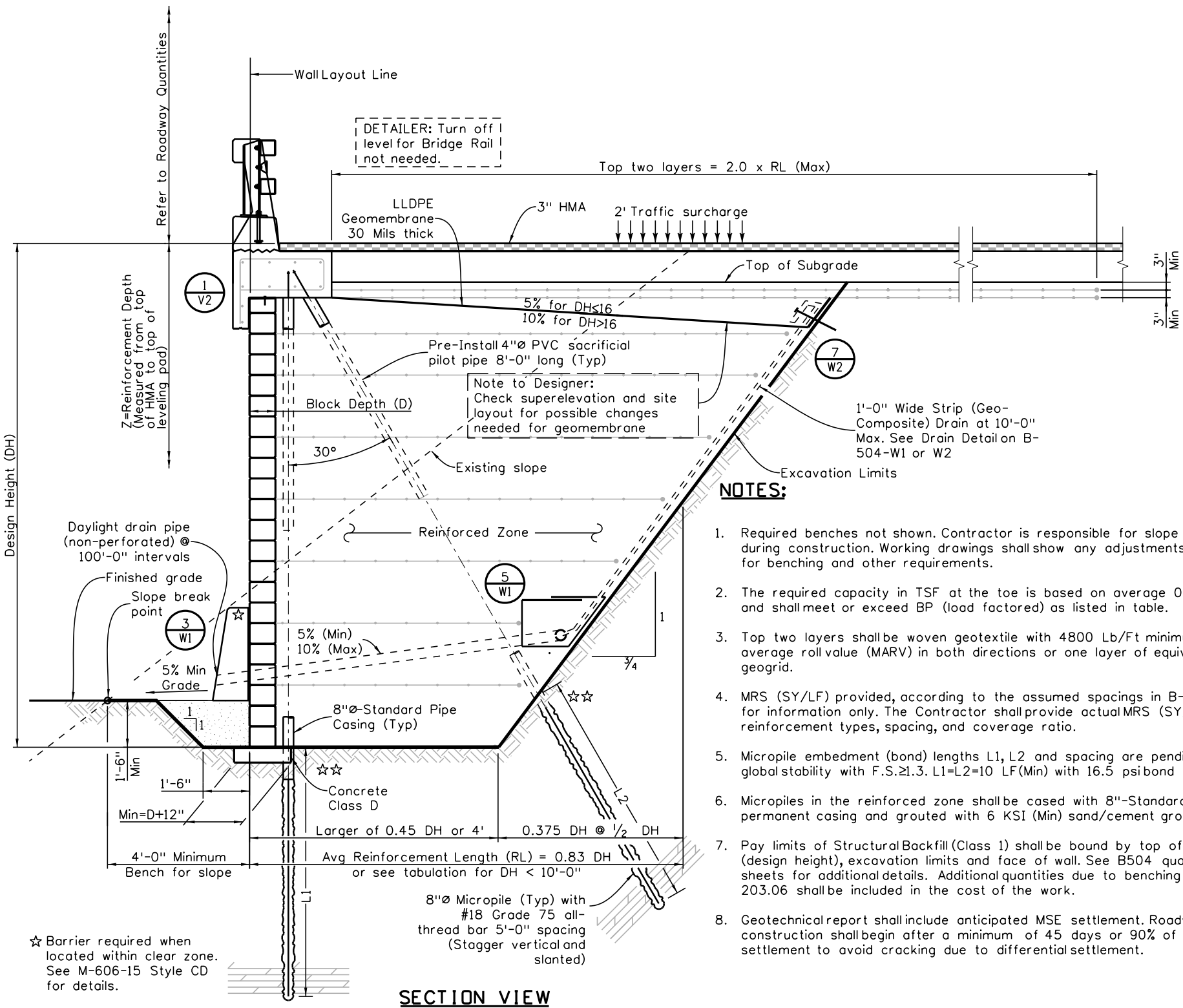


| Revision Dates |
|----------------|
| 09-16 |
| 10-24 |

| INITIALS | DESIGN | DATE | DETAIL | DATE | QUANTITY | DATE |
|------------|--------|------|--------|------|----------|------|
| By | | | | | | |
| Checked By | | | | | | |

