 1016+88.80 | 39.2 | | 0.9 | | 39.2 | | SITE 6 |
| SUBTOTAL | | 69.0 | 0.0 | 1.8 | 0.0 | 69.0 | 0.0 | |
| TOTAL | | 69.0 | | 1.8 | | ~ | | |

# FOR INFORMATION ONLY - INCLUDE IN THE COST OF CONCRETE SIDEWALK
* SEE DETAILS

## CURB *

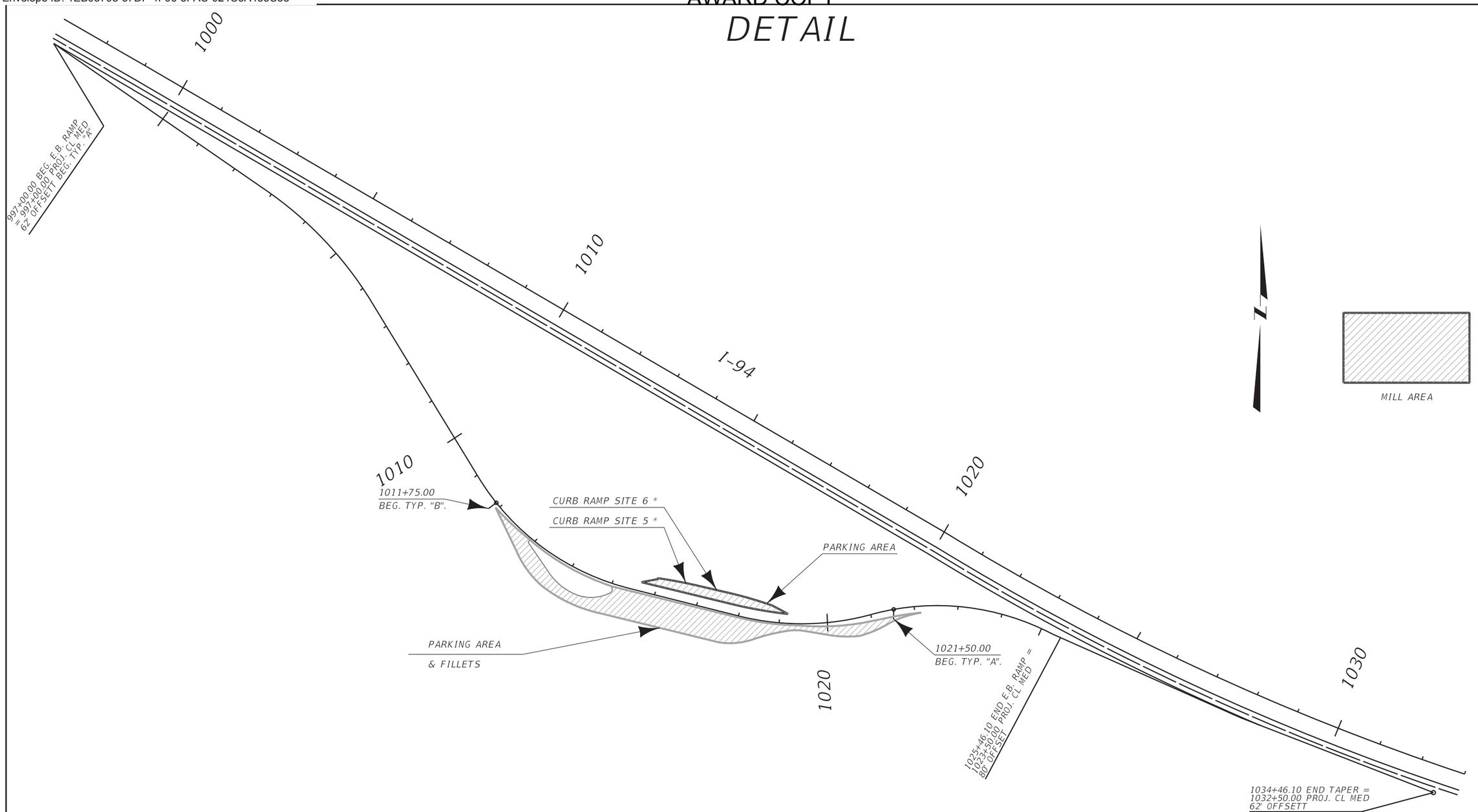
| STATION FROM | STATION TO | linear feet CONCRETE CURB AND GUTTER LEFT | linear feet CONCRETE CURB AND GUTTER RIGHT | linear feet # REMOVE CURE AND GUTTER LEFT | linear feet # REMOVE CURE AND GUTTER RIGHT | REMARKS |
|---|---|---|---|---|---|---|
| REST AREA | | | | | | |
| 1016+08.60 | 1016+50.00 | 41.4 | | 41.4 | | SITE 5 |
| 1016+50.00 | 1016+88.80 | 38.8 | | 38.8 | | SITE 6 |
| SUBTOTAL | | 80.2 | 0.0 | 80.2 | 0.0 | |
| TOTAL | | 80.2 | | ~ | | |

# FOR INFORMATION ONLY - INCLUDE IN THE COST OF NEW CURB & GUTTER
* SEE DETAILS

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# DETAIL




*SEE DETAILS

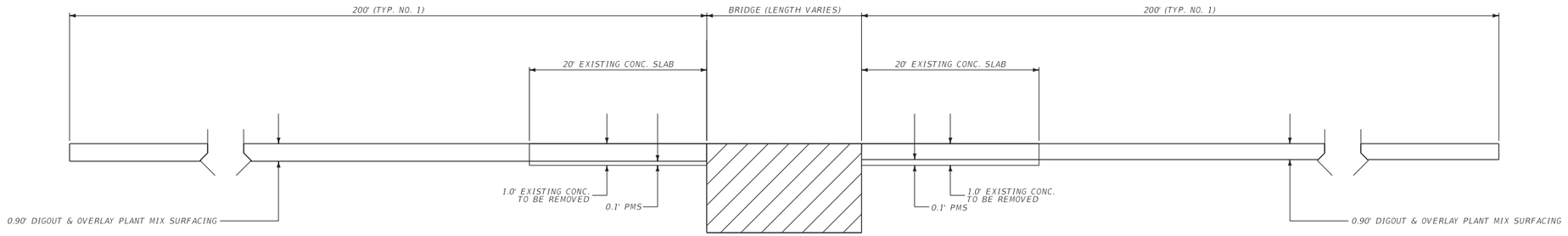
## EASTBOUND REST AREA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 / 1 | MONTANA Department of Transportation | C:\DGN\9403000rddet011.dgn | DESIGNED BY | L. ZEIGLER | 10/3/2019 | ROAD PLANS | ROSEBUD INTERCHANGE - EAST / IM 94-3(82)104 |
| | | 12/8/2023 | REVIEWED BY | | | | |
| | | 10:22:27 AM CPS - U6564 | CHECKED BY | | | ROSEBUD COUNTY | UPN 9403000 / 9 |

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# DETAIL




## BRIDGE

* SEE TYPICAL 1 FOR DIMENSIONS AND QUANTITIES

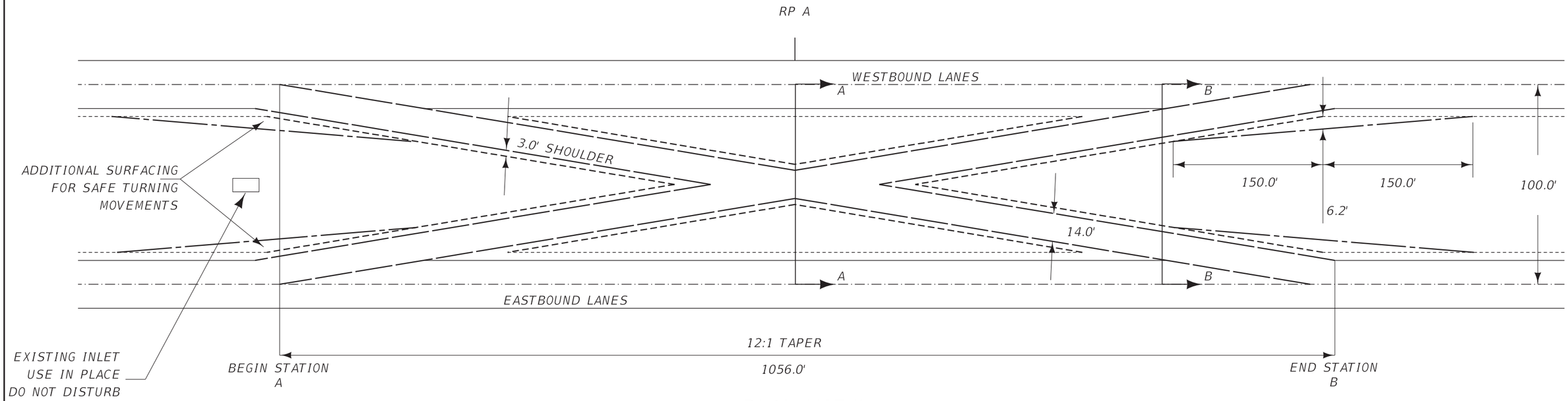
MODIFIED 30 YR.
BRIDGE END DETAIL
(NO SCALE)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2<br>1 | MONTANA<br>Department of Transportation | C:\DGN\9403000rddet011.dgn<br>12/8/2023<br>10:22:32 AM CPS - U6564 | DESIGNED BY<br>REVIEWED BY<br>CHECKED BY | L. ZEIGLER | 10/3/2019 | ROAD PLANS<br>ROSEBUD COUNTY | | ROSEBUD INTERCHANGE - EAST<br>UPN 9403000 | IM 94-3(82)104<br>10 |

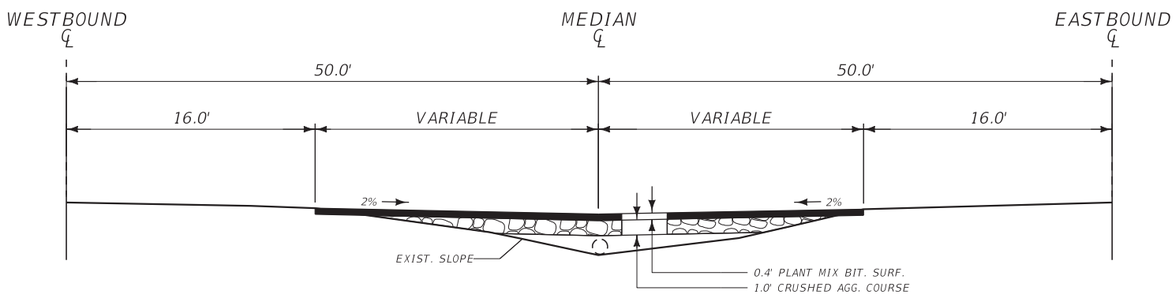
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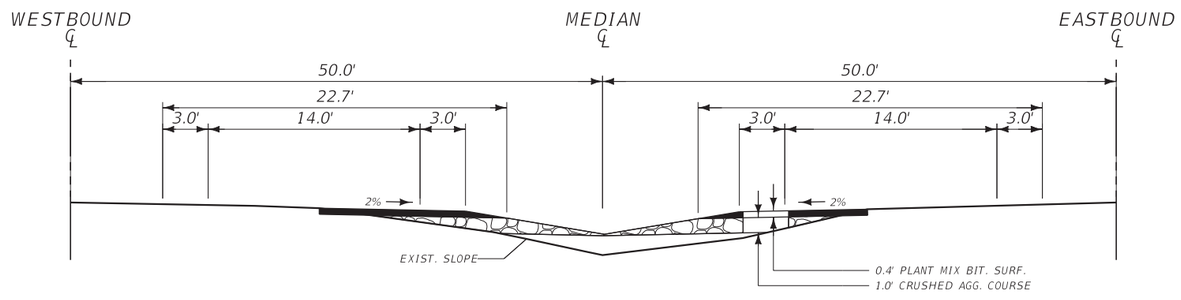
# DETAIL




## PLAN VIEW




## SECTION A-A




## SECTION B-B

**QUANTITIES FOR ONE MEDIAN CROSSOVER**
*(FOR INFORMATION PURPOSES ONLY)*

PLANT MIX BIT. SURF. = 1176.0 TONS
CRUSHED AGG. COURSE = 1526 $YD^3$
EMB. IN PLACE = 3960 $YD^3$
CABLE RAIL = 212 LINEAR FT
CABLE RAIL TERMINAL SECT. = 2 EACH

**MEDIAN CROSSOVER**

| RP A | BEGIN STATION A | END STATION B | REMARKS |
|---|---|---|---|
| 103.0 | 432+59 | 443+15 | WEST END- OFF PROJECT |
| | | | |
| | | | |
| | | | |

