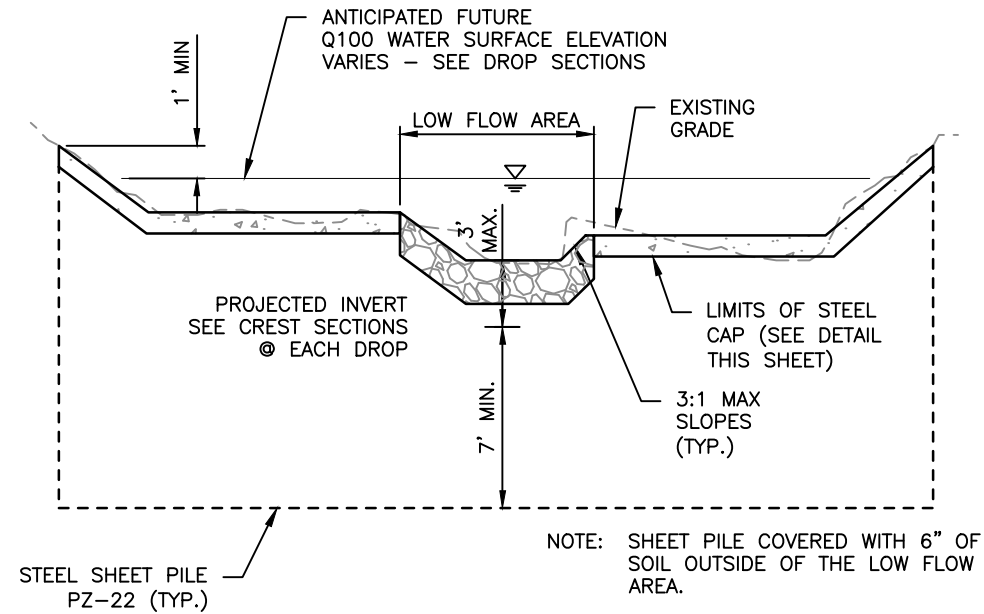
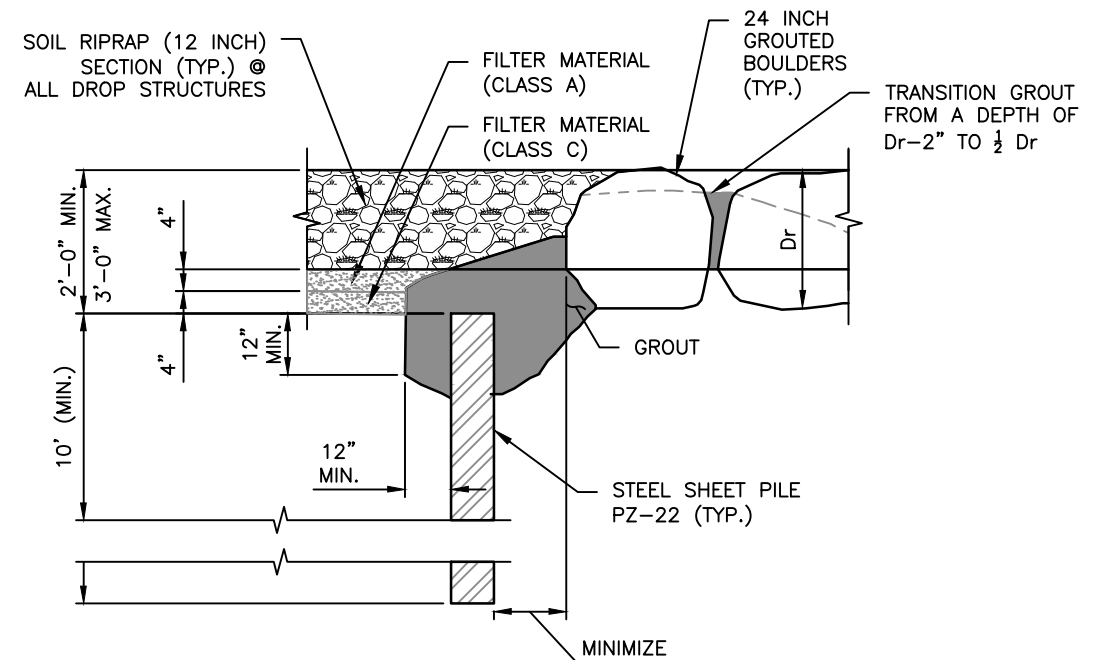




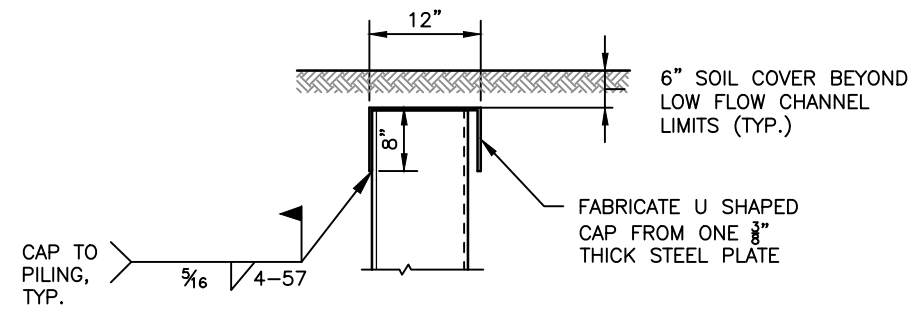
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SHEET PILE TYPICAL SECTION
N.T.S.



SHEET PILE CUTOFF CONNECTION (GROUTED BOULDER)
N.T.S.



STEEL SHEET PILE CAP DETAIL
N.T.S.

NOTE: STEEL CAP REQUIRED OUTSIDE OF GROUTED BOULDER SECTION ONLY. ALL INCIDENTAL ITEMS REQUIRED FOR THE STEEL SHEET PILE CAP SHALL BE INCLUDED IN THE COST OF STEEL SHEET PILING (TYPE II).

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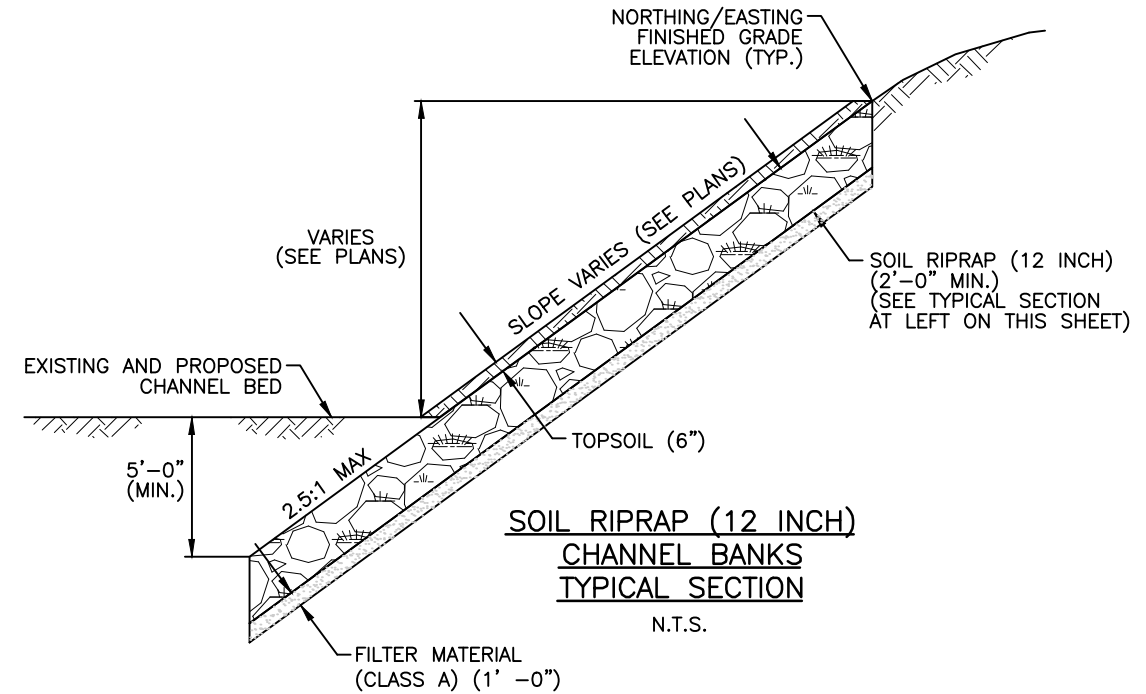
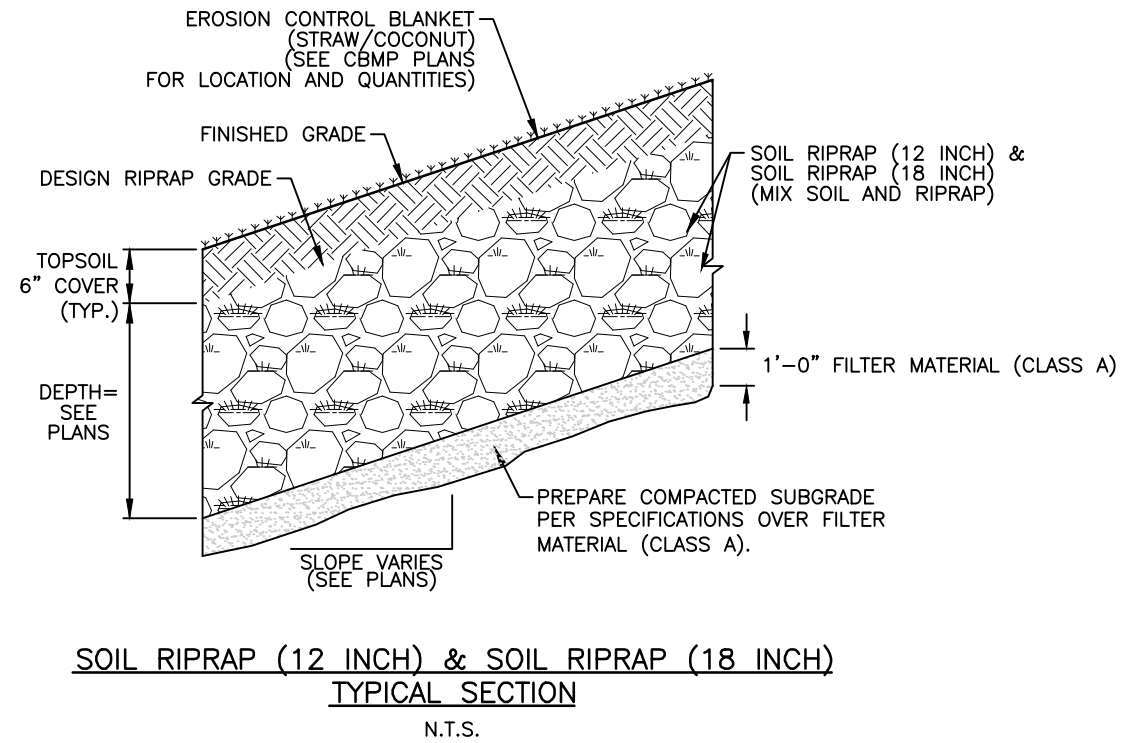
Sheet Revisions			
Date	Comments	Initials	



As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE SHEET PILE DETAILS		Project No./Code
No Revisions:			
Revised:	Designer: CDT	Structure Numbers	
	Detailer: KLT		
Void:	Subset: Drainage	Sheets: DD-03 of 23	Sheet Number 66



Know what's below.
Call before you dig.



SOIL RIPRAP (12 INCH) & SOIL RIPRAP (18 INCH) NOTES:

- ELEVATION TOLERANCES FOR THE SOIL RIPRAP SHALL BE 0.10 FEET. THICKNESS OF SOIL RIPRAP SHALL BE NO LESS THAN THICKNESS SHOWN AND NO MORE THAN 2-INCHES GREATER THAN THE THICKNESS SHOWN.
- WHERE "SOIL RIPRAP" IS DESIGNATED ON THE CONTRACT DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH NATIVE SOIL. THE RIPRAP SHALL BE PRE-MIXED WITH THE NATIVE SOIL AT THE FOLLOWING PROPORTIONS BY VOLUME: 65% RIPRAP AND 35% SOIL. THE SOIL USED FOR MIXING SHALL BE NATIVE TOPSOIL AND BE INSTALLED IN A MANNER THAT RESULTS IN A DENSE, INTERLOCKED LAYER OF RIPRAP WITH RIPRAP VOIDS FILLED COMPLETELY WITH SOIL. SEGREGATION OF MATERIALS SHALL BE AVOIDED AND IN NO CASE SHALL THE COMBINED MATERIAL CONSIST PRIMARILY OF SOIL; THE DENSITY AND INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL SHALL ESSENTIALLY BE THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT SOIL.
- WHERE SPECIFIED (TYPICALLY AS "BURIED SOIL RIPRAP"), A SURFACE LAYER OF TOPSOIL SHALL BE PLACED OVER THE SOIL RIPRAP ACCORDING TO THE THICKNESS SPECIFIED ON THE CONTRACT DRAWINGS. THE TOPSOIL SURFACE LAYER SHALL BE COMPACTED TO APPROXIMATELY 85% OF THE MAXIMUM DENSITY AND WITHIN TWO PERCENTAGE POINTS OF OPTIMUM MOISTURE IN ACCORDANCE WITH ASTM D698. TOPSOIL SHALL BE ADDED TO ANY AREAS THAT SETTLE.
- ALL SOIL RIPRAP THAT IS BURIED WITH THE TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.
- CRIMP MULCH AS CALLED FOR IN THE CBMP PLANS AND SPECIFICATIONS.
- SEE DD-03 FOR SOIL RIPRAP AT DROP STRUCTURES.

RIPRAP AND SOIL RIPRAP GRADATION				
UDFCD RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D ₅₀ * (INCHES)	BID ITEM DESCRIPTION
TYPE M	70 - 100	21	12	RIPRAP (12 INCH)
	50 - 70	18		
	35 - 50	12		SOIL RIPRAP (12 INCH)
	2 - 10	4		
TYPE H	70 - 100	30	18	RIPRAP (18 INCH)
	50 - 70	24		
	35 - 50	18		SOIL RIPRAP (18 INCH)
	2 - 10	6		
TYPE VH	70 - 100	42	24	24 INCH GROUDED BOULDER
	50 - 70	33		
	35 - 50	24		
	2 - 10	9		

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As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE DETAILS		Project No./Code
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Revised:	Detailer: KLT		
Void:	Subset: Drainage	Sheets: DD-04 of 23	Sheet Number 67



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GROUT NOTES

BOULDER PLACEMENT NOTES:

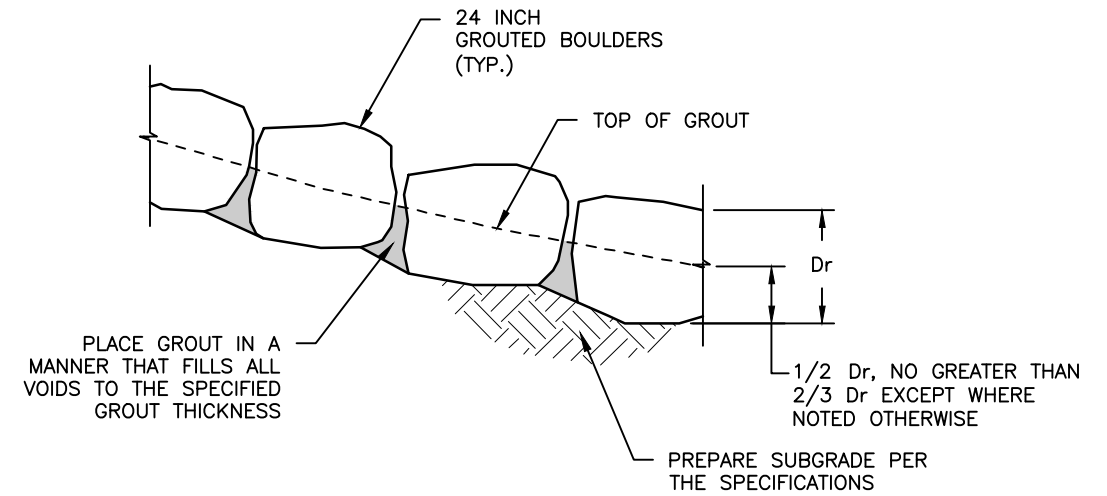
1. PLACE BOULDERS WITH THE REQUIRED BOULDER HEIGHT VERTICAL. PLACE BOULDERS AS TIGHTLY TOGETHER AS POSSIBLE (WITHOUT TOUCHING) WHILE PROVIDING ENOUGH ROOM BETWEEN THEM TO THOROUGHLY VIBRATE THE GROUT AND TO ENSURE NO GAPS IN THE GROUT. THE SMALL DIMENSION OF A 2X4 CAN BE USED AS A GUIDE TO CHECK MINIMUM SPACING.
2. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIAL FROM ROCK THAT COULD PREVENT THE GROUT FROM BINDING TO THE ROCK. KEEP BOULDERS FROM TOUCHING. AVOID SLIDING BOULDERS AGAINST SUBGRADE TO PROPERLY POSITION.

MATERIAL SPECIFICATIONS:

1. ALL GROUT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH EQUAL TO 3200 PSI.
2. ONE CUBIC YARD OF GROUT SHALL HAVE A MINIMUM OF SIX (6) SACKS OF TYPE II PORTLAND CEMENT.
3. A MAXIMUM OF 25% TYPE F FLY ASH MAY BE SUBSTITUTED FOR THE PORTLAND CEMENT.
4. THE AGGREGATE SHALL BE COMPRISED OF 70% NATURAL SAND (FINES) AND 30% 3/8-INCH ROCK (COARSE).
5. THE GROUT SLUMP SHALL BE BETWEEN 4-INCHES TO 6-INCHES.
6. AIR ENTRAINMENT SHALL BE BETWEEN 5.5% AND 7.5%.
7. TO CONTROL SHRINKAGE AND CRACKING, 1.5 POUNDS OF FIBERMESH, OR EQUIVALENT, SHALL BE USED PER CUBIC YARD OF GROUT.
8. COLOR ADDITIVE IN REQUIRED AMOUNTS SHALL BE USED WHEN SO SPECIFIED BY CONTRACT.

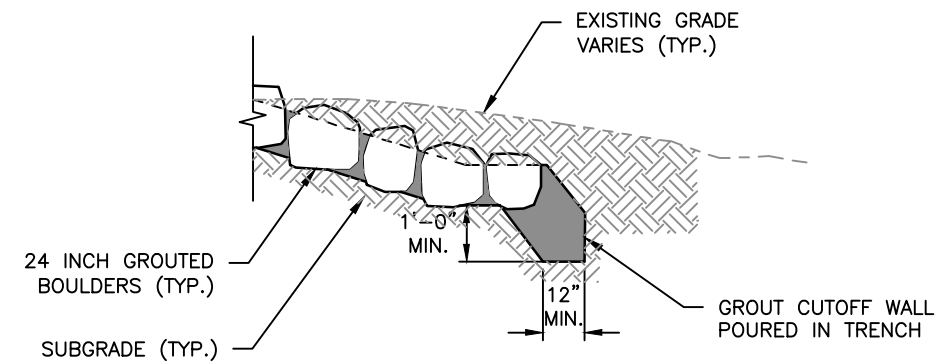
GROUT PLACEMENT SPECIFICATIONS:

1. SPECIAL PROCEDURES SHALL BE REQUIRED FOR GROUT PLACEMENT WHEN THE AIR TEMPERATURES ARE LESS THAN 40°F OR GREATER THAN 90°F. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE DESIGN ENGINEER OF THE PROCEDURES TO BE USED FOR PROTECTING THE GROUT.
2. GROUT SHALL BE DELIVERED BY MEANS OF A LOW PRESSURE (LESS THAN 10 PSI) GROUT PUMP USING A 2-INCH DIAMETER (MAXIMUM) NOZZLE.
3. FULL DEPTH PENETRATION OF THE GROUT INTO THE BOULDER VOIDS SHALL BE ACHIEVED BY INJECTING GROUT STARTING WITH THE NOZZLE NEAR THE BOTTOM AND RAISING IT AS THE GROUT FILLS, WHILE VIBRATING GROUT INTO PLACE USING A PENCIL VIBRATOR.
4. ALL GROUT BETWEEN BOULDERS SHALL BE TREATED WITH A BROOM FINISH.
5. AFTER GROUT PLACEMENT, EXPOSED BOULDER FACES SHALL BE CLEANED AND FREE OF GROUT.
6. ALL FINISHED GROUT SURFACES SHALL BE SPRAYED WITH A CLEAR LIQUID MEMBRANE CURING COMPOUND AS SPECIFIED IN ASTM C309.



GROUTED BOULDER PLACEMENT DETAIL

N.T.S.



STRUCTURE EDGE WALL DETAIL

N.T.S.

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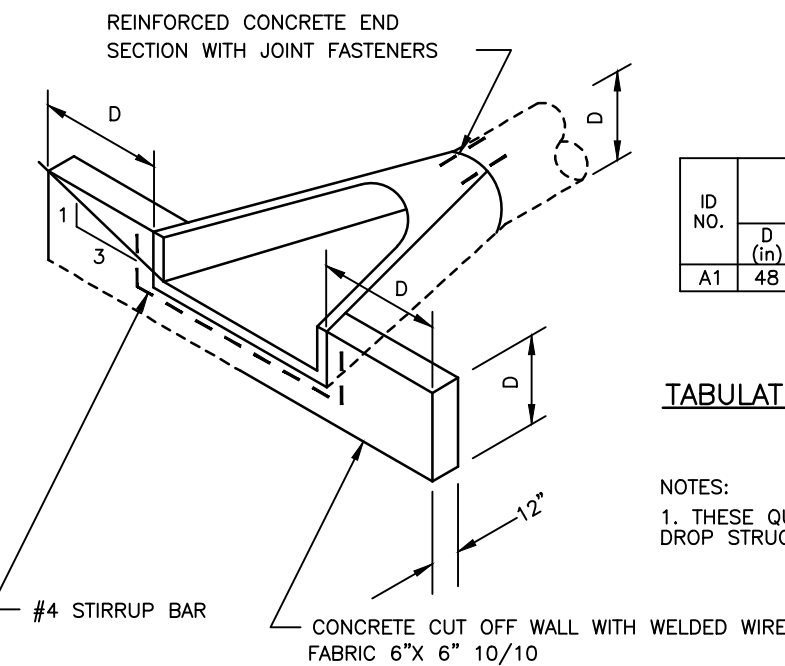
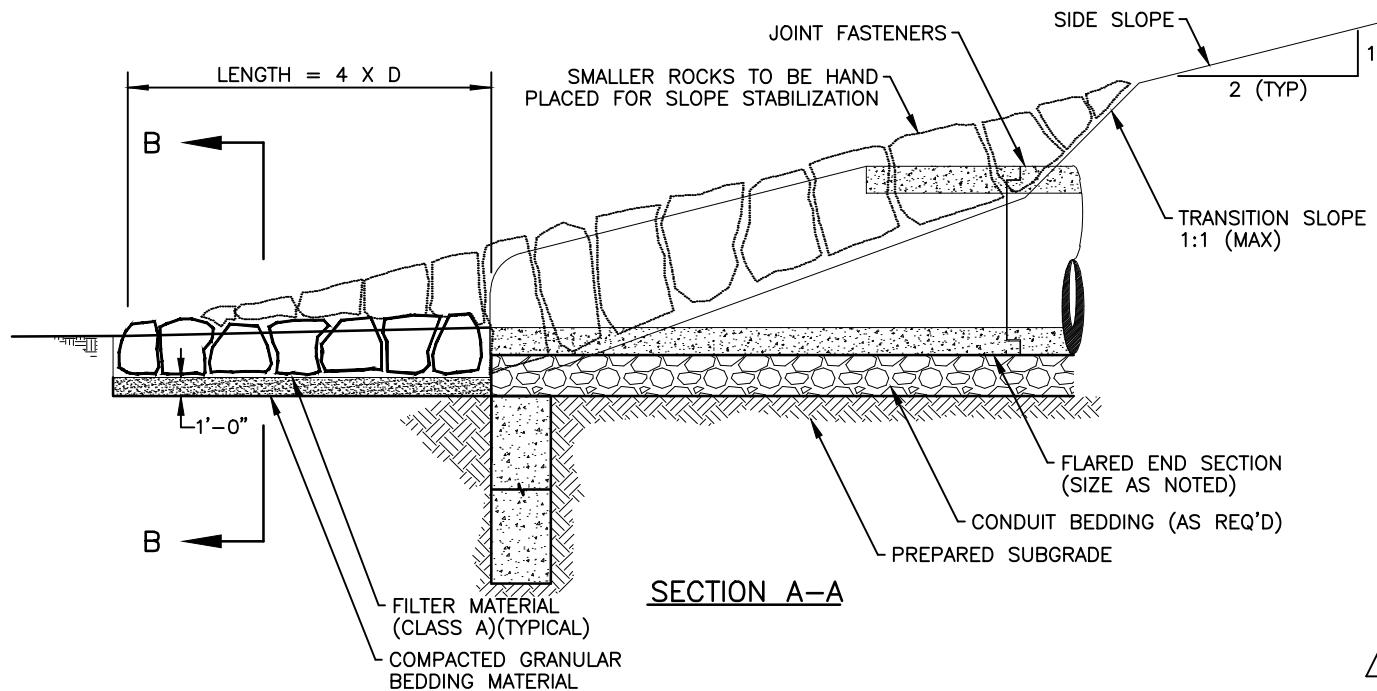
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Sheet Revisions			
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As Constructed	BELFORD-HAPPY CANYON CREEK		Project No./Code
No Revisions:	HAPPY CANYON CREEK DROP STRUCTURE		
Revised:	Designer: CDT	Structure Numbers	Sheet Number 68
Void:	Detailer: KLT	Sheets: DD-05 of 23	
	Subset: Drainage		

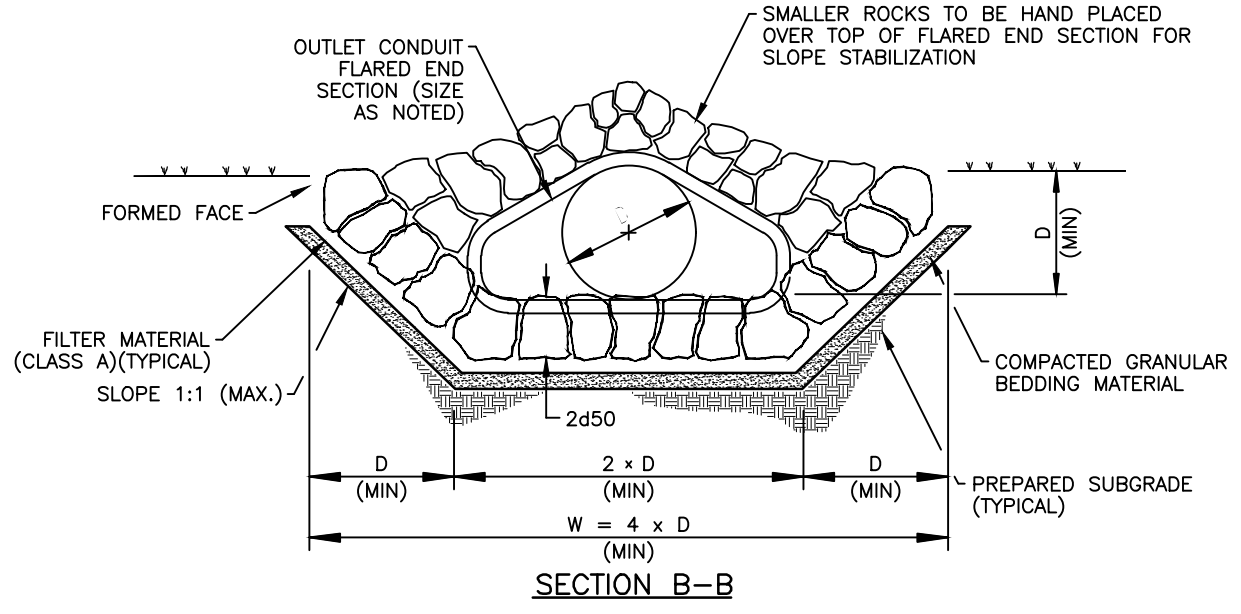
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ID NO.	DIMENSIONS					QUANTITIES	
	D (in)	W (ft)	L (ft)	RIPRAP TYPE	d50 (in)	RIPRAP (12 INCH) (CY)	FILTER MATERIAL (CLASS A) (CY)
A1	48	16	16	M	12	19	9

TABULATION OF RIPRAP AND GEOTEXTILE MATERIAL AT CULVERT INLETS & OUTLETS

NOTES:
1. THESE QUANTITIES HAVE BEEN CARRIED FORWARD TO THE DROP STRUCTURE TABULATION.



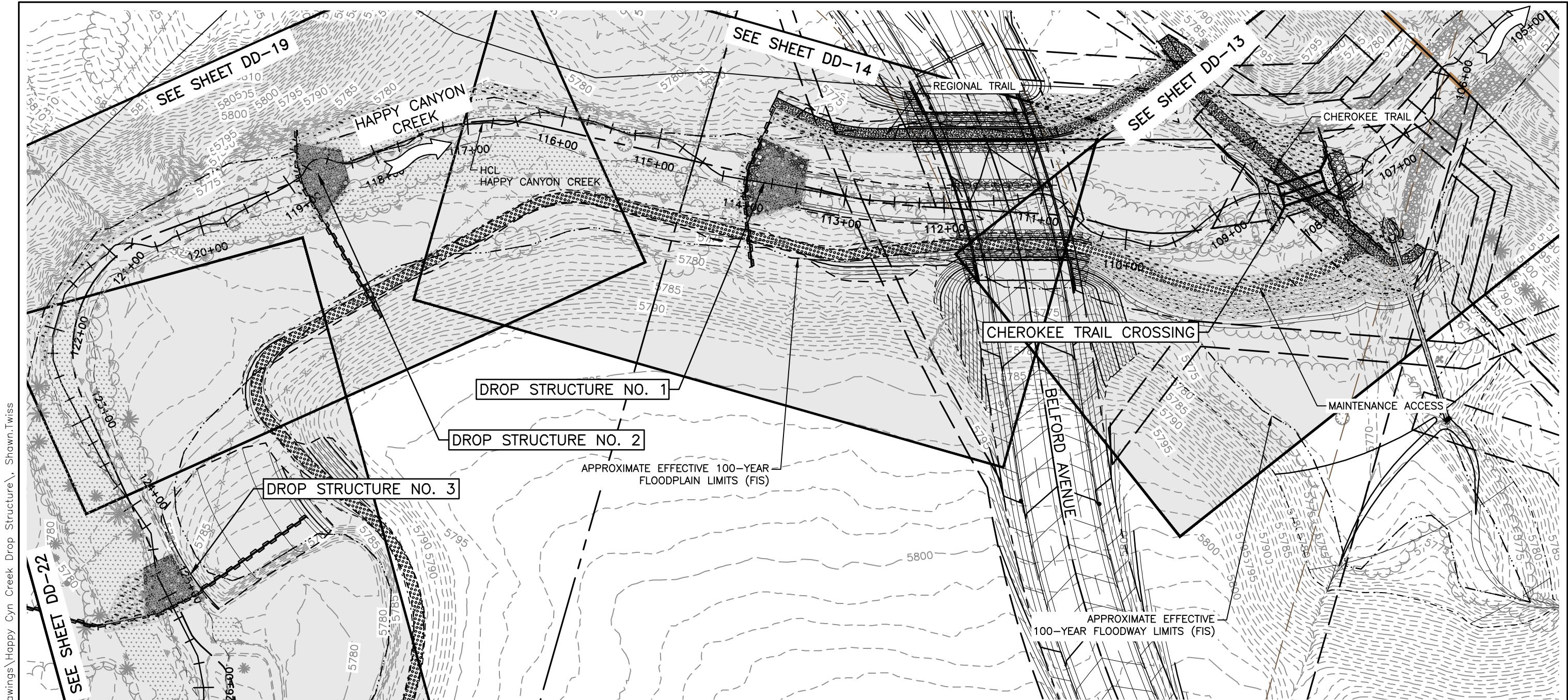
CONCRETE TOEWALL AND END SECTION FOR REINFORCED CONCRETE PIPE

- NOTES:
1. D= INSIDE DIAMETER OF REINFORCED CONCRETE PIPE.
 2. CONCRETE FOR THE TOEWALL SHALL BE CONCRETE CLASS D (WALL)
 3. EACH REINFORCED CONCRETE END SECTION SHALL BE CONNECTED TO THE REINFORCED CONCRETE PIPE WITH CONCRETE PIPE JOINT FASTENERS (2-EACH). CONCRETE PIPE JOINT FASTENERS SHALL BE INCLUDED IN THE COST OF THE REINFORCED CONCRETE END SECTION.
 4. ALL CONCRETE, REINFORCING, CONNECTIONS, STRUCTURE EXCAVATION, AND EXTRA WORK REQUIRED TO CONSTRUCT THE CONCRETE TOEWALL SHALL BE INCLUDED IN THE COST OF 48 INCH RCES.
 5. ALL REINFORCED CONCRETE PIPE EXTENSIONS SHALL HAVE A CONCRETE COLLAR AND SHALL BE INCLUDED IN THE COST OF THE REINFORCED CONCRETE PIPE.
 6. REMOVED RIPRAP MAY BE UTILIZED FOR RIPRAP (12 INCH) UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

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No Revisions:	OUTLET PROTECTION DETAILS		
Revised:	Designer: CDT	Structure Numbers	
	Detailer: KLT		
Void:	Subset: Drainage	Sheets: DD-06 of 23	Sheet Number 69



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- NOTES:
1. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION
 2. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.

LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- [Symbol] WETLANDS
- [Symbol] SOIL RIPRAP (12 INCH)
- [Symbol] RIPRAP (12 INCH)
- [Symbol] RIPRAP (18 INCH)
- [Symbol] 24" GROUTED BOULDERS

HORIZONTAL SCALE: 1"=100'

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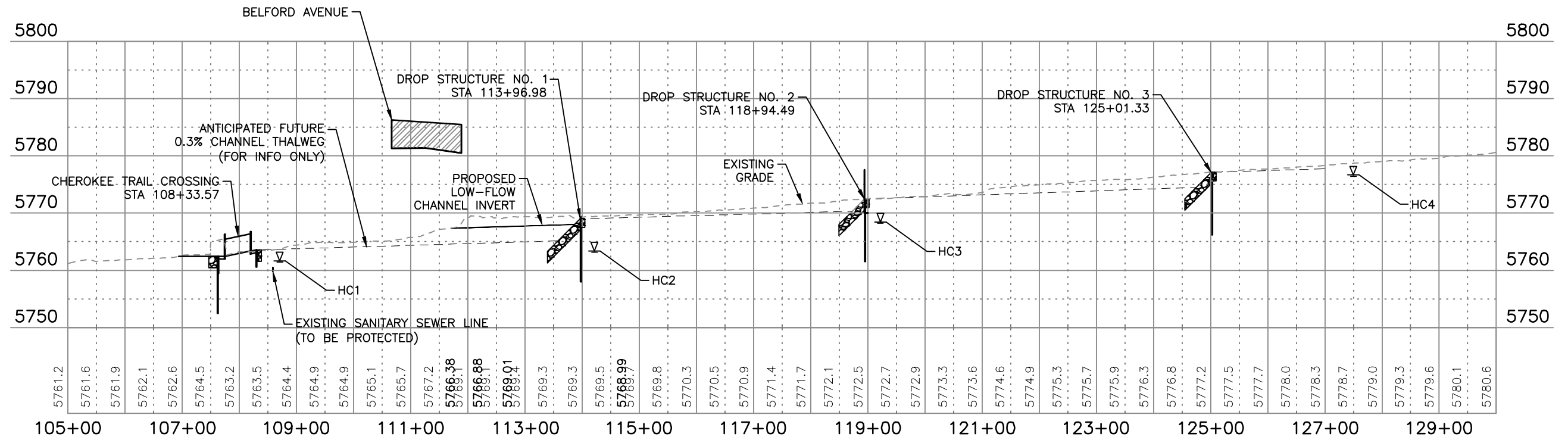
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No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: KLT	Sheets: DD-07 of 23	Sheet Number 70
Void:	Subset: Drainage		

NOTES

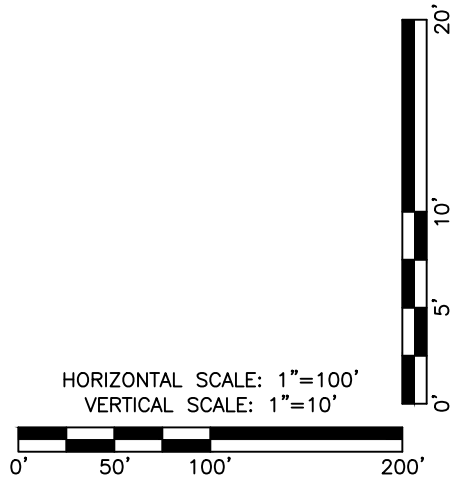
- UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.
- SEE UTILITY PLANS FOR ADDITIONAL INFORMATION.



HAPPY CANYON CREEK PROFILE

▽ APPROX. GROUNDWATER ELEVATION

GROUNDWATER ELEVATIONS	
TEST BORING ID	APPROX. DEPTH BELOW SURFACE (FT.)
HC1	-2.0
HC2	-6.0
HC3	-4.0
HC4	-2.0



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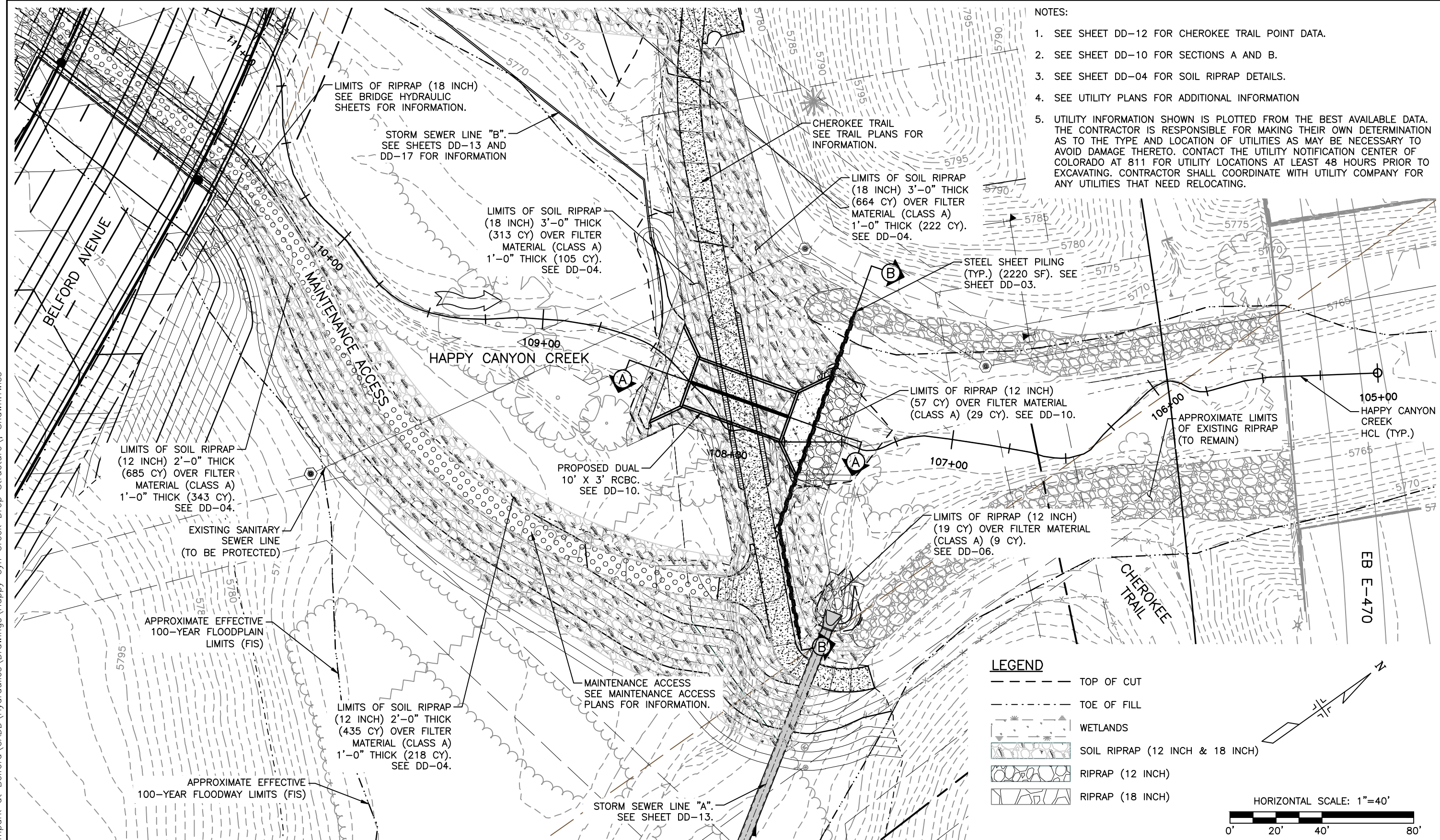
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Revised:	Detailer: ZJG		
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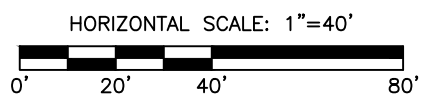
NOTES:

1. SEE SHEET DD-12 FOR CHEROKEE TRAIL POINT DATA.
2. SEE SHEET DD-10 FOR SECTIONS A AND B.
3. SEE SHEET DD-04 FOR SOIL RIPRAP DETAILS.
4. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION
5. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.



LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- [Symbol] WETLANDS
- [Symbol] SOIL RIPRAP (12 INCH & 18 INCH)
- [Symbol] RIPRAP (12 INCH)
- [Symbol] RIPRAP (18 INCH)



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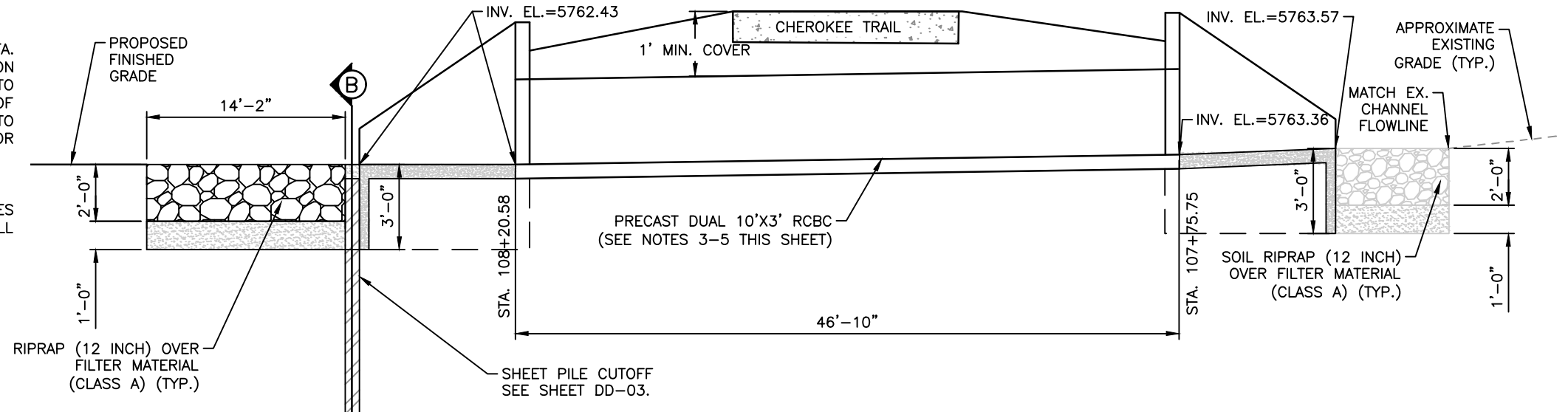
As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE CHEROKEE TRAIL PLAN		Project No./Code
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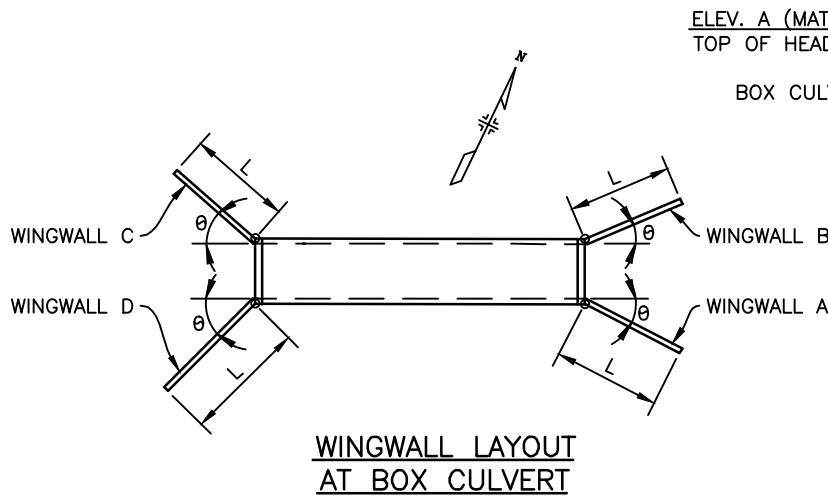
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2. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION.
3. PRECAST BOX CULVERT MUST CONFORM TO CDOT M-STANDARDS M-603-2.
4. FOR CAST-IN-PLACE END SECTIONS, USE M-601-2 FOR WALL THICKNESSES AND REINFORCEMENT SIZE AND SPACINGS WITH S=10 FT, R=6 FT, AND FILL HEIGHT = 0-5 FT.
5. FOR WINGWALLS AND CONCRETE APRON, USE M-601-20.

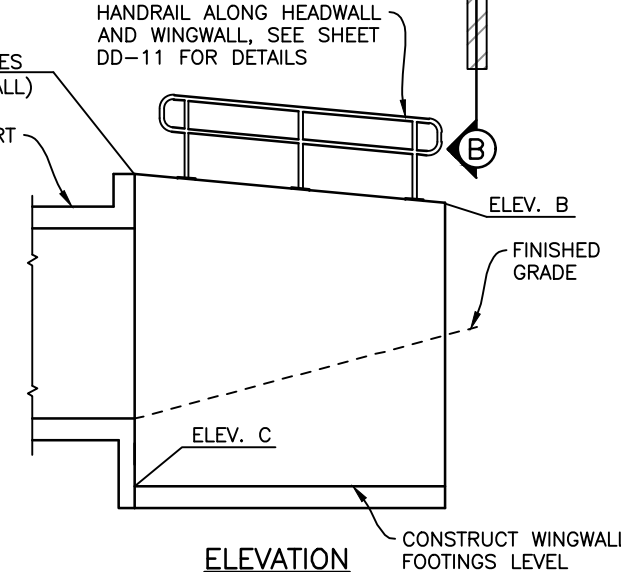


**(A) CHEROKEE TRAIL CROSSING PROFILE @ RCBC
STA 107+48.70 TO 108+41.52
N.T.S.**

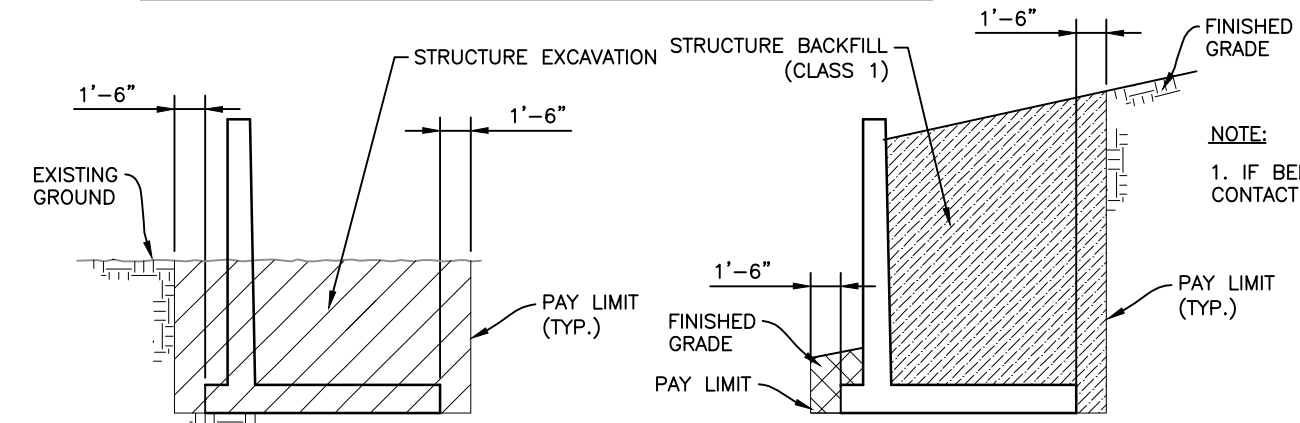


**WINGWALL LAYOUT
AT BOX CULVERT**

WINGWALL	θ	L	ELEV. A	ELEV. B	ELEV. C
A	45°0'0"	15'-6"	5767.18	5763.43	5760.43
B	45°0'0"	15'-6"	5767.18	5763.43	5760.43
C	45°0'0"	15'-6"	5768.11	5764.57	5761.36
D	45°0'0"	15'-6"	5768.11	5764.57	5761.36

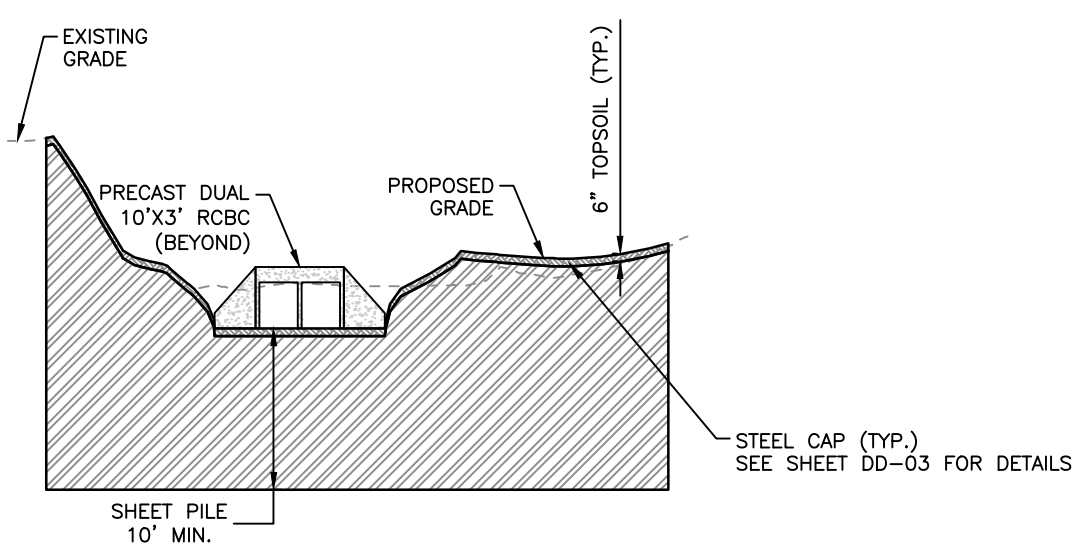


**ELEVATION
WINGWALLS**

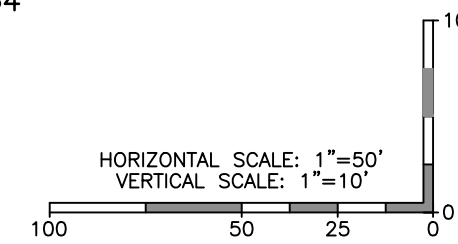


WINGWALLS EXCAVATION

WINGWALLS BACKFILL



**(B) CREST SECTION
STA 107+63.54**



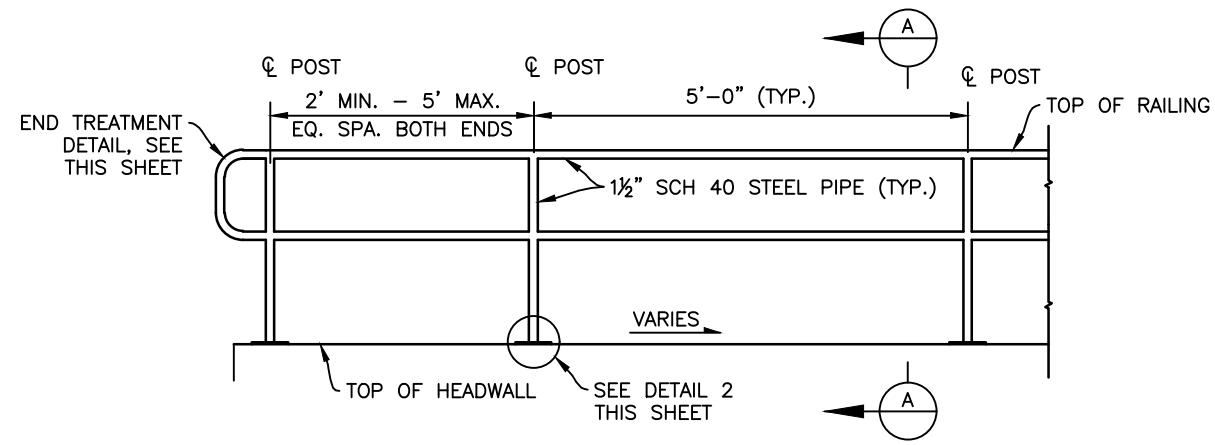
HAPPY CANYON CREEK HYDRAULICS
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 Q100 VELOCITY = 6.11 F.P.S.
 FROUDE No.=0.31
 FOR INFO ONLY

CHEROKEE TRAIL CROSSING

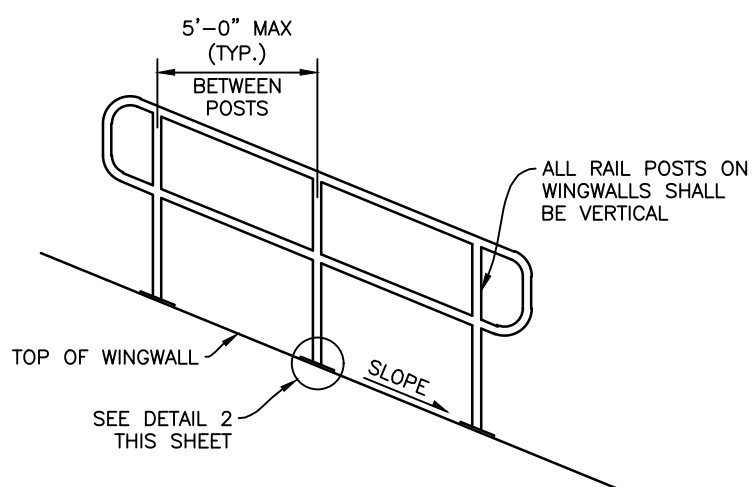
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Print Date: 6/18/2021 6:37:40 AM File Name: H115360-01DROP10Drop1 Prof Sect.dwg Horizontal Scale: 1"=50' Vertical Scale: 1"=10' 6400 South Fiddlers Green Circle, Suite 1500 Greenwood Village, CO 80111 Phone: 303.721.1440 www.FHUENG.com	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Sheet Revisions</th> </tr> <tr> <th>Date</th> <th>Comments</th> <th>Initials</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Sheet Revisions			Date	Comments	Initials										<p style="font-size: 8px;">8008 E. Arapahoe Court, Suite 110, Centennial, CO 80112 ph:303.708.0900 fax:303.708.0400 manhard.com Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers Construction Managers • Environmental Scientists • Landscape Architects • Planners</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>As Constructed</td> <td colspan="2">BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE CHEROKEE TRAIL PROFILE/DETAILS</td> <td rowspan="2">Project No./Code</td> </tr> <tr> <td>No Revisions:</td> <td>Designer: CDT</td> <td>Structure Numbers</td> </tr> <tr> <td>Revised:</td> <td>Detailer: ZJG</td> <td> </td> <td> </td> </tr> <tr> <td>Void:</td> <td>Subset: Drainage</td> <td>Sheets: DD-10 of 23</td> <td>Sheet Number 73</td> </tr> </table>	As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE CHEROKEE TRAIL PROFILE/DETAILS		Project No./Code	No Revisions:	Designer: CDT	Structure Numbers	Revised:	Detailer: ZJG			Void:	Subset: Drainage	Sheets: DD-10 of 23	Sheet Number 73
Sheet Revisions																																	
Date	Comments	Initials																															
As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE CHEROKEE TRAIL PROFILE/DETAILS		Project No./Code																														
No Revisions:	Designer: CDT	Structure Numbers																															
Revised:	Detailer: ZJG																																
Void:	Subset: Drainage	Sheets: DD-10 of 23	Sheet Number 73																														

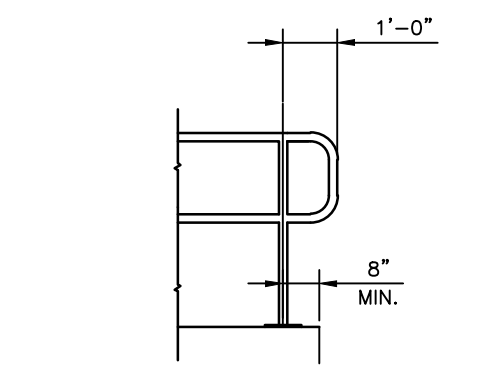
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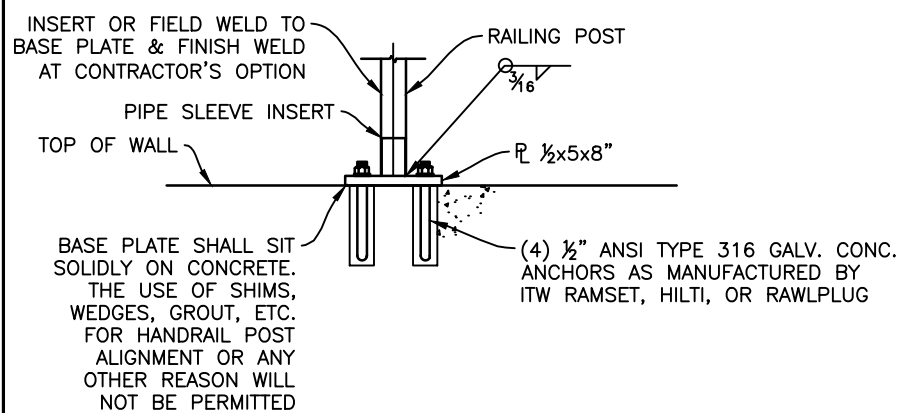
ELEVATION VIEW OF HEADWALL RAILING
N.T.S.



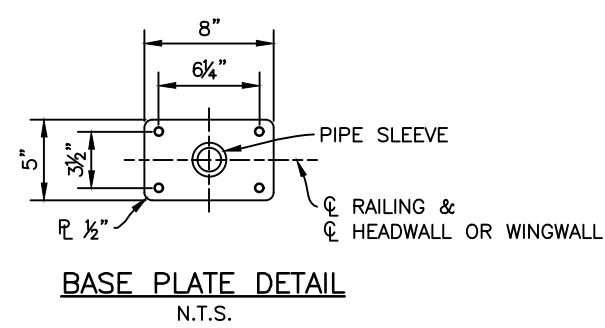
ELEVATION VIEW OF WINGWALL RAILING
N.T.S.



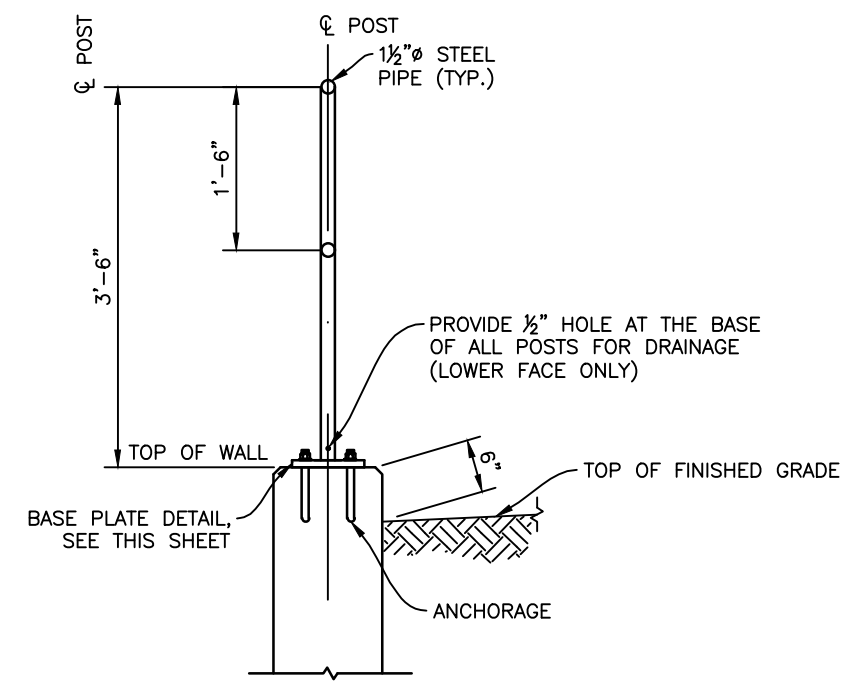
TYPICAL END TREATMENT DETAIL
N.T.S.



DETAIL 2 ANCHORAGE DETAIL
N.T.S.



BASE PLATE DETAIL
N.T.S.



SECTION A
N.T.S.

HANDRAIL AND ANCHOR COATING:
HANDRAIL AND ANCHOR SHALL BE STEEL AND SAND BLASTED TO A NEAR WHITE FINISH PER STEEL STRUCTURES PAINTING COUNCIL (SSPC) SP10. FIELD WELDS SHALL BE GROUND SMOOTH PRIOR TO BLASTING. COAT HANDRAIL AND ANCHOR WITH TNEMEC (OR EQUIVALENT) POLYAMIDE EPOXY: 66 HI-BUILD EXPOXOLINE, GRAY - ANSI No. 61 (IN05), 4.0 TO 6.0 MILLS DRY FILM THICKNESS. THE FINAL COAT OF PAINT SHALL BE TNEMEC (OR EQUIVALENT) ALIPHATIC POLYESTER POLYURETHANE: ENDURE SHIELD, PARKER BROWN (F073D3884A), 1.5 TO 2.5 MILLS DRY FILM THICKNESS. PRIMER AND PAINT SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

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No Revisions:	Designer: AJP	Structure Numbers	
Revised:	Detailer: CDM		
Void:	Subset: Drainage	Sheets: DD-11 of 23	Sheet Number 74

HAPPY CANYON CREEK CHEROKEE TRAIL STEEL SHEET PILE CUTOFF WALL POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
W1	27865.91	94895.02	5767.95	STEEL SHEET PILE WALL - TOP OF STEEL CAP EL.
W2	27887.19	94849.78	5767.36	STEEL SHEET PILE WALL - TOP OF STEEL CAP EL.
W3	27968.14	94793.51	5770.25	STEEL SHEET PILE WALL - TOP OF STEEL CAP EL.

HAPPY CANYON CREEK CHEROKEE TRAIL GRADING POINT DATA


POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
G1	27872.10	94962.88	5779.00	FINISHED GRADE EL.
G2	27823.77	94932.12	5779.00	FINISHED GRADE EL.
G3	27808.04	94890.63	5779.00	FINISHED GRADE EL.
G4	27766.29	94809.24	5779.00	FINISHED GRADE EL.
G5	27745.18	94744.70	5779.00	FINISHED GRADE EL.

HAPPY CANYON CREEK CHEROKEE TRAIL SOIL RIPRAP POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
SR1	27769.57	94610.15	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR2	27835.00	94932.41	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR3	27801.00	94604.71	5765.86	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR4	27800.34	94633.29	5767.10	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR5	27797.05	94661.68	5769.72	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR6	27804.21	94763.47	5770.47	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR7	27862.90	94848.01	5766.25	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR8	27885.85	94800.95	5767.60	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR9	27876.75	94787.62	5765.88	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR10	27853.55	94783.45	5766.72	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR11	27913.61	94738.94	5766.30	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR12	27871.26	94540.03	5768.10	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR13	27892.28	94575.67	5770.18	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR14	27920.57	94605.87	5772.85	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR15	27943.91	94626.32	5774.60	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR16	27967.25	94646.78	5775.74	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR17	27912.28	94510.88	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR18	27925.40	94519.82	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR19	27937.08	94566.65	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR20	27941.85	94573.12	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR21	27962.56	94597.66	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR22	27970.79	94607.21	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR23	27995.66	94624.88	5777.00	SOIL RIPRAP (12 INCH) - FINISHED GRADE EL.
SR24	27980.34	94661.67	5776.11	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR25	27988.53	94666.66	5776.90	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR26	27956.85	94747.12	5773.49	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR27	27965.72	94770.00	5773.56	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR28	27950.72	94782.27	5766.42	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR29	27953.26	94821.86	5765.14	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR30	27913.37	94849.59	5764.89	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR31	27904.16	94855.99	5765.02	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR32	27881.83	94903.47	5766.84	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR33	27890.55	94916.56	5771.36	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.
SR34	27878.94	94919.88	5772.38	SOIL RIPRAP (18 INCH) - FINISHED GRADE EL.