\$PLOT_INFO\$



☆☆ 1'-0" (Typ) Casing Socket into Rock

SECTION VIEW

NOTES:

1. Required benches not shown. Contractor is responsible for slope stability during construction. Working drawings shall show any adjustments needed for benching and other requirements.
2. The required capacity in TSF at the toe is based on average 0.83 DH and shall meet or exceed BP (load factored) as listed in table.
3. Top two layers shall be woven geotextile with 4800 Lb/Ft minimum average roll value (MARV) in both directions or one layer of equivalent geogrid.
4. MRS (SY/LF) provided, according to the assumed spacings in B-504-H1, for information only. The Contractor shall provide actual MRS (SY/LF), soil reinforcement types, spacing, and coverage ratio.
5. Micropile embedment (bond) lengths L1, L2 and spacing are pending upon global stability with F.S. ≥ 1.3. L1=L2=10 LF (Min) with 16.5 psi bond strength.
6. Micropiles in the reinforced zone shall be cased with 8"-Standard pipe permanent casing and grouted with 6 KSI (Min) sand/cement grout.
7. Pay limits of Structural Backfill (Class 1) shall be bound by top of DH (design height), excavation limits and face of wall. See B504 quantity sheets for additional details. Additional quantities due to benching per 203.06 shall be included in the cost of the work.
8. Geotechnical report shall include anticipated MSE settlement. Roadway construction shall begin after a minimum of 45 days or 90% of anticipated settlement to avoid cracking due to differential settlement.