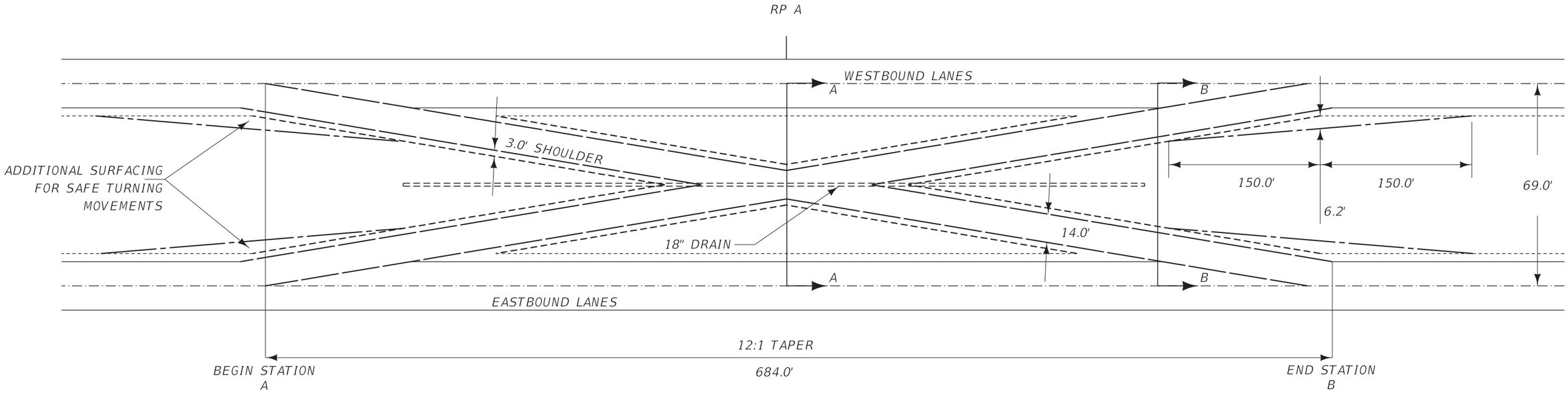
**12:1 MEDIAN CROSSOVER EB & WB**

NO SCALE

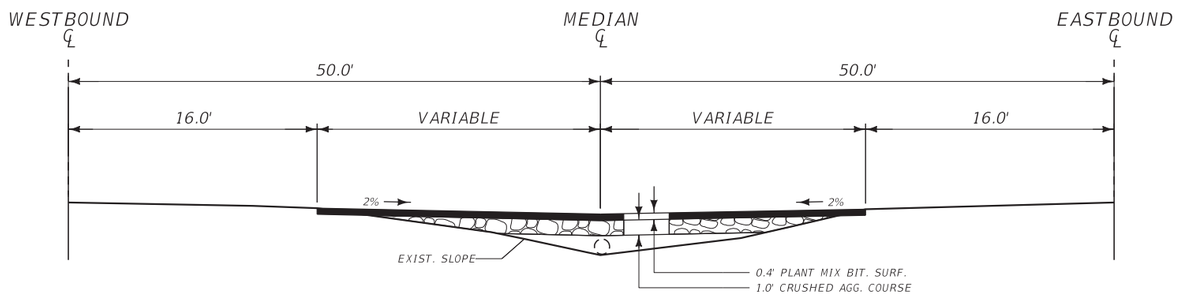
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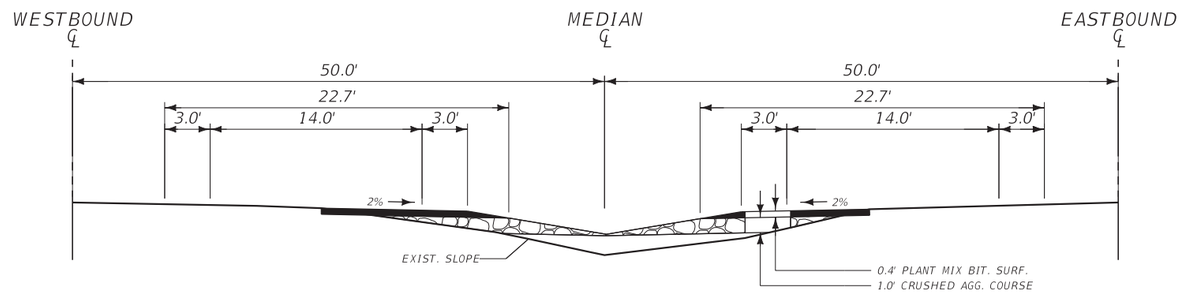
# DETAIL




## PLAN VIEW




## SECTION A-A




## SECTION B-B

**QUANTITIES FOR ONE MEDIAN CROSSOVER**
*(FOR INFORMATION PURPOSES ONLY)*

- PLANT MIX BIT. SURF. = 758.0 TONS
- CRUSHED AGG. COURSE = 980 $YD^3$
- EMB. IN PLACE = 460 $YD^3$
- 18" DR. = 340 LINEAR FT
- 10:1 SAFETY SLOPE END SECTION FOR PARALLEL DRAINAGE = 2 EACH
- CABLE RAIL = 192 LINEAR FT
- CABLE RAIL TERMINAL SECT. = 2 EACH

**MEDIAN CROSSOVER**

| RP A | BEGIN STATION A | END STATION B | REMARKS |
|---|---|---|---|
| 115.7 | 107+65 | 114+49 | EAST END- OFF PROJECT |
| | | | |
| | | | |
| | | | |

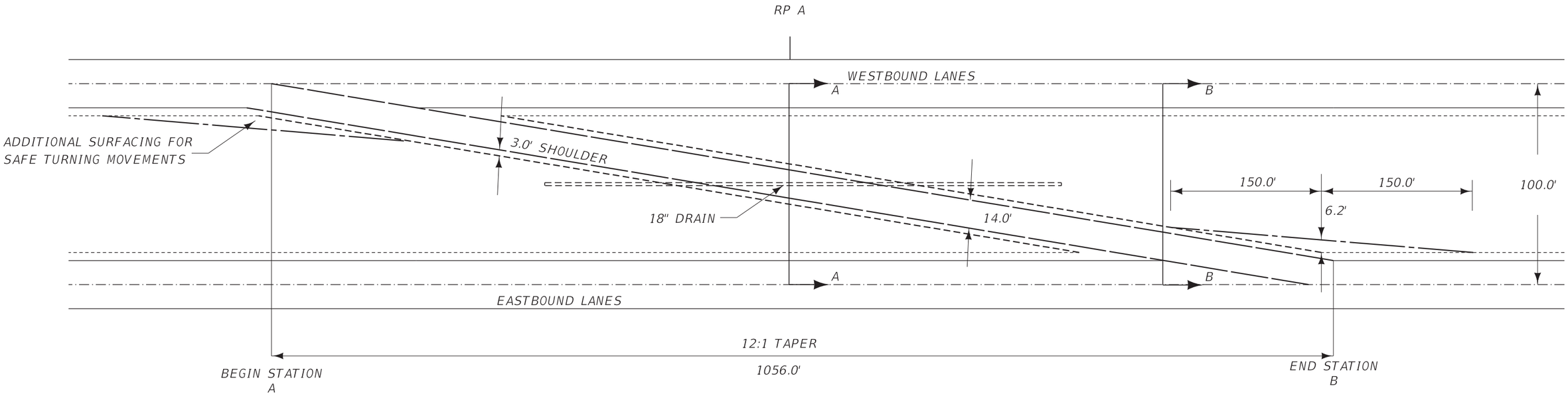
12:1 MEDIAN CROSSOVER
EB & WB

NO SCALE

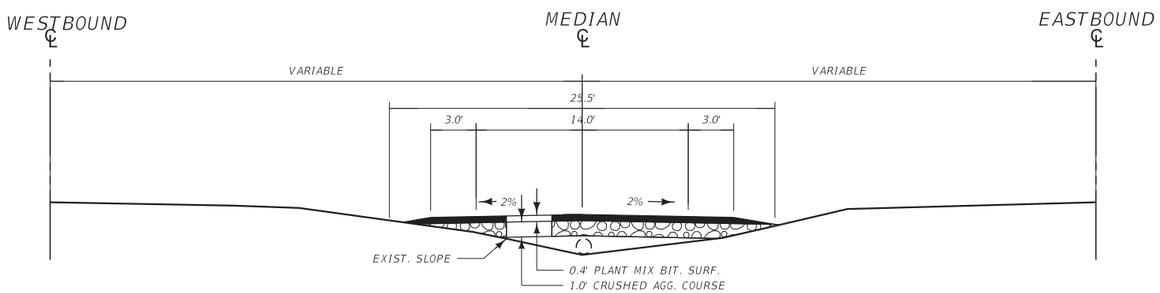
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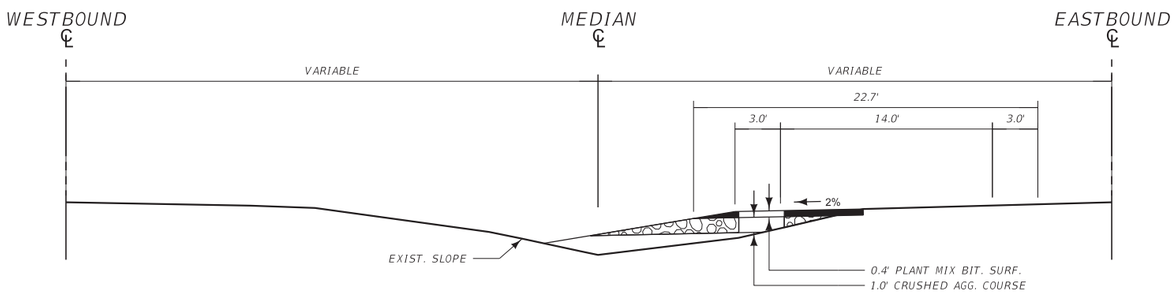
# DETAIL




## PLAN VIEW




## SECTION A-A




## SECTION B-B

**QUANTITIES FOR ONE MEDIAN CROSSOVER**
*(FOR INFORMATION PURPOSES ONLY)*

PLANT MIX BIT. SURF. = 574.6 TONS
CRUSHED AGG. COURSE = 745 YD³
EMB. IN PLACE = 460 YD³
18" DR. = 340 LINEAR FT
10:1 SAFETY SLOPE END SECTION
FOR PARALLEL DRAINAGE = 2 EACH

**RAMP MEDIAN CROSSOVER**

| RP A | BEGIN STATION A | END STATION B | REMARKS |
|---|---|---|---|
| 106.6 | 619+65 | 630+21 | EXIT RAMP-EAST ROSEBUD INTERCHANGE |
| | | | |
| | | | |
| | | | |

**12:1 MEDIAN CROSSOVER EXIT RAMP**

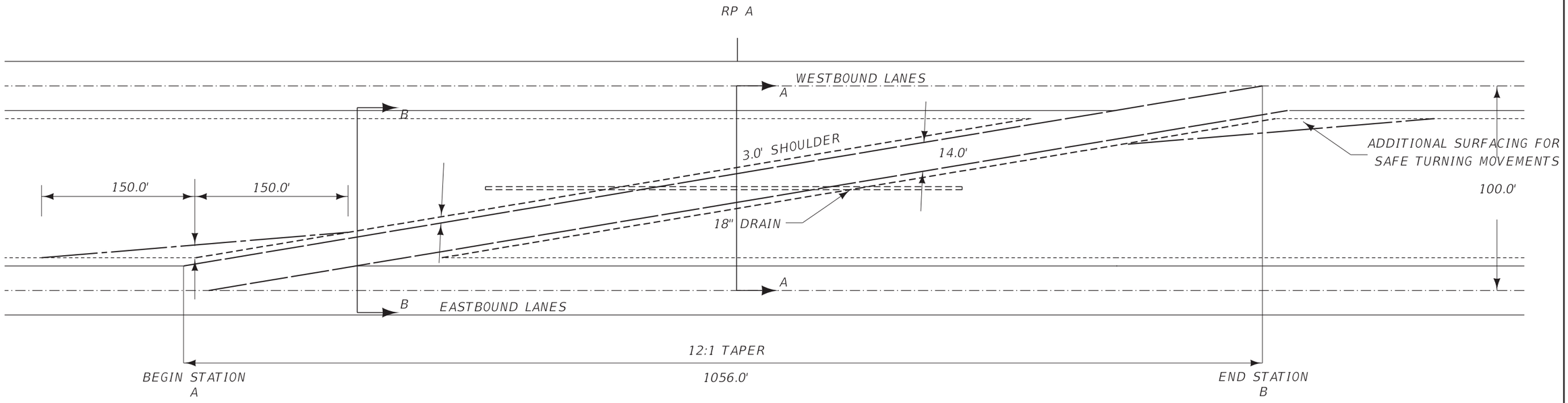
NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | MONTANA Department of Transportation | C:\DGN\9403000rddet012.dgn | DESIGNED BY L. ZEIGLER | 2/25/2020 | ROAD PLANS | ROSEBUD INTERCHANGE - EAST | IM 94-3(82)104 |
| 1 | | 12/8/2023 | REVIEWED BY | | ROSEBUD COUNTY | UPN 9403000 | 13 |
| | | 10:22:52 AM CPS - U656+ | CHECKED BY | | | | |

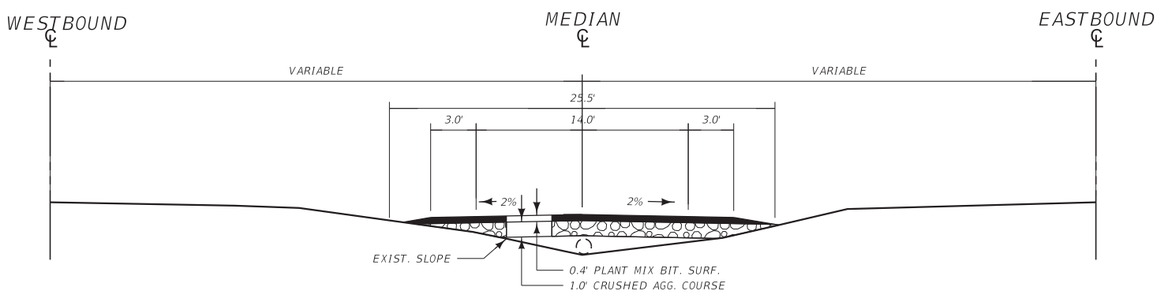
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AWARD COPY