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Print Date: 6/18/2021 6:37:55 AM
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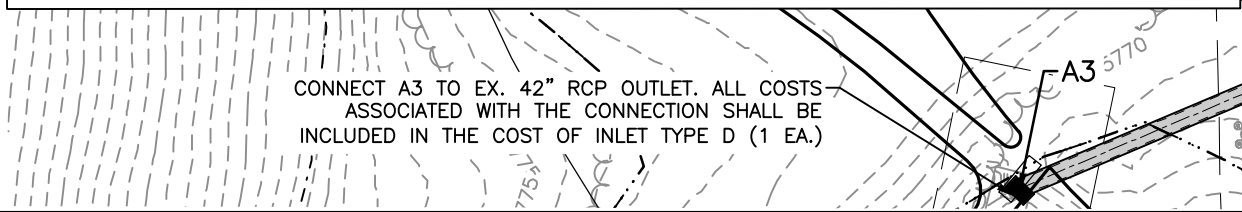
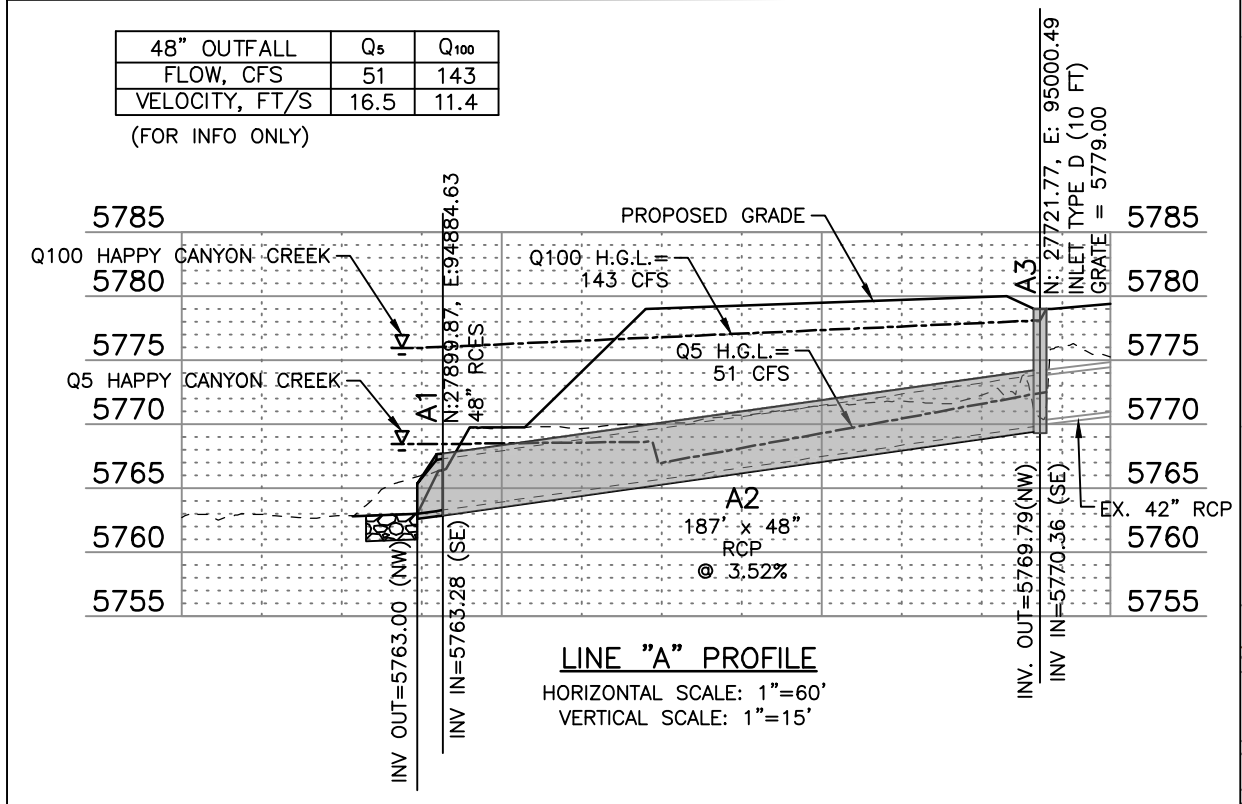
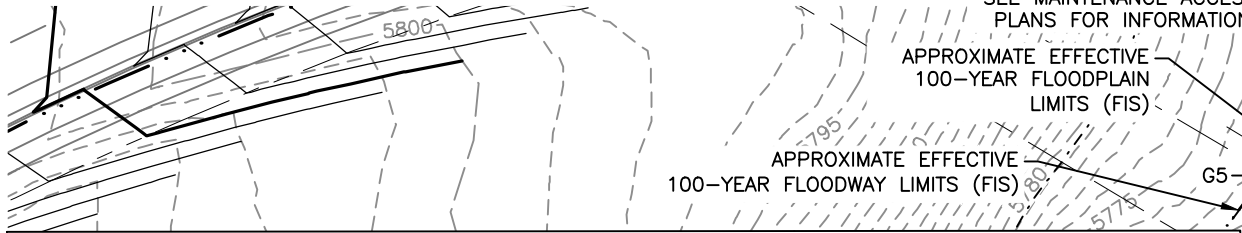
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No Revisions:	Designer: CDT	Structure	
Revised:	Detailer: ZJG	Numbers	
Void:	Subset: Drainage	Sheets: DD-12 of 23	Sheet Number 75

I.D.	NORTHING & EASTING	ITEM	LENGTH	PAY DEPTH	INV. IN	INV. OUT	NOTES
A1	N: 27899.87, E: 94884.63	48" RCES, RIPRAP			5763.28	5763.00	SEE DD-06 FOR DETAIL
A2		48" RCP	187'				
A3	N: 27721.77, E: 95000.49	TYPE D INLET		10'	5770.36	5769.79	CONNECT TO EX. 42" RCP
B1	N: 27914.54, E: 94715.62					5765.00	
B2		8" PLASTIC PIPE	27'				
B3	N: 27926.90, E: 94693.26					5765.13	* 45 DEGREE ELBOW/CLEANOUT
B4		8" PLASTIC PIPE	241'				

* ELBOW AND CLEANOUT ARE INCLUDED IN THE COST OF THE PIPE.

NOTES:

- UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.
- SEE DD-12 FOR POINT DATA.



LEGEND

- TOP OF CUT
- - - TOE OF FILL
- WETLANDS
- SOIL RIPRAP (12 INCH & 18 INCH)
- RIPRAP (12 INCH)
- RIPRAP (18 INCH)

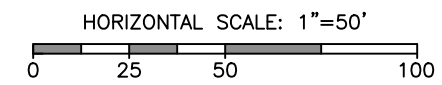
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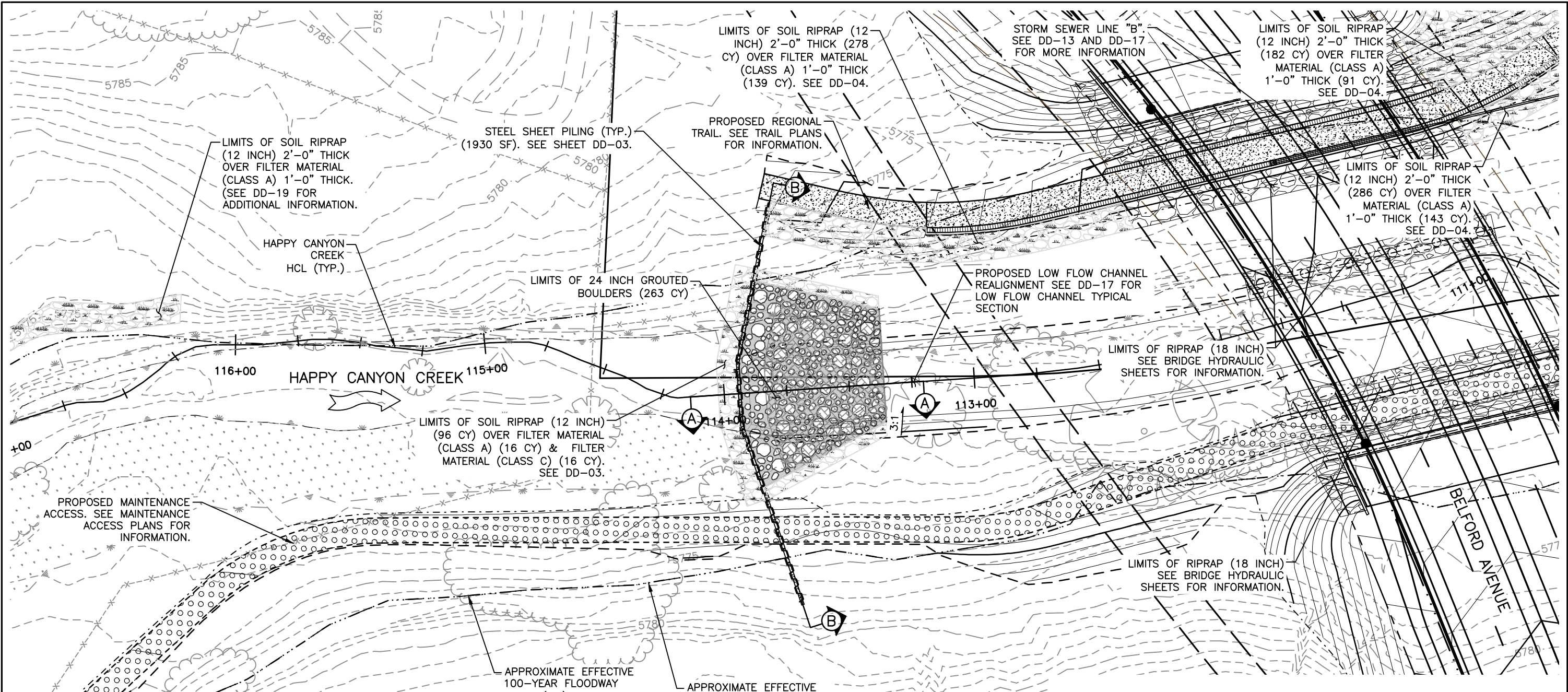
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As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE CHEROKEE TRAIL GRADING DETAIL		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: ZJG		
Void:	Subset: Drainage	Sheets: DD-13 of 23	Sheet Number 76





- NOTES:
1. SEE SHEET DD-16 FOR DROP NO. 1 POINT DATA.
 2. SEE SHEET DD-15 FOR SECTIONS A AND B.
 3. SEE SHEET DD-04 FOR SOIL RIPRAP DETAILS.
 4. SEE SHEET DD-05 FOR GROUDED BOULDER DETAILS.
 5. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION
 6. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.

LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- [Symbol] WETLANDS
- [Symbol] SOIL RIPRAP (12 INCH)
- [Symbol] RIPRAP (18 INCH)
- [Symbol] 24" GROUDED BOULDERS
- [Symbol] 24" GROUDED BOULDERS (BURIED)

N
↑

HORIZONTAL SCALE: 1"=40'

0' 20' 40' 80'

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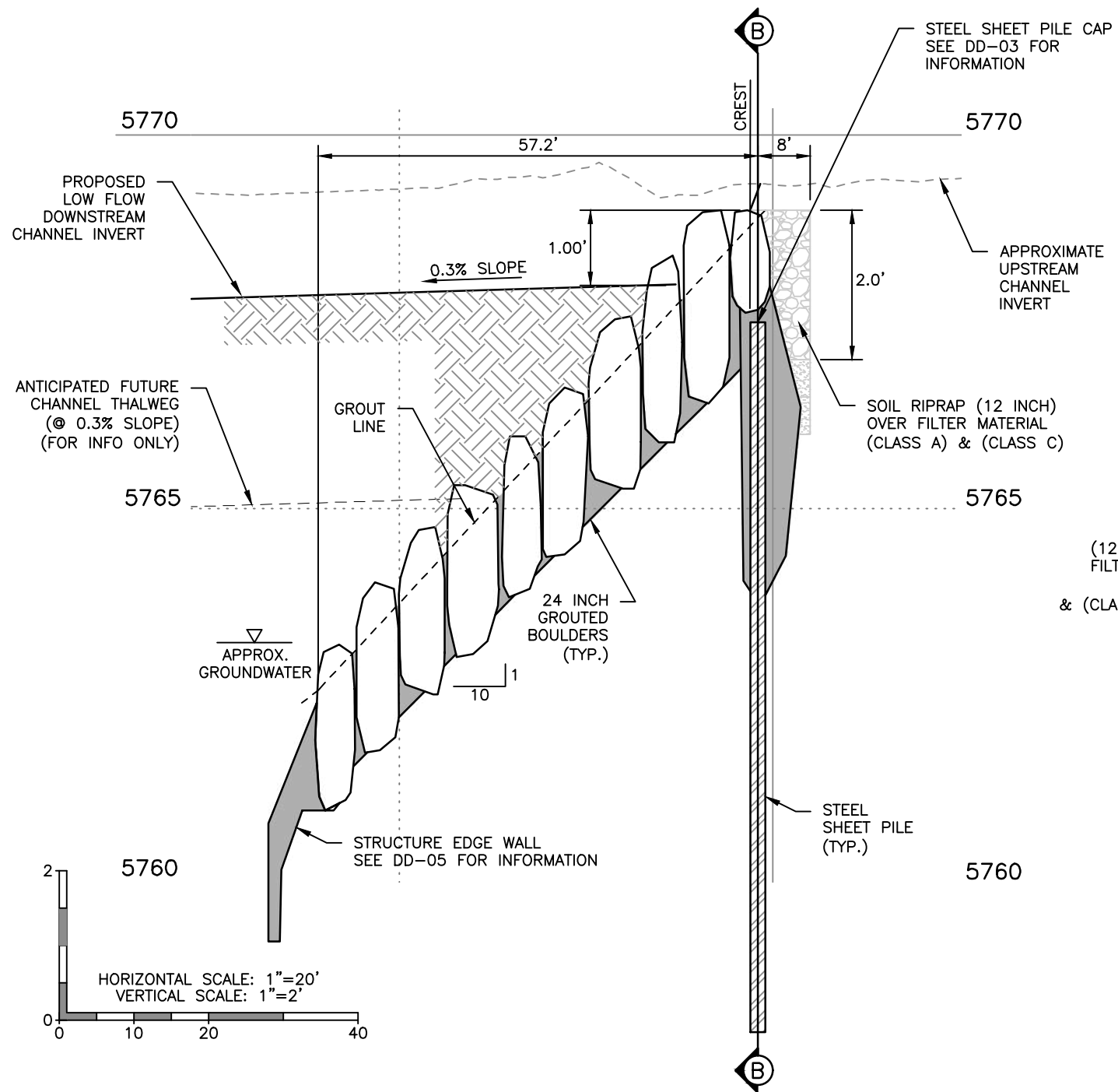
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Revised:	Detailer: ZJG		
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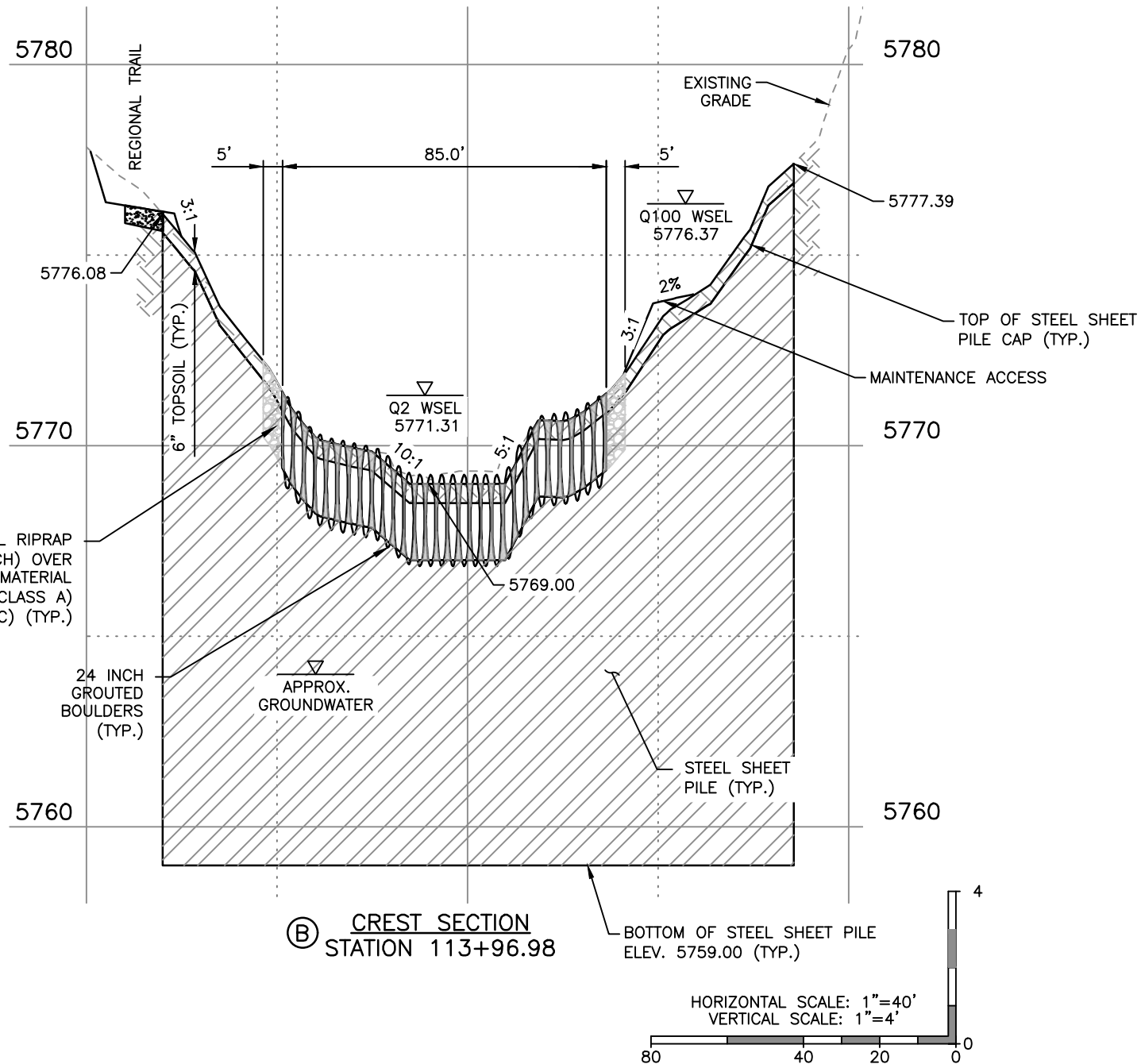
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- SEE UTILITY PLANS FOR ADDITIONAL INFORMATION.



(A) **GRouted BOULDER DROP NO. 1 PROFILE**
STA 113+39.80 TO 114+04.98



(B) **CREST SECTION**
STATION 113+96.98

HAPPY CANYON CREEK HYDRAULICS	
Q100=	8,303 C.F.S
Q100 VELOCITY =	14.17 F.P.S
FROUDE No.=	0.93
FOR INFO ONLY	

DROP STRUCTURE NO. 1

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Void:	Subset: Drainage	Sheets: DD-15 of 23	Sheet Number 78

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HAPPY CANYON CREEK DROP STRUCTURE NO. 1 STEEL SHEET PILE CUTOFF WALL POINT DATA

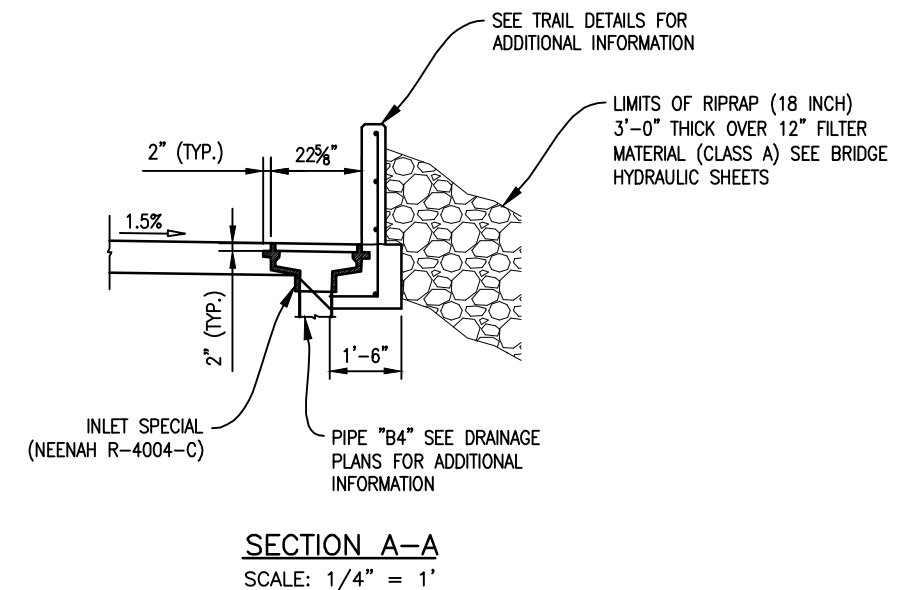
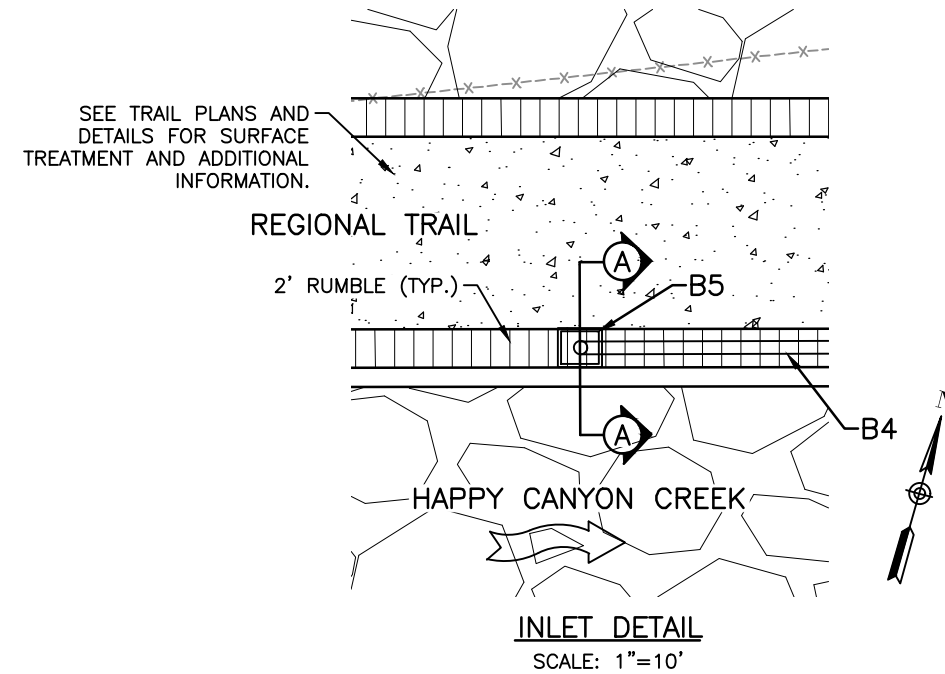
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
W1	27675.42	94283.50	5777.39	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W2	27745.87	94255.72	5767.00	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W3	27770.71	94252.88	5767.00	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W4	27834.84	94262.40	5776.14	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 1 GROUTED BOULDER POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
GB1	27721.52	94265.85	5771.33	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB2	27745.93	94256.22	5769.00	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB3	27770.77	94253.37	5769.00	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB4	27803.26	94258.21	5771.31	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB5	27794.60	94308.20	5763.28	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB6	27749.89	94313.32	5763.28	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB7	27748.38	64266.00	5768.00	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB8	27770.60	94263.46	5768.00	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 1 SOIL RIPRAP POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
SR1	27821.75	94260.96	5774.00	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR2	27816.88	94288.38	5772.05	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR3	27814.14	94331.42	5770.00	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR4	27821.34	94373.78	5769.37	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR5	27831.26	94408.21	5769.24	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR6	27713.51	94259.36	5772.32	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR7	27744.91	94247.28	5770.17	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR8	27769.75	94244.43	5769.27	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR9	27809.53	94250.06	5772.74	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR10	27808.21	94258.94	5772.14	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR11	27799.78	94307.61	5770.41	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR12	27794.60	94308.20	5770.01	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR13	27749.89	94313.32	5770.02	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR14	27744.44	94313.95	5770.34	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR15	27716.81	94267.71	5771.86	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.



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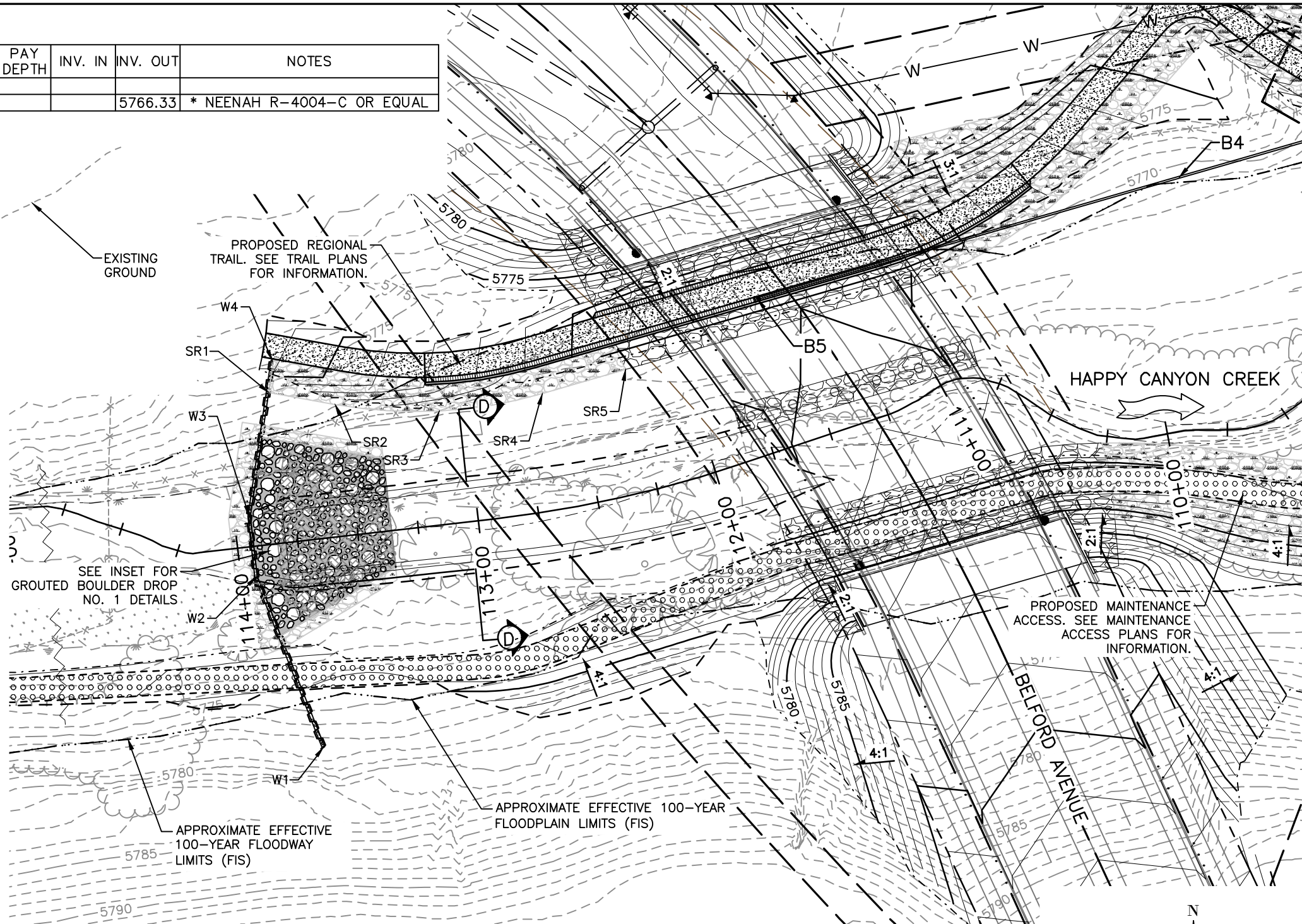
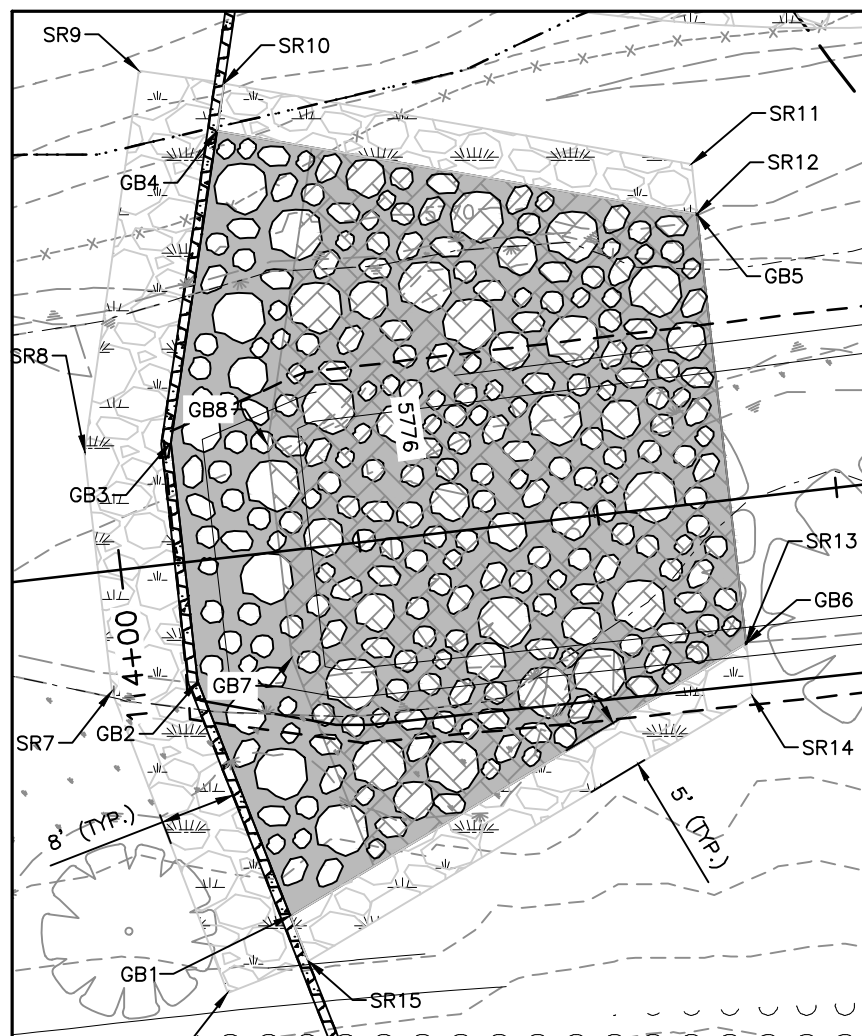
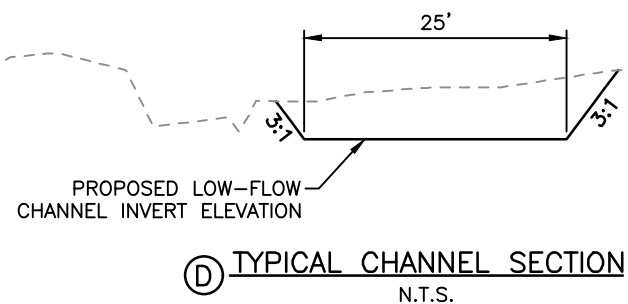
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As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE DROP NO. 1 POINT DATA DETAIL		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: SMT		
Void:	Subset: Drainage	Sheets: DD-16 of 23	Sheet Number 79

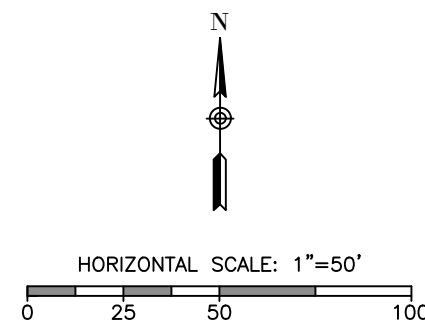
I.D.	NORTHING & EASTING	ITEM	LENGTH	PAY DEPTH	INV. IN	INV. OUT	NOTES
B4		8" PLASTIC PIPE	241'				
B5	N: 27860.43, E: 94462.48	INLET SPECIAL				5766.33	* NEENAH R-4004-C OR EQUAL

* SEE INLET SPECIAL DETAIL ON SHEET DD-16



NOTES:

- UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.
- SEE SHEET DD-16 FOR DROP NO. 1 POINT DATA.



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Sheet Revisions		
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As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE DROP NO. 1 GRADING DETAIL		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: ZJG		
Void:	Subset: Drainage	Sheets: DD-17 of 23	Sheet Number 80

HAPPY CANYON CREEK DROP STRUCTURE NO. 2 STEEL SHEET PILE CUTOFF WALL POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
W1	27522.92	93938.45	5780.50	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W2	27627.11	93827.62	5770.47	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W3	27648.48	93814.39	5770.47	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W4	27680.82	93804.64	5780.50	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 2 CHANNEL REVETMENT SOIL RIPRAP POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CR1	27384.46	93620.98	5776.96	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR2	27409.72	93613.85	5776.89	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR3	27455.43	93616.23	5776.93	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR4	27504.52	93635.29	5777.00	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR5	27521.43	93646.91	5777.11	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR6	27547.94	93676.17	5776.07	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR7	27561.71	93693.16	5776.00	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR8	27566.68	93697.18	5776.04	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR9	27681.39	93814.88	5776.99	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR10	27699.52	93838.94	5776.86	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR11	27713.46	93854.66	5777.09	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR12	27724.95	93872.92	5776.90	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR13	27732.94	93886.34	5777.00	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR14	27743.41	93902.84	5777.05	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR15	27754.96	93929.13	5776.62	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR16	27765.52	93944.63	5775.94	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR17	27769.88	93961.99	5775.77	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR18	27781.73	93978.73	5775.97	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR19	27782.09	94006.03	5775.95	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
CR20	27787.18	94029.84	5776.06	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 2 GROUTED BOULDER POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
GB1	27602.62	93854.40	5774.52	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB2	27618.57	93837.43	5772.47	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB3	27655.65	93812.75	5772.47	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB4	27669.08	93808.70	5774.43	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB5	27673.96	93851.91	5768.00	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB6	27644.22	93870.17	5768.00	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 2 DROP STRUCTURE SOIL RIPRAP POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
SR1	27592.36	93852.18	5775.35	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR2	27622.59	93820.43	5772.58	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR3	27644.06	93807.13	5772.41	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR4	27671.40	93798.60	5779.30	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR5	27675.20	93818.23	5773.98	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR6	27678.68	93848.83	5773.30	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR7	27673.98	93851.74	5773.00	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR8	27644.22	93870.17	5772.27	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR9	27638.87	93873.48	5773.38	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR10	27598.92	93858.34	5775.22	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.