| DH (Ft) | RL**(Ft) | | | MRS (CY/LF) | MRS (SY/LF) | BM1 (CY/LF) | PLG (Ft/LF) | BP (TSF) |
|------------|----------|--------|--------|-------------|-------------|-------------|-------------|----------|
| | (Min) | (Avg) | (Max) | | | | | |
| 2.000 | 4.000 | 4.750 | 5.500 | 0.352 | 2.444 | 0.477 | 5.50 | 0.543 |
| 2.667 | 4.000 | 5.000 | 6.000 | 0.494 | 3.222 | 0.619 | 6.00 | 0.662 |
| 3.333 | 4.000 | 5.250 | 6.500 | 0.648 | 3.472 | 0.773 | 6.50 | 0.798 |
| 4.000 | 4.000 | 5.500 | 7.000 | 0.815 | 4.333 | 0.940 | 7.00 | 0.953 |
| 4.667 | 4.000 | 5.750 | 7.500 | 0.994 | 4.611 | 1.119 | 7.50 | 1.130 |
| 5.333 | 4.000 | 6.000 | 8.000 | 1.185 | 4.889 | 1.310 | 8.00 | 1.333 |
| 6.000 | 4.000 | 6.250 | 8.500 | 1.389 | 5.167 | 1.514 | 8.50 | 1.565 |
| 6.667 | 4.000 | 6.500 | 9.000 | 1.605 | 5.167 | 1.730 | 9.00 | 1.831 |
| 7.333 | 4.000 | 6.750 | 9.500 | 1.833 | 6.472 | 1.958 | 9.50 | 2.138 |
| 8.000 | 4.000 | 7.000 | 10.000 | 2.074 | 6.778 | 2.199 | 10.00 | 2.492 |
| 8.667 | 4.000 | 7.250 | 10.500 | 2.327 | 7.083 | 2.452 | 10.50 | 2.904 |
| 9.333 | 4.200 | 7.700 | 11.200 | 2.662 | 8.400 | 2.787 | 11.20 | 3.149 |
| 10.000 | 4.500 | 8.250 | 12.000 | 3.056 | 9.000 | 3.181 | 12.00 | 3.289 |
| 10.667 | 4.800 | 8.800 | 12.800 | 3.477 | 9.600 | 3.602 | 12.80 | 3.429 |
| 11.333 | 5.100 | 9.350 | 13.600 | 3.925 | 10.200 | 4.050 | 13.60 | 3.570 |
| 12.000 | 5.400 | 9.900 | 14.400 | 4.400 | 11.900 | 4.525 | 14.40 | 3.711 |
| 12.667 | 5.700 | 10.450 | 15.200 | 4.902 | 12.561 | 5.027 | 15.20 | 3.852 |
| 13.333 | 6.000 | 11.000 | 16.000 | 5.432 | 13.222 | 5.557 | 16.00 | 3.993 |
| 14.000 | 6.300 | 11.550 | 16.800 | 5.989 | 15.167 | 6.114 | 16.80 | 4.135 |
| 14.667 | 6.600 | 12.100 | 17.600 | 6.573 | 15.889 | 6.698 | 17.60 | 4.277 |
| 15.333 | 6.900 | 12.650 | 18.400 | 7.184 | 16.611 | 7.309 | 18.40 | 4.419 |
| *** 16.000 | 7.200 | 13.200 | 19.200 | 7.822 | 18.800 | 7.947 | 19.20 | 4.561 |
| 16.667 | 7.500 | 13.750 | 20.000 | 8.488 | 19.583 | 8.613 | 20.00 | 4.703 |
| 17.333 | 7.800 | 14.300 | 20.800 | 9.180 | 20.367 | 9.305 | 20.80 | 4.845 |
| 18.000 | 8.100 | 14.850 | 21.600 | 9.900 | 22.800 | 10.025 | 21.60 | 4.987 |
| 18.667 | 8.400 | 15.400 | 22.400 | 10.647 | 23.644 | 10.772 | 22.40 | 5.130 |
| 19.333 | 8.700 | 15.950 | 23.200 | 11.421 | 24.489 | 11.546 | 23.20 | 5.272 |
| 20.000 | 9.000 | 16.500 | 24.000 | 12.222 | 27.167 | 12.347 | 24.00 | 5.415 |
| 20.667 | 9.300 | 17.050 | 24.800 | 13.051 | 28.072 | 13.176 | 24.80 | 5.558 |
| 21.333 | 9.600 | 17.600 | 25.600 | 13.906 | 28.978 | 14.031 | 25.60 | 5.700 |
| 22.000 | 9.900 | 18.150 | 26.400 | 14.789 | 31.900 | 14.914 | 26.40 | 5.843 |
| 22.667 | 10.200 | 18.700 | 27.200 | 15.699 | 32.867 | 15.824 | 27.20 | 5.986 |
| 23.333 | 10.500 | 19.250 | 28.000 | 16.636 | 33.833 | 16.761 | 28.00 | 6.129 |
| 24.000 | 10.800 | 19.800 | 28.800 | 17.600 | 37.000 | 17.725 | 28.80 | 6.272 |
| 24.667 | 11.100 | 20.350 | 29.600 | 18.591 | 38.028 | 18.716 | 29.60 | 6.415 |
| 25.333 | 11.400 | 20.900 | 30.400 | 19.610 | 39.056 | 19.735 | 30.40 | 6.558 |
| 26.000 | 11.700 | 21.450 | 31.200 | 20.656 | 42.467 | 20.781 | 31.20 | 6.701 |
| 26.667 | 12.000 | 22.000 | 32.000 | 21.728 | 43.556 | 21.853 | 32.00 | 6.844 |
| 27.333 | 12.300 | 22.550 | 32.800 | 22.828 | 44.644 | 22.953 | 32.80 | 6.987 |
| 28.000 | 12.600 | 23.100 | 33.600 | 23.956 | 48.300 | 24.081 | 33.60 | 7.130 |
| 28.667 | 12.900 | 23.650 | 34.400 | 25.110 | 49.450 | 25.235 | 34.40 | 7.273 |
| 29.333 | 13.200 | 24.200 | 35.200 | 26.291 | 53.289 | 26.416 | 35.20 | 7.416 |
| 30.000 | 13.500 | 24.750 | 36.000 | 27.500 | 54.500 | 27.625 | 36.00 | 7.559 |
| 30.667 | 13.800 | 25.300 | 36.800 | 28.736 | 58.522 | 28.861 | 36.80 | 7.702 |
| 31.333 | 14.100 | 25.850 | 37.600 | 29.999 | 59.794 | 30.124 | 37.60 | 7.846 |
| 32.000 | 14.400 | 26.400 | 38.400 | 31.289 | 64.000 | 31.414 | 38.40 | 7.989 |
| 32.667 | 14.700 | 26.950 | 39.200 | 32.606 | 65.333 | 32.731 | 39.20 | 8.132 |
| 33.333 | 15.000 | 27.500 | 40.000 | 33.951 | 69.722 | 34.076 | 40.00 | 8.275 |
| 34.000 | 15.300 | 28.050 | 40.800 | 35.322 | 71.117 | 35.447 | 40.80 | 8.419 |
| 34.667 | 15.600 | 28.600 | 41.600 | 36.721 | 75.689 | 36.846 | 41.60 | 8.562 |
| 35.333 | 15.900 | 29.150 | 42.400 | 38.147 | 77.144 | 38.272 | 42.40 | 8.705 |
| 36.000 | 16.200 | 29.700 | 43.200 | 39.600 | 81.900 | 39.725 | 43.20 | 8.848 |
| 36.667 | 16.500 | 30.250 | 44.000 | 41.080 | 86.778 | 41.205 | 44.00 | 8.992 |
| 37.333 | 16.800 | 30.800 | 44.800 | 42.588 | 91.778 | 42.713 | 44.80 | 9.135 |
| 38.000 | 17.100 | 31.350 | 45.600 | 44.122 | 96.900 | 44.247 | 45.60 | 9.278 |
| 38.667 | 17.400 | 31.900 | 46.400 | 45.684 | 102.144 | 45.809 | 46.40 | 9.422 |
| 39.333 | 17.700 | 32.450 | 47.200 | 47.273 | 107.511 | 47.398 | 47.20 | 9.565 |
| 40.000 | 18.000 | 33.000 | 48.000 | 48.889 | 113.000 | 49.014 | 48.00 | 9.709 |