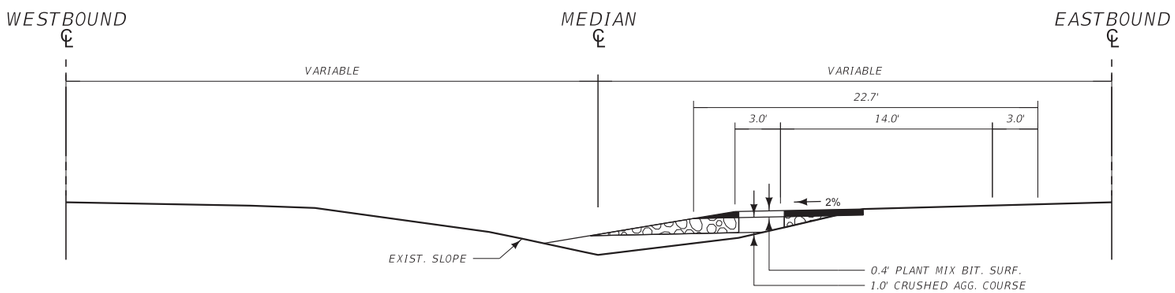
# DETAIL




## PLAN VIEW




## SECTION A-A




## SECTION B-B

QUANTITIES FOR ONE MEDIAN CROSSOVER
(FOR INFORMATION PURPOSES ONLY)

PLANT MIX BIT. SURF. = 507.7 TONS
CRUSHED AGG. COURSE = 658 YD³
EMB. IN PLACE = 1370 YD³
18" DR. = 340 LINEAR FT
10:1 SAFETY SLOPE END SECTION
FOR PARALLEL DRAINAGE = 2 EACH

RAMP MEDIAN CROSSOVER

| RP A | BEGIN STATION A | END STATION B | REMARKS |
|---|---|---|---|
| 107.3 | 657+55 | 668+11 | ENTER RAMP-EAST ROSEBUD INTERCHANGE |
| | | | |
| | | | |
| | | | |

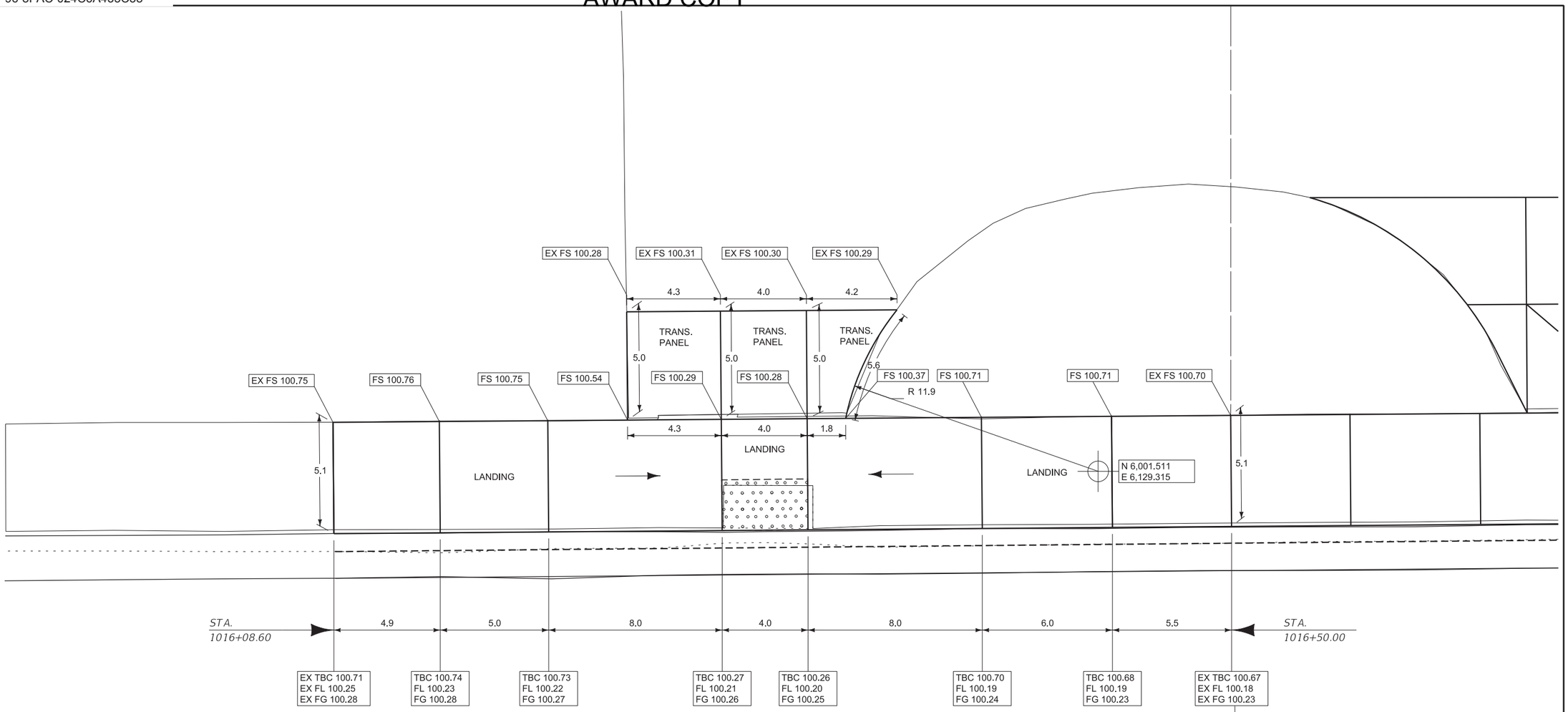
12:1 MEDIAN CROSSOVER
ENTRANCE RAMP

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | MONTANA Department of Transportation | C:\DGN\9403000rddet013.dgn | DESIGNED BY | L. ZEIGLER | 2/25/2020 | ROAD PLANS | |
| 1 | | 12/8/2023 | REVIEWED BY | | | | ROSEBUD INTERCHANGE - EAST / IM 94-3(82)104 |
| | | 10:23:02 AM CPS - U656+ | CHECKED BY | | | ROSEBUD COUNTY | UPN 9403000 / 14 |

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| LEGEND |
|---|
| FS = FINISHED SURFACE ELEV. |
| TBC = TOP BACK OF CURB ELEV. |
| FL = FLOW LINE ELEV. |
| TRW = TOP OF RETAINING WALL ELEV. |
| FG = FRONT OF GUTTER ELEV. |

DETECTABLE WARNING DEVICES

NOTES:

PROVIDE DETECTABLE WARNING DEVICES ON THE BOTTOM 2.0 FEET OF EACH RAMP AS SHOWN. SEE DTL. DWG. NO. 608-40 FOR DETECTABLE WARNING DEVICES DETAILS.

ALL DIMENSIONS AND ELEVATIONS ARE FEET UNLESS OTHERWISE NOTED.

ALL CURB AND GUTTER DIMENSIONS ARE ALONG TBC.

CONTRACTOR VERIFY ELEVATIONS IN THE FIELD PRIOR TO CONSTRUCTION.

MATCH EXISTING ELEVATIONS AT ALL JOINTS BETWEEN NEW AND EXISTING CONCRETE. ELEVATIONS SHOWN AT MATCH LINE LOCATIONS ARE APPROXIMATE.

SEE DETAILED DRAWINGS FOR STANDARD SIDEWALK, CURB & GUTTER AND RETAINING WALL DETAILS.

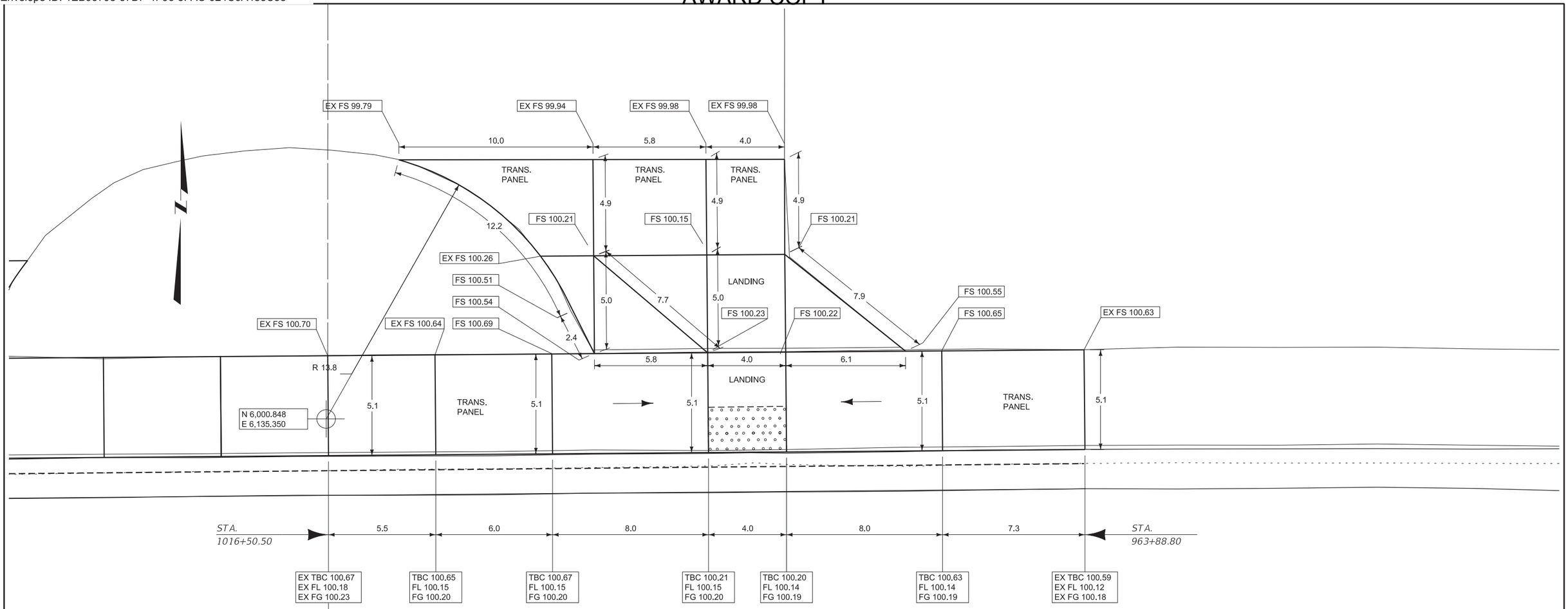
# EASTBOUND REST AREA CURB RAMP DETAILS SITE 5

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MONTANA Department of Transportation | C:\DGN\9403000rddet005.dgn | DESIGNED BY | L. ZEIGLER | 11/18/2019 | ROAD PLANS | ROSEBUD INTERCHANGE - EAST / IM 94-3(82)104 |
| 2 | | 12/8/2023 | REVIEWED BY | | | | |
| | | 10:23:11 AM CPS - U6564 | CHECKED BY | | | ROSEBUD COUNTY | UPN 9403000 / 15 |

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AWARD COPY




| LEGEND |
|---|
| FS = FINISHED SURFACE ELEV. |
| TBC = TOP BACK OF CURB ELEV. |
| FL = FLOW LINE ELEV. |
| TRW = TOP OF RETAINING WALL ELEV. |
| FG = FRONT OF GUTTER ELEV. |

DETECTABLE WARNING DEVICES

NOTES:

PROVIDE DETECTABLE WARNING DEVICES ON THE BOTTOM 2.0 FEET OF EACH RAMP AS SHOWN. SEE DTL. DWG. NO. 608-40 FOR DETECTABLE WARNING DEVICES DETAILS.

ALL DIMENSIONS AND ELEVATIONS ARE FEET UNLESS OTHERWISE NOTED.

ALL CURB AND GUTTER DIMENSIONS ARE ALONG TBC.

CONTRACTOR VERIFY ELEVATIONS IN THE FIELD PRIOR TO CONSTRUCTION.

MATCH EXISTING ELEVATIONS AT ALL JOINTS BETWEEN NEW AND EXISTING CONCRETE. ELEVATIONS SHOWN AT MATCH LINE LOCATIONS ARE APPROXIMATE.

SEE DETAILED DRAWINGS FOR STANDARD SIDEWALK, CURB & GUTTER AND RETAINING WALL DETAILS.

# EASTBOUND REST AREA CURB RAMP DETAILS SITE 6

NO SCALE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | MONTANA Department of Transportation | C:\DGN\9403000rddet006.dgn | DESIGNED BY L. ZEIGLER | 11/20/2019 | ROAD PLANS | ROSEBUD INTERCHANGE - EAST | IM 94-3(82)104 |
| 2 | | 12/8/2023 | REVIEWED BY | | | | |
| | | 10:23:20 AM CPS - U6564 | CHECKED BY | | ROSEBUD COUNTY | UPN 9403000 | 16 |

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# SUMMARY
# SIGNING & DELINEATION QUANTITIES

| MATERIAL | TOTAL | UNIT |
|---|---|---|
| SIGNS-ALUM REFL SHEET XI | 728.0 | SQFT |
| SIGNS-ALUM SHEET INCR XI | 980.1 | SQFT |
| RESET SIGNS | 1 | EACH |
| REMOVE SIGN | 78 | EACH |
| REMOVE SIGN-GUIDE | 17 | EACH |
| POSTS-TUBULAR STEEL | 218 | LB |
| POSTS-STEEL U SIGN | 498 | LB |
| POSTS-STEEL STRUCTURAL SIGN | 148 | LB |
| POLES-TREATED WOOD 4 IN | 146 | LNFT |
| POLES-TREATED WOOD 5 IN | 204 | LNFT |
| DELINEATOR DES A | 173 | EACH |
| DELINEATOR DES B | 17 | EACH |
| DELINEATOR DES D | 8 | EACH |
| DELINEATOR DES G | 56 | EACH |
| DELINEATOR DES H | 153 | EACH |
| DELINEATOR DES BJ | 50 | EACH |
| DELINEATOR DES GJ | 33 | EACH |