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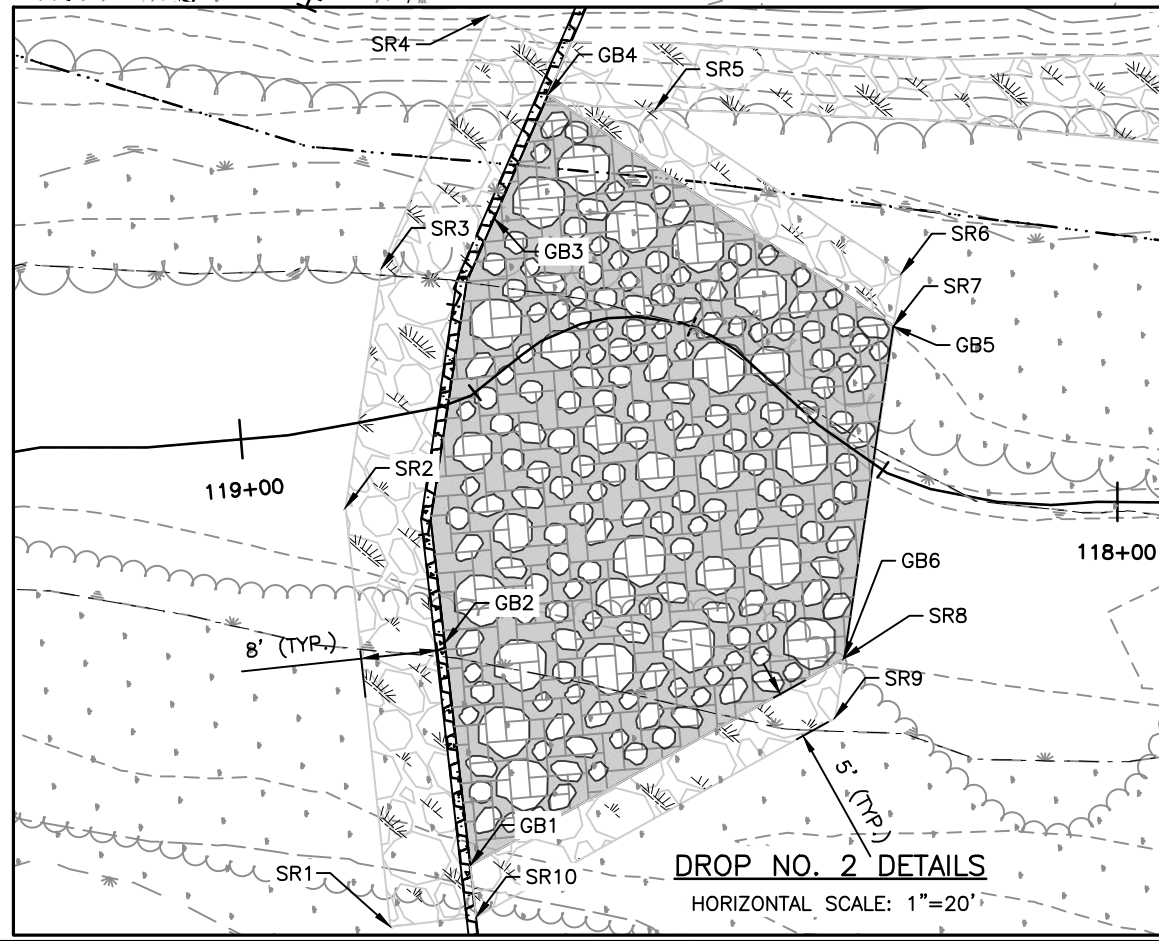
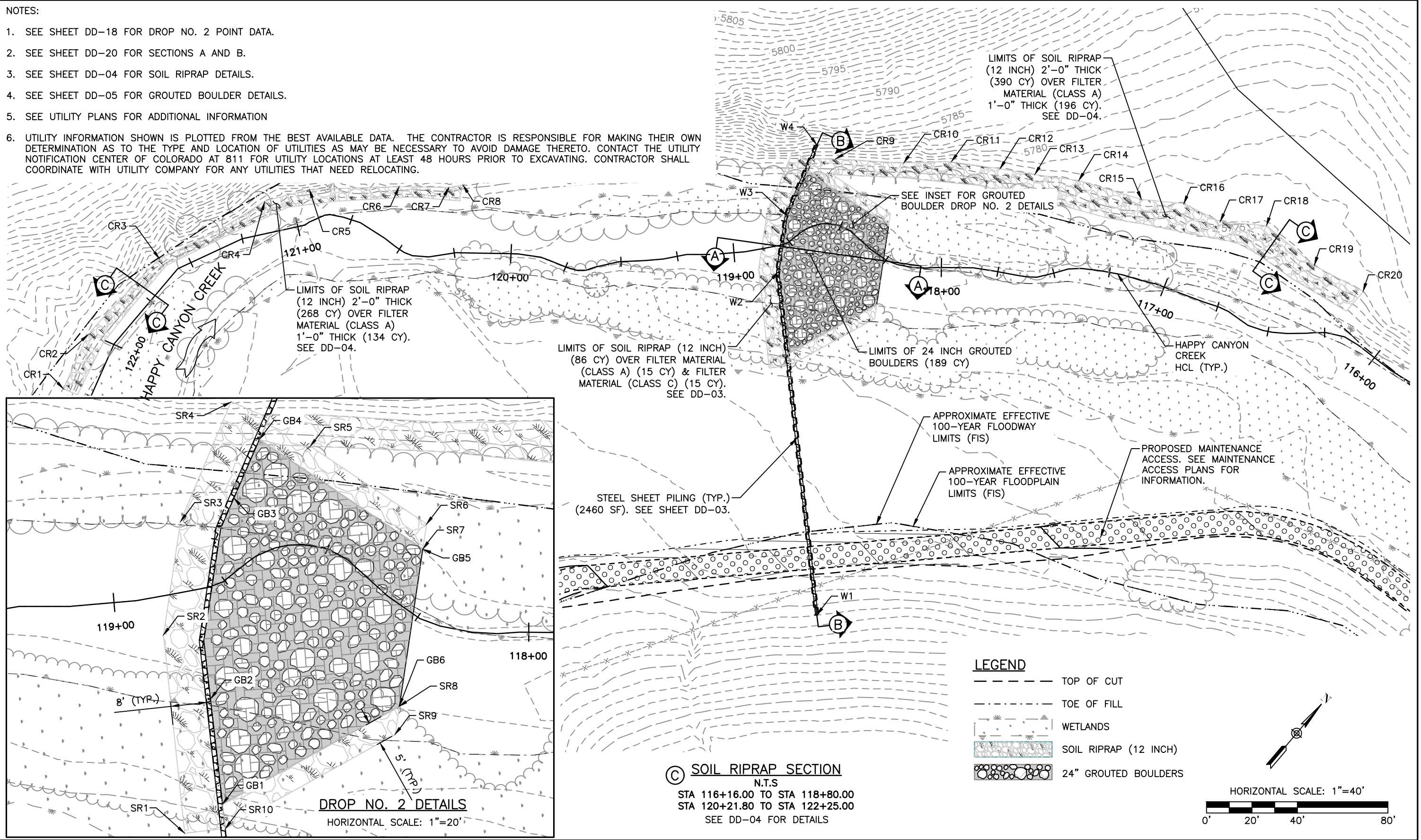


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No Revisions:	Designer: CDT	Structure	
Revised:	Detailer: ZJG	Numbers	
Void:	Subset: Drainage	Sheets: DD-18 of 23	Sheet Number 81

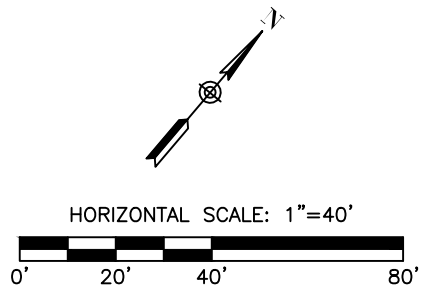
NOTES:

1. SEE SHEET DD-18 FOR DROP NO. 2 POINT DATA.
2. SEE SHEET DD-20 FOR SECTIONS A AND B.
3. SEE SHEET DD-04 FOR SOIL RIPRAP DETAILS.
4. SEE SHEET DD-05 FOR GROUTED BOULDER DETAILS.
5. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION
6. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.



© SOIL RIPRAP SECTION
N.T.S.
STA 116+16.00 TO STA 118+80.00
STA 120+21.80 TO STA 122+25.00
SEE DD-04 FOR DETAILS

- LEGEND**
- TOP OF CUT
 - TOE OF FILL
 - WETLANDS
 - SOIL RIPRAP (12 INCH)
 - 24" GROUTED BOULDERS



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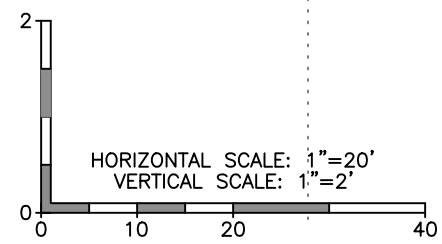
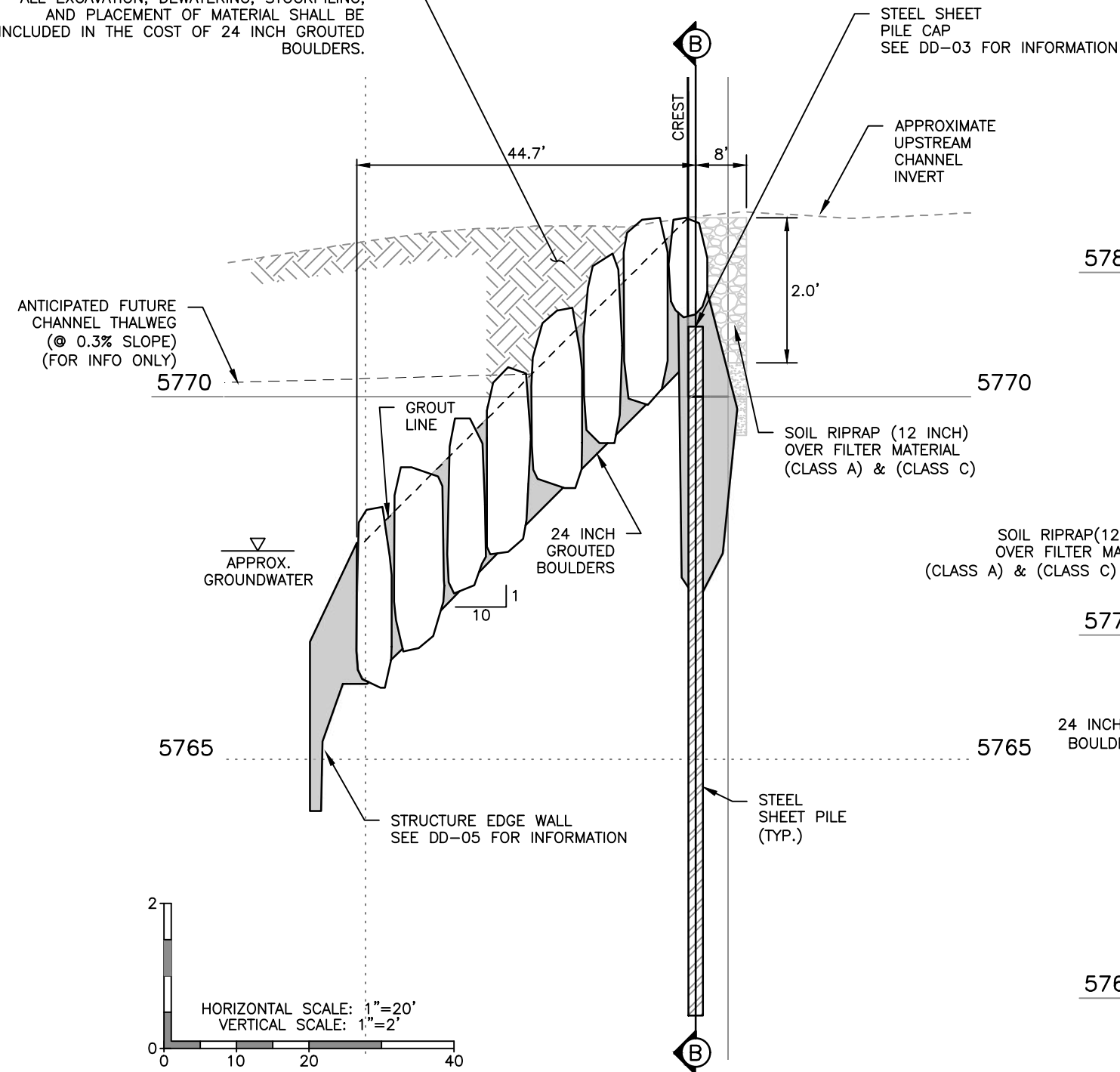
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No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: ZJG		
Void:	Subset: Drainage	Sheets: DD-19 of 23	Sheet Number 82

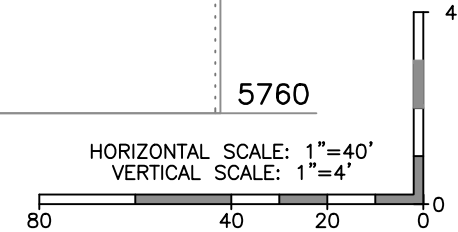
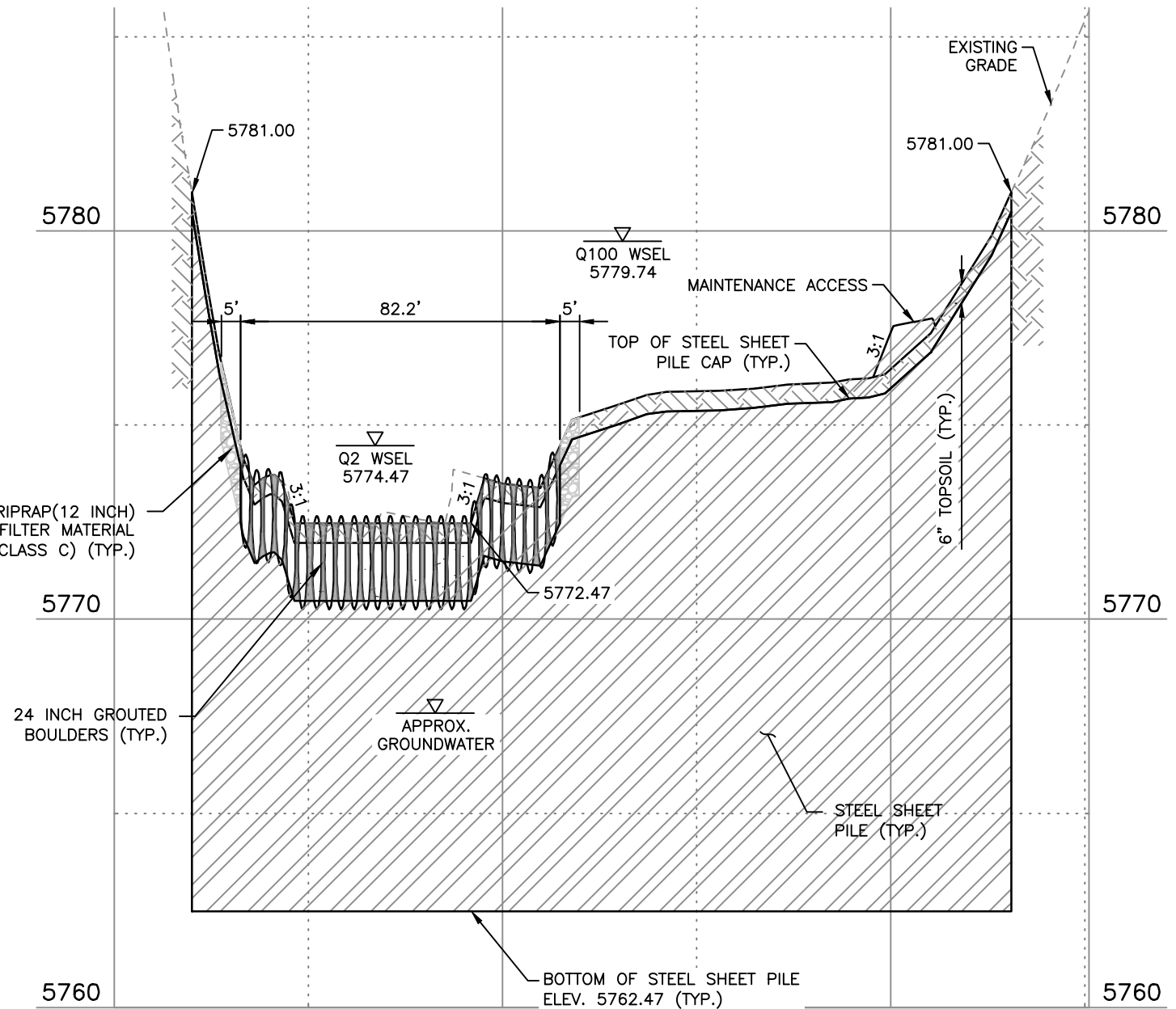
NOTES

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- SEE UTILITY PLANS FOR ADDITIONAL INFORMATION.

MATERIAL SHALL BE EXCAVATED FOR 24 INCH GROUTED BOULDERS AND STOCKPILED. STOCKPILED MATERIAL SHALL BE REAPPLIED AFTER DROP STRUCTURE IS CONSTRUCTED. ALL EXCAVATION, DEWATERING, STOCKPILING, AND PLACEMENT OF MATERIAL SHALL BE INCLUDED IN THE COST OF 24 INCH GROUTED BOULDERS.



(A) **GROUTED BOULDER DROP NO. 2 PROFILE**
STA 118+49.81 TO 119+02.49



(B) **CREST SECTION**
STATION 118+94.49

DROP STRUCTURE NO. 2

HAPPY CANYON CREEK HYDRAULICS
Q100= 8,303 C.F.S
Q100 VELOCITY = 11.93 F.P.S
FROUDE No.=0.79
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Date	Comments	Initials



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No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: ZJG		
Void:	Subset: Drainage	Sheets: DD-20 of 23	Sheet Number 83

HAPPY CANYON CREEK DROP STRUCTURE NO. 3 STEEL SHEET PILE CUTOFF WALL POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
W1	27309.13	93921.77	5783.50	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W2	27304.40	93917.95	5780.00	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W3	27208.88	93840.75	5779.50	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W4	27201.63	93834.88	5775.63	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W5	27174.38	93805.42	5775.06	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W6	27143.34	93746.45	5777.76	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.
W7	27143.34	93585.23	5783.50	STEEL SHEET PILE WALL – TOP OF STEEL CAP EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 3 BANK GRADING POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
G1	27326.07	93919.34	5787.00	FINISHED GRADE EL.
G2	27306.20	93950.35	5787.00	FINISHED GRADE EL.
G3	27290.13	93942.45	5782.50	FINISHED GRADE EL.
G4	27195.58	93861.83	5780.00	FINISHED GRADE EL.
G5	27228.32	93816.93	5780.00	FINISHED GRADE EL.
G6	27270.93	93781.27	5780.00	FINISHED GRADE EL.
G7	27367.70	93861.41	5782.50	FINISHED GRADE EL.
G8	27322.50	93895.78	5782.50	FINISHED GRADE EL.
G9	27343.38	93895.03	5786.00	FINISHED GRADE EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 3 GROUTED BOULDER POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
GB1	27168.76	93793.68	5778.19	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB2	27173.42	93802.52	5777.14	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB3	27201.27	93833.76	5777.14	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB4	27203.54	93835.78	5778.40	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB5	27234.88	93801.59	5772.49	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.
GB6	27213.15	93778.09	5772.49	24 INCH GROUTED BOULDER – TOP OF BOULDER EL.

HAPPY CANYON CREEK DROP STRUCTURE NO. 3 SOIL RIPRAP POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
SR1	27140.46	93759.22	5778.01	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR2	27168.09	93811.14	5777.07	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR3	27195.43	93840.70	5777.55	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR4	27201.78	93845.94	5779.67	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR5	27238.29	93805.27	5779.59	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR6	27234.88	93801.59	5778.14	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR7	27213.15	93778.09	5777.80	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.
SR8	27199.57	93763.41	5777.80	SOIL RIPRAP (12 INCH) – FINISHED GRADE EL.

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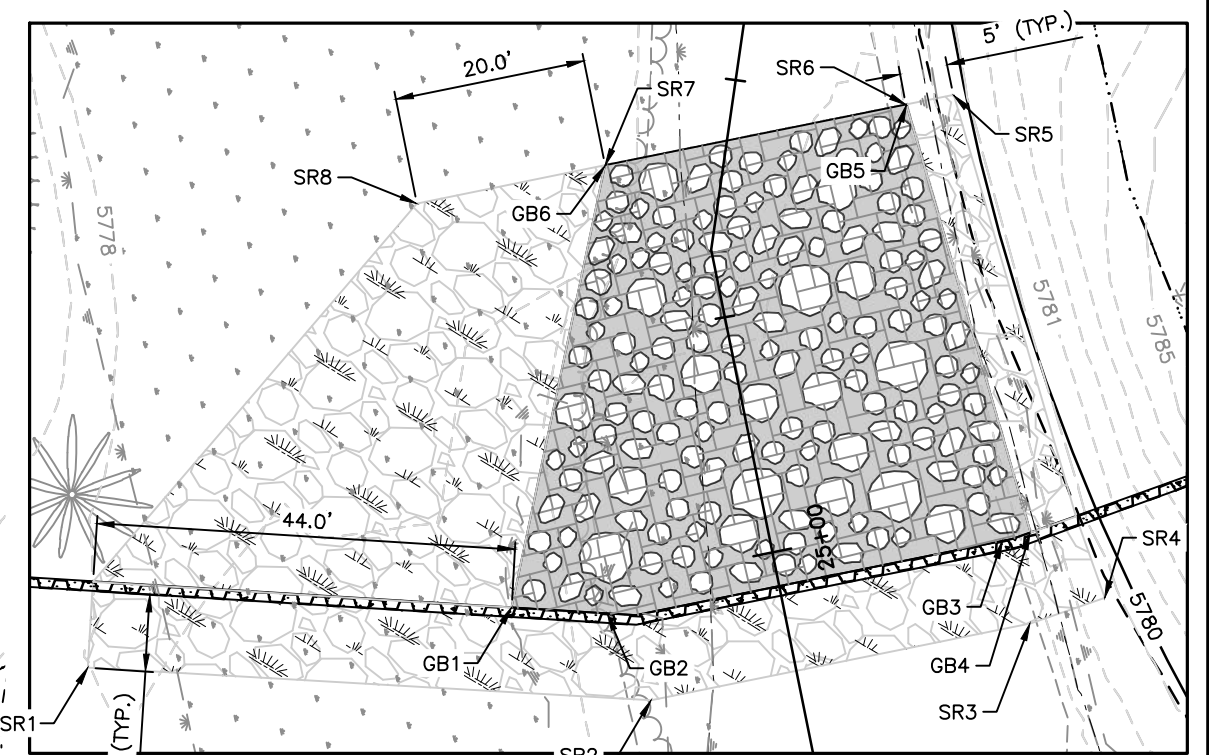
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No Revisions:	Designer: CDT	Structure	
Revised:	Detailer: ZJG	Numbers	
Void:	Subset: Drainage	Sheets: DD-21 of 23	Sheet Number 84

NOTES:

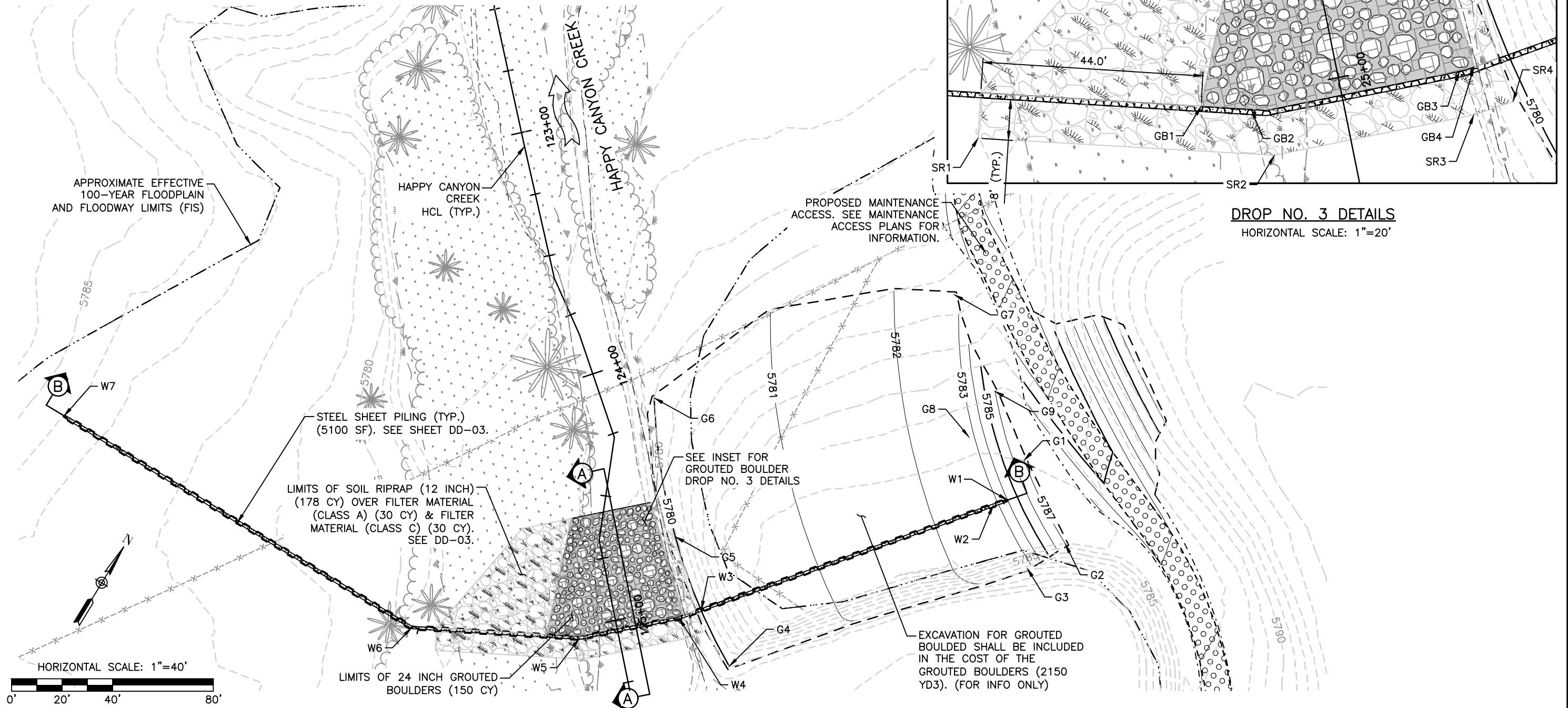
1. SEE SHEET DD-21 FOR DROP NO. 3 POINT DATA.
2. SEE SHEET DD-23 FOR SECTIONS A & B.
3. SEE SHEET DD-04 FOR SOIL RIPRAP DETAILS.
4. SEE SHEET DD-05 FOR GROUTED BOULDER DETAILS.
5. SEE UTILITY PLANS FOR ADDITIONAL INFORMATION
6. UTILITY INFORMATION SHOWN IS PLOTTED FROM THE BEST AVAILABLE DATA. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 811 FOR UTILITY LOCATIONS AT LEAST 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR ANY UTILITIES THAT NEED RELOCATING.

LEGEND

- TOP OF CUT
- TOE OF FILL
- [Symbol] WETLANDS
- [Symbol] SOIL RIPRAP (12 INCH)
- [Symbol] 24" GROUTED BOULDERS (BURIED)



DROP NO. 3 DETAILS
HORIZONTAL SCALE: 1"=20'



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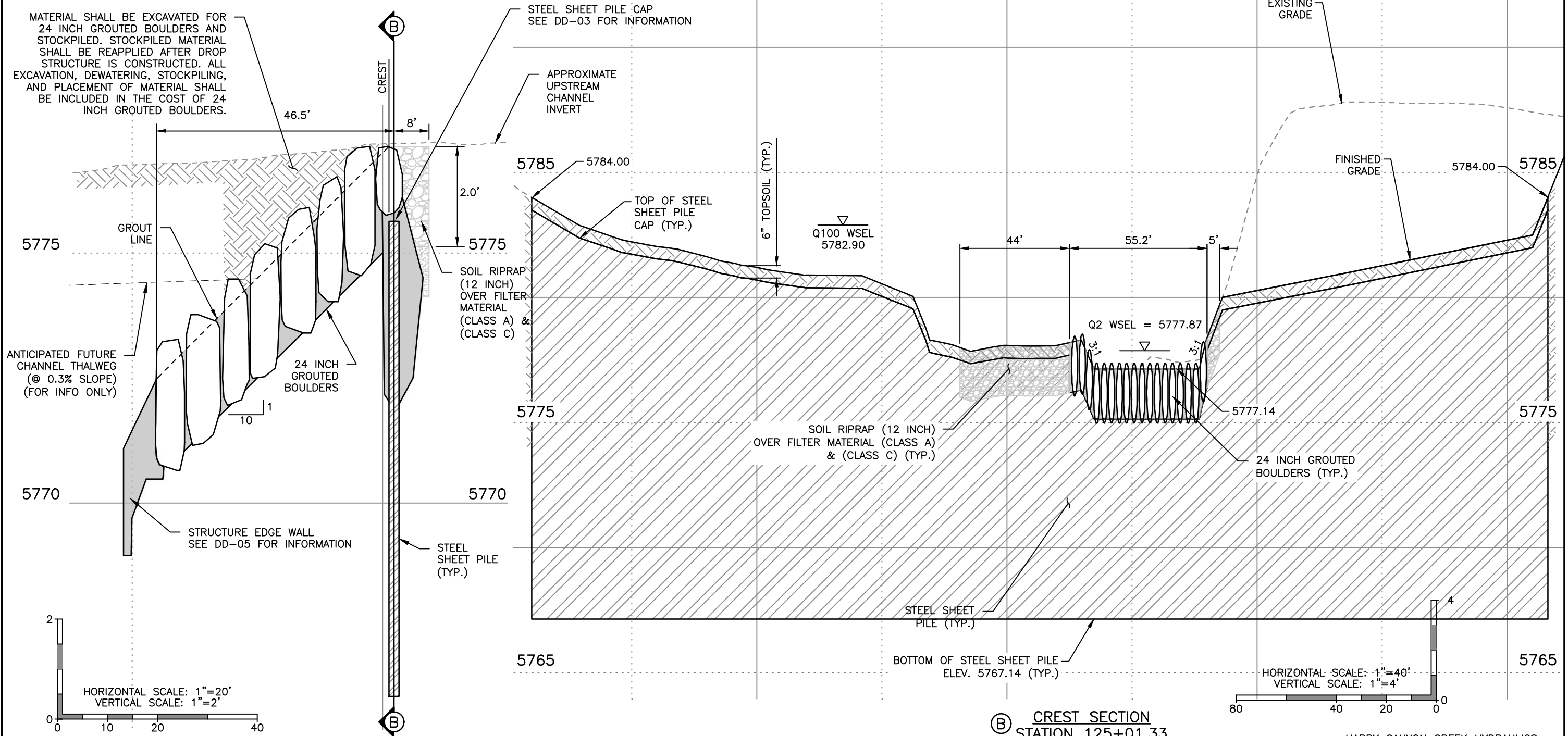
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No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: ZJG		
Void:	Subset: Drainage	Sheets: DD-22 of 23	Sheet Number 85

NOTES

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(A) GROUTED BOULDER DROP NO. 3 PROFILE
STA 124+54.81 TO 125+09.33

DROP STRUCTURE NO. 3

(B) CREST SECTION
STATION 125+01.33

HAPPY CANYON CREEK HYDRAULICS	
Q100=	8,303 C.F.S
Q100 VELOCITY =	10.80 F.P.S
FROUDE No.=	0.77
FOR INFO ONLY	

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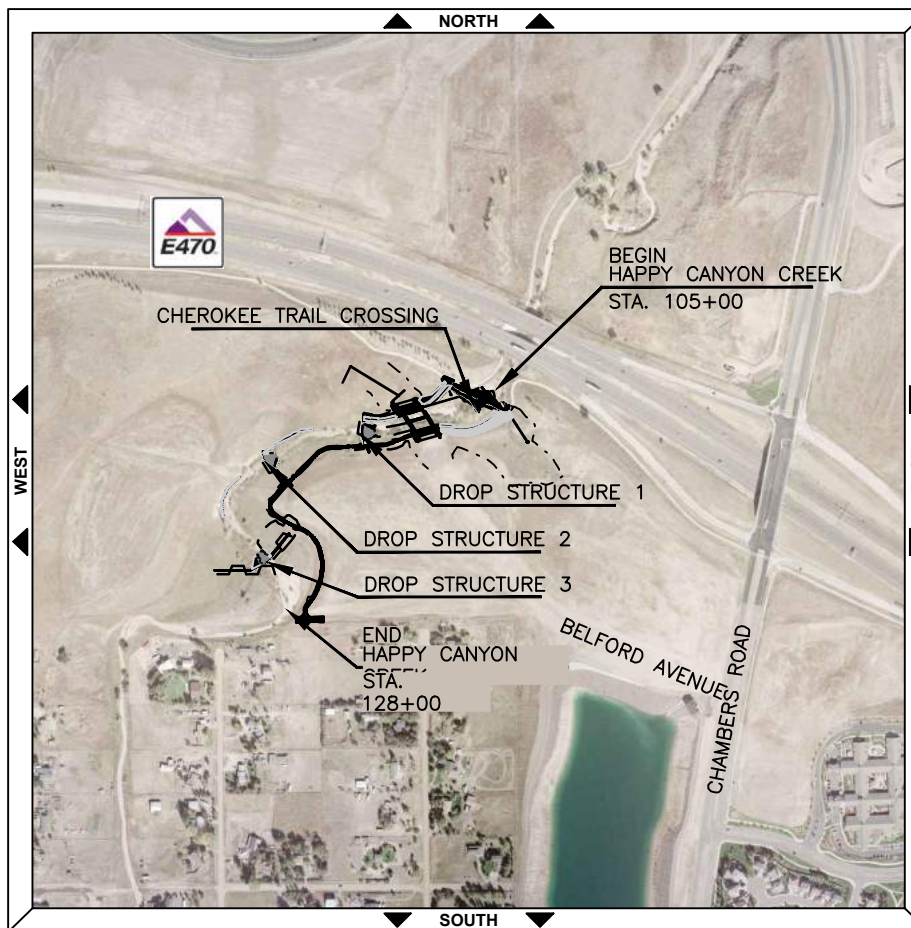
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No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: ZJG		
Void:	Subset: Drainage	Sheets: DD-23 of 23	Sheet Number 86



CONSTRUCTION PLANS
CONSTRUCTION BEST MANAGEMENT PRACTICES
BELFORD AVENUE BRIDGE AND HAPPY CANYON CREEK
TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO

SCALE OF ORIGINAL DRAWINGS

ON PLAN 1" = 80'



INDEX OF SHEETS

SHEET NO.	SUBSET SHEETS	DESCRIPTION
87	EL-1	CBMP TITLE SHEET
88	ET-1	TABULATION OF EROSION CONTROL QUANTITIES
89-90	EI-1 TO EI-2	INITIAL CBMP PLAN
91-92	EN-1 TO EN-2	INTERIM CBMP PLAN
93-94	EF-1 TO EN-2	FINAL CBMP PLAN
95-129	ED-1 TO ED-35	CBMP STANDARD NOTES AND DETAILS

TOWN OF PARKER APPROVALS

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATION. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

TOWN OF PARKER, PUBLIC WORKS DIRECTOR	DATE
TOWN OF PARKER, PUBLIC WORKS MANAGER – STORMWATER	DATE
TOWN OF PARKER, PUBLIC WORKS MANAGER – TRANSPORTATION	DATE

BASIS OF BEARING:

THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 6, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN BEING MONUMENTED AS SHOWN HEREON HAVING A BEARING OF NORTH 00°29'49" WEST, AS DETERMINED BY GPS OBSERVATION FROM NGS CONTROL POINTS IN THE COLORADO CENTRAL ZONE, STATE PLAN COORDINATE SYSTEM, TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO.