** RL for top two geotextile layers = 2 x RL (Max.)

*** For example spacing on B-504-H1: DH=16' requires 18.8 SY/LF woven geotextile corresponding to 7.822 CY/LF volume of MRS with Class 1 backfill paid separately.

All seals for this set of drawings are applied to the cover page(s)

| |
|--|
| Print Date: \$DATE\$ |
| File Name: Sheet_B-504-A3.dgn |
| Horiz. Scale: Vert. Scale: As Noted |
| Unit Information Unit Leader Initials |

| Sheet Revisions | | |
|-----------------|----------|-------|
| Date: | Comments | Init. |
| | | |
| | | |
| | | |
| | | |

Colorado Department of Transportation

2829 West Howard Place, 3rd Floor
Denver, CO 80204
Phone: 303-512-4079
FAX: 303-757-9197



Staff Bridge Branch

Initials

| As Constructed | MICROPILE A-FRAME WITH BLOCK FACING MSE WALL 3/4:1 SOIL EXCAVATION | | | Project No./Code |
|----------------|--|---------------------------|----------------|------------------|
| No Revisions: | | | | |
| Revised: | Designer: XXXXXXXXX | Structure Numbers | XXXXXXXXXXXXXX | |
| | Detailer: XXXXXXXXX | | XXXXXXXXXXXXXX | |
| Void: | Sheet Subset: WALL | Subset Sheets: WXX of XXX | | Sheet Number |