HDR

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# SIGN LOCATION AND SPECIFICATION

| Lt. | STATION / M.P. | Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | ALUM. SHEET INCREMENT IV | SHEET ALUMINUM XI | ALUM. SHEET INCREMENT XI | ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | 5" TOP DIA. | 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | SQUARE TUBULAR | STRUCTURAL STEEL | "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **W. ROSEBUD INTERCHANGE - ROSEBUD CR RD CROSSROAD (C000447)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 0.032 | RT. | | R3-1B | 36X48 | XI | | 10'-0" | | 5" DIA POLE | | 16'-0" | | 7'-0" | 3'-6" | | | 12.0 | | | | 16 | | | | | | X | 1 | | | | | | REPLACE, R3-1B = NO RIGHT TURN TEXT SIGN |
| | R.P. 0.037 | RT. | | G8-101 | 96X24 | XI | XI | | | | | | | 7'-0" | | | | | 16.0 | | | | | | | | | | | 1 | | | REPLACE SIGN FACE, G8-101 = ← BISMARCK |
| | R.P. 0.037 | LT. | | M3-2A | 24X12 | XI | XI | | | | | | | 7'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE, M3-2A = EAST |
| | | | | M3-4A | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M3-4A = WEST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-3A | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | M6-3A = AHEAD ARROW BLUE |
| | | | | M6-1Ar | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | M6-1Ar = RIGHT ARROW BLUE |
| | | | | M3-2A | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M3-2A = EAST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-1Al | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M6-1Al = LEFT ARROW BLUE |
| | R.P. 0.042 | RT. | | R6-1 | 36X12 | XI | | 10'-0" | | 5" DIA POLE | | 16'-6" | | 7'-0" | 3'-6" | | | 3.0 | | | | 18 | | | | | | X | 1 | | | | | | REPLACE, R6-1 = ONE WAY RIGHT |
| | | | | R6-1 | 36X12 | XI | | | | | | | | | | | | 3.0 | | | | | | | | | | | | | | | | R6-1 = ONE WAY LEFT |
| | | | | R5-1 | 36X36 | XI | XI | | | | | | | | | | | 9.0 | | | | | | | | | | | | | | | | R5-1 = DO NOT ENTER |
| | R.P. 0.052 | RT. | | R1-1 | 48X48 | XI | XI | | | | | | | 7'-0" | | | | 13.3 | | | | | | | | | | | 1 | | | | BBR | REPLACE SIGN FACE, R1-1 = STOP |
| | R.P. 0.052 | RT. | | R6-1 | 36X12 | XI | | 10'-0" | | 5" DIA POLE | | 16'-6" | | 7'-0" | 3'-6" | | | 3.0 | | | | 18 | | | | | | X | 1 | | | | | | REPLACE, R6-1 = ONE WAY RIGHT |
| | | | | R6-1 | 36X12 | XI | | | | | | | | | | | | 3.0 | | | | | | | | | | | | | | | | R6-1 = ONE WAY LEFT |
| | | | | R5-1 | 36X36 | XI | XI | | | | | | | | | | | 9.0 | | | | | | | | | | | | | | | | R5-1 = DO NOT ENTER |
| | R.P. 0.058 | LT. | | R3-2B | 36X48 | XI | | 10'-0" | | 5" DIA POLE | | 16'-0" | | 7'-0" | 3'-6" | | | 12.0 | | | | 16 | | | | | | X | 1 | | | | | | REPLACE, R3-2B = NO LEFT TURN TEXT SIGN |
| | R.P. 0.088 | LT. | | G9-127 | 96X48 | XI | XI | | | | | | | 7'-0" | | | | | 32.0 | | | | | | | | | | | 1 | | | REPLACE SIGN FACE<br>G9-127 = ↑ BILLINGS/BISMARCK → |
| **W. ROSEBUD INTERCHANGE - ROSEBUD CR RD CROSSROAD (C000446)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 0.027 | RT. | | G8-53 | 90X24 | XI | XI | | | | | | | 7'-0" | | | | | 15.0 | | | | | | | | | | | 1 | | | REPLACE SIGN FACE, G8-53 = ← BILLINGS |
| | R.P. 0.032 | LT. | | M3-2A | 24X12 | XI | XI | | | | | | | 7'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE, M3-2A = EAST |
| | | | | M3-4A | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M3-4A = WEST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-3A | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | M6-3A = AHEAD ARROW BLUE |
| | | | | M6-1Ar | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | M6-1Ar = RIGHT ARROW BLUE |
| | | | | M3-4A | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M3-4A = WEST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-1Al | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M6-1Al = LEFT ARROW BLUE |
| | R.P. 0.032 | RT. | | R3-1B | 36X48 | XI | | 10'-0" | | 5" DIA POLE | | 16'-0" | | 7'-0" | 3'-6" | | | 12.0 | | | | 16 | | | | | | X | 1 | | | | | | REPLACE, R3-1B = NO RIGHT TURN TEXT SIGN |

MOUNTING HEIGHT REQUIREMENTS:
MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL. SEE DET. DWG. 619-00 & 619-08.

X = STANDARD BREAKAWAY DEVICE:
- FOR WOOD POST SEE DETAILED DRAWING 619-20.
- FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13.

BBR = BACKBRACING REQUIRED:
- FOR WOOD POST 2" X4" REQ'D.
- FOR STRUCTURAL STEEL 2" X2" X1/4", ANGLE IRON REQ'D.

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# SIGN LOCATION AND SPECIFICATION

| Lt. | STATION / M.P. | Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | ALUM. SHEET INCREMENT IV | SHEET ALUMINUM XI | ALUM. SHEET INCREMENT XI | ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | 5" TOP DIA. | 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | SQUARE TUBULAR | STRUCTURAL STEEL | "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R.P. 0.037 | | | R6-1 | 36X12 | XI | | 10'-0" | | 5" DIA | | 16'-6" | | 7'-0" | 3'-6" | | | 3.0 | | | | 18 | | | | | | X | 1 | | | | | | REPLACE, R6-1 = ONE WAY RIGHT |
| | | RT. | | R6-1 | 36X12 | XI | | | | POLE | | | | | | | | 3.0 | | | | | | | | | | | | | | | | | R6-1 = ONE WAY LEFT |
| | | | | R5-1 | 36X36 | XI | XI | | | | | | | | | | | 9.0 | | | | | | | | | | | | | | | | | R5-1 = DO NOT ENTER |
| | R.P. 0.048 | | | R1-1 | 48X48 | XI | XI | | | | | | | 7'-0" | | | | 13.3 | | | | | | | | | | | 1 | | | | BBR | | REPLACE SIGN FACE, R1-1 = STOP |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 0.049 | | | M1-12 | 24X24 | XI | XI | | | | | | | 7'-0" | | | | 4.0 | | | | | | | | | | | 1 | | | | BBR | | REPLACE SIGN FACE, M1-12 = 447 |
| LT. | | | | M1-12 | 24X24 | XI | XI | | | | | | | | | | | 4.0 | | | | | | | | | | | | | | | | | M1-12 = 446 |
| | | | | M6-1l | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M1-6l = LEFT ARROW |
| | | | | M6-1r | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M1-6r = RIGHT ARROW |
| | R.P. 0.053 | | | R6-1 | 36X12 | XI | | 10'-0" | | 5" DIA | | 16'-6" | | 7'-0" | 3'-6" | | | 3.0 | | | | 18 | | | | | | X | 1 | | | | | | REPLACE, R6-1 = ONE WAY RIGHT |
| | | RT. | | R6-1 | 36X12 | XI | | | | POLE | | | | | | | | 3.0 | | | | | | | | | | | | | | | | | R6-1 = ONE WAY LEFT |
| | | | | R5-1 | 36X36 | XI | XI | | | | | | | | | | | 9.0 | | | | | | | | | | | | | | | | | R5-1 = DO NOT ENTER |
| | R.P. 0.054 | | | R3-2B | 36X48 | XI | | 10'-0" | | 5" DIA | | 16'-0" | | 7'-0" | 3'-6" | | | 12.0 | | | | 16 | | | | | | X | 1 | | | | | | REPLACE, R3-2B = NO LEFT TURN TEXT SIGN |
| LT. | | | | | | | | | | POLE | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 0.059 | | | G9-128 | 102X48 | XI | XI | | | | | | | 7'-0" | | | | | 34.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE |
| LT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | G9-128 = ↑ BISMARCK/→ BILLINGS |
| | R.P. 0.073 | | | R1-1 | 36X36 | XI | XI | | | | | | | 7'-0" | | | | 7.5 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE, R1-1 = STOP |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **W. ROSEBUD INTERCHANGE - EASTBOUND ON RAMP** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 103.96 | EB | | M1-12 | 24X24 | XI | | 10'-0" | | 5" DIA | | 15'-6" | | 7'-0" | 3'-6" | | | 4.0 | | | | 16 | | | | | | X | 1 | | | | BBR | | REPLACE, M1-12 = 446 |
| | | RT. | | M1-12 | 24X24 | XI | | | | POLE | | | | | | | | 4.0 | | | | | | | | | | | | | | | | | M1-12 = 447 |
| | | | | M6-1l | 21X15 | XI | | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M6-1 = LEFT ARROW |
| | | | | M6-1r | 21X15 | XI | | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M6-1 = RIGHT ARROW |
| | R.P. 103.98 | EB | | D13-3 | 48X30 | XI | XI | 10'-0" | 2'-5" | 4" DIA | | X = 14'-2" | | 7'-0" | 3'-0" | | | | | | 32 | | | | | | | | 1 | | | | | | REPLACE, D13-3 = FREEWAY ENTRANCE |
| | | RT. | | | | | | | | POLE | | Y = 14'-7" | | | | | | 10.0 | | | | | | | | | | | | | | | | | |
| | R.P. 103.98 | EB | | LA-1 | 24X12 | XI | | | | | | | | 4'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | LA-1 = ENTERING CONTROLLED ACCESS HIGHWAY |
| | **I-94 - MAINLINE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 104.00 | EB | | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | | 36 | 1 | | | | | | REPLACE, D10-6 = 104 |
| | | RT. | | | | | | | | STL "U" | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 104.05 | EB | | W8-12B | 48X48 | XI | | | | | | | | 7'-0" | | | | 16.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE, HINGED |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | W8-12B = WATCH FOR ICE ON BRIDGE |
| | R.P. 104.38 | EB | | M3-2A | 30X15 | XI | XI | 5'-0" | | 3" DIA | | 14'-9" | | 7'-0" | 3'-0" | | | 3.1 | | | | | | | 112 | | | | 1 | | | | BGR | BBR | REPLACE, M3-2A = EAST |
| | | RT. | | M1-1 | 36X36 | XI | XI | | | PIPE | | | | | | | | 7.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M3-2 | 24X12 | XI | | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | | M3-2 = EAST |
| | | | | M1-4 | 24X24 | XI | | | | | | | | | | | | 4.0 | | | | | | | | | | | | | | | | | M1-4 = US ROUTE 12 |
| | R.P. 104.45 | | | R5-11 | 30X24 | XI | | 32'-0" | | 4" DIA | | 13'-0" | | 7'-0" | 3'-0" | | | 5.0 | | | 14 | | | | | | | | 1 | | | | | | REPLACE, R5-11 = AUTHORIZED VEHICLES ONLY |
| | MED | | | R5-11 | 30X24 | XI | | | | POLE | | | | | | | | 5.0 | | | | | | | | | | | | | | | | | R5-11 = AUTHORIZED VEHICLES ONLY |
| | R.P. 104.58 | EB | | R2-1 | 48X60 | XI | | | | | | | | 9'-1" | | | | | 20.0 | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE, R2-1 = 80 |
| | | RT. | | R2-2 | 48X36 | XI | | | | | | | | | | | | | 12.0 | | | | | | | | | | | | | | | | | R2-2 = 70 |

MOUNTING HEIGHT REQUIREMENTS:
MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL.
SEE DET. DWG. 619-00 & 619-08.

X = STANDARD BREAKAWAY DEVICE:
- FOR WOOD POST SEE DETAILED DRAWING 619-20.
- FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13.

BBR = BACKBRACING REQUIRED:
- FOR WOOD POST 2" X4" REQ'D.
- FOR STRUCTURAL STEEL 2" X2" X1/4", ANGLE IRON REQ'D.

■ = FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

BGR = BEHIND GUARDRAIL

HDR

| | | | | | |
|---|---|---|---|---|---|
| 2 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | $FILEABBREV$ | DESIGNED BY | SIGNING PLANS | ROSEBUD INTERCHANGE - EAST |
| 1 | | $DATE$ | REVIEWED BY | ROSEBUD COUNTY | UPN 9403000 |
| | | $TIME$ $username$ | CHECKED BY | | S3 |