BENCHMARKS: (COMPARK SOUTH)

SOURCE BENCHMARKS:
 DOUGLAS COUNTY BM 1.115010
 A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF THE CENTERLINE OF COMPARK BOULEVARD.
 ELEVATION = 5752.84 (NAVD 88)

SITE BENCHMARKS:
 A NO. 5 REBAR WITH 2" ALUMINUM CAP STAMPED "LS 28286, 2001" FOUND AT THE SOUTHWEST CORNER OF SECTION 6, T6S, R66W LOCATED ON THE WEST LINE OF FIRST STREET APPROXIMATELY 1000 FEET NORTH OF ELM AVENUE.
 ELEVATION = 5845.51

A 2.5" IRON PIPE WITH 3.25" ALUMINUM CAP STAMPED "PLS 12405, 1997" FOUND AT THE SOUTHEAST CORNER OF SECTION 6, T6S, R66W LOCATED APPROXIMATELY 960 FEET NORTH OF THE CENTERLINE OF AVENTERRA PARKWAY AND APPROXIMATELY 1050 FEET WEST OF THE CENTERLINE OF CHAMBERS ROAD.
 ELEVATION = 5808.06

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Sheet Revisions			
Date	Comments	Initials	

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 Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

As Constructed	BELFORD-HAPPY CANYON CREEK CBMP TITLE SHEET		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: KLT	Sheets: EL-1 of 1	Sheet Number 87
Void:	Subset: EROSION		

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TABULATION OF EROSION CONTROL QUANTITIES

DRAWING NUMBER	CHECK DAM CD	*CONCRETE WASHOUT STRUCTURE CWA	*VEHICLE TRACKING CONTROL VTC	*STABILIZED STAGING AREA SSA	SEEDING (NATIVE) SMC	MULCHING (WEED FREE STRAW) SMC	*CULVERT PROTECTION CP	DEWATERING D	*SEDIMENT CONTROL LOG (12 INCH) SCL	EROSION CONTROL BLANKET (STRAW/COCONUT) ECB	DIVERSION DITCH DD	CONSTRUCTION FENCE CF	SILT FENCE SF	#INLET PROTECTION AREA INLETS NOT IN PAVEMENT IPAN	##ROUGH CUT STREET CONTROL RCSC	TEMPORARY SEDIMENT BASIN TSB	TEMPORARY STREAM CONTROL TSC	PORTABLE TOILET PROTECTION PTP
	LF	EACH	EACH	SY	ACRE	ACRE	LF	LS	LF	SY	LF	LF	LF	EA	LF	EA	EA	EA
INITIAL (EI-1)	275	2	2	2300			40		1798		312	8838	1471				4	1
INTERIM (EN-1)							60	1	1885					1	480	2		
FINAL (EF-1)					6.3	6.3				7386								
PROJECT TOTALS	275	2	2	2300	6.3	6.3	100	1	3683	7386	312	8838	1471	1	480	2	4	1

1. THESE QUANTITIES HAVE BEEN TAKEN FORWARD TO THE SUMMARY OF APPROXIMATE QUANTITIES.
 2. FOR DETAILS, SEE CBMP STANDARD NOTES AND DETAILS.
 3. CHECK DAMS ARE NOT TO BE REMOVED UNLESS DIRECTED BY THE PROJECT ENGINEER.
 4. MULCH TACKIFIER IS REQUIRED AND IS INCLUDED IN THE COST OF MULCHING.
 5. SEE CBMP SHEETS FOR ADDITIONAL PLACEMENT INFORMATION.
 6. LOCATION OF STOCKPILES, INCLUDING TOPSOIL, IMPORTED AGGREGATES, EXCESS MATERIALS, STORAGE AND STAGING AREAS FOR EQUIPMENT FUEL, LUBRICANT, CHEMICAL (AND OTHER MATERIALS), WASTE STORAGE, BORROW AND DISPOSAL AREAS SHALL BE LOCATED PRIOR TO CONSTRUCTION WITH IN THE DEFINED LIMITS OF CONSTRUCTION BY THE PROJECT ENGINEER.
- * THESE ITEMS SHALL BE PAID FOR AS PLACE AND REMOVE.
 # THESE ITEMS SHALL BE PAID FOR AS INLET PROTECTION (EACH).
 ## ROUGH CUT STREET CONTROL SHALL BE PAID FOR AS AGGREGATE BAG (LF)

ADDITIONAL SEDIMENT/EROSION CONTROL:

IT IS ESTIMATED THAT BLADING (120 HORSEPOWER), DOZING (100 HORSEPOWER), COMBINATION LOADER (125 HORSEPOWER) AND/OR BACKHOE (75 HORSEPOWER) AND/OR LABORER MAY BE REQUIRED FOR MISCELLANEOUS EROSION CONTROL WORK AS DIRECTED BY THE ENGINEER. WORK SHALL BE PAID FOR AS 208 SEDIMENT REMOVAL AND DISPOSAL (40 HRS). EROSION CONTROL MANAGEMENT WILL BE REQUIRED FOR THIS PROJECT AND SHALL BE PAID FOR AS 208 EROSION CONTROL MANAGEMENT (30 DAYS).

WATER CONTROL NOTES – TEMPORARY STREAM CONTROL

1. THE CONTRACTOR SHALL DEVELOP AND SUBMIT A WATER CONTROL PLAN TO THE TOWN OF PARKER FOR REVIEW AND APPROVAL TWO WEEKS PRIOR TO BEGINNING CONSTRUCTION. WATER CONTROL INCLUDES CHANNEL BASE FLOW, STORMWATER RUNOFF, AND GROUNDWATER. THE CONTRACTOR'S WATER CONTROL PLAN SHALL INCLUDE ALL MEANS AND METHODS NECESSARY IN CONVEYING A CLEAN WATER DIVERSION FOR WATER THROUGH AND FROM THE PROJECT SITE SO THAT THE WATER QUALITY OR PROPERTY DOWNSTREAM OF THE PROJECT LIMITS ARE NOT IMPACTED NEGATIVELY FROM THE PROJECT'S CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR'S MEANS AND METHODS INCLUDED IN THE CONTRACTOR'S APPROVED WATER CONTROL PLAN MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: PLASTIC LINED DIVERSION DITCHES, TEMPORARY PIPING, HOSES, CUTOFF WALLS, CHECK DAMS, PUMPS, GENERATORS, SOUND PROOFING, TEMPORARY POWER, SHEET PILE, SHORING, SEDIMENT TRAPS, SEDIMENT BASINS, FILTER BAGS, REINFORCED ROCK BERMS, STREAM CROSSINGS, RIPRAP PADS, RIPRAP, CRUSHED ROCK AND ANY OTHER WATER CONTROL MEASURES NECESSARY AND APPROVED BY THE TOWN OF PARKER.
3. GIVEN THE NATURE OF THE PROJECT SITE'S TERRAIN AND SCOPE OF WORK, THE CONTRACTOR'S WATER CONTROL PLAN AND PROPOSAL SHALL ACCOUNT FOR THE NEED TO RELOCATE WATER CONTROL MEASURES AS NEEDED BASED ON THE CONTRACTOR'S ACTUAL CONSTRUCTION SEQUENCE AND SELECTED MEANS AND METHODS.
4. WATER QUALITY SHALL BE ONE OF THE CONTRACTOR'S PRIMARY CONCERNS. THE CONTRACTOR'S IMPLEMENTED WATER CONTROL PLAN WILL BE INSPECTED DAILY. IF FOR ANY REASON THE CONTRACTOR'S IMPLEMENTED WATER CONTROL PLAN NEEDS CORRECTIVE ACTION OR IF THE CONTRACTOR IS DIRECTED BY THE TOWN OF PARKER OR THE OWNER'S REPRESENTATIVE TO MAKE REPAIRS, THE CONTRACTOR SHALL MAKE SUCH CORRECTIONS IMMEDIATELY.
5. THE APPROXIMATE 2-YR DISCHARGE FOR HAPPY CANYON CREEK IS 309 CFS. THE AVERAGE BASE FLOW RATE IS UNKNOWN. THE ESTIMATED AVERAGE BASE FLOW RATE IS APPROXIMATELY 1 CFS.
6. ALL STREAM DIVERSION DITCHES NEED TO BE PLASTIC LINED AT A MINIMUM AS DIRECTED BY THE TOWN OF PARKER.
7. ALL TEMPORARY STREAM CROSSINGS SHALL BE COMPLETELY RIPRAP REINFORCED AND HAVE PLASTIC LINING UNDER THE RIPRAP. THE CONTRACTOR'S SELECTED STREAM CROSSING SHALL ACCOMMODATE PASSAGE FOR BASE FLOWS AND AT NO TIME SHALL CONTRACTORS' EQUIPMENT HAVE DIRECT CONTACT WITH ANY STREAM FLOW.
8. ALL INCIDENTAL WATER CONTROL ITEMS SHALL BE PAID FOR AS TEMPORARY STREAM CROSSING (EA).

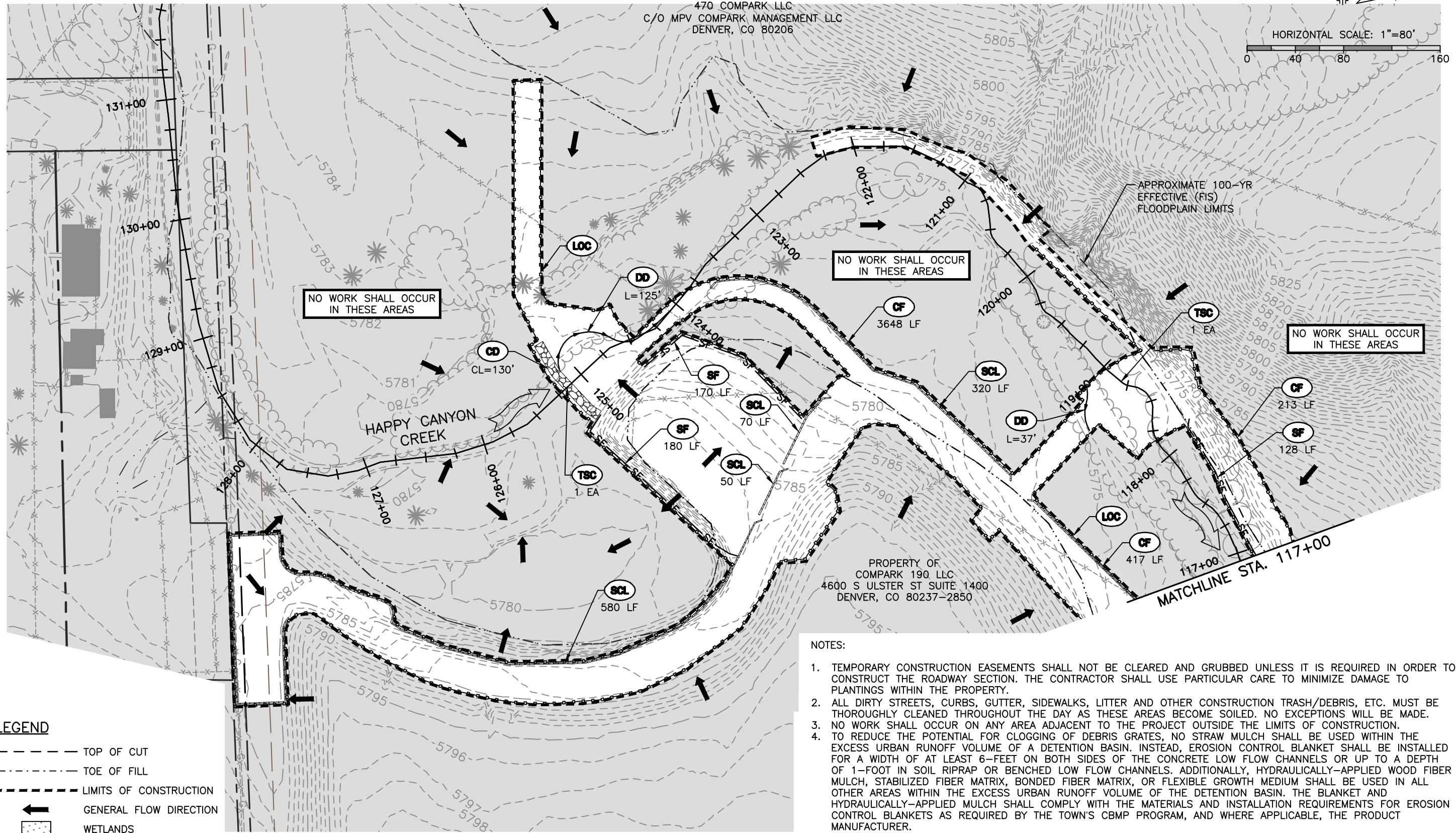
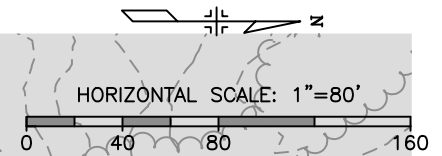
CBMP LEGEND

	CD CHECK DAM
	CF CONSTRUCTION FENCE
	CP CULVERT PROTECTION
	CWA CONCRETE WASHOUT AREA
	D DEWATERING
	DD DIVERSION DITCH
	ECB EROSION CONTROL BLANKET (STRAW/COCONUT)
	IPAN INLET PROTECTION FOR AREA INLETS NOT IN PAVEMENT
	LOC LIMITS OF CONSTRUCTION
	PTP PORTABLE TOILET PROTECTION
	RCSC ROUGH CUT STREET CONTROL
	SCL SEDIMENT CONTROL LOG (12 INCH)
	SF SILT FENCE
	SMC SEEDING MULCHING AND CRIMPING
	SSA STABILIZED STAGING AREA
	TSB TEMPORARY SEDIMENT BASIN
	TSC TEMPORARY STREAM CONTROL
	VTC VEHICLE TRACKING CONTROL

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Print Date: 6/17/2021 9:21:27 PM	Sheet Revisions			<p>Manhard CONSULTING LTD <small>8008 E. Arapahoe Court, Suite 110, Centennial, CO 80112 ph:303.708.0900 fax:303.708.0400 manhard.com Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers Construction Managers • Environmental Scientists • Landscape Architects • Planners</small></p>	As Constructed	BELFORD-HAPPY CANYON CREEK TABULATION OF EROSION CONTROL QUANTITIES		Project No./Code
File Name: E115360-01TAB01AROP.dwg					Date	Comments	Initials	No Revisions:
Horizontal Scale: NTS Vertical Scale: NTS				Revised:	Detailer: KLT			
<p>6400 South Fiddlers Green Circle, Suite 1500 Greenwood Village, CO 80111 Phone: 303.721.1440 www.FHUENG.com</p>				Void:	Subset: EROSION	Sheets: ET-1 of 1	Sheet Number 88	

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206



NO WORK SHALL OCCUR
IN THESE AREAS

NO WORK SHALL OCCUR
IN THESE AREAS

NO WORK SHALL OCCUR
IN THESE AREAS

LEGEND

- TOP OF CUT
- - - TOE OF FILL
- LIMITS OF CONSTRUCTION
- ← GENERAL FLOW DIRECTION
- WETLANDS

NOTES:

1. TEMPORARY CONSTRUCTION EASEMENTS SHALL NOT BE CLEARED AND GRUBBED UNLESS IT IS REQUIRED IN ORDER TO CONSTRUCT THE ROADWAY SECTION. THE CONTRACTOR SHALL USE PARTICULAR CARE TO MINIMIZE DAMAGE TO PLANTINGS WITHIN THE PROPERTY.
2. ALL DIRTY STREETS, CURBS, GUTTER, SIDEWALKS, LITTER AND OTHER CONSTRUCTION TRASH/DEBRIS, ETC. MUST BE THOROUGHLY CLEANED THROUGHOUT THE DAY AS THESE AREAS BECOME SOILED. NO EXCEPTIONS WILL BE MADE.
3. NO WORK SHALL OCCUR ON ANY AREA ADJACENT TO THE PROJECT OUTSIDE THE LIMITS OF CONSTRUCTION.
4. TO REDUCE THE POTENTIAL FOR CLOGGING OF DEBRIS GRATES, NO STRAW MULCH SHALL BE USED WITHIN THE EXCESS URBAN RUNOFF VOLUME OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKET SHALL BE INSTALLED FOR A WIDTH OF AT LEAST 6- FEET ON BOTH SIDES OF THE CONCRETE LOW FLOW CHANNELS OR UP TO A DEPTH OF 1-FOOT IN SOIL RIPRAP OR BENCHED LOW FLOW CHANNELS. ADDITIONALLY, HYDRAULICALLY-APPLIED WOOD FIBER MULCH, STABILIZED FIBER MATRIX, BONDED FIBER MATRIX, OR FLEXIBLE GROWTH MEDIUM SHALL BE USED IN ALL OTHER AREAS WITHIN THE EXCESS URBAN RUNOFF VOLUME OF THE DETENTION BASIN. THE BLANKET AND HYDRAULICALLY-APPLIED MULCH SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS FOR EROSION CONTROL BLANKETS AS REQUIRED BY THE TOWN'S CBMP PROGRAM, AND WHERE APPLICABLE, THE PRODUCT MANUFACTURER.
5. SEE TABULATION OF EROSION CONTROL QUANTITIES FOR CBMP LEGEND.

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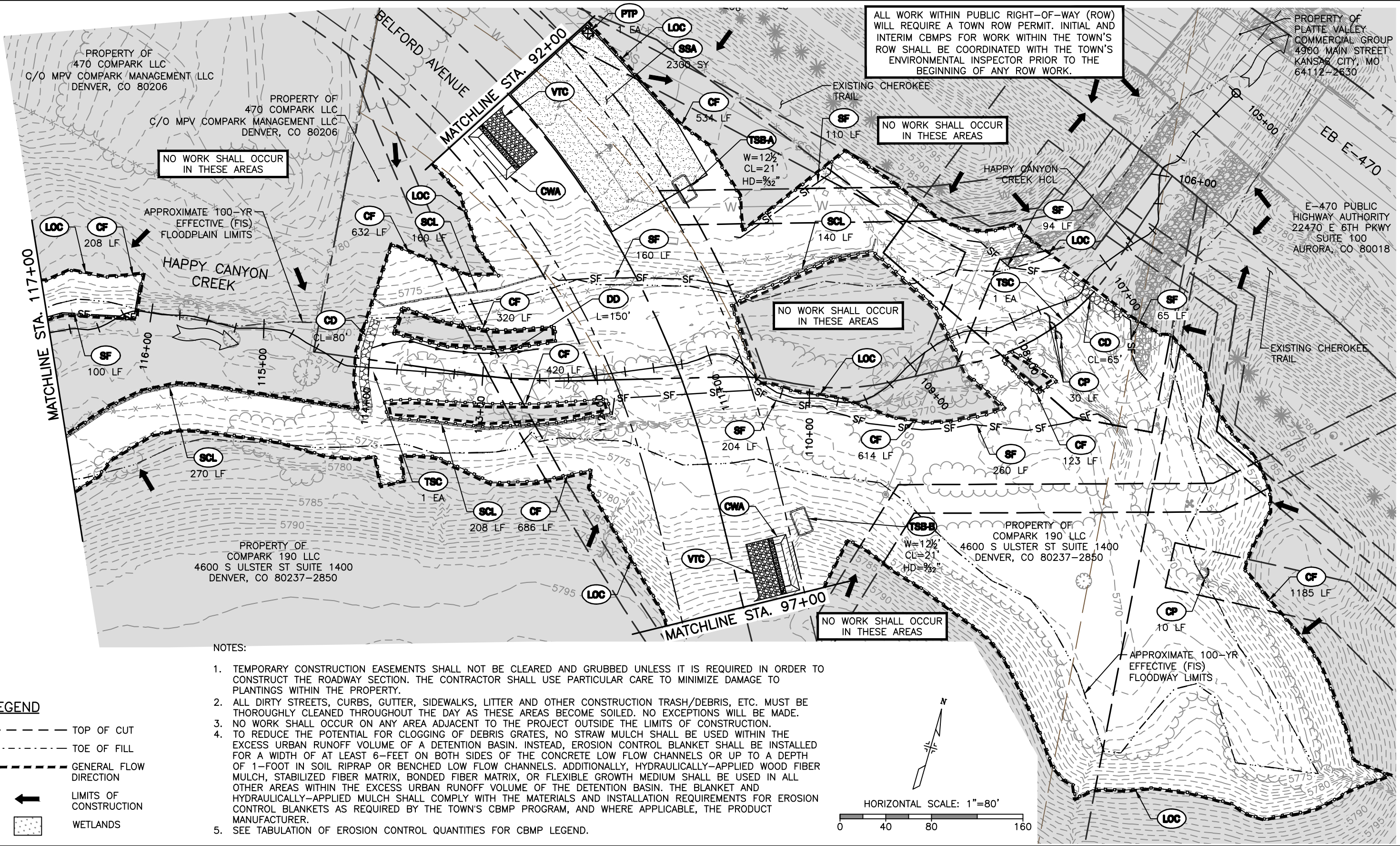
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As Constructed	BELFORD - HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE INITIAL CBMP PLAN		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: KLT		
Void:	Subset: Erosion	Sheets: El-1 of 2	Sheet Number 89

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ALL WORK WITHIN PUBLIC RIGHT-OF-WAY (ROW) WILL REQUIRE A TOWN ROW PERMIT. INITIAL AND INTERIM CBMPs FOR WORK WITHIN THE TOWN'S ROW SHALL BE COORDINATED WITH THE TOWN'S ENVIRONMENTAL INSPECTOR PRIOR TO THE BEGINNING OF ANY ROW WORK.

NO WORK SHALL OCCUR IN THESE AREAS

NO WORK SHALL OCCUR IN THESE AREAS

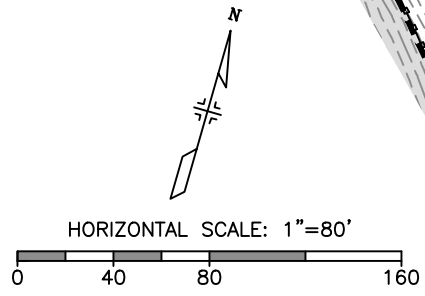
NO WORK SHALL OCCUR IN THESE AREAS

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- SEE TABULATION OF EROSION CONTROL QUANTITIES FOR CBMP LEGEND.

LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- GENERAL FLOW DIRECTION
- ← LIMITS OF CONSTRUCTION
- WETLANDS



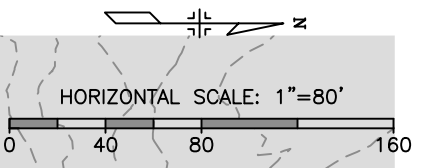
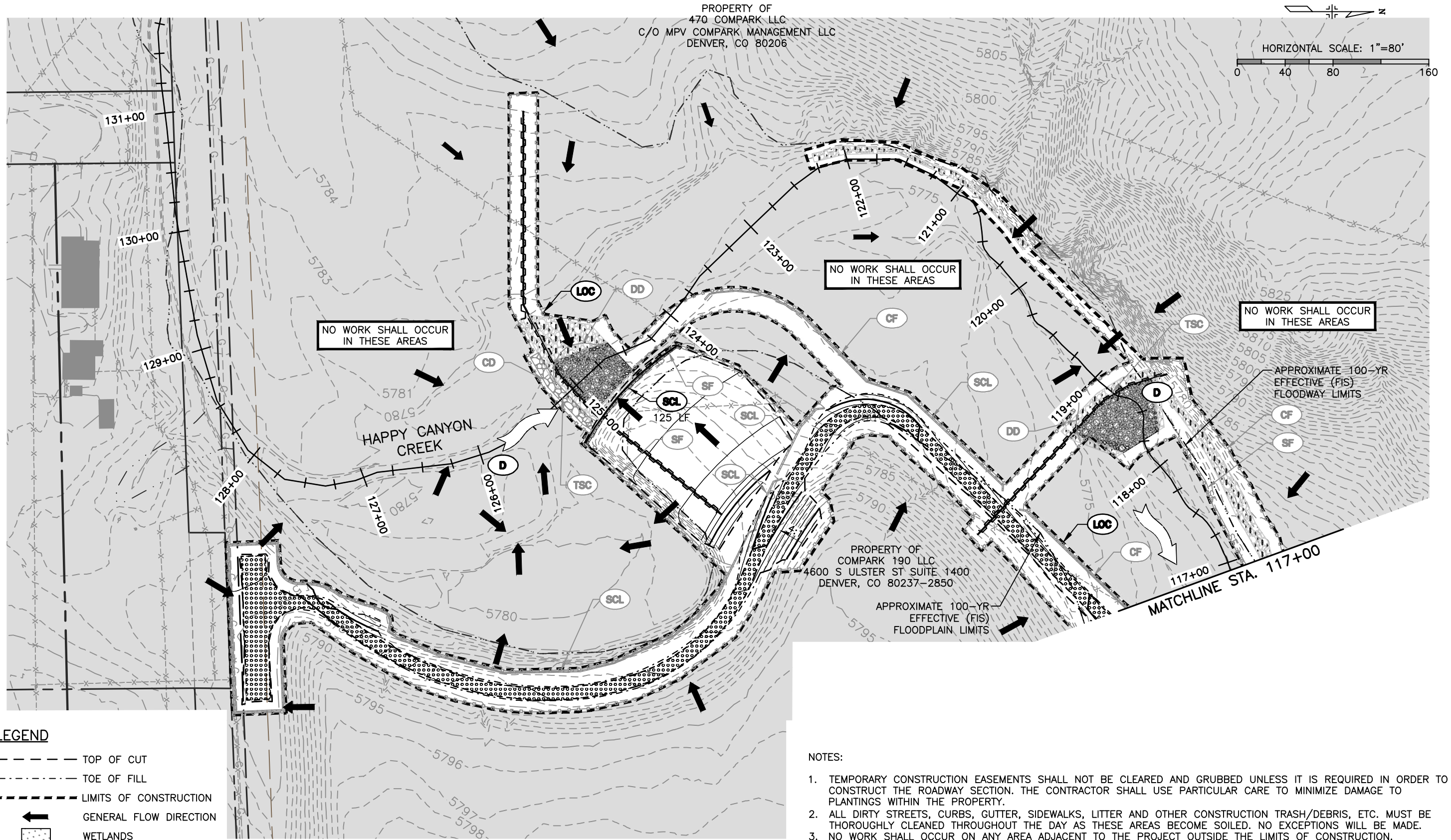
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Sheet Revisions			
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As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE INITIAL CBMP PLAN		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	Sheet Number 90
Revised:	Detailer: KLT	Sheets: EI-2 of 2	
Void:	Subset: Erosion		

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LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- LIMITS OF CONSTRUCTION
- ← GENERAL FLOW DIRECTION
- WETLANDS

NOTES:

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4. SEE TABULATION OF EROSION CONTROL QUANTITIES FOR CBMP LEGEND.

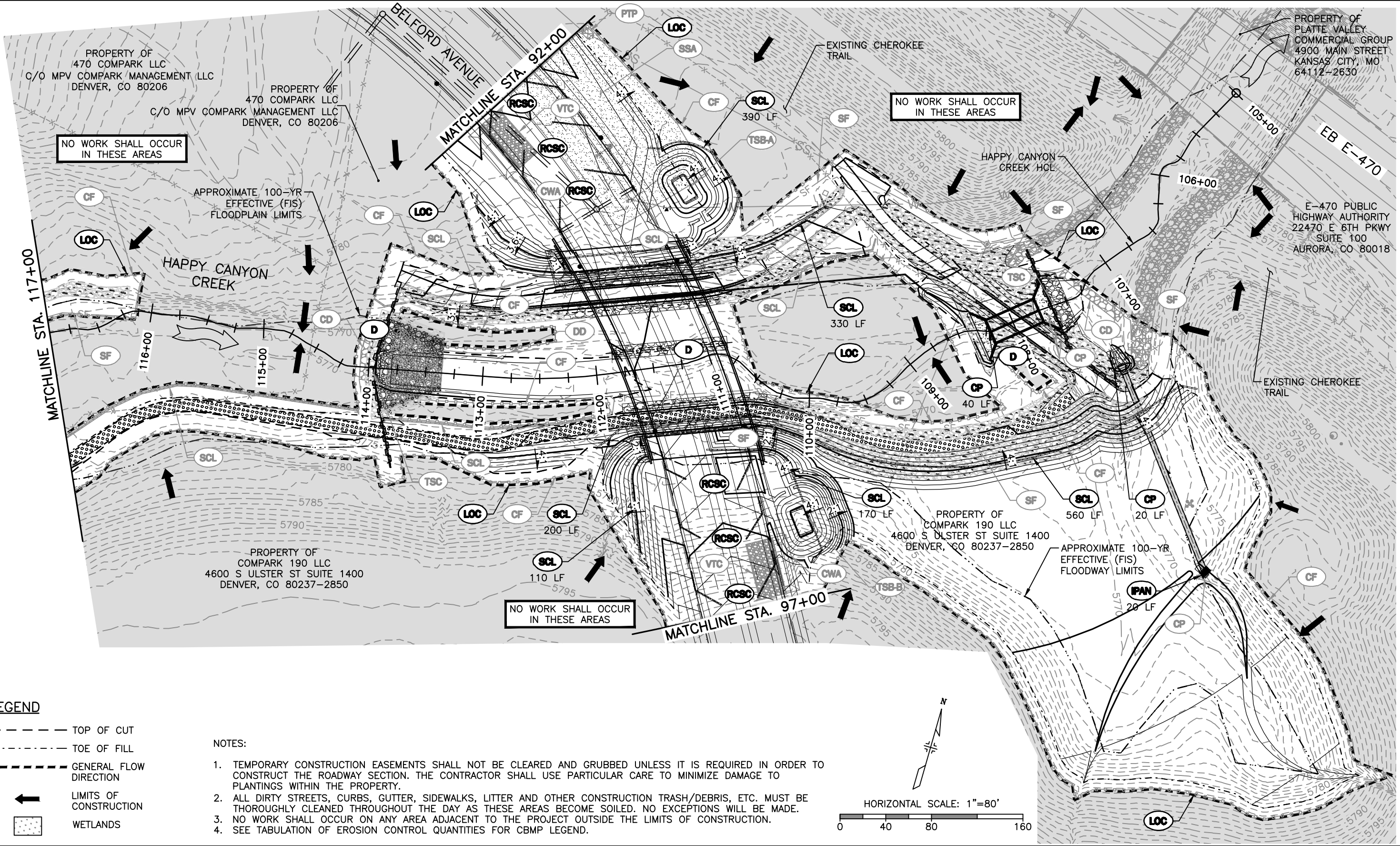
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No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: KLT		
Void:	Subset: Erosion	Sheets: EN-1 of 2	Sheet Number 91

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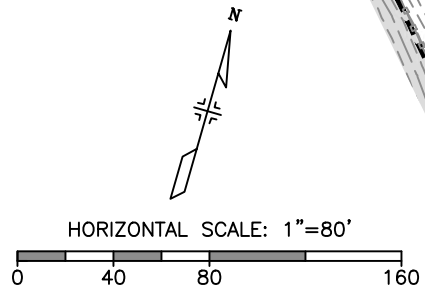


LEGEND

- TOP OF CUT
- TOE OF FILL
- GENERAL FLOW DIRECTION
- ← LIMITS OF CONSTRUCTION
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CONSULTING LTD

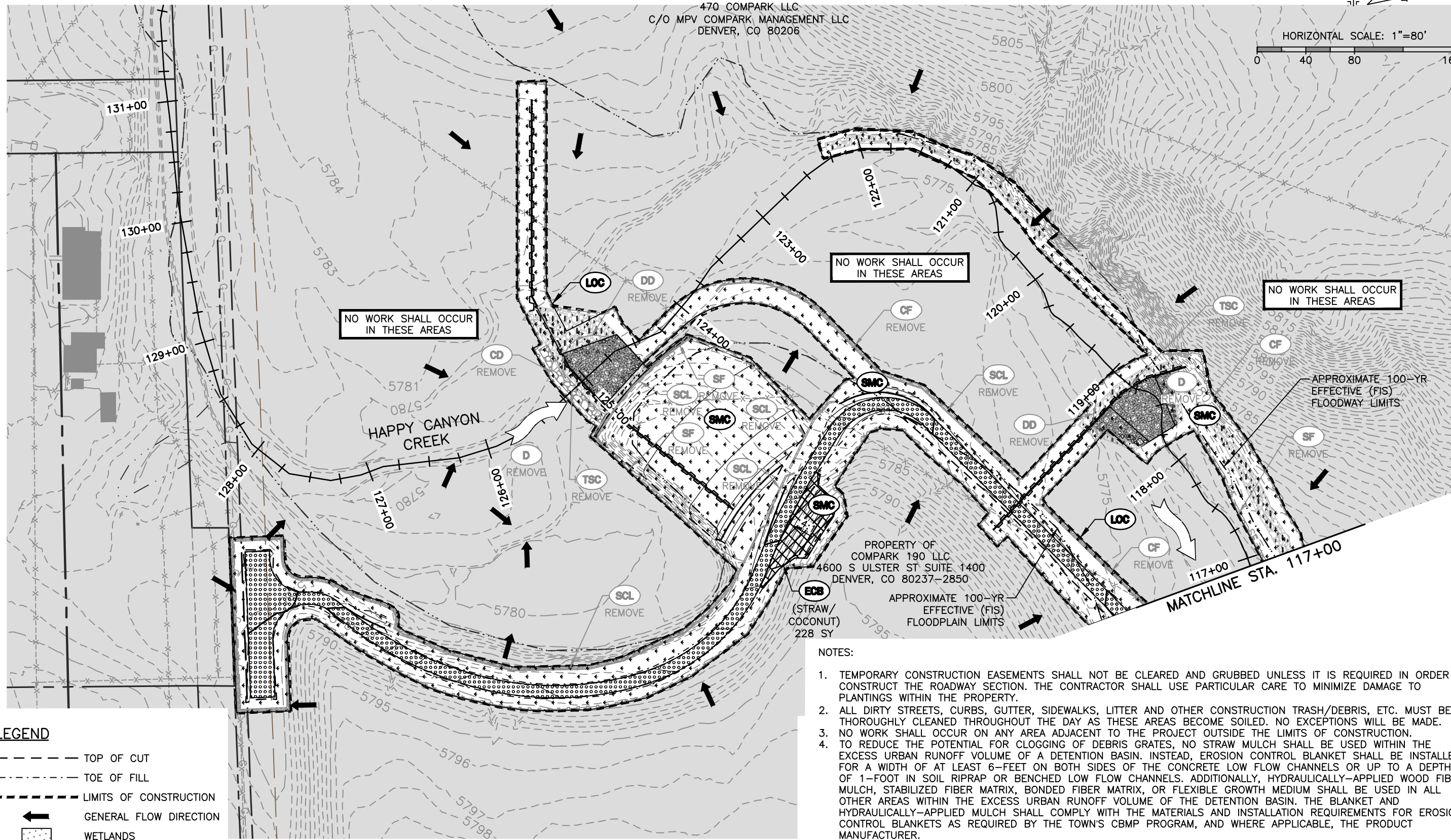
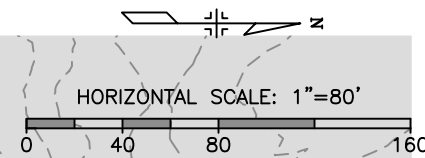
8008 E. Arapahoe Court, Suite 110, Centennial, CO 80112 ph:303.708.0900 fax:303.708.0400 manhard.com
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Construction Managers • Environmental Scientists • Landscape Architects • Planners

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Void:

BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE INTERIM CBMP PLAN			
Designer:	CDT	Structure	
Detailer:	KLT	Numbers	
Subset:	Erosion	Sheets:	EN-2 of 2

Project No./Code	
Sheet Number	92

PROPERTY OF
470 COMPARK LLC
C/O MPV COMPARK MANAGEMENT LLC
DENVER, CO 80206



LEGEND

- TOP OF CUT
- TOE OF FILL
- LIMITS OF CONSTRUCTION
- ← GENERAL FLOW DIRECTION
- WETLANDS

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5. SEE TABULATION OF EROSION CONTROL QUANTITIES FOR CBMP LEGEND.

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As Constructed

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**BELFORD-HAPPY CANYON CREEK
HAPPY CANYON CREEK DROP STRUCTURE
FINAL CBMP PLAN**

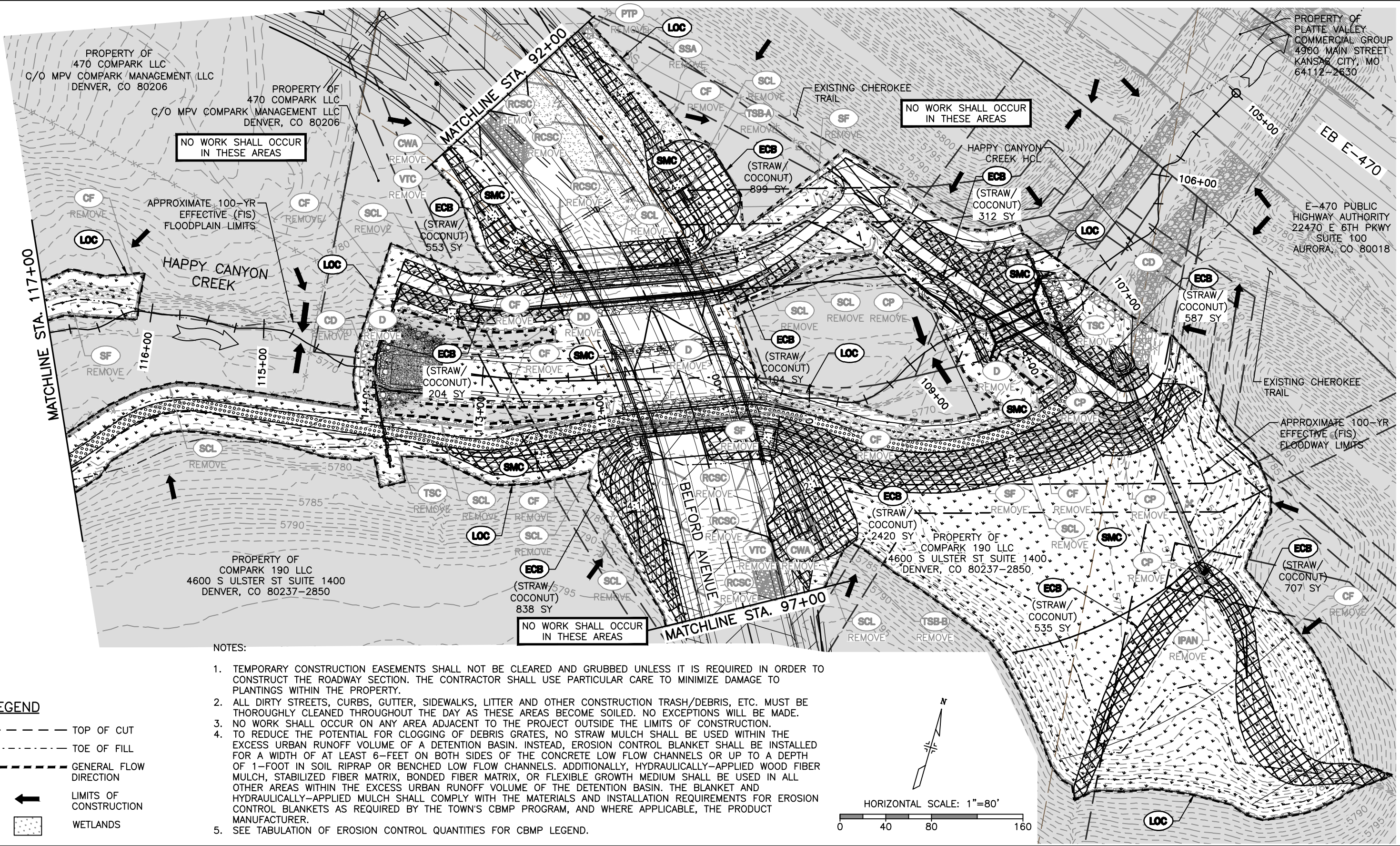
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Detailer:	KLT	Numbers	
Subset:	Erosion	Sheets:	EF-1 of 2

Project No./Code

Sheet Number 93

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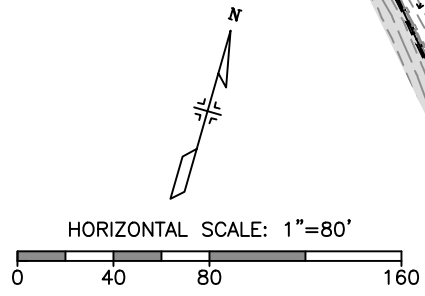
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- NOTES:
- TEMPORARY CONSTRUCTION EASEMENTS SHALL NOT BE CLEARED AND GRUBBED UNLESS IT IS REQUIRED IN ORDER TO CONSTRUCT THE ROADWAY SECTION. THE CONTRACTOR SHALL USE PARTICULAR CARE TO MINIMIZE DAMAGE TO PLANTINGS WITHIN THE PROPERTY.
 - ALL DIRTY STREETS, CURBS, GUTTER, SIDEWALKS, LITTER AND OTHER CONSTRUCTION TRASH/DEBRIS, ETC. MUST BE THOROUGHLY CLEANED THROUGHOUT THE DAY AS THESE AREAS BECOME SOILED. NO EXCEPTIONS WILL BE MADE.
 - NO WORK SHALL OCCUR ON ANY AREA ADJACENT TO THE PROJECT OUTSIDE THE LIMITS OF CONSTRUCTION.
 - TO REDUCE THE POTENTIAL FOR CLOGGING OF DEBRIS GRATES, NO STRAW MULCH SHALL BE USED WITHIN THE EXCESS URBAN RUNOFF VOLUME OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKET SHALL BE INSTALLED FOR A WIDTH OF AT LEAST 6- FEET ON BOTH SIDES OF THE CONCRETE LOW FLOW CHANNELS OR UP TO A DEPTH OF 1-FOOT IN SOIL RIPRAP OR BENCHED LOW FLOW CHANNELS. ADDITIONALLY, HYDRAULICALLY-APPLIED WOOD FIBER MULCH, STABILIZED FIBER MATRIX, BONDED FIBER MATRIX, OR FLEXIBLE GROWTH MEDIUM SHALL BE USED IN ALL OTHER AREAS WITHIN THE EXCESS URBAN RUNOFF VOLUME OF THE DETENTION BASIN. THE BLANKET AND HYDRAULICALLY-APPLIED MULCH SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS FOR EROSION CONTROL BLANKETS AS REQUIRED BY THE TOWN'S CBMP PROGRAM, AND WHERE APPLICABLE, THE PRODUCT MANUFACTURER.
 - SEE TABULATION OF EROSION CONTROL QUANTITIES FOR CBMP LEGEND.

LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- GENERAL FLOW DIRECTION
- ← LIMITS OF CONSTRUCTION
- WETLANDS



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Sheet Revisions			
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As Constructed	BELFORD-HAPPY CANYON CREEK HAPPY CANYON CREEK DROP STRUCTURE FINAL CBMP PLAN		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: KLT	Sheets: EF-2 of 2	Sheet Number 94
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1. GRADING, DRILLING, CLEARING, EXCAVATING, BACK-FILLING, SOIL STRIPPING, SOIL IMPORTING EXPORTING OR ANY OTHER FORM OF SOIL DISTURBANCE SHALL NOT COMMENCE UNTIL A TOWN OF PARKER GRADING/EXCAVATION PERMIT HAS BEEN ISSUED.
2. THE TOWN OF PARKER GRADING/EXCAVATION PERMIT IS VALID FOR A PERIOD OF 2 YEARS FROM THE DATE OF ISSUANCE. ANY LAPSE IN PERMIT COVERAGE MAY RESULT IN THE ISSUANCE OF A STOP WORK ORDER AND/OR FINES.
3. ALL EROSION AND SEDIMENT CONTROL BMPs SHALL BE INSTALLED ACCORDING TO THE CBMP PLAN INSTALLATION NOTES AND DETAILS AND/OR PERMITTED VARIANCES. ALL MATERIALS, WORKMANSHIP AND INSTALLATION METHODS ARE SUBJECT TO INSPECTION BY THE TOWN'S INSPECTOR. THE TOWN OF PARKER RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS, WORKMANSHIP AND/OR INSTALLATION METHODS THAT DO NOT CONFORM TO THE CBMP PLAN AND/OR PERMITTED VARIANCES.
4. THE EROSION CONTROL SUPERVISOR SHALL REVISE OR MODIFY THE EROSION AND SEDIMENT CONTROL MEASURES IF IT BECOMES APPARENT THAT THE ORIGINAL PLAN IS INADEQUATE, OR AS A RESULT OF DEFICIENCIES IDENTIFIED DURING INSPECTIONS PERFORMED BY THE TOWN'S INSPECTOR.
5. THE INSTALLATION OF ADDITIONAL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) MAY BE REQUIRED OF THE EROSION CONTROL SUPERVISOR, PROPERTY OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS AT ANY TIME THROUGHOUT THE DURATION OF THE PROJECT CONSTRUCTION AND/OR SUBSEQUENT REVEGETATION PERIOD.
6. THE EROSION CONTROL SUPERVISOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE SITE REMAINS IN COMPLIANCE WITH THE NOTICE OF NUISANCE REPORTS (a.k.a, CONSTRUCTION SITE RUNOFF CONTROL INSPECTION REPORTS), APPROVED CBMP PLAN(S) AND THE TOWN OF PARKER STORM DRAINAGE AND ENVIRONMENTAL CRITERIA MANUAL.
7. THE EROSION CONTROL SUPERVISOR SHALL BE READILY AVAILABLE TO DISCUSS AND CORRECT ANY PROBLEMS THAT MAY ARISE RELATING TO GRADING, EROSION AND SEDIMENT CONTROL.
8. IF IT IS ANTICIPATED THAT ALL OR A PORTION OF THE PROJECT WILL OCCUR DURING SEASONS SUSCEPTIBLE TO SNOWFALL, THE USE OF CERTAIN EROSION AND SEDIMENT CONTROL BMPs ADJACENT TO PUBLIC ROADWAYS MAY NEED TO BE RECONSIDERED DUE TO THE NATURE OF SNOW REMOVAL OPERATIONS. AN APPROVED ALTERNATIVE MAY BE NECESSARY TO MINIMIZE DAMAGE FROM THESE OPERATIONS. THE TOWN OF PARKER ASSUMES NO RESPONSIBILITY FOR DAMAGE TO ANY BMPs AS A RESULT OF SNOW PLOWING AND SNOW REMOVAL.
9. AREAS OF LAND DISTURBANCE EQUAL TO 40 ACRES OR GREATER SHALL NOT BE EXPOSED FOR MORE THAN 30 CONSECUTIVE DAYS WITHOUT TEMPORARY OR PERMANENT STABILIZATION.
10. AUTHORIZED EXEMPTIONS MAY BE ALLOWED TO THE 40-ACRE LIMIT FOR REMOVAL AND STORAGE OF CUT MATERIAL WHERE (A) GEOTECHNICAL LIMITATIONS RESTRICT THE USE OF TEMPORARY OR PERMANENT STABILIZATION OF THE STORED MATERIAL (E.G., SWELLING SOILS, ROCK) AND (B) WHEN THE OWNER CAN DEMONSTRATE THAT THE 40-ACRE LIMIT IS PHYSICALLY AND/OR FINANCIALLY IMPRACTICABLE. FOR SITES GRANTED THIS EXEMPTION, A PHASING AND EARTHWORK QUANTITIES PLAN SHALL BE SUBMITTED TO THE PUBLIC WORKS DEPARTMENT AND APPROVED PRIOR TO THE COMMENCEMENT OF LAND DISTURBANCE ACTIVITIES. SUBMITTAL REQUIREMENTS INCLUDE:
 - (I) PHASING PLAN SHOWING CUT AND FILL VOLUMES AND LOCATIONS FOR EACH PHASE AND PROJECT TOTALS.
 - (II) EARTHWORK QUANTITY PLAN SHOWING CUT AND FILL VOLUMES AND LOCATIONS FOR EACH PHASE AND PROJECT TOTALS.
 - (III) BMP PLAN SHOWING SPECIFIC EROSION AND SEDIMENT CONTROLS FOR EACH PHASE.



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11. ANY EROSION AND SEDIMENT CONTROL BMPs THAT ARE DAMAGED OR IN NEED OF MAINTENANCE OR REPLACEMENT SHALL BE CORRECTED AS SOON AS POSSIBLE, IMMEDIATELY IN MOST CASES.
12. ALL DEFICIENCIES LISTED ON THE NOTICE OF NUISANCE FORM SHALL BE COMPLETED AS SOON AS POSSIBLE, IMMEDIATELY IN MOST CASES. ALL REQUIRED ACTIONS MUST BE IN THE CORRECTED FORM DURING THE FOLLOW-UP INSPECTION.
13. THE EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR ENSURING THAT ALL STREETS, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, PARKING LOTS, ALLEYS, TRICKLE CHANNELS, AND/OR OTHER IMPERVIOUS SURFACES IMPACTED BY CONSTRUCTION ACTIVITIES ARE THOROUGHLY CLEANED THROUGHOUT THE DAY IF THEY BECOME SOILED. THESE AREAS MUST ALSO BE THOROUGHLY CLEAN BEFORE THE END OF THE WORK DAY.
14. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS.
15. ALL TRASH RECEPTACLES ON SITE SHALL BE FREE OF HOLES, CRACKS, GAPS, AND/OR OTHER PERMEABLE AREAS THAT MAY ALLOW FOR THE DISCHARGE OF POLLUTANTS.
16. ALL TRASH RECEPTACLES ON SITE SHALL BE EMPTIED AT A FREQUENCY AS TO ENSURE THAT THE TRASH REMAINS CONFINED TO THE RECEPTACLE.
17. ALL LOOSE TRASH AND LITTER ASSOCIATED WITH THE PROJECT MUST BE REMOVED AND PROPERLY DISCARDED ON A DAILY BASIS.
18. ALL PORTABLE TOILETS SHALL BE STAKED DOWN AT ALL TIMES USING U-SHAPED REBAR STAKES. THE PORTABLE TOILETS SHALL ALSO BE PLACED A MINIMUM DISTANCE OF 10 FEET FROM ALL IMPERVIOUS SURFACES, INCLUDING, BUT NOT LIMITED TO STREETS CURBS, GUTTERS, SIDEWALKS AND PARKING LOTS.
19. THE EROSION CONTROL SUPERVISOR SHALL MAINTAIN STRICT ADHERENCE TO THE LIMITS OF CONSTRUCTION AND PROPERTY LIMITS FOR ALL MATERIALS, VEHICLES AND EQUIPMENT. FAILURE TO ABIDE BY THIS REQUIREMENT MAY RESULT IN THE ISSUANCE OF A STOP WORK ORDER.
20. ALL CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE THROUGH THE APPROVED ACCESS POINT(S). A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT ALL APPROVED ACCESS POINTS TO THE SITE. EXCEPTIONS MAY BE CONSIDERED FOR CONSTRUCTION ACTIVITY OCCURRING IMMEDIATELY ADJACENT TO PAVED AREAS AND WHERE ALTERNATIVE BMP'S ARE IMPLEMENTED. SUCH ACTIVITY MAY INCLUDE, BUT NOT BE LIMITED TO RESIDENTIAL CONSTRUCTION, UTILITY CONSTRUCTION, ETC.
21. NO PERMANENT SLOPES GREATER THAN 3:1 ARE ALLOWED.
22. ALL PERMANENT SLOPES STEEPER THAN 4:1 (HORIZONTAL TO VERTICAL) SHALL REQUIRE EROSION CONTROL BLANKET(S). TEMPORARY SLOPES IN TEMPORARY SEDIMENT BASINS THAT ARE STEEPER THAN 4:1 MAY REQUIRE EROSION CONTROL BLANKETS.
23. THE EROSION CONTROL SUPERVISOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ADVERSE IMPACTS THAT OCCUR TO NEIGHBORING PROPERTIES. THE EROSION CONTROL SUPERVISOR MUST OBTAIN PERMISSION FROM LAND OWNERS PRIOR TO ENTERING SUCH PROPERTY.
24. A WATER SOURCE SHALL BE AVAILABLE ONSITE DURING CONSTRUCTION ACTIVITIES, AND UTILIZED TO MINIMIZE FUGITIVE DUST. ALTERNATIVE BMPs MAY BE REQUIRED IF INITIAL ATTEMPTS TO SUPPRESS DUST ARE UNSUCCESSFUL.



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File Name: E115360-01DET01.dwg	(R-X)	Date	Comments		Initials	No Revisions:				
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	○					Subset: Erosion	Sheets: ED-1 of 35	Sheet Number	95	

25. ALL CHEMICAL OR HAZARDOUS MATERIAL SPILLS, INCLUDING CONCRETE WASHOUT WATER, WHICH MAY ENTER WATERS OF THE STATE OF COLORADO, WHICH INCLUDES BUT ARE NOT LIMITED TO, SURFACE WATER, GROUND WATER, DRY GULLIES OR STORM SEWERS LEADING TO SURFACE WATER, SHALL BE IMMEDIATELY REPORTED TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) PER 25-8-601, AND THE TOWN OF PARKER. RELEASES OF PETROLEUM PRODUCTS AND CERTAIN HAZARDOUS SUBSTANCES LISTED UNDER THE FEDERAL CLEAN WATER ACT (40 CFR PART 116) MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER AND THE CDPHE. SPILLS THAT POSE AN IMMEDIATE SAFETY HAZARD SHALL BE REPORTED TO 911.
26. THE CLEANING OF CONCRETE TRUCKS AND EQUIPMENT IS RESTRICTED TO THE APPROVED CONCRETE WASHOUT LOCATION ON THE JOB SITE. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO STATE WATERS OR STORM SEWER SYSTEMS.
27. VEHICLE AND EQUIPMENT DEGREASING IS PROHIBITED ON THE JOB SITE.
28. ALL DEWATERING ON SITE SHALL BE COORDINATED WITH THE TOWN'S INSPECTOR. A STATE PERMIT MAY BE REQUIRED FOR DEWATERING. THE EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR OBTAINING AND ADHERING TO ALL APPLICABLE PERMITS.
29. HYDRAULIC SEEDING AND/OR HYDRAULIC MULCHING ARE ONLY ALLOWED IN AREAS UNDER TEMPORARY OR PERMANENT IRRIGATION OR FOR THE PURPOSE OF TEMPORARY SOIL STABILIZATION.
30. APPLICABLE CONSTRUCTION BMPs SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL ALL LANDSCAPING HAS BEEN INSTALLED AND THE DESIRABLE VEGETATION HAS REACHED A POINT IN WHICH EROSION AND SEDIMENTATION IS NO LONGER A CONCERN AS DETERMINED BY THE TOWN'S INSPECTOR.
31. GRADING SECURITY RELEASE REQUIREMENTS:

1) DEVELOPABLE PROPERTY: IN ORDER FOR THE GRADING SECURITY TO BE RELEASED, THE SITE MUST MEET ITEMS A-H OR ITEM I (BELOW).

- A. ALL SOIL-DISTURBING ACTIVITIES ASSOCIATED WITH THE GRADING PERMIT HAVE PERMANENTLY CEASED.
- B. UNIFORM PERENNIAL VEGETATION COVER HAS BEEN ESTABLISHED WITH AN INDIVIDUAL PLANT DENSITY OF AT LEAST SEVENTY PERCENT (70%) OF PRE-DISTURBANCE LEVELS.
- C. ALL CBMPs HAVE BEEN PROPERLY REMOVED FROM THE SITE.
- D. IF ANY EROSION IS PRESENT, IT IS INSIGNIFICANT AND IS NOT LEAVING THE SITE AND/OR LEADING INTO ANY ON-SITE DRAINAGE INFRASTRUCTURE THAT MAY CONVEY SURFACE WATER OFF SITE.
- E. WEEDS REPRESENT NO MORE THAN FIFTY PERCENT (50%) OF THE TOTAL VEGETATION ON THE SITE.
- F. NO WEEDS ARE PRESENT FROM LIST A OF THE COLORADO NOXIOUS WEED LIST, AS AMENDED.
- G. THE SITE IS PREDOMINANTLY FREE OF WEEDS FROM LIST B OF THE COLORADO NOXIOUS WEED LIST, AS AMENDED.
- H. WEEDS ARE EVENLY DISTRIBUTED THROUGHOUT THE SITE WITH NO LARGE CONCENTRATIONS PRESENT.
- I. A NEW GRADING PERMIT AND REPLACEMENT SECURITY HAS BEEN SUBMITTED AND APPROVED

FOR THE APPLICABLE SITE OR ASSIGNMENT AS PROVIDED BY SECTION 11.10.150 OF THE TOWN OF PARKER MUNICIPAL CODE. IT IS THE PROPERTY OWNER'S OBLIGATION AT THE TIME OF CLOSING TO ENSURE THAT THE NEW SITE OWNER HAS PROVIDED THE TOWN WITH A REPLACEMENT SECURITY.



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- 2) NONDEVELOPABLE PROPERTY: IN ORDER FOR THE GRADING SECURITY TO BE RELEASED, THE SITE MUST MEET ITEMS A-H AND J, OR ITEMS I AND J (BELOW).
- A. ALL SOIL-DISTURBING ACTIVITIES ASSOCIATED WITH THE GRADING PERMIT HAVE PERMANENTLY CEASED.
- B. ALL CBMPs HAVE BEEN PROPERLY REMOVED FROM THE SITE.
- C. EROSION IS NEGLIGIBLE, IF EVEN PRESENT.
- D. THE VEGETATION REPRESENTS A PERENNIAL STAND OF A DENSE, UNIFORM SURFACE OF GRASS WITH NO AREA GREATER THAN ONE (1) SQUARE FOOT THAT IS BARREN OF DESIRABLE VEGETATION. INFREQUENT, WIDELY SCATTERED AREAS WHERE NATIVE VEGETATION HAS NOT YET TAKEN HOLD MAY QUALIFY FOR ACCEPTANCE AT THE DISCRETION OF THE TOWN.
- E. WEEDS REPRESENT NO MORE THAN TEN PERCENT (10%) OF THE TOTAL VEGETATION ON SITE.
- F. NO WEEDS ARE PRESENT FROM LIST A OF THE COLORADO NOXIOUS WEED LIST, AS AMENDED.
- G. THE SITE IS PREDOMINANTLY FREE OF WEEDS FROM LIST B OF THE COLORADO NOXIOUS WEED LIST, AS AMENDED.
- H. WEEDS ARE EVENLY DISTRIBUTED THROUGHOUT THE SITE WITH NO LARGE CONCENTRATIONS PRESENT.
- I. A NEW GRADING PERMIT AND REPLACEMENT SECURITY HAS BEEN SUBMITTED AND APPROVED FOR THE APPLICABLE SITE OR THE GRADING PERMIT HAS BEEN ASSIGNED AS PROVIDED BY SECTION 11.10.150 OF THE TOWN OF PARKER MUNICIPAL CODE. IT IS THE PROPERTY OWNER'S OBLIGATION, AT THE TIME OF CLOSING ON THE SALE OF A SITE THAT IS SUBJECT TO A GRADING PERMIT, TO ENSURE THAT THE NEW PROPERTY OWNER HAS PROVIDED THE TOWN WITH A REPLACEMENT SECURITY.
- J. ALL KNOWN DRAINAGE ISSUES ASSOCIATED WITH THE PROJECT HAVE BEEN MITIGATED AND A SUFFICIENT AMOUNT OF TIME HAS PASSED TO ENSURE THAT SUCH ISSUES HAVE BEEN CORRECTED. THIS REQUIREMENT DOES NOT INCLUDE THOSE DRAINAGE ISSUES ORIGINATING ON RESIDENTIAL LOTS.

(D) NOXIOUS WEEDS MUST BE CONTROLLED AS PROVIDED UNDER STATE LAW AND SECTION 6.01.260 OF THE TOWN OF PARKER MUNICIPAL CODE. FAILURE TO CONTROL NOXIOUS WEEDS ON THE SITE MAY CONSTITUTE A NUISANCE, SUBJECT TO THE PENALTIES CONTAINED IN THE CODE.

DEFINITIONS:

DEVELOPABLE PROPERTY MEANS ANY LAND THAT HAS BEEN GRADED AND IS PART OF A PLATTED LOT OR PLATTED TRACT OF RECORD, THAT WAS PLATTED FOR FUTURE DEVELOPMENT, INCLUDING RESIDENTIAL HOME CONSTRUCTION OR PUBLIC IMPROVEMENTS.

NONDEVELOPABLE PROPERTY MEANS LAND THAT HAS BEEN GRADED AND WILL NOT BE FURTHER DISTURBED AS PART OF ANY FUTURE DEVELOPMENT. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO: PARKS, OPEN SPACE, HOMEOWNER ASSOCIATION OR BUSINESS ASSOCIATION PLATTED TRACTS, DETENTION PONDS AND DRAINAGEWAYS.

32. FAILURE TO COMPLY WITH ANY OF THE REQUIREMENTS DESCRIBED IN THIS SECTION MAY RESULT IN THE ISSUANCE OF: A NOTICE OF INTENT TO ISSUE A STOP WORK ORDER, A STOP WORK ORDER AND/OR THE REMEDIES/PENALTIES DESCRIBED IN CHAPTER 11.10 OF THE TOWN OF PARKER MUNICIPAL CODE.
33. ANY PERSON CONVICTED OF VIOLATING ANY PROVISION OF THE TOWN OF PARKER, GRADING & EARTH MOVEMENT SECTION OF THE MUNICIPAL CODE SHALL BE GUILTY OF A MISDEMEANOR AND, UPON CONVICTION, BE PUNISHED BY A FINE OF NOT MORE THAN FOUR HUNDRED NINETY NINE DOLLARS (\$499.00) FOR EACH SEPARATE OFFENSE. EACH DAY A VIOLATION CONTINUES SHALL CONSTITUTE A SEPARATE OFFENSE. THE TOWN ALSO MAY SEEK IN MUNICIPAL COURT AN INJUNCTION, ABATEMENT, RESTITUTION OR ANY OTHER REMEDY TO PREVENT, ENJOIN, ABATE OR REMOVE THE VIOLATION. A PERSON CONVICTED OF VIOLATING CHAPTER 11.10 OF THE TOWN OF PARKER MUNICIPAL CODE SHALL BE LIABLE FOR THE ACTUAL COST OF REHABILITATING THE PROPERTY. THE COSTS MAY BE RECOVERED AS RESTITUTION IN MUNICIPAL COURT PROCEEDINGS OR IN A SEPARATE CIVIL ACTION.
34. THE TOWN OF PARKER RESERVES THE RIGHT TO ALLOW MODIFICATIONS AND SUBSTITUTIONS TO THE CBMP NOTES AND DETAILS WHEN SUCH MODIFICATIONS AND SUBSTITUTIONS OFFER THE SAME LEVEL OF PROTECTION AS THE STANDARD REQUIREMENTS BASED UPON THE SPECIFIC SITUATION, AS DETERMINED BY TOWN STAFF. DUE TO THE INSIGNIFICANCE AND REGULARITY OF SUCH MODIFICATIONS AND SUBSTITUTIONS, THE APPROVAL OF SUCH VARIATIONS MAY NOT BE DOCUMENTED BY TOWN STAFF.



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Sheet Revisions			
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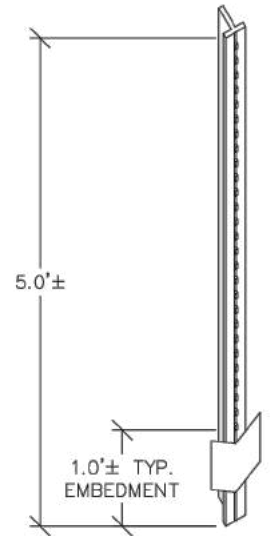


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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

As Constructed	BELFORD-HAPPY CANYON CREEK CBMP STANDARD NOTES AND DETAILS		Project No./Code
No Revisions:	Designer: CDT	Structure Numbers	
Revised:	Detailer: KLT		
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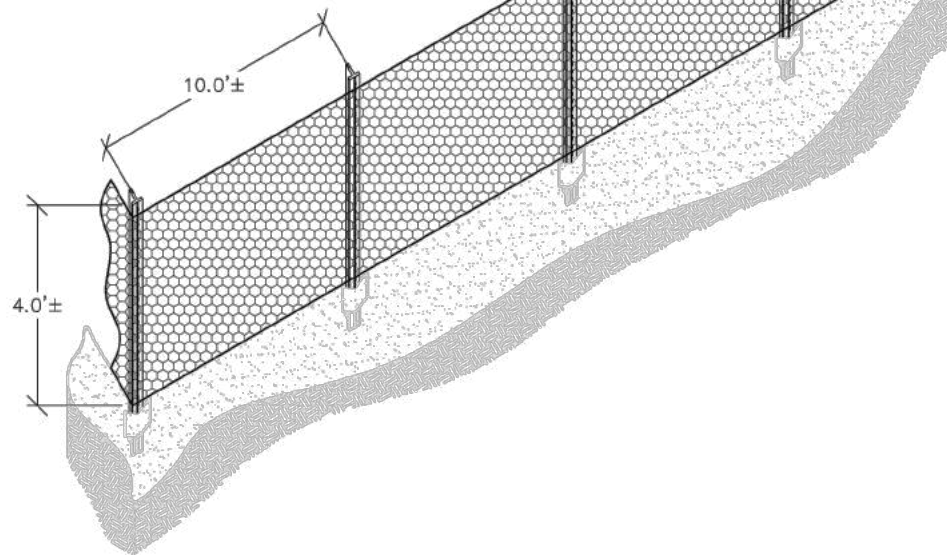
NOTE:
CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO EACH TEE POST OR APPROVED EQUAL.

STUDDED STEEL TEE POST OR APPROVED EQUAL

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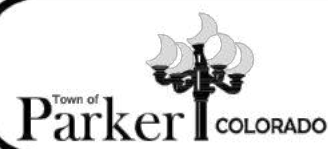
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CONSTRUCTION FENCE INSTALLATION NOTES

1. THE CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO EACH POST OR APPROVED EQUAL.

CONSTRUCTION FENCE INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE CONSTRUCTION FENCE AND MAKE ANY NECESSARY REPAIRS.
2. CONSTRUCTION FENCE SHALL BE REPAIRED WHEN THE FENCING MATERIAL FALLS OUT OF COMPLIANCE WITH THE NOTES AND DETAILS.