IM 94-3(82)104

DocuSign Envelope ID: 1EB93798-37DF-4F96-8FAC-024C6A435C38



# SIGN LOCATION AND SPECIFICATION

| Lt. | STATION / M.P. | Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | SIGN PANEL (SQ. FT.) ALUM. SHEET INCREMENT IV | SIGN PANEL (SQ. FT.) SHEET ALUMINUM XI | SIGN PANEL (SQ. FT.) ALUM. SHEET INCREMENT XI | SIGN PANEL (SQ. FT.) ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | TIMBER POLE (LINEAR FT.) 5" TOP DIA. | TIMBER POLE (LINEAR FT.) 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | STEEL POST (LBS.) SQUARE TUBULAR | STEEL POST (LBS.) STRUCTURAL STEEL | STEEL POST (LBS.) "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R.P. 105.00 | RT. | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 105 |
| | R.P. 105.58 | RT. | EB | E-106<br>G3-120 | 108X30<br>192X102 | XI<br>XI | XI<br>XI | | | | | | | 7'-0" | | | | | 22.5<br>136.0 | | | | | | | 74* | | | | 1 | | | | REPLACE SIGN FACE, E-106 = 106<br>G3-120 = ROSEBUD/BUTTE CR RD/1 MI |
| | R.P. 105.75 | MED | | R5-11<br>R5-11 | 30X24<br>30X24 | XI<br>XI | | 35'-0" | | 4" DIA POLE | | 13'-0" | | 7'-0" | 3'-0" | | | 5.0<br>5.0 | | | 14 | | | | | | | 1 | | | | | | REPLACE, R5-11 = AUTHORIZED VEHICLES ONLY<br>R5-11 = AUTHORIZED VEHICLES ONLY |
| | R.P. 106.00 | RT. | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 106 |
| | R.P. 106.49 | RT. | EB | E-106<br>G5-117 | 108X30<br>192X102 | XI<br>XI | XI<br>XI | | | | | | | 7'-0" | | | | | 22.5<br>136.0 | | | | | | | 74* | | | | 1 | | BGR | | REPLACE SIGN FACE, E-106 = 106<br>G5-117 = ROSEBUD/BUTTE CR RD |
| | R.P. 106.67 | RT. | EB | EG-106 | 90X60 | XI | XI | | | | | | | 7'-0" | | | | | 37.5 | | | | | | | | | | 1 | | | | REPLACE SIGN FACE, EG-106 = 106 |
| | **EXIT 106 INTERCHANGE - EASTBOUND OFF RAMP** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 106.69 | RT. | EB | W3-1A | 48X48 | XI | XI | 5'-0" | | 3" DIA PIPE | | 14'-0" | | 7'-0" | 3'-0" | | | 16.0 | | | | | | 106 | | | | ■ | 1 | | | BGR | | REPLACE, W3-1A = STOP AHEAD SYMBOL |
| | R.P. 106.77 | RT. | EB | G9-142 | 114X42 | XI | XI | | | | | | | 7'-0" | | | | | 33.3 | | | | | | | | | | 1 | | | BGR | | REPLACE SIGN FACE<br>G9-142 = ← ROSEBUD/BUTTE CR RD → |
| | R.P. 106.77 | LT. | EB | R5-1A | 42X30 | XI | XI | | | | | | | 7'-0" | | | | 8.8 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE<br>R5-1A = WRONG WAY |
| | R.P. 106.80 | RT. | EB | LA-2 | 24X12 | XI | | | | | | | | 4'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE<br>LA-2 = LEAVING CONTROLLED ACCESS HIGHWAY |
| | R.P. 106.82 | RT. | EB | R1-1 | 48X48 | XI | XI | | | | | | | 7'-0" | | | | 13.3 | | | | | | | | | | | 1 | | | BBR | | REPLACE SIGN FACE, R1-1 = STOP |
| | R.P. 106.82 | RT. | EB | R6-1<br>R6-1<br>R5-1 | 36X12<br>36X12<br>36X36 | XI<br>XI<br>XI | <br><br>XI | 10'-0" | | 5" DIA POLE | | 16'-6" | | 7'-0" | 3'-6" | | | 3.0<br>3.0<br>9.0 | | | | 18 | | | | | | X | 1 | | | | | REPLACE, R6-1 = ONE WAY RIGHT<br>R6-1 = ONE WAY LEFT<br>R5-1 = DO NOT ENTER |
| | R.P. 106.82 | LT. | EB | R6-1<br>R6-1<br>R5-1 | 36X12<br>36X12<br>36X36 | XI<br>XI<br>XI | <br><br>XI | 10'-0" | | 5" DIA POLE | | 16'-6" | | 7'-0" | 3'-6" | | | 3.0<br>3.0<br>9.0 | | | | 18 | | | | | | X | 1 | | | | | REPLACE, R6-1 = ONE WAY RIGHT<br>R6-1 = ONE WAY LEFT<br>R5-1 = DO NOT ENTER |
| | **EXIT 106 INTERCHANGE - BUTTE CREEK RD CROSSROAD (C044303A)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 2.02 | RT. | SB | G9-128 | 102X48 | XI | XI | | | | | | | 7'-0" | | | | | 34.0 | | | | | | | | | | 1 | | | | REPLACE SIGN FACE<br>G9-128 = ↑ BISMARCK/→ BILLINGS |
| | R.P. 2.04 | RT. | SB | R3-2B | 36X48 | XI | | 10'-0" | | 5" DIA POLE | | 16'-0" | | 7'-0" | 3'-6" | | | 12.0 | | | | 16 | | | | | | X | 1 | | | | | REPLACE, R3-2B = NO LEFT TURN TEXT SIGN |

MOUNTING HEIGHT REQUIREMENTS:
MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL.
SEE DET. DWG. 619-00 & 619-08.

✳ = 2 1/2" X2 1/2" X 3/8" X6'-4" ANGLE IRON REQUIRED SEE DETAIL

■ = FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

BBR = BACKBRACING REQUIRED:
- FOR WOOD POST 2" X4" REQ'D.
- FOR STRUCTURAL STEEL 2" X2" X1/4", ANGLE IRON REQ'D.

BGR = BEHIND GUARDRAIL

DocuSign Envelope ID: 1EB93798-37DF-4F96-8FAC-024C6A435C38

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# SIGN LOCATION AND SPECIFICATION

| Lt. | STATION / M.P. | Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | ALUM. SHEET INCREMENT IV | SHEET ALUMINUM XI | ALUM. SHEET INCREMENT XI | ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | 5" TOP DIA. | 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | SQUARE TUBULAR | STRUCTURAL STEEL | "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R.P. 2.06 | | SB | M3-2A | 24X12 | XI | XI | | | | | | | 7'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE, M3-2A = EAST<br>M3-4A = WEST |
| | | RT. | | M3-4A | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | | |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-3A | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M6-3A = ARROW AHEAD BLUE |
| | | | | M6-1Ar | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M6-1Ar = ARROW RIGHT BLUE |
| | | | | M3-4A | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M3-4A = WEST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-1Al | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | | M6-1Al = ARROW LEFT BLUE |
| | R.P. 2.06 | | SB | R3-1B | 36X48 | XI | | | | | | | | 7'-0" | | | | 12.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE<br>R3-1B = NO RIGHT TURN TEXT SIGN |
| LT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 2.08 | | NB | G8-53 | 90X24 | XI | XI | | | | | | | 7'-0" | | | | | 15.0 | | | | | | | | | | | 1 | | BGR | | | REPLACE SIGN FACE, G8-53= ← BILLINGS |
| LT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 2.16 | | SB | G8-101 | 96X24 | XI | XI | | | | | | | 7'-0" | | | | | 16.0 | | | | | | | | | | | 1 | | BGR | | | REPLACE SIGN FACE, G8-101 = ← BISMARCK |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 2.18 | | SB | R3-1B | 36X48 | XI | | | | | | | | 7'-0" | | | | 12.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE<br>R3-1B = NO RIGHT TURN TEXT SIGN |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 2.18 | | NB | M3-4A | 24X12 | XI | XI | | | | | | | 7'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | | M3-4A = WEST |
| LT. | | | | M3-2A | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | | REPLACE SIGN FACE, M3-2A = EAST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-3A | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M6-3A = ARROW AHEAD BLUE |
| | | | | M6-1Ar | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M6-1Ar = ARROW RIGHT BLUE |
| | | | | M3-2A | 21X15 | XI | XI | | | | | | | | | | | 2.2 | | | | | | | | | | | | | | | | | M3-2A = EAST |
| | | | | M1-1 | 24X24 | XI | XI | | | | | | | | | | | 3.2 | | | | | | | | | | | | | | | | | M1-1 = 94 |
| | | | | M6-1Al | 24X12 | XI | XI | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | | M6-1Al = ARROW LEFT BLUE |
| | R.P. 2.20 | | NB | G9-127 | 96X48 | XI | XI | | | | | | | 7'-0" | | | | | 32.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE<br>G9-127 = ↑ BILLINGS/BISMARK → |
| LT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 2.21 | | SB | G10-49 | 120X48 | XI | XI | | | | | | | 7'-0" | | | | | 40.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE<br>G10-49 = ← FRONTAGE RD/SWEENEY CR |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **EXIT 106 INTERCHANGE - EASTBOUND ON RAMP** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 106.84 | | EB | D13-3 | 48X30 | XI | XI | | | | | | | 7'-0" | | | | | 10.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE, D13-3= FREEWAY ENTRANCE |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 106.85 | | EB | LA-1 | 24X12 | XI | | | | | | | | 4'-0" | | | | 2.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACE<br>LA-1 = ENTERING CONTROLLED ACCESS HIGHWAY |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **I-94 - MAINLINE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 107.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | REPLACE, D10-6 = 107 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 107.06 | | | R5-11 | 30X24 | XI | | | | | | | | 7'-0" | | | | 5.0 | | | | | | | | | | | 1 | | | | | REPLACE SIGN FACES |
| | MED | | | R5-11 | 30X24 | XI | | | | | | | | | | | | 5.0 | | | | | | | | | | | | | | | | | R5-11 = AUTHORIZED VEHICLES ONLY |

MOUNTING HEIGHT REQUIREMENTS:
MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL.
SEE DET. DWG. 619-00 & 619-08.

BGR = BEHIND GUARDRAIL

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# SIGN LOCATION AND SPECIFICATION

| Lt. | STATION / M.P. | Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | ALUM. SHEET INCREMENT IV | SHEET ALUMINUM XI | ALUM. SHEET INCREMENT XI | ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | 5" TOP DIA. | 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | SQUARE TUBULAR | STRUCTURAL STEEL | "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R.P. 107.26 | | EB | M3-2A | 30X15 | XI | XI | | | | | | | 7'-0" | | | | 3.1 | | | | | | | | | | | | | | | | REPLACE SIGN FACE, M3-2A = EAST |
| | | RT. | | M1-1 | 36X36 | XI | XI | | | | | | | | | | | 7.2 | | | | | | | | | | | 1 | | | | | M1-1 = 94 |
| | | | | M3-2 | 24X12 | XI | | | | | | | | | | | | 2.0 | | | | | | | | | | | | | | | | M3-2 = EAST |
| | | | | M1-4 | 24X24 | XI | | | | | | | | | | | | 4.0 | | | | | | | | | | | | | | | | M1-4 = US ROUTE 12 |
| | R.P. 107.46 | | EB | R2-1 | 48X60 | XI | | | | | | | | 9'-1" | | | | | 20.0 | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE, R2-1 =80 |
| | | RT. | | R2-2 | 48X36 | XI | | | | | | | | | | | | | 12.0 | | | | | | | | | | | | | | | R2-2 = 70 |
| | R.P. 107.62 | | EB | G11-425 | 114X60 | XI | XI | | | | | | | 7'-0" | | | | | 47.5 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | G11-425 = HATHAWAY 10/MILES CITY 31/BISMARCK 303 |
| | R.P. 108.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 108 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 109.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 109 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 110.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 110 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 110.29 | | | R5-11 | 30X24 | XI | | | | | | | | 7'-0" | | | | 5.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACES |
| | MED | | | R5-11 | 30X24 | XI | | | | | | | | | | | | 5.0 | | | | | | | | | | | | | | | | R5-11 = AUTHORIZED VEHICLES ONLY |
| | R.P. 111.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | BGR | | REPLACE, D10-6 = 111 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 111.49 | | EB | W8-12B | 48X48 | XI | | | | | | | | 7'-0" | | | | 16.0 | | | | | | | | | | | 1 | | | | BGR | | REPLACE SIGN FACE, HINGED |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | W8-12B = WATCH FOR ICE ON BRIDGE |
| | R.P. 111.66 | | EB | D5-1 | 144X66 | XI | XI | | | | | | | 7'-0" | | | | | 66.0 | | | | | | | | | | 1 | | BGR | | REPLACE SIGN FACE, D5-1 =2 MILES |
| | | RT. | | IS6-2 | 138X36 | XI | XI | | | | | | | | | | | | 34.5 | | | | | | | | | | | | | | IS6-2 = 78 MILES |
| | | | | D9-6 | 30X30 | XI | XI | | | | | | | | | | | 6.3 | | | | | | | | | | | | | | | | D9-6 = HANDICAP ACCESSIBLE |
| | R.P. 112.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 112 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 112.51 | | | R5-11 | 30X24 | XI | | | | | | | | 7'-0" | | | | 5.0 | | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACES |
| | MED | | | R5-11 | 30X24 | XI | | | | | | | | | | | | 5.0 | | | | | | | | | | | | | | | | R5-11 = AUTHORIZED VEHICLES ONLY |
| | R.P. 113.00 | | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | | | REPLACE, D10-6 = 113 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 113.17 | | EB | D5-1A | 144X60 | XI | XI | | | | | | | 7'-0" | | | | | 60.0 | | | | | | | | | | 1 | | | | | | REPLACE SIGN FACE, D5-1A= REST AREA NEXT RIGHT |
| | | RT. | | IS3-P | 144X24 | XI | XI | | | | | | | | | | | | 24.0 | | | | | | | | | | | | | | | | IS3-P = OPEN/CLOSED |
| | R.P. 113.47 | | EB | W13-2 | 48X60 | XI | | | | | | | | 7'-0" | | | | | 20.0 | | | | | | | | | | 1 | | | | FY | | REPLACE SIGN FACE, W13-2 = 50 |
| | | RT. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MOUNTING HEIGHT REQUIREMENTS:
MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL.
SEE DET. DWG. 619-00 & 619-08.