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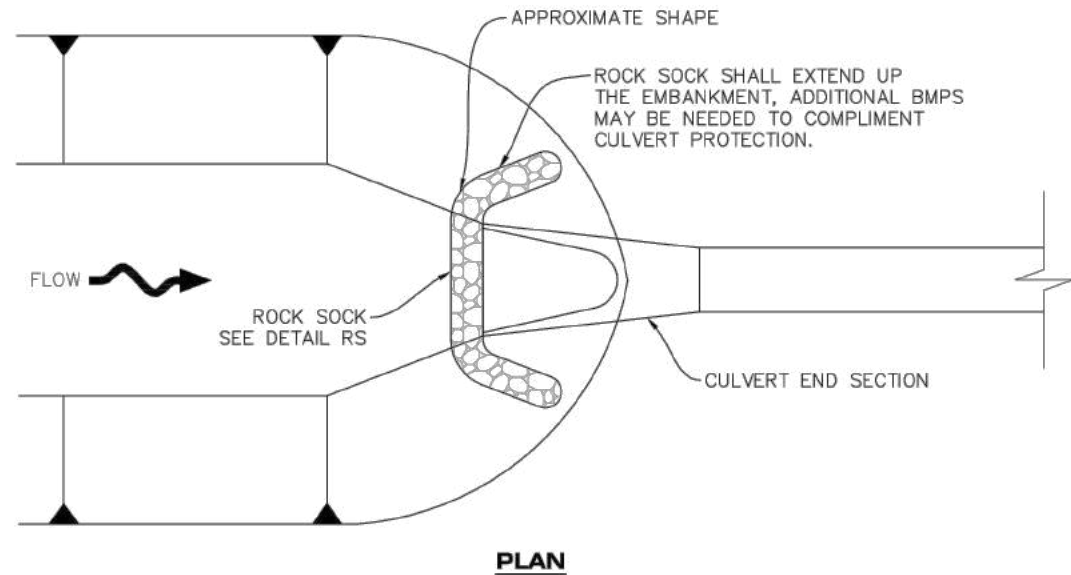
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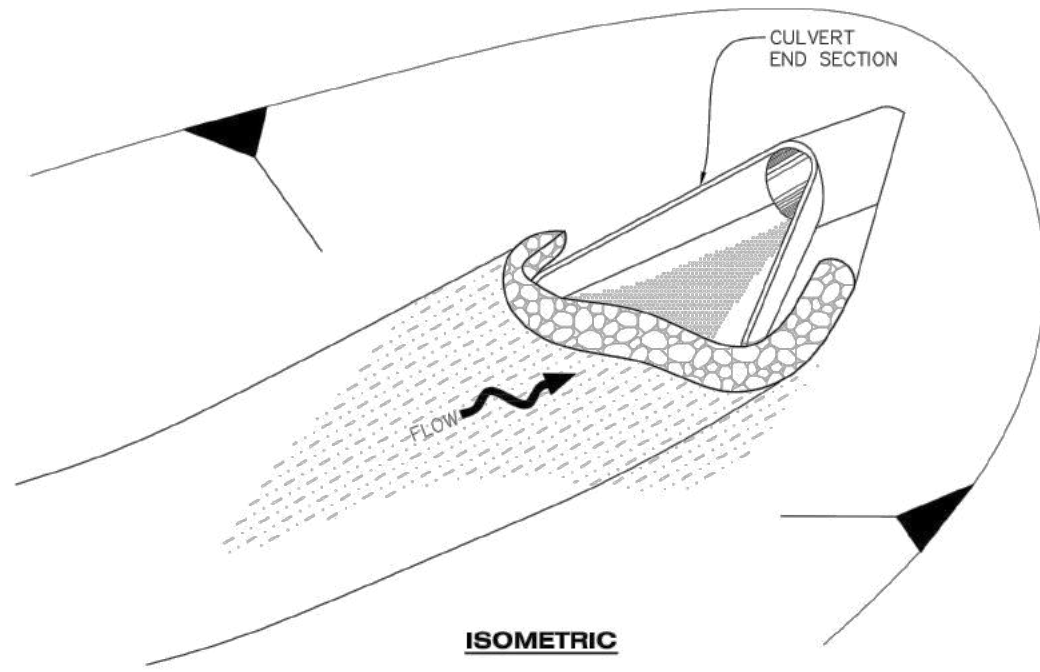


As Constructed	BELFORD-HAPPY CANYON CREEK CBMP STANDARD NOTES AND DETAILS		Project No./Code
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CULVERT PROTECTION (INLET)



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CULVERT PROTECTION (INLET) INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION(S) OF CULVERT PROTECTION (INLET).
2. ROCK SOCK SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL (SEE DETAIL RS).
3. ROCK SOCK SHALL BE APPROXIMATELY 12" IN DIAMETER.
4. ROCK SOCK SHALL EXTEND ABOVE THE FLOW LINE ELEVATION ON BOTH SIDES OF THE CULVERT END SECTION.

CULVERT PROTECTION (INLET) INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE CULVERT PROTECTION (INLET).
2. AT A MINIMUM, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE SEDIMENT HAS REACHED A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE ROCK SOCK.
3. CULVERT PROTECTION (INLET) IS TO REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
4. WHEN THE CULVERT INLET PROTECTION IS REMOVED, THE TOWN'S INSPECTOR MAY REQUIRE ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE CULVERT INLET PROTECTION TO BE ROUGHENED, SEED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).



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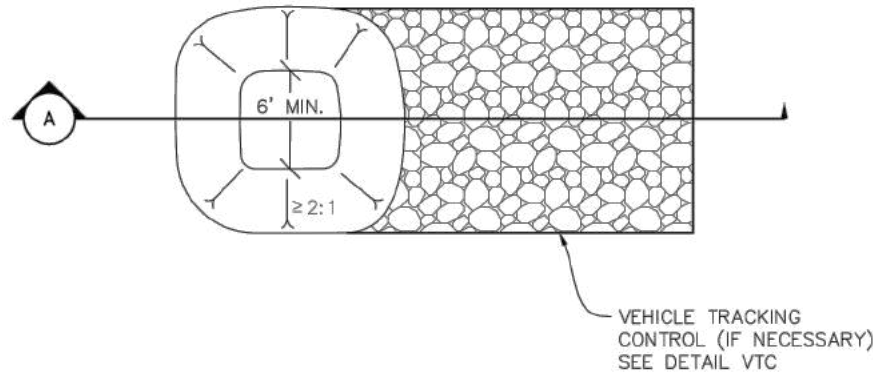
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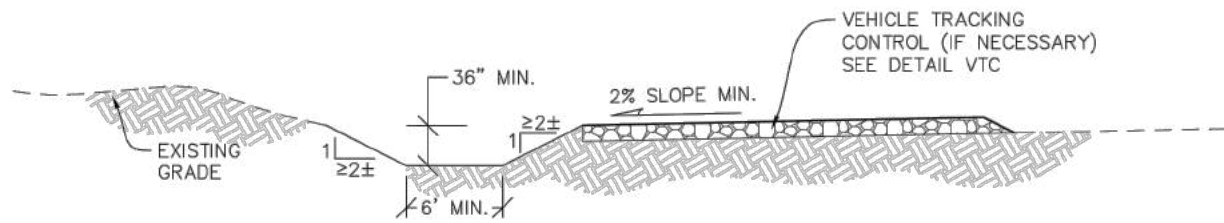
As Constructed	BELFORD-HAPPY CANYON CREEK CBMP STANDARD NOTES AND DETAILS		Project No./Code
No Revisions:			
Revised:	Designer: CDT	Structure Numbers	
	Detailer: KLT		
Void:	Subset: Erosion	Sheets: ED-4 of 35	Sheet Number 98

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF THE TOWN OF PARKER.

NOTE:
A VTC PAD IS NOT NECESSARY IF THERE IS ANOTHER VTC PAD IN BETWEEN THE CWA AND ROADWAY, PARKING LOT, DRIVE AISLES, ETC.



PLAN VIEW



SECTION A



NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF THE TOWN OF PARKER.

CONCRETE WASHOUT AREA INSTALLATION NOTES

1. CONCRETE WASHOUT AREAS SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT THE ACCESS POINT TO ALL CONCRETE WASHOUT AREAS WHEN NO OTHER VTC PAD EXISTS IN BETWEEN THE CWA AND THE ROADWAY.
3. IF GROUNDWATER IS ENCOUNTERED WHEN DIGGING THE PIT, A NEW LOCATION SHOULD BE SELECTED. IF NO OTHER LOCATION CAN BE FOUND, A ONE-PIECE IMPERVIOUS LINER SHALL BE REQUIRED ALONG THE BOTTOM AND SIDES OF THE SUBSURFACE PIT.

CONCRETE WASHOUT AREA INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE CONCRETE WASHOUT AREA.
2. CONCRETE WASHOUT MATERIALS SHALL BE REMOVED BEFORE ITS CAPACITY HAS BEEN REACHED.
3. CONCRETE WASHOUT AREAS SHALL BE ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE AND ASSOCIATED WASH WATER.
4. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE AS NECESSARY TO ENSURE ADEQUATE CAPACITY.
5. CONCRETE WASHOUT AREAS SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
6. WHEN CONCRETE WASHOUT AREAS ARE REMOVED, THE TOWN'S INSPECTOR MAY REQUIRE EXCAVATIONS TO BE FILLED WITH SUITABLE COMPACTED BACKFILL AND TOPSOIL, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE CONCRETE WASHOUT AREAS SHALL BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).

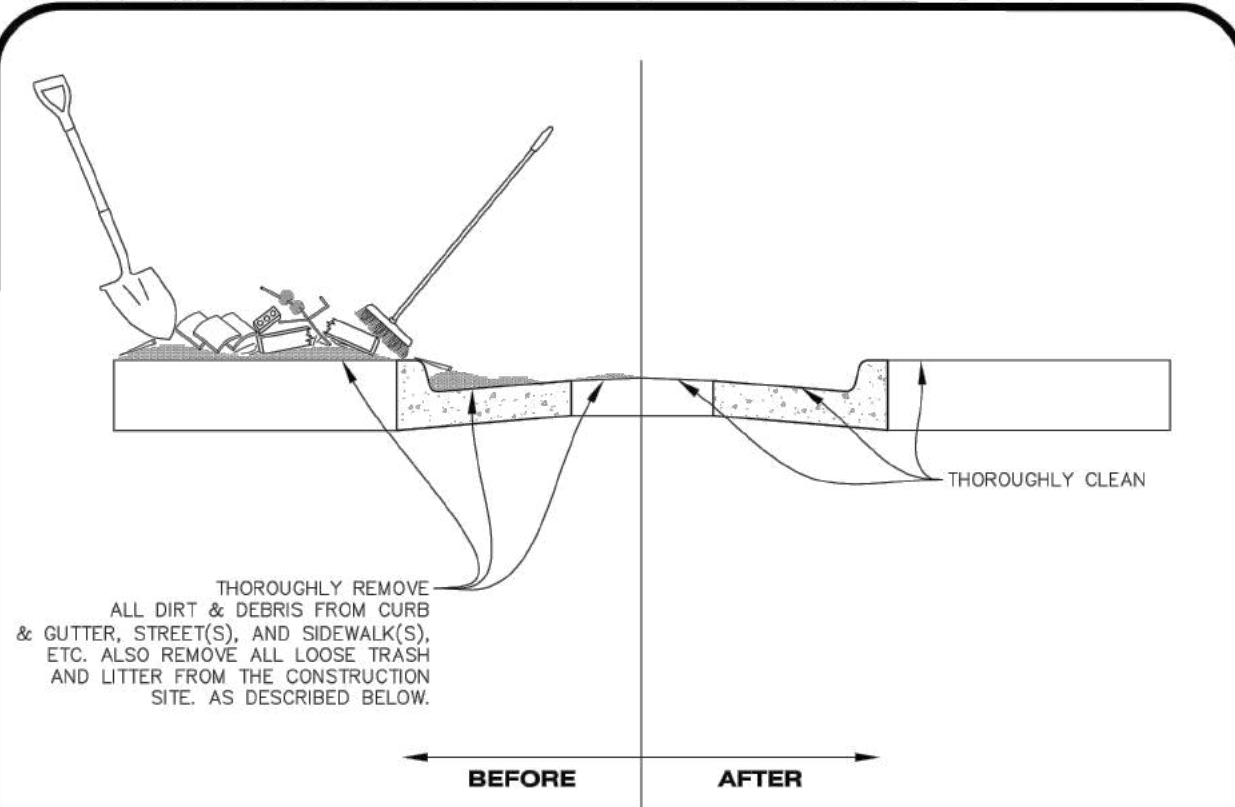
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 **CBMP** CONSTRUCTION BEST MANAGEMENT PRACTICES **CWA** 1 OF 2 Oct. 2013

 **CBMP** CONSTRUCTION BEST MANAGEMENT PRACTICES **CWA** 2 OF 2 Oct. 2013

Print Date: 3/14/2021 1:54:56 PM	<table border="1"> <thead> <tr> <th colspan="3">Sheet Revisions</th> </tr> <tr> <th>Date</th> <th>Comments</th> <th>Initials</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Sheet Revisions			Date	Comments	Initials										 <p>8008 E. Arapahoe Court, Suite 110, Denver, CO 80112 ph:303.708.0000 fax:303.708.0400 manhard.com Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers Construction Managers • Environmental Scientists • Landscape Architects • Planners</p>	As Constructed	BELFORD-HAPPY CANYON CREEK CBMP STANDARD NOTES AND DETAILS	Project No./Code
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NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF THE TOWN OF PARKER.



NOTE:

1. THE EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR ENSURING THAT ALL STREETS, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, PARKING LOTS, ALLEYS, TRICKLE CHANNELS, AND/OR OTHER IMPERVIOUS SURFACES IMPACTED BY CONSTRUCTION ACTIVITIES ARE THOROUGHLY CLEANED THROUGHOUT THE DAY IF THEY BECOME SOILED. THESE AREAS MUST ALSO BE THOROUGHLY CLEAN BEFORE THE END OF THE WORK DAY. FURTHERMORE, ALL LOOSE TRASH AND LITTER ASSOCIATED WITH THE PROJECT MUST BE REMOVED AND PROPERLY DISCARDED ON A DAILY BASIS.



DTC

DEBRIS AND TRASH CONTROL

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF THE TOWN OF PARKER.

DEBRIS CONTROL NOTES:

1. A COMBINATION OF SURFACE SCRAPING AND SWEEPING MAY BE NECESSARY TO PROPERLY CLEAN THESE AREAS.
2. ALL CHEMICAL SPILLS AND/OR STAINS ON THE SITE SHALL BE CLEANED TO THE MAXIMUM EXTENT PRACTICABLE. IN SOME CASES IT MAY BE NECESSARY TO USE PRESSURIZED WATER AND A VAC-TRUCK.
3. ON-SITE PERSONNEL, DELIVERY DRIVERS, ETC., SHOULD BE EDUCATED ON THE NEED FOR CONTINUAL DEBRIS AND TRASH CONTROL.



CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

DTC

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CBMP

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DTC

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Oct. 2013

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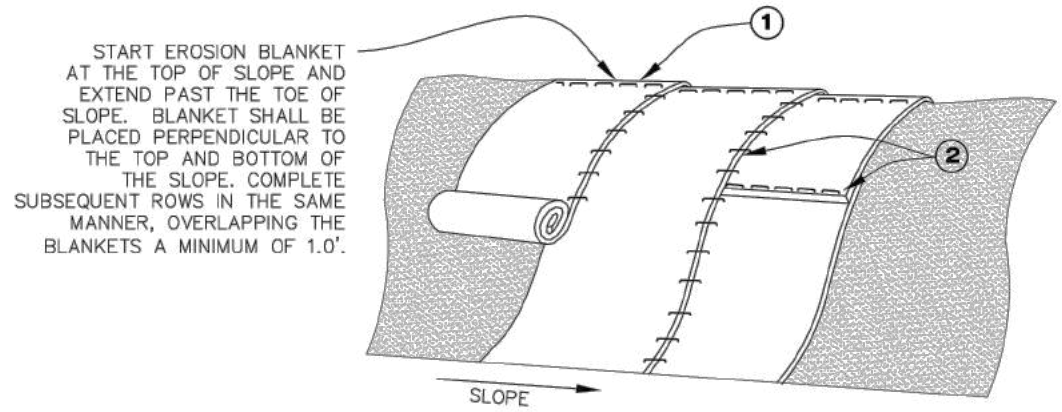
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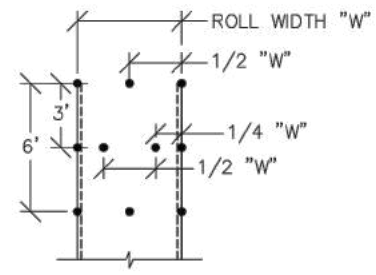
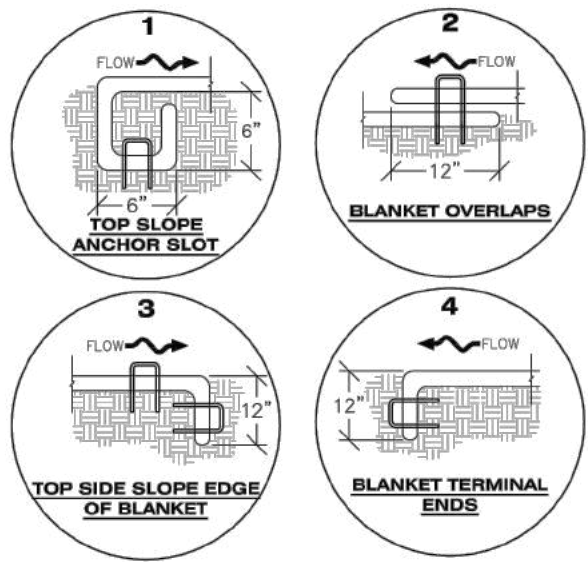


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START EROSION BLANKET AT THE TOP OF SLOPE AND EXTEND PAST THE TOE OF SLOPE. BLANKET SHALL BE PLACED PERPENDICULAR TO THE TOP AND BOTTOM OF THE SLOPE. COMPLETE SUBSEQUENT ROWS IN THE SAME MANNER, OVERLAPPING THE BLANKETS A MINIMUM OF 1.0'.

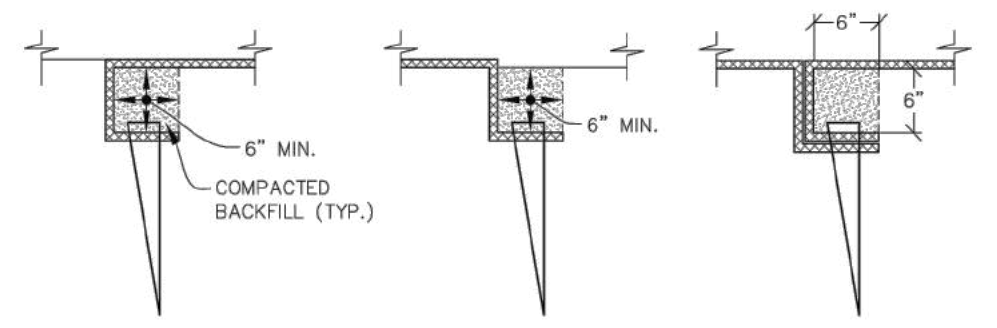


STAPLE PATTERN
 NOTE: STAPLES SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATION. IF MANUFACTURER INFO IS NOT AVAILABLE THEN ABOVE STAPLE PATTERN SHALL BE USED. WOODEN STAKES SHALL NOT BE USED FOR EROSION CONTROL BLANKET ON SLOPES.

NOTE:
 WHEN NECESSARY, ALL SEEDING SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF EROSION CONTROL BLANKETS. PLEASE SEE DETAIL SMC FOR SEEDING, MULCHING, AND CRIMPING REQUIREMENTS.

ECB
EROSION CONTROL BLANKET (SLOPE)

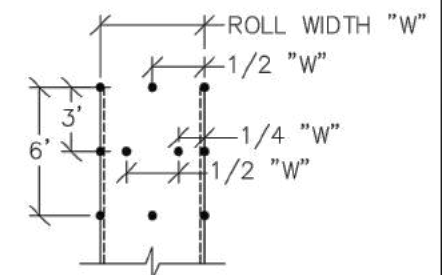
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TOE OF SLOPE ANCHOR TRENCH **TOP OF SLOPE ANCHOR TRENCH** **JOINT ANCHOR TRENCH**
 USED TO JOIN BLANKETS TOGETHER (LONGITUDINAL)



WOOD STAKE DETAIL
 ALTERNATIVE WOOD STAKE PRODUCTS MAY BE USED WITH APPROVAL FROM THE TOWN.



STAKING PATTERN
 NOTE: STAKES SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATION. IF MANUFACTURER INFO IS NOT AVAILABLE THEN ABOVE STAKING PATTERN SHALL BE USED. STAPLES SHALL NOT BE USED FOR EROSION CONTROL BLANKET IN CHANNELS.

NOTES:
 1. WOOD STAKES SHALL BE INSTALLED SUCH THAT ONLY 1" IS EXPOSED ABOVE THE GROUND.
 2. WHEN NECESSARY, ALL SEEDING SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF EROSION CONTROL BLANKETS. PLEASE SEE DETAIL SMC FOR SEEDING, MULCHING, AND CRIMPING REQUIREMENTS.

ECB
EROSION CONTROL BLANKET (CHANNEL)

Parker COLORADO **CBMP** **CONSTRUCTION BEST MANAGEMENT PRACTICES** **ECB**
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Parker COLORADO **CBMP** **CONSTRUCTION BEST MANAGEMENT PRACTICES** **ECB**
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 Oct. 2013

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<p>FELSBURG HOLT & ULLEVIG 6400 South Fiddlers Green Circle, Suite 1500 Greenwood Village, CO 80111 Phone: 303.721.1440 www.FHUENG.com</p>	<table border="1"> <tr> <td>(R-X)</td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	(R-X)									<table border="1"> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>							Designer: CDT Structure Detailer: KLT Numbers	Sheet Number 101
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			Subset: Erosion Sheets: ED-7 of 35																

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE THE PLAN VIEW FOR THE LOCATION(S) OF THE EROSION CONTROL BLANKETS.
2. EROSION CONTROL BLANKETS USED FOR CHANNEL PROTECTION SHALL BE PROPERLY SELECTED BY THE DESIGN ENGINEER BASED ON CURRENT AND FUTURE FLOW RATES WITHIN THE CHANNEL. BASED ON THESE CALCULATIONS, TURF REINFORCEMENT MATTING OR RIPRAP MAY BE NECESSARY IN LIEU OF EROSION CONTROL BLANKETS.
3. IMMEDIATELY PRIOR TO BLANKET INSTALLATION, SOIL SURFACE SHALL BE SMOOTH. AND FREE OF ANY GAPS, VOIDS, WEEDS, ROCKS, STICKS, OR OTHER MISCELLANEOUS DEBRIS.
4. EROSION CONTROL BLANKET SHALL THEN BE INSTALLED ACCORDING TO THE DETAILED DRAWINGS.
5. ANY DAMAGED OR REMAINING STAPLES OR STAKES SHALL BE REMOVED FROM THE SITE.
6. ALL EROSION CONTROL BLANKETS FOR SLOPE PROTECTION INSTALLED IN THE TOWN SHALL BE DOUBLE NET, STRAW OR EXCELSIOR.

MANUFACTURER	PRODUCT NAME
NORTH AMERICAN GREEN	S150
APPROVED EQUAL	APPROVED EQUAL

7. IN MOST CASES, EROSION CONTROL BLANKETS FOR SLOPE PROTECTION ARE TO REMAIN IN PLACE PERMANENTLY.

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE EROSION CONTROL BLANKETS AND MAKE ANY NECESSARY REPAIRS.

 Parker COLORADO	CBMP CONSTRUCTION BEST MANAGEMENT PRACTICES	ECB 3 OF 3 Oct. 2013
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AREA INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION(S) OF AREA INLET PROTECTION.
2. THE AREA INLET PROTECTION SHOWN ON CBMP PLANS SHALL BE INSTALLED ON EXISTING INLETS PRIOR TO ANY LAND DISTURBING ACTIVITIES OR IMMEDIATELY AFTER THE INSTALLATION OF NEW INLETS. AN INTERIM STYLE OF INLET PROTECTION MAY BE ALLOWED UNTIL THE INSTALLATION OF THE GUTTER AND/OR PAVEMENT.

AREA INLET PROTECTION INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE AREA INLET PROTECTION.
2. AREA INLET PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
3. WHEN THE AREA INLET PROTECTION IS REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE AREA INLET PROTECTION MAY NEED TO BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).
4. ACCUMULATED SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE, IMMEDIATELY IN MOST CASES.

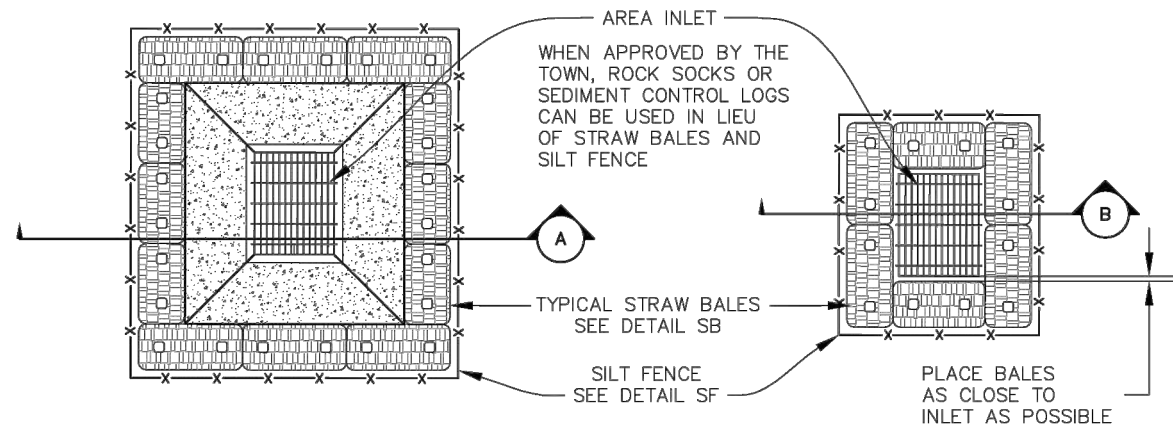
 Parker COLORADO	CBMP CONSTRUCTION BEST MANAGEMENT PRACTICES	IPA 1 OF 1 Oct. 2013
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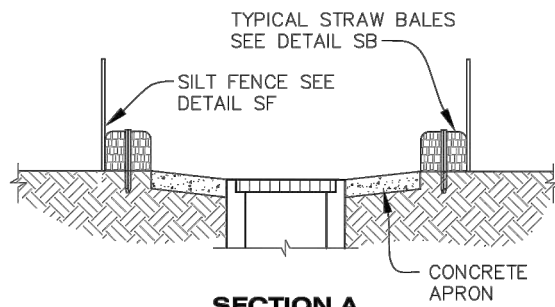
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THIS METHOD OF INLET PROTECTION SHALL NOT BE USED ON INLETS RECEIVING SIGNIFICANT FLOWS, SUCH AS IN CERTAIN SWALES/CHANNELS OR HIGHWAY MEDIANS. INLET PROTECTION FOR AREA INLETS IN PAVEMENT (SEE DETAIL IPAP) SHALL BE USED IN THESE CONDITIONS.

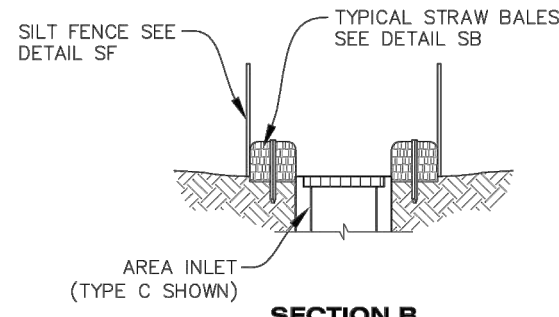


**AREA INLET WITH CONCRETE APRON
PLAN VIEW**

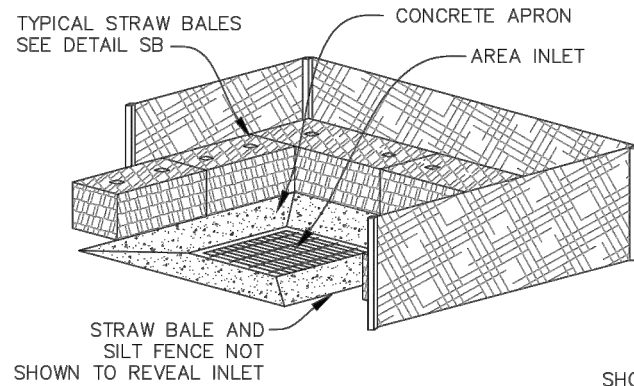
**AREA INLET
PLAN VIEW**



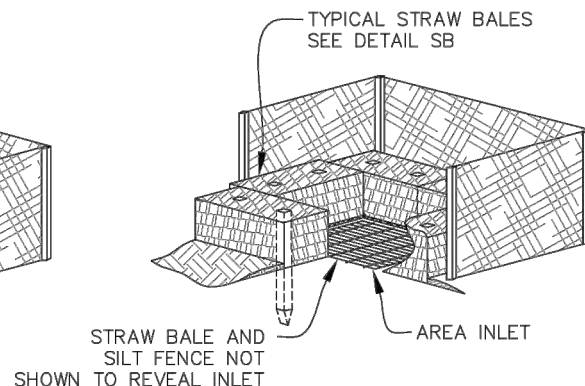
SECTION A



SECTION B



ISOMETRIC



ISOMETRIC



IPAN

INLET PROTECTION FOR AREA INLETS NOT IN PAVEMENT

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF THE TOWN OF PARKER.

AREA INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION(S) OF AREA INLET PROTECTION.
2. THE AREA INLET PROTECTION SHOWN ON CBMP PLANS SHALL BE INSTALLED ON EXISTING INLETS PRIOR TO ANY LAND DISTURBING ACTIVITIES OR IMMEDIATELY AFTER THE INSTALLATION OF NEW INLETS. AN INTERIM STYLE OF INLET PROTECTION MAY BE ALLOWED UNTIL THE INSTALLATION OF THE GUTTER AND/OR PAVEMENT.

AREA INLET PROTECTION INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE AREA INLET PROTECTION.
2. AREA INLET PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
3. WHEN THE AREA INLET PROTECTION IS REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE AREA INLET PROTECTION MAY NEED TO BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).
4. ACCUMULATED SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE, IMMEDIATELY IN MOST CASES.

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CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

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CBMP

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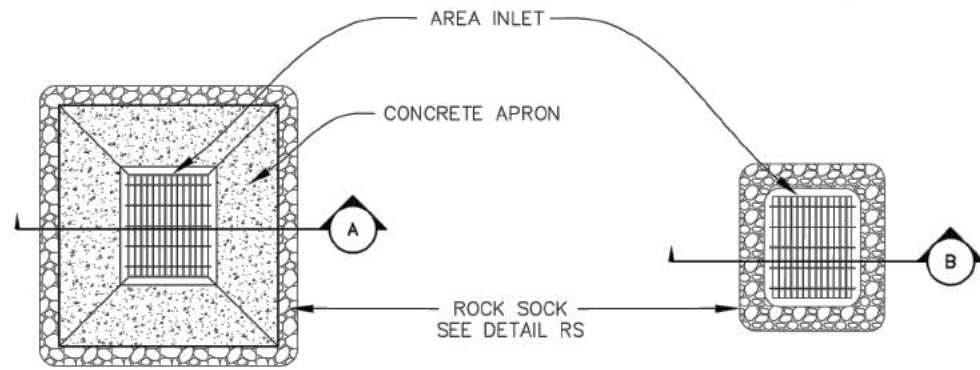
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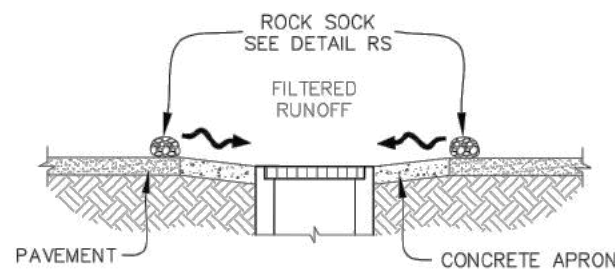
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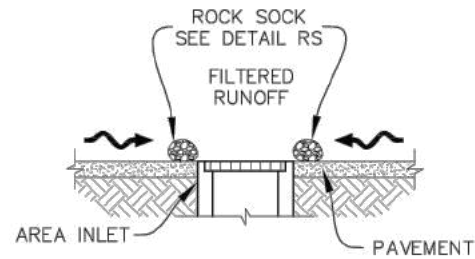


**AREA INLET WITH CONCRETE APRON
PLAN VIEW**

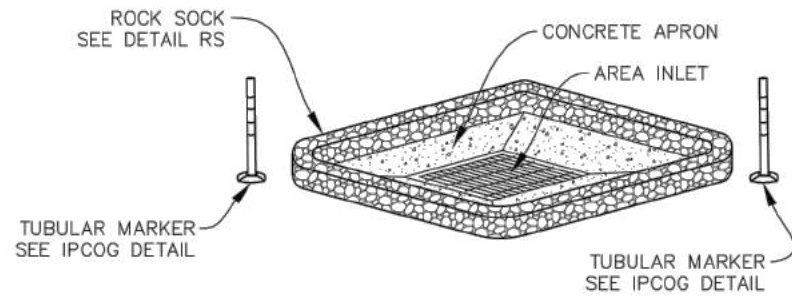
**AREA INLET
PLAN VIEW**



SECTION A



SECTION B



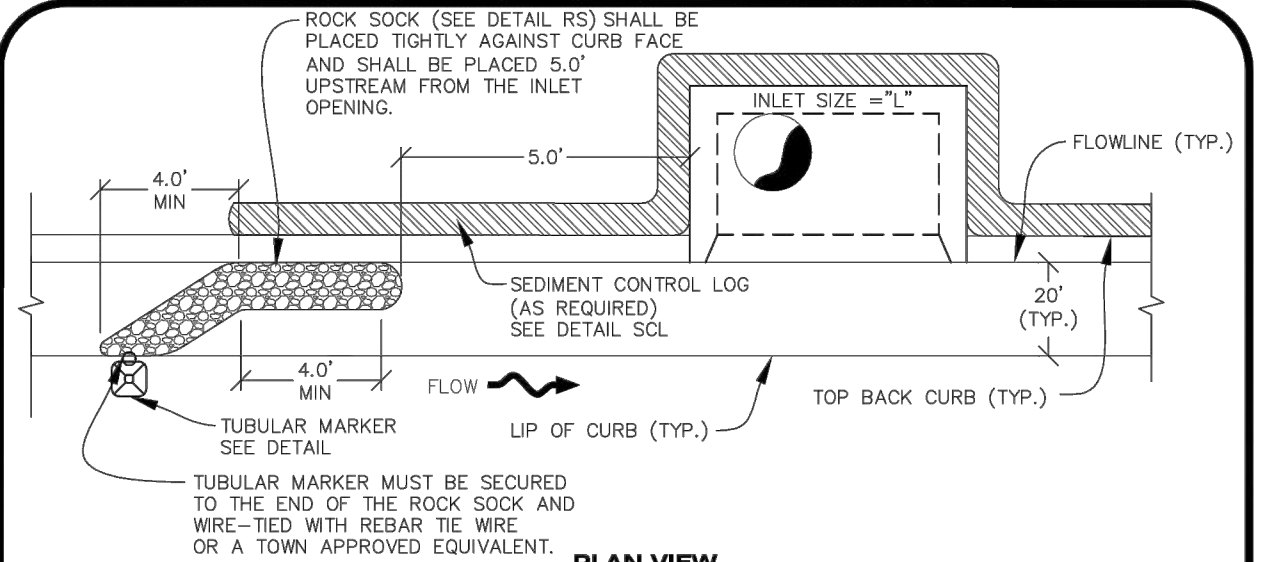
ISOMETRIC



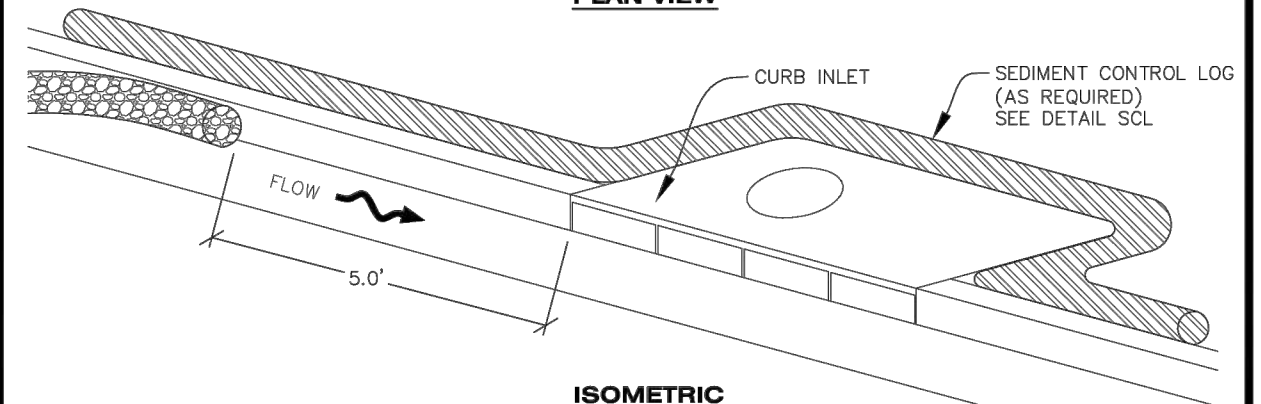
IPAP

INLET PROTECTION FOR AREA INLETS IN PAVEMENT

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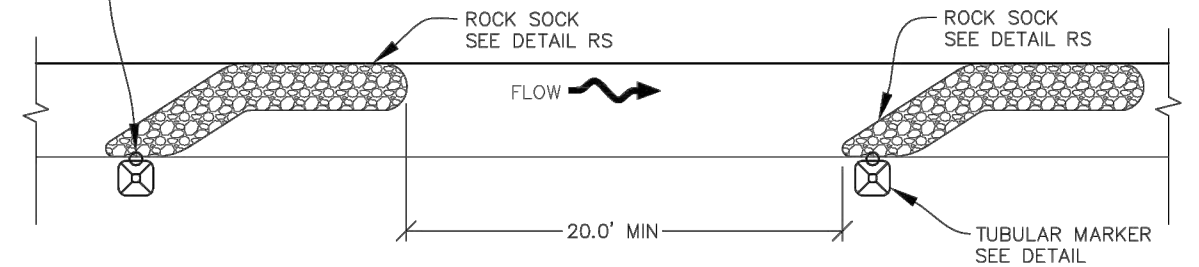


PLAN VIEW



ISOMETRIC

TUBULAR MARKER MUST BE SECURED TO THE END OF THE ROCK SOCK AND WIRE-TIED WITH REBAR TIE WIRE OR A TOWN APPROVED EQUIVALENT.



PLAN VIEW FOR MULTIPLE ROCK SOCKS



IPCOG

INLET PROTECTION, CURB ON-GRADE, TYPE R INLET



CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

IPAP

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CBMP

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IPCOG

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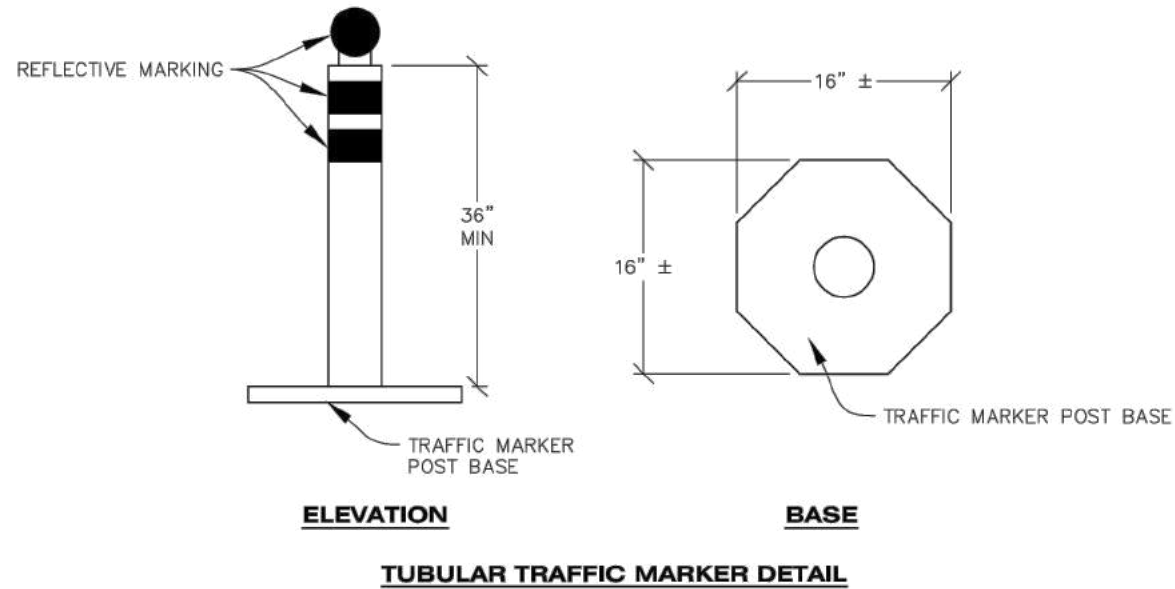
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INLET PROTECTION, CURB ON-GRADE INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF ON-GRADE INLET PROTECTION.
2. CRUSHED ROCK SHALL BE 2.0"–3.0" IN SIZE WITH A FRACTURED FACE (ALL SIDES).
3. ROCK SOCK FOR ON-GRADE INLET PROTECTION SHALL BE ONE CONTINUOUS PIECE.
4. ROCK SOCK SHALL BE CONSTRUCTED USING CHICKEN WIRE OR OTHER APPROVED MATERIAL, SIZED TO KEEP ROCK FROM SPILLING OUT.
5. ROCK SOCK SHALL BE PLACED 5.0' UPHILL OF THE INLET OPENING.
6. TUBULAR MARKER SHALL BE A MINIMUM OF 3.0' HIGH WITH REFLECTIVE BANDS AND OCTAGON SHAPED BASES.
7. THE CURB INLET PROTECTION SHOWN ON CBMP PLAN SHALL BE INSTALLED ON EXISTING INLETS PRIOR TO ANY LAND DISTURBING ACTIVITIES OR IMMEDIATELY AFTER THE APPLICABLE INSTALLATION OF THE FIRST LIFT OF ASPHALT ON ROADWAYS DRAINING TO THE INLET.


ON-GRADE INLET PROTECTION INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE ON-GRADE INLET PROTECTION.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE, IMMEDIATELY IN MOST CASES.
3. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED.
4. ON-GRADE INLET PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.


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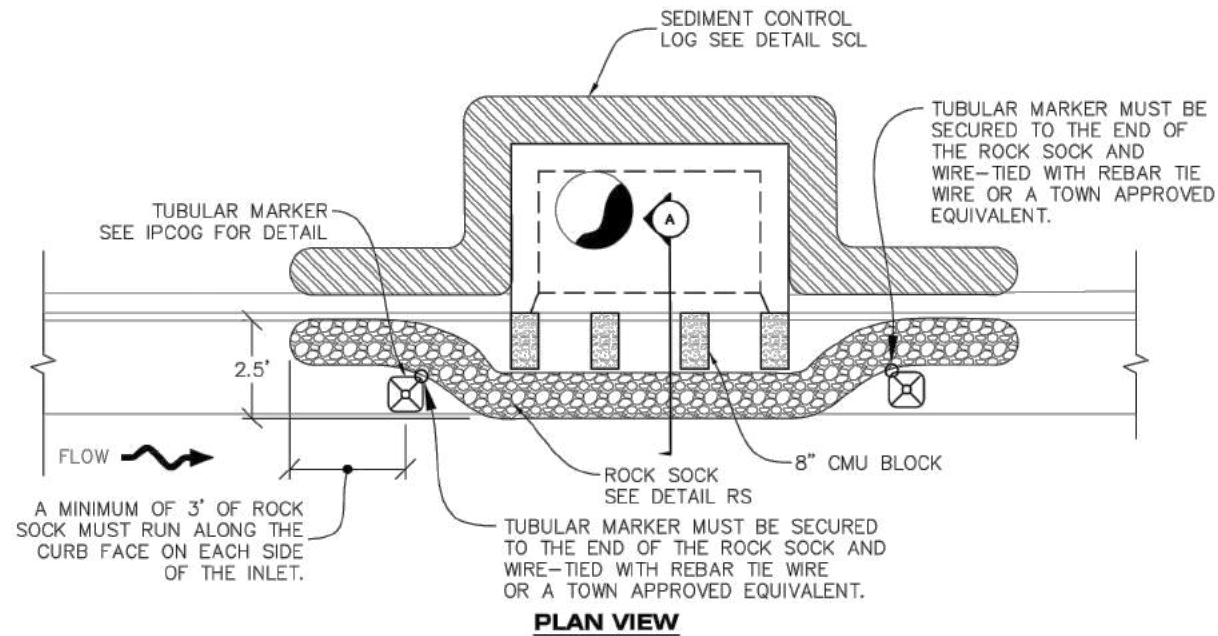
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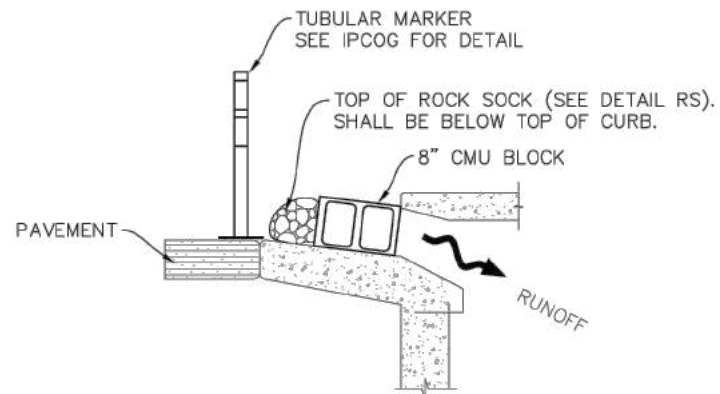

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PLAN VIEW



SECTION A

IPCOS INLET PROTECTION, CURB ON SUMP, TYPE R INLET

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CURB INLET PROTECTION INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF CURB INLET PROTECTION.
2. CRUSHED ROCK SHALL BE 2.0"–3.0" IN SIZE WITH A FRACTURED FACE (ALL SIDES).
3. ROCK SOCK SHALL BE ONE CONTINUOUS PIECE OR SHALL BE CONSTRUCTED USING WIRE WRAPPED JOINTS (SEE DETAIL RS).
4. ROCK SOCK SHALL BE CONSTRUCTED USING CHICKEN WIRE OR OTHER APPROVED MATERIAL SIZED TO KEEP ROCK FROM SPILLING OUT.
5. ROCK SOCK SHALL EXTEND 3.0' ALONG THE CURB BEYOND LOCATIONS WHERE IT RETURNS TO CONTACT CURB FACE.
6. TUBULAR TRAFFIC MARKERS SHALL BE A MINIMUM OF 36" IN HEIGHT WITH REFLECTIVE BANDS AND OCTAGON SHAPED BASES.
7. THE CURB INLET PROTECTION SHOWN ON CBMP PLAN SHALL BE INSTALLED ON EXISTING INLETS PRIOR TO ANY LAND DISTURBING ACTIVITIES OR IMMEDIATELY AFTER THE INSTALLATION OF THE FIRST LIFT OF ASPHALT ON ROADWAYS DRAINING TO THE CURB INLET. CMU BLOCKS OR THE ROCK SOCK SHALL BE USED AS INTERIM PROTECTION UNTIL THE FIRST LIFT OF ASPHALT IS INSTALLED.

CURB INLET PROTECTION INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE CURB INLET PROTECTION.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE, IMMEDIATELY IN MOST CASES.
3. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED.
4. CURB INLET PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.



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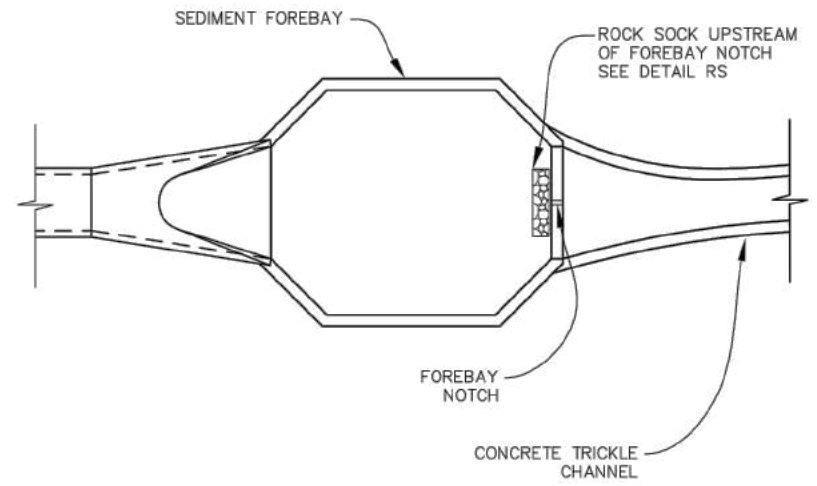
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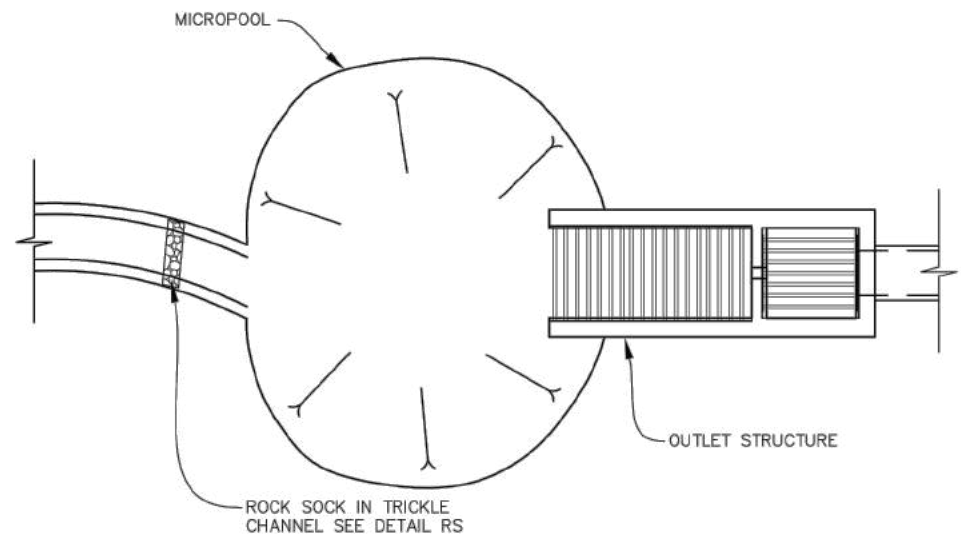
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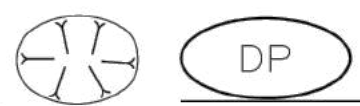
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FOREBAY



OUTLET / MICROPOL



DETENTION POND PROTECTION


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 CONSTRUCTION BEST MANAGEMENT PRACTICES

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 Oct. 2013

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DETENTION POND PROTECTION INSTALLATION NOTES

1. DETENTION POND PROTECTION SHALL BE INSTALLED IMMEDIATELY FOLLOWING THE CONSTRUCTION OF THE TRICKLE CHANNEL AND FOREBAY.
2. CRUSHED ROCK SHALL BE 2.0"–3.0" IN SIZE WITH A FRACTURED FACE (ALL SIDES).
3. ROCK SOCK FOR OUTLET STRUCTURE AND FOREBAY PROTECTION SHALL BE ONE CONTINUOUS PIECE (SEE DETAIL RS).


DETENTION POND PROTECTION INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE OUTLET STRUCTURE PROTECTION.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED IMMEDIATELY.
3. OUTLET STRUCTURE PROTECTION SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.


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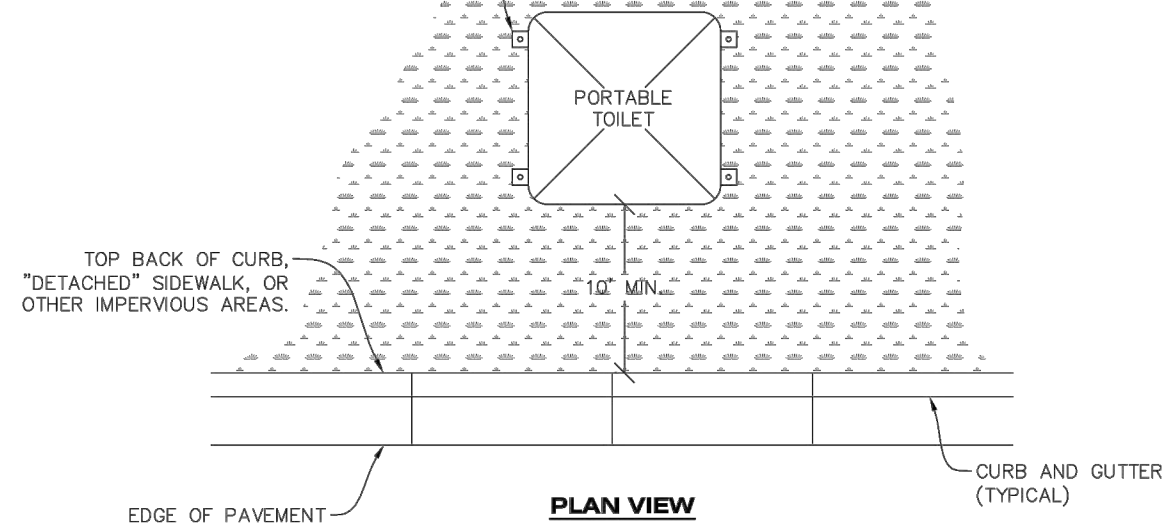
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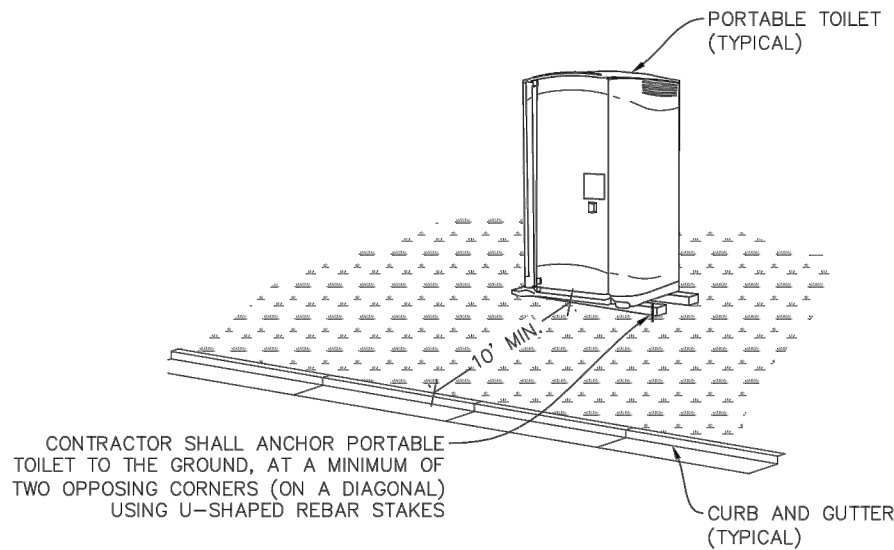
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CONTRACTOR SHALL ANCHOR PORTABLE TOILET TO THE GROUND, AT A MINIMUM OF TWO OPPOSING CORNERS (ON A DIAGONAL) USING U-SHAPED REBAR STAKES



PLAN VIEW



ISOMETRIC



PTP

PORTABLE TOILET PROTECTION



CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

PTP

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PORTABLE TOILET PROTECTION INSTALLATION NOTES

1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10.0' BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS.
2. ALL PORTABLE TOILETS MUST BE GROUPED TOGETHER.
3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES.
4. U-SHAPED REBAR STAKES SHALL BE POSITIONED ON AT LEAST 2 OPPOSING (DIGITAL) CORNERS.

PORTABLE TOILET PROTECTION INSPECTION AND MAINTENANCE NOTES

2. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE PORTABLE TOILET PROTECTION.
3. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
4. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MAY NEED TO BE LANDSCAPED OR ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).
5. PORTABLE TOILETS THAT ARE NOT CONSISTENTLY MAINTAINED IN ACCORDANCE WITH THESE REQUIREMENTS MAY NEED TO BE CLUSTERED TOGETHER, IN ONE CENTRALIZED LOCATION IN ORDER TO INCREASE COMPLIANCE AND REDUCE THE CHANCE OF A SPILL.



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CONSTRUCTION BEST MANAGEMENT PRACTICES

PTP

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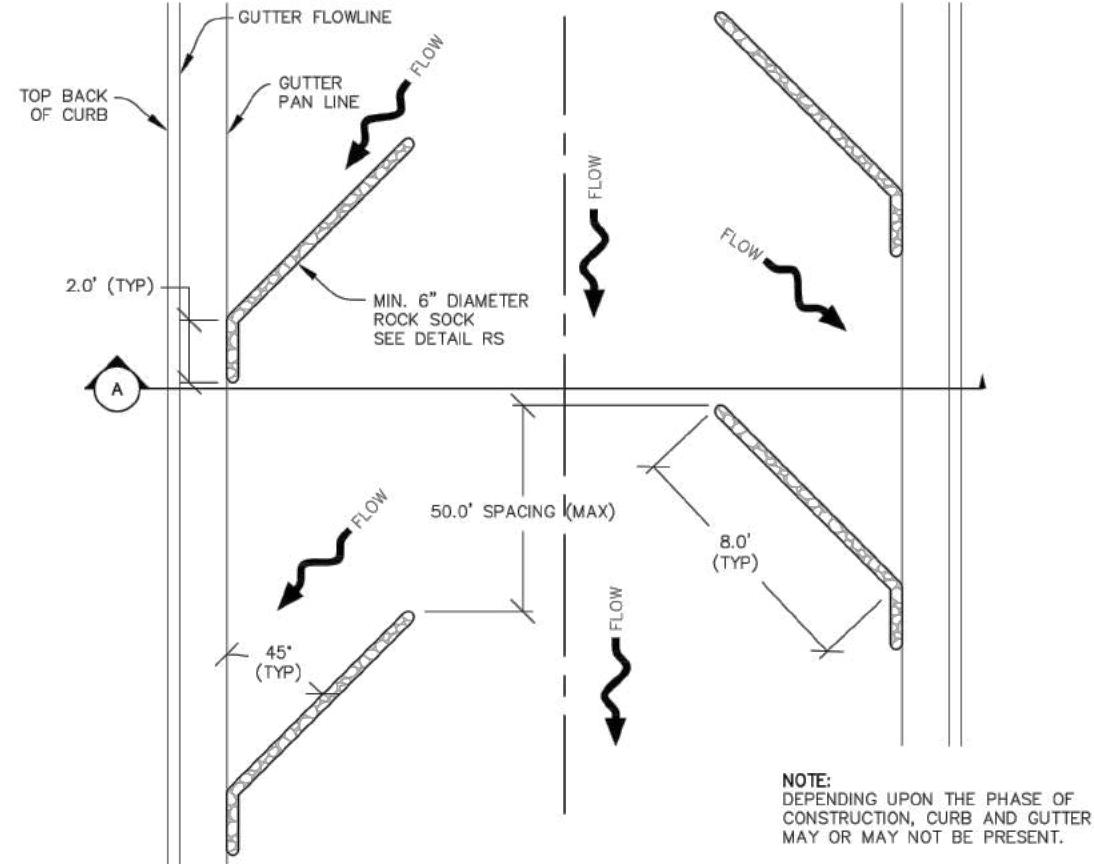
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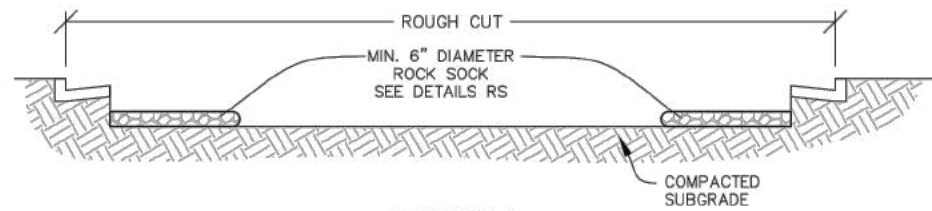
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NOTE:
DEPENDING UPON THE PHASE OF
CONSTRUCTION, CURB AND GUTTER
MAY OR MAY NOT BE PRESENT.

PLAN VIEW



SECTION A

RCSC
ROUGH CUT STREET CONTROL



CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

RCSC

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ROUGH CUT STREET CONTROL INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF ROUGH CUT STREET CONTROL.
2. THE SPACING OF THE ROUGH CUT STREET CONTROL MAY BE DETERMINED BY THE DESIGN ENGINEER AND SHOWN ON THE CBMP PLAN.

ROUGH CUT STREET CONTROL INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE ROUGH CUT STREET CONTROL.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
3. ROUGH CUT STREET CONTROL SHALL BE REPAIRED IMMEDIATELY FOLLOWING ANY SIGN OF WEAR OR ALTERATION OF THE ORIGINAL SHAPE AND DIMENSIONS.
4. ROUGH CUT STREET CONTROL SHALL BE KEPT IN PLACE AND MAINTAINED UNTIL SUB-GRADE PREPARATION BEGINS FOR PAVING. AT THAT POINT, THE RCSC SHOULD BE REMOVED IN INCREMENTS BASED ON SUBGRADE PREPARATION.



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CONSTRUCTION BEST MANAGEMENT PRACTICES

RCSC

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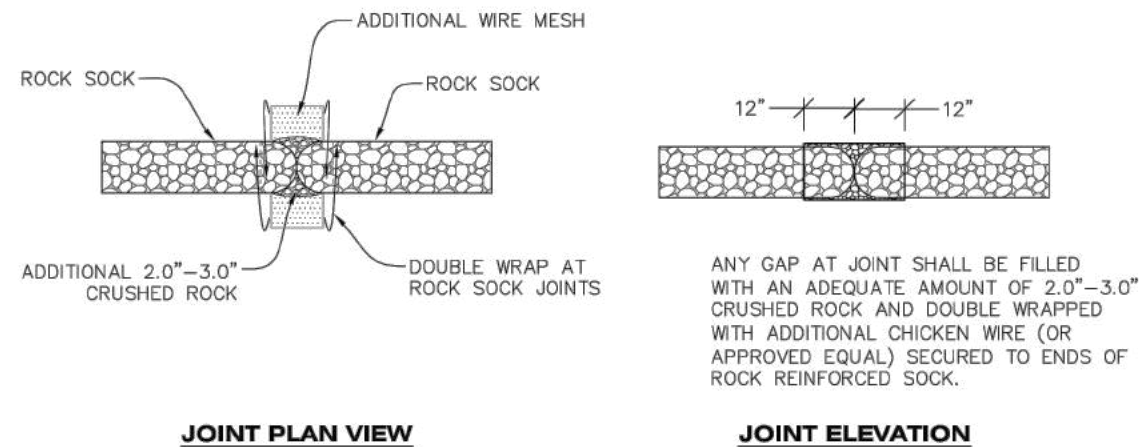
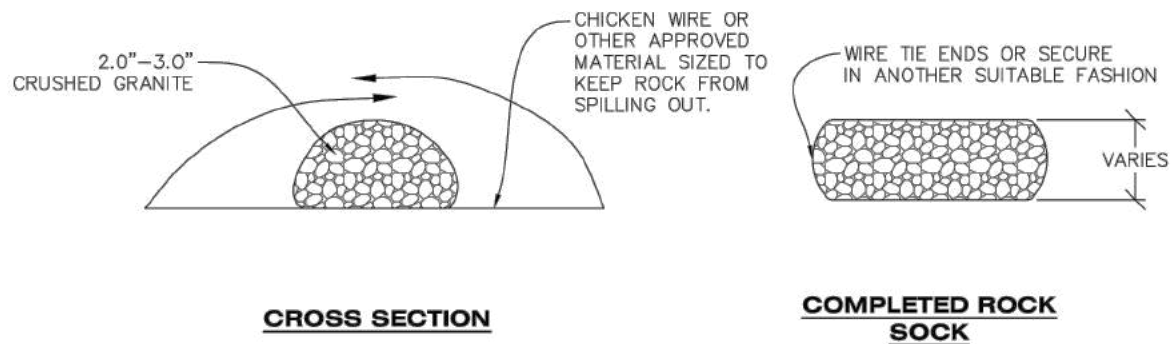
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ROCK SOCK INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF ROCK SOCK.
2. CRUSHED ROCK SHALL BE APPROXIMATELY 2.0"-3.0" GRANITE IN SIZE WITH A FRACTURED FACE (ALL SIDES).
3. ROCK SOCK SHALL BE APPROXIMATELY ONE CONTINUOUS PIECE OR SHALL BE CONSTRUCTED USING WIRE WRAPPED JOINTS (SEE DETAIL RS).
4. ROCK SOCK SHALL BE CONSTRUCTED USING CHICKEN WIRE OR OTHER APPROVED MATERIAL SIZED TO KEEP ROCK FROM SPILLING OUT.
5. MINIMUM ROCK SOCK DIAMETER SHALL VARY BASED ON APPLICATION (7" MIN).
6. TUBULAR MARKERS MAY NEED TO BE USED IN CONJUNCTION WITH ROCKS SOCKS ANYTIME THE ROCK SOCK IS PLACED ON A ROADWAY, SIDEWALK, PARKING LOT OR OTHER LOCATION SUSCEPTIBLE TO VEHICLE OR PEDESTRIAN TRAFFIC. TUBULAR MARKERS SHALL CONFORM TO THE TUBULAR MARKER DETAIL.

ROCK SOCK INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE ROCK SOCKS.
2. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED.
3. ROCK SOCKS SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.



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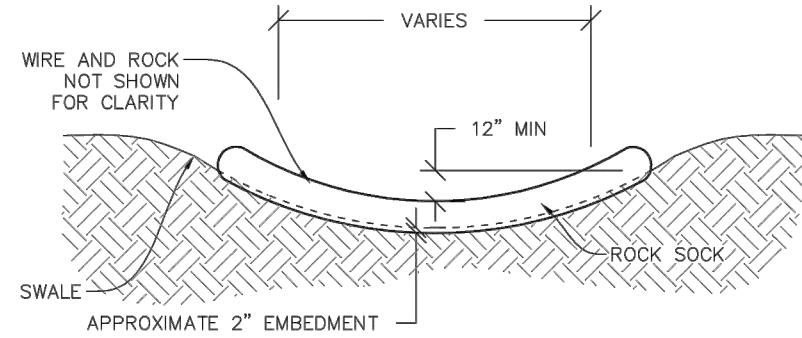
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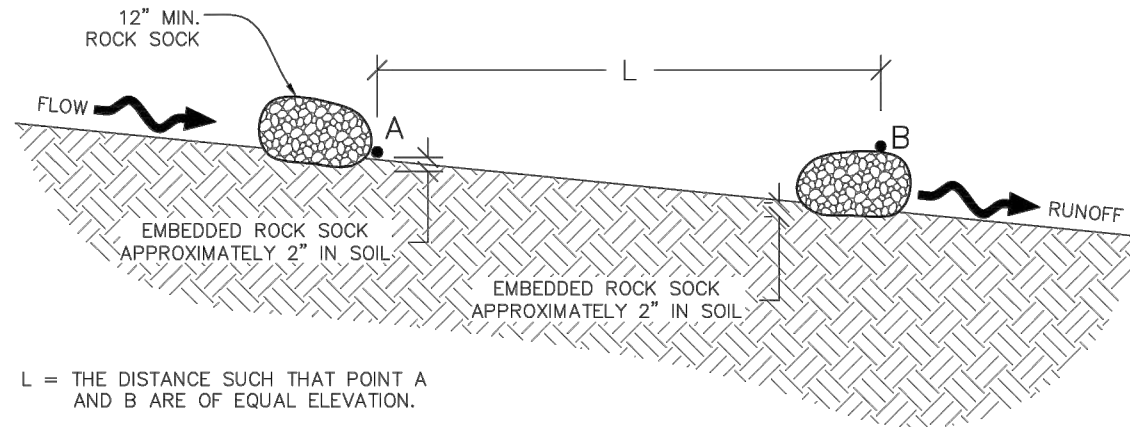


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SWALE ELEVATION



SWALE SPACING

L = THE DISTANCE SUCH THAT POINT A AND B ARE OF EQUAL ELEVATION.



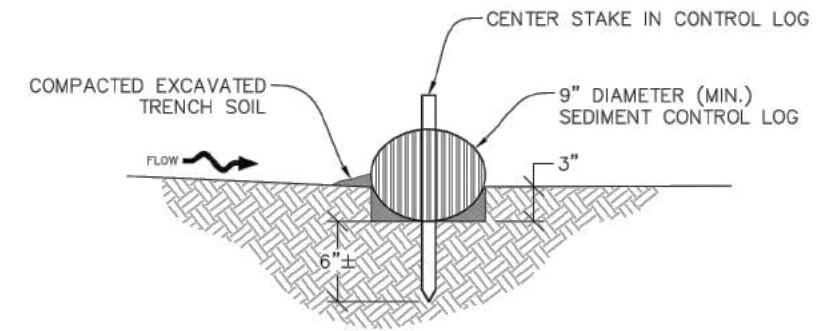