BGR = BEHIND GUARDRAIL  FY = FLUORESCENT YELLOW

HDR

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 / 1 | MDT MONTANA DEPARTMENT OF TRANSPORTATION | $FILEABBREV$ / $DATE$ / $TIME$ $username$ | DESIGNED BY / REVIEWED BY / CHECKED BY | SIGNING PLANS / ROSEBUD COUNTY | ROSEBUD INTERCHANGE - EAST / UPN 9403000 | IM 94-3(82)104 / 56 |

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# SIGN LOCATION AND SPECIFICATION

| Lt. / STATION / M.P. / Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | ALUM. SHEET INCREMENT IV | SHEET ALUMINUM XI | ALUM. SHEET INCREMENT XI | ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | 5" TOP DIA. | 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | SQUARE TUBULAR | STRUCTURAL STEEL | "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R.P. 113.55 RT. | EB | D5-2 | 78X78 | XI | XI | | | | | | | 7'-0" | | | | | 42.3 | | | | | | | | | | | | 1 | | REPLACE SIGN FACE, D5-2 = REST AREA |
| **EASTBOUND REST AREA #** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R.P. 113.55 LT. | EB | OM3-R | 12X36 | XI | | MOUNT ON LT. GATE POST | | | | | | | | | | 3.0 | | | | | | | | | | | | | | | REPLACE SIGN FACE, SUPPORT USED FOR GATE |
| RT. | | B-IR | 96X8 | XI | XI | MOUNT ON LT. GATE | | | | | | | | | | 5.3 | | | | | | | | | | | 2 | | | | MOUNT ON GATE |
| | | B-IR | 96X8 | XI | XI | MOUNT ON LT. GATE | | | | | | | | | | 5.3 | | | | | | | | | | | | | | | MOUNT ON GATE |
| | | B-IL | 96X8 | XI | XI | MOUNT ON RT. GATE | | | | | | | | | | 3.0 | | | | | | | | | | | | | | | MOUNT ON GATE |
| | | B-IL | 96X8 | XI | XI | MOUNT ON RT. GATE | | | | | | | | | | 5.3 | | | | | | | | | | | | | | | MOUNT ON GATE |
| | | OM3-L | 12X36 | XI | | MOUNT ON RT. GATE POST | | | | | | | | | | 5.3 | | | | | | | | | | | | | | | REPLACE SIGN FACE, SUPPORT USED FOR GATE |
| | | R11-2 | 48X30 | XI | | MOUNT ON LT. GATE | | | | | | | | | | 10.0 | | | | | | | | | | | | | | | R11-2 = ROAD CLOSED |
| R.P. 113.63 LT. | EB | R5-1A | 42X30 | XI | XI | | | | | | | 7'-0" | | | | 8.8 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE, R5-1A = WRONG WAY |
| R.P. 113.63 RT. | EB | R5-1A | 42X30 | XI | XI | | | | | | | 7'-0" | | | | 8.8 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE, R5-1A = WRONG WAY |
| R.P. 113.67 LT. | EB | R99-53 | REUSE | | | 10'-0" | | 4" DIA POLE | | 14'-0" | | 7'-0" | 3'-0" | | | | | | 14 | | | | | | | | | 1 | | | REUSE SIGN FACE<br>R99-53 = $100 REWARD |
| R.P. 113.70 RT. | EB | R5-1 | 36X36 | XI | XI | | | | | | | 7'-0" | | | | 9.0 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE, R5-1 = DO NOT ENTER |
| R.P. 113.70 LT. | EB | R5-1 | 36X36 | XI | XI | | | | | | | 7'-0" | | | | 9.0 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE, R5-1 = DO NOT ENTER |
| R.P. 113.70 RT. | EB | R7-1 | 12X18 | XI | XI | 10'-0" | | 4' DIA POLE | | 12'-0" | | 7'-0" | 3'-0" | | | 1.5 | | | 12 | | | | | | | | 1 | | | | REPLACE<br>R7-1 = NO PARKING ANYTIME DOUBLE ARROW |
| R.P. 113.72 MED | EB | D4-2a | 48X48 | XI | XI | | | | | | | 7'-0" | | | | 16.0 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACES, D4-2a = INTERSTATE CAR WITH TRAILER TRL |
| | | R5-15 | 24X18 | XI | | | | | | | | | | | | 3.0 | | | | | | | | | | | | | | | R5-15 = NO CAMPING |
| | | R5-1A | 42X30 | XI | XI | | | | | | | | | | | 8.8 | | | | | | | | | | | | | | | R5-1A = WRONG WAY |
| R.P. 113.75 MED | EB | D12-5 | 48X60 | XI | XI | 15'-0" | 2'-4" | 4" DIA POLE | | X = 15'-0" Y = 15'-0" | | 7'-0" | 3'-0" | | | 20.0 | | | 32 | | | | | | | | 1 | | | | REPLACE<br>D12-5 = TRAVEL INFO |
| R.P. 113.77 MED | EB | R99-30 | USE AS IS | | | | | | | | | | | | | | | | | | | | | | | | | | | | USE AS IS, R99-30 = RATTLESNAKES |
| R.P. 113.77 LT. | EB | OM3-L | 12X36 | XI | XI | 4'-0" | | 3 LB STL "U" | | 10'-0" | | 4'-0" | 3'-0" | | | 3.0 | | | | | | | | | 30 | | 1 | | | | REPLACE, OM3-L=OBJECT MARKER |
| R.P. 113.78 LT. | EB | D9-13a | 12X12 | XI | XI | | | | | | | 7'-0" | | | | 1.0 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE, D9-13a = PET AREA |
| R.P. 113.78 RT. | EB | R7-1 | 12X18 | XI | | MOUNT ON LUMINAIRE | | | | | | 7'-0" | | | | 1.5 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACE<br>R7-1 = NO PARKING ANYTIME DOUBLE ARROW |
| R.P. 113.79 LT. | EB | R99-27 | USE AS IS | | | | | | | | | | | | | | | | | | | | | | | | | | | | USE AS IS<br>R99-27 = PETS PROHIBITED |
| R.P. 113.80 RT. | EB | D9-13aP | 12X3 | XI | XI | | | | | | | 7'-0" | | | | 0.3 | | | | | | | | | | | 1 | | | | REPLACE SIGN FACES, D9-13aP = PET AREA TEXT |
| | | D9-13a | 12X12 | XI | XI | | | | | | | | | | | 1.0 | | | | | | | | | | | | | | | D9-13a = PET AREA |

MOUNTING HEIGHT REQUIREMENTS: MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL. SEE DET. DWG. 619-00 & 619-08.

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# SIGN LOCATION AND SPECIFICATION

| Lt. | STATION / M.P. | Rt. | RAMP NO. | SIGN NO. | PANEL SIZE | REFL SHTG BACKGROUND | REFL SHTG LEGEND | FEET CLEARANCE | FEET SIGN SUPPORT SPACING | TYPE OF SUPPORT | CANTILEVER | FEET SUPPORT LENGTH (ESTIMATED) | FEET SUPPORT LENGTH (INSTALLED) | FEET MOUNTING HEIGHT | FEET FOUNDATION DEPTH | SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV | ALUM. SHEET INCREMENT IV | SHEET ALUMINUM XI | ALUM. SHEET INCREMENT XI | ALUMINUM SHT OVERLAY | TIMBER POLE (LINEAR FT.) 4" TOP DIA. | 5" TOP DIA. | 6" TOP DIA. | STEEL POST (LBS.) ROUND TUBULAR | SQUARE TUBULAR | STRUCTURAL STEEL | "U" POST | BREAKAWAY | SIGNS REMOVE | SIGNS RESET | GUIDE REMOVE | GUIDE RESET | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. | R.P. 113.80 | | EB | D9-6 | 24X24 | XI | XI | | | | | | | 7'0" | | | | 4.0 | | | | | | | | | | | 1 | | | | REP.ACE SIGN FACE<br>D9-6 = HANDICAP ACCESSIBLE |
| | R.P. 113.81 | RT. | EB | R6-1 | 36X12 | XI | | MOUNT ON LUMINAIRE | | | | | | 7'-0" | | | | 3.0 | | | | | | | | | | | 1 | | | | REP.ACE SIGN FACE<br>R6-1 = ONE WAY LEFT |
| LT. | R.P. 113.81 | | EB | R-MOD<br>D9-6 | USE AS IS<br>24X24 | XI | XI | | | | | | | 7'-0" | | | | 4.0 | | | | | | | | | | | 1 | | | | USEAS IS, R-MOD = REST AREA REGULATIONS<br>REP.ACE SIGN FACE, D9-6 = HANDICAP ACCESSIBLE |
| LT. | R.P. 113.82 | | EB | R99-30 | USE AS IS | | | | | | | | | | | | | | | | | | | | | | | | | | | USEAS IS, R99-30= RATTLESNAKES OBSERVED |
| | R.P. 113.83 | RT. | EB | R6-1 | 36X12 | XI | | | | | | | | 7'-0" | | | | 3.0 | | | | | | | | | | | 1 | | | | REP.ACE SIGN FACE<br>R6-1 = ONE WAY LEFT |
| | R.P. 113.83 | RT. | EB | D9-13aP<br>D9-13a | 12X3<br>12X12 | XI<br>XI | XI<br>XI | | | | | | | 7'-0" | | | | 0.3<br>1.0 | | | | | | | | | | | 2 | | | | REP.ACE SIGN FACES, D9-13aP = PET AREA TEXT<br>D9-13a = PET AREA |
| | R.P. 113.84 | RT. | EB | R7-1 | 12X18 | XI | | | | | | | | 7'-0" | | | | 1.5 | | | | | | | | | | | 1 | | | | REP.ACE SIGN FACE<br>R7-1 = NO PARKING ANYTIME DOUBLE ARROW |
| | R.P. 113.85 | RT. | EB | R-MOD | USE AS IS | | | | | | | | | | | | | | | | | | | | | | | | | | | USEAS IS, R-MOD = BUCKLE UP |
| | R.P. 113.86 | RT. | EB | R6-1 | X | XI | | 10'-0" | | 4" DIA POLE | | 11'-0" | | 7'-0" | 3'-0" | | | 3.0 | | | 12 | | | | | | | | 1 | | | | REP.ACE, R6-1 = ONE WAY LEFT |
| **I-94 - MAINLINE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R.P. 114.00 | RT. | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | BGR | REP.ACE, D10-6 = 114 |
| | R.P. 114.06 | RT. | EB | M1-9 | 24X30 | XI | XI | 5'-0" | | 4" DIA POLE | | 14'-6" | | 7'-0" | 3'-0" | | | 5.0 | | | 16 | | | | | | | | 1 | | | BGR | REP.ACE<br>M1-9 = LEWIS AND CLARK TRAIL |
| | R.P. 114.09 | RT. | EB | W8-12B | 48X48 | XI | | | | | | | | 7'-0" | | | | 16.0 | | | | | | | | | | | 1 | | | BGR | BBR | REP.ACE SIGN FACE, HINGED<br>W8-12B = WATCH FOR ICE ON BRIDGE |
| | R.P. 115.00 | RT. | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | BGR | REP.ACE, D10-6 = 115 |
| | R.P. 116.00 | RT. | EB | D10-6 | 12X48 | XI | XI | 6'-0" | | 3 LB STL "U" | | 12'-0" | | 4'-0" | 3'-0" | | | 4.0 | | | | | | | | | 36 | | 1 | | | | REP.ACE, D10-6 = 116 |
| **ALL SHEET TOTALS** | | | | | | | | | | | | | | | | | | 728.0 | 980.1 | | 146 | 204 | | 218 | | 148 | 498 | | 78 | 1 | 17 | | | |

## DELINEATOR LEGEND

| | | |
|---|---|---|
| ⊣ | DELINEATOR DES "A" | 173 |
| ⊣\| | DELINEATOR DES "B" | 17 |
| ⊣\|⊣ | DELINEATOR DES "D" | 8 |
| ⊣< | DELINEATOR DES "G" | 56 |

## DELINEATOR LEGEND

| | | |
|---|---|---|
| ⊣→ | DELINEATOR DES "H" | 153 |
| ×⊣\| | DELINEATOR DES "BJ" | 50 |
| ×⊣< | DELINEATOR DES "GJ" | 33 |

MOUNTING HEIGHT REQUIREMENTS: MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL. SEE DET. DWG. 619-00 & 619-08.

BGR = BEHIND GUARDRAIL  BBR = BACKBRACING REQUIRED:
- FOR WOOD POST 2" X4" REQ'D.
- FOR STRUCTURAL STEEL 2" X2" X1/4", ANGLE IRON REQ'D.

HDR

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# DETAIL

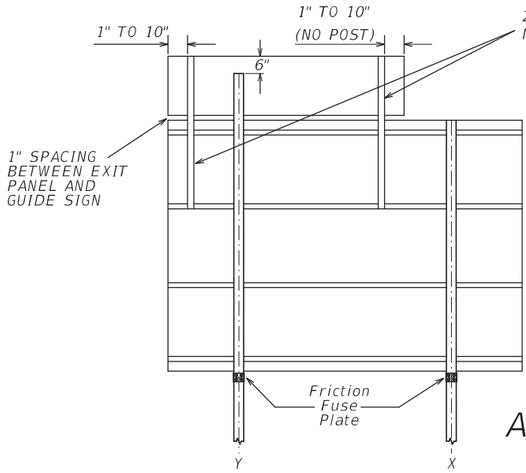
## TYPICAL PAVEMENT MARKINGS

NO SCALE




NOTE: ALL PAVEMENT MARKINGS TO BE EPOXY UNLESS OTHERWISE SPECIFIED.

## R.S.F.O. GUIDE SIGNS with EXIT PANELS




BACK VIEW OF ADVANCE GUIDE SIGNS WITH EXIT NUMBER PANEL SIGN SHOWING INSTALLATION OF ANGLE IRON

NOTE: WHEN EXIT PANEL IS SUPPORTED BY MULTIPLE POST, 2 ANGLE IRONS ARE REQUIRED.SIGN WILL EXTEND 6 INCHES ABOVE SUPPORTS

## ANGLE IRON DETAIL

NO SCALE

HDR

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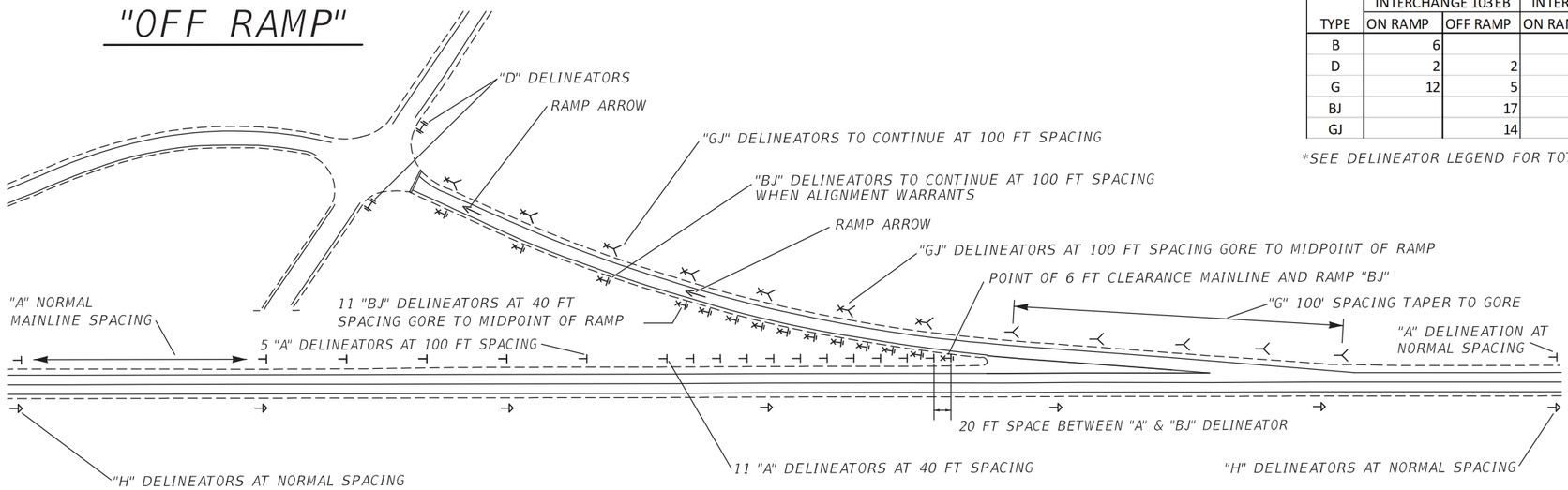


# RAMP DELINEATION DETAIL

| DELINEATOR SUMMARY | | | | | | | |
|---|---|---|---|---|---|---|---|
| | INTERCHANGE 103 EB | | INTERCHANGE 106 EB | | REST AREA EB | | |
| TYPE | ON RAMP | OFF RAMP | ON RAMP | OFF RAMP | ON RAMP | OFF RAMP | TOTAL |
| B | 6 | | 6 | | 5 | | 17 |
| D | 2 | 2 | 2 | 2 | | | 8 |
| G | 12 | 5 | 15 | 7 | 11 | 6 | 56 |
| BJ | | 17 | | 16 | | 17 | 50 |
| GJ | | 14 | | 8 | | 11 | 33 |

*SEE DELINEATOR LEGEND FOR TOTAL NUMBER OF TYPE A & H DELINEATORS

## "OFF RAMP"

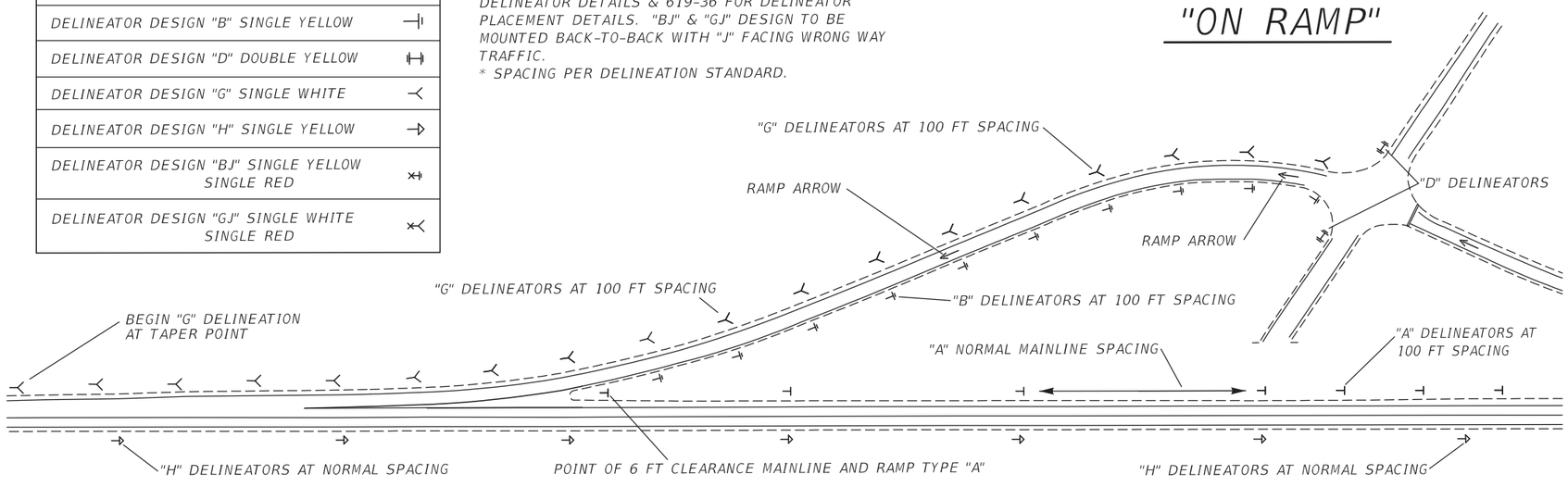



## LEGEND

| | |
|---|---|
| DELINEATOR DESIGN "A" SINGLE WHITE | ⊣ |
| DELINEATOR DESIGN "B" SINGLE YELLOW | ⊣ |
| DELINEATOR DESIGN "D" DOUBLE YELLOW | ⊣⊣ |
| DELINEATOR DESIGN "G" SINGLE WHITE | ⊣ |
| DELINEATOR DESIGN "H" SINGLE YELLOW | ⊣ |
| DELINEATOR DESIGN "BJ" SINGLE YELLOW SINGLE RED | ⊣ |
| DELINEATOR DESIGN "GJ" SINGLE WHITE SINGLE RED | ⊣ |

NOTE:
ALL DELINEATORS AT 6 FT CLEARANCE FROM EDGE OF PAVEMENT. SEE DETAILED DRAWING 619-34 FOR DELINEATOR DETAILS & 619-36 FOR DELINEATOR PLACEMENT DETAILS. "BJ" & "GJ" DESIGN TO BE MOUNTED BACK-TO-BACK WITH "J" FACING WRONG WAY TRAFFIC.
* SPACING PER DELINEATION STANDARD.

## "ON RAMP"



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| ASSOCIATED PROJECT AGREEMENT NUMBERS | |
|---|---|
| P.E. | IM 94-3(81)104 |

# MONTANA DEPARTMENT OF TRANSPORTATION

# BRIDGE PLANS AND QUANTITIES

## FEDERAL AID PROJECT IM 94-3(82)104

## ROSEBUD INTERCHANGE-EAST

## ROSEBUD COUNTY

SCALES SHOWN ON BRIDGE PLANS SHEETS
ARE FOR HALF SIZE (11X17) PRINTS
FULL SIZE PRINTS ARE APPROXIMATELY TWICE
ORIGINAL SCALE

### LIST OF DRAWINGS


| SHEET NO. | DWG. NO. | TITLE |
|---|---|---|
| B1 | 28158 | LIST OF DRAWINGS AND ESTIMATED BRIDGE PLAN QUANTITIES |
| B2 | 28159 | GENERAL NOTES AND STANDARD DETAILS |
| B3 | 28160 | RAIL REVISION DETAILS |


### ESTIMATED BRIDGE PLAN QUANTITIES

| FEATURE CROSSED | GENERAL LAYOUT DRAWING NO. | NBI NUMBER | MDT STRUCTURE NUMBER | REMOVE GUARD ANGLE (LN. FT.) | BRIDGE DECK MILLING (YD²) | CLASS A BRIDGE DECK REPAIR (YD²) | CLASS B BRIDGE DECK REPAIR (YD²) | *CONCRETE CLASS OVERLAY (YD²) | CONCRETE CLASS OVERLAY -FIXED (UNIT) | TRANSVERSE DECK GROOVING (YD²) | BRIDGE DECK CRACK SEAL (YD²) | REVISE BRIDGE RAIL CONCRETE BARRIER (LN. FT.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERCHANGE W ROSEBUD EB | 9377 | I00094103+09561 | 01951 | 83.3 | | 24.9 | | | | | 572.5 | 250.3 |
| ROSEBUD CREEK EB | 9384 | I00094104+02231 | 01953 | 89.5 | | 45.1 | | | | | 866.4 | 350.3 |
| SEPARATION COUNTY ROAD EB | 9242 | I00094108+02111 | 01956 | 83.0 | | 13.9 | | | | | 365.0 | 196.0 |
| SEPARATION COUNTY ROAD EB | 9256 | I00094114+02371 | 01961 | 83.0 | 572.5 | | | 572.5 | 500.0 | 542.0 | | 250.3 |
| | | | | | | | | | | | | |
| | | | PROJECT TOTAL | 338.8 | 572.5 | 83.9 | 5.0 | 572.5 | 500.0 | 542.0 | 1803.9 | 1046.9 |

*NOTE: Concrete-Class Overlay quantities are based on the minimum overlay thickness specified on sheet B2. Hydrodemolition may result in increased removal limits and increased overlay quantities.

NOTE: Specific Class B deck repair areas are not identified in the contract. Class B deck repair quantities are provided as a contingency. The Project Manager will identify any Class B deck repair areas if they are needed.

### BRIDGE WORK SUMMARY

| FEATURE CROSSED | MDT STRUCTURE NUMBER | REMOVE GUARD ANGLE | BRIDGE DECK MILLING | CLASS A BRIDGE DECK REPAIR | CLASS B BRIDGE DECK REPAIR | CONCRETE OVERLAY | REVISE BRIDGE RAIL CONCRETE BARRIER | TRANSVERSE DECK GROOVING | SILANE SEALER | BRIDGE CRACK SEAL |
|---|---|---|---|---|---|---|---|---|---|---|
| INTERCHANGE W ROSEBUD EB | 01951 | ✓ | | ✓ | | | ✓ | | | ✓ |
| ROSEBUD CREEK EB | 01953 | ✓ | | ✓ | | | ✓ | | | ✓ |
| SEPARATION COUNTY ROAD EB | 01956 | ✓ | | ✓ | | | ✓ | | | ✓ |
| SEPARATION COUNTY ROAD EB | 01961 | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | |

SHEET NO.
B1

LIST OF DRAWINGS AND ESTIMATED BRIDGE PLAN QUANTITIES

| REVISED | REVISED | REVISED | REVISED | CHECKED | DRAWN | DESIGNED |
|---|---|---|---|---|---|---|
| | | | | T.E.S. | L.D.C. | L.D.C. |
| | | | | 05-02-23 | 04-03-23 | 04-03-23 |

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MONTANA Department of Transportation
BRIDGE BUREAU

UPN NUMBER
9403000

DRAWING NO.
28158

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## GENERAL NOTES

SPECIFICATIONS:
Plans were prepared from original drawings and as-built drawings. No additional survey information was procured for this project. Existing structure dimensions may vary from those shown on the drawings. Verify all dimensions necessary to complete the work.

The current version of the Standard and Supplemental Specifications for Road and Bridge Construction, adopted by the Montana Department of Transportation, applies.

See Standard Specifications and Special Provisions for Traffic Control and Sequence of Operations.

All dimensions are in feet and inches except as noted. Verify all necessary dimensions of the existing structures in the field before ordering materials. Obtain approval of shop plans from the State of Montana, Department of Transportation before beginning fabrication. If the dimensions and details of the existing structure are not as shown on the plans, vary construction as necessary to best suit existing conditions and the nature of the intended work.

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

| | |
|---|---|
| Bottom of Slab | 1" |
| Top of Slab | 2 ½" |
| Bottom of Abutment Caps | 3" |
| Concrete Barriers and Curbs | 1 ½" |

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

Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31 Grade 60. Include all costs associated with furnishing and placing new reinforcing steel in other items.

Replace existing reinforcing steel damage during construction that is called out to remain in place at no additional cost to the State.

Include cleaning exposed existing reinforcing steel in other items of work.

The suffix E denotes epoxy coated reinforcing steel.

BRIDGE DECK REPAIR:
See the bridge deck repair section of the Standard Specifications for allowable repair concrete options.

Quantities shown for Class A and B Bridge Deck Repair may vary from actual field quantities.

Do not allow traffic onto the repaired deck until the repair concrete has reached 3500-psi compressive strength minimum.

Establish a control elevation at each bridge before removing or milling the deck.

Right and Left side of the structure are referenced to increasing stationing.

Use Concrete Class Overlay on bridge decks requiring thick overlays.

Submit for approval any substitution of rapid setting Portland cement concrete for Concrete Class Deck or Concrete Class Structure. Traffic will not be permitted on concrete repairs until the specified strength is attained.

See Bridge Work Summary for overlay treatment at a specific location.

See Special Provisions for Polymer Overlay.

Use Hydrodemolition for all milling operations shown on the plans.

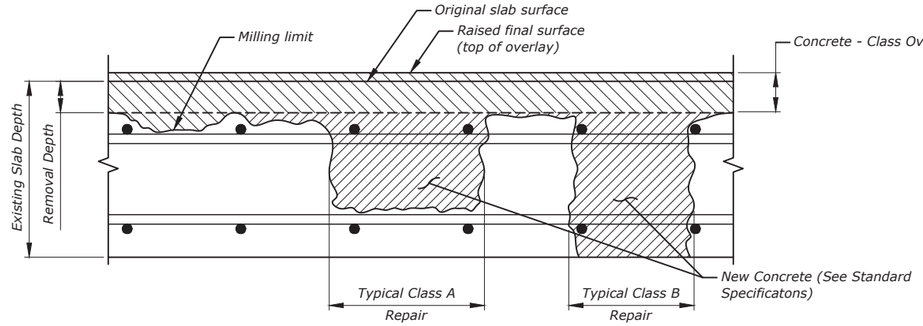
See Road Plan Summary sheets for Remove Bridge Approach Slab quantities.

### TABLE OF BRIDGE TREATMENTS

| DECK TREATMENT | REMOVAL DEPTH | OVERLAY THICKNESS | TOTAL GRADE RAISE |
|---|---|---|---|
| CONCRETE CLASS OVERLAY (THICK) | 1 ½" | 2" | ½" |

Estimated volume of Class Overlay concrete - 31.8 yd³. For MDT STR ID 01961

NOTE: Include all costs associated with the application of a silane seal, after transverse deck grooving, in the unit bid price for Concrete Class Overlay".

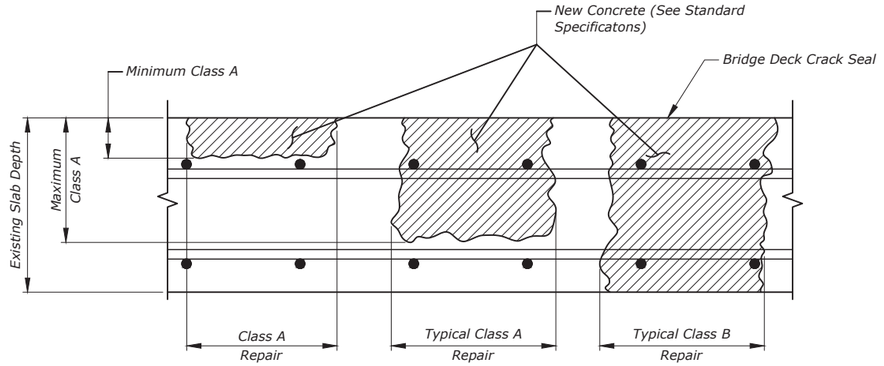



NOTE: Reinforcing steel may be located above the milling limit. Do not disturb.

NOTE: Mill to top mat of reinforcing steel. Overlay to 1/2" above existing grade. Quantities are based on 2" overlay thickness.

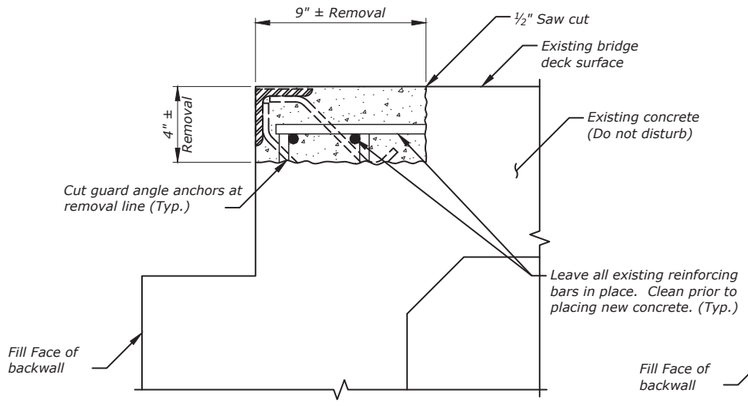
### BRIDGE DECK REPAIR AND THICK OVERLAY DEFINITION

No Scale

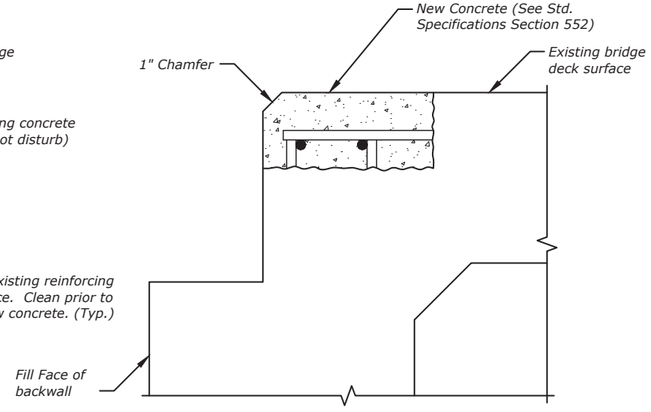



### BRIDGE DECK REPAIR

No Scale




### EXISTING GUARD ANGLE REMOVAL




### NEW BRIDGE END

NOTE: Include all costs associated with removing the existing guard angle, placing new reinforcing steel and concrete, and removing and replacing any asphalt that is required to complete the work in the unit price bid for Remove Guard Angle.

NOTE: If two transverse reinforcing bars are not present within 3" of the top of the slab, place new #4 transverse bars as necessary so there are two bars within the repair area. Ensure new bars have a minimum 1 ½" clear cover.

### GUARD ANGLE REMOVAL DETAIL

No Scale

SHEET NO.
B2

GENERAL NOTES AND STANDARD DETAILS

SCALE: No Scale

PROJECT NAME
ROSEBUD INTERCHANGE-EAST

MDT STRUCTURE ID
MULTIPLE

FEDERAL AID PROJECT
IM 94-3(82)104

COUNTY
ROSEBUD

| | | | | | | |
|---|---|---|---|---|---|---|
| REVISED | REVISED | REVISED | REVISED | CHECKED | DRAWN | DESIGNED |
| | | | | D.E.S. | J.D.C. | J.D.C. |
| | | | | 05-02-23 | 04-03-23 | 04-03-23 |

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MONTANA Department of Transportation
BRIDGE BUREAU

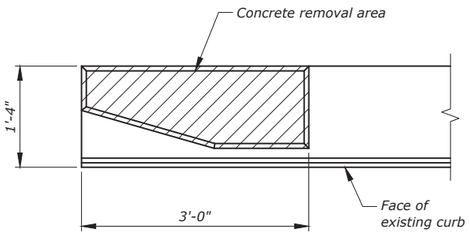
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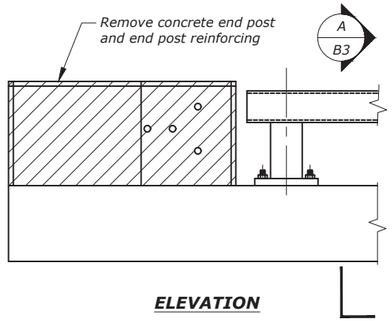
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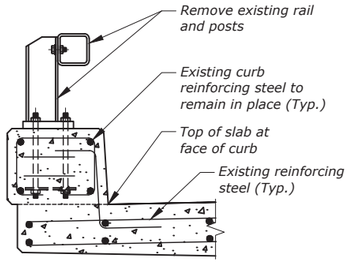



**PLAN**

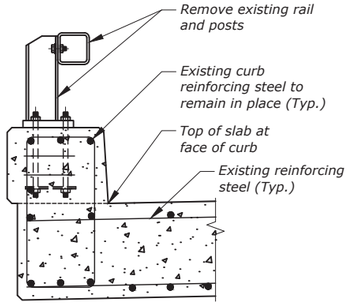



**ELEVATION**

## EXISTING CURB END REMOVAL DETAIL



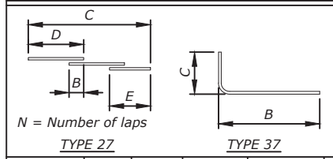

A / B3 **EXISTING RAIL**
MDT Structure 01951, 01953 & 01961




A / B3 **EXISTING RAIL**
MDT Structure 01956

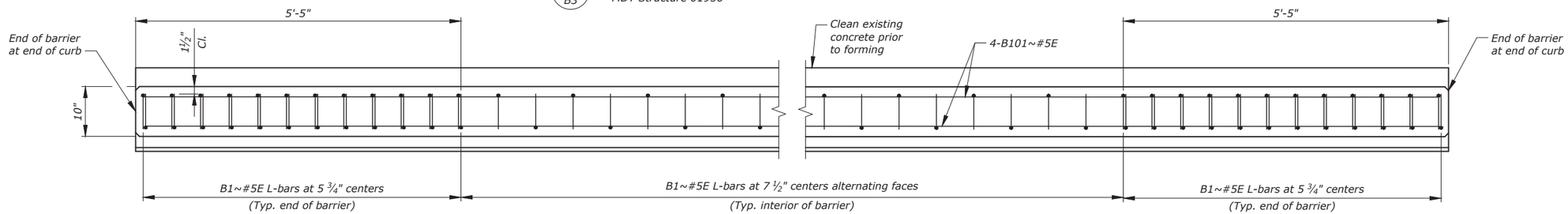
## BILL OF REINFORCING STEEL

(FOR INFORMATION ONLY)
(ALL DIMENSIONS ARE OUT TO OUT)
(FOR ONE SIDE ONLY)

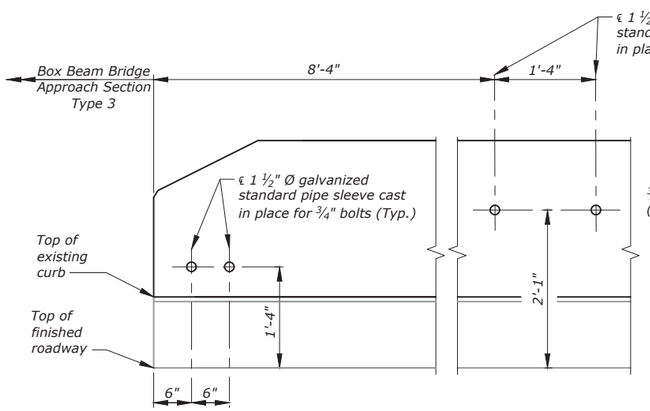



| Mark | Size | No. | Type | Length | A | B | C | D | E | G | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERCHANGE W ROSEBUD EB MDT STRUCTURE NUMBER 01951 | | | | | | | | | | | |
| B1 | #5E | 230 | 37 | 3'-3" | | 2'-8" | 0'-7" | | | | |
| | | | | | | | | | | | |
| B101 | #5E | 8 | 27 | 134'-10" | | 3'-4" | 124'-10" | 40'-0" | 14'-10" | | 3 |
| ROSEBUD CREEK EB MDT STRUCTURE NUMBER 01953 | | | | | | | | | | | |
| B1 | #5E | 310 | 37 | 3'-3" | | 2'-8" | 0'-7" | | | | |
| | | | | | | | | | | | |
| B101 | #5E | 8 | 27 | 188'-2" | | 3'-4" | 174'-10" | 40'-0" | 28'-2" | | 4 |
| SEPARATION COUNTY ROAD EB MDT STRUCTURE NUMBER 01956 | | | | | | | | | | | |
| B1 | #5E | 187 | 37 | 3'-3" | | 2'-8" | 0'-7" | | | | |
| | | | | | | | | | | | |
| B101 | #5E | 8 | 27 | 104'-4" | | 3'-4" | 97'-8" | 40'-0" | 24'-4" | | 2 |
| SEPARATION COUNTY ROAD EB MDT STRUCTURE NUMBER 01961 | | | | | | | | | | | |
| B1 | #5E | 230 | 37 | 3'-3" | | 2'-8" | 0'-7" | | | | |
| | | | | | | | | | | | |
| B101 | #5E | 8 | 27 | 134'-10" | | 3'-4" | 124'-10" | 40'-0" | 14'-10" | | 3 |

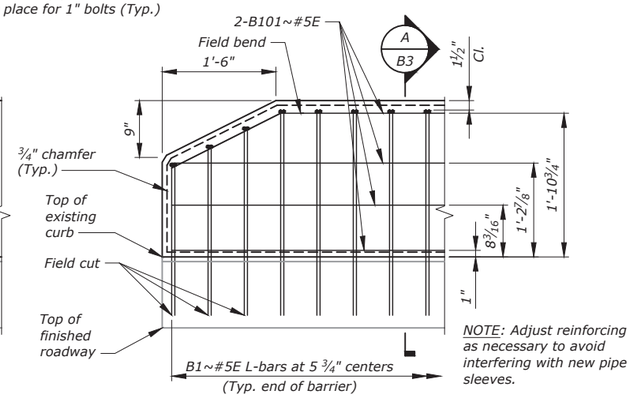
* NOTE: 3'-4" Lap splice length provided for construction tolerances. Lap #5E bars 3'-0" minimum.




## BARRIER REINFORCING STEEL PLACEMENT DIAGRAM



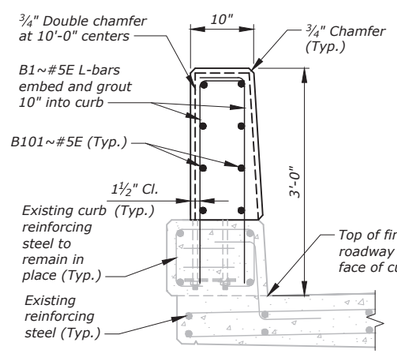

## BARRIER END CONNECTION DETAIL



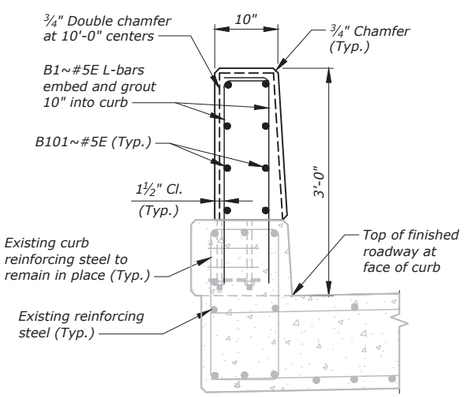

NOTE: Adjust reinforcing as necessary to avoid interfering with new pipe sleeves.

NOTE: Cast in place galvanized pipe sleeves not shown for clarity

## BARRIER END DETAIL




B / B3 **NEW BARRIER**
MDT Structure 01951, 01953 & 01961




B / B3 **NEW BARRIER**
MDT Structure 01956

SHEET NO.
B3

**RAIL REVISION DETAILS**

SCALE: 1/2" = 1'-0"

PROJECT NAME
**ROSEBUD INTERCHANGE-EAST**

MDT STRUCTURE ID
**MULTIPLE**

FEDERAL AID PROJECT
**IM 94-3(82)104**

COUNTY
**ROSEBUD**

| REVISED | REVISED | REVISED | REVISED | CHECKED | DRAWN | DESIGNED |
|---|---|---|---|---|---|---|
| | | | | J.E.S. | T. D.C. | J. D.C. |
| | | | | 05-02-23 | 04-03-23 | 04-03-23 |

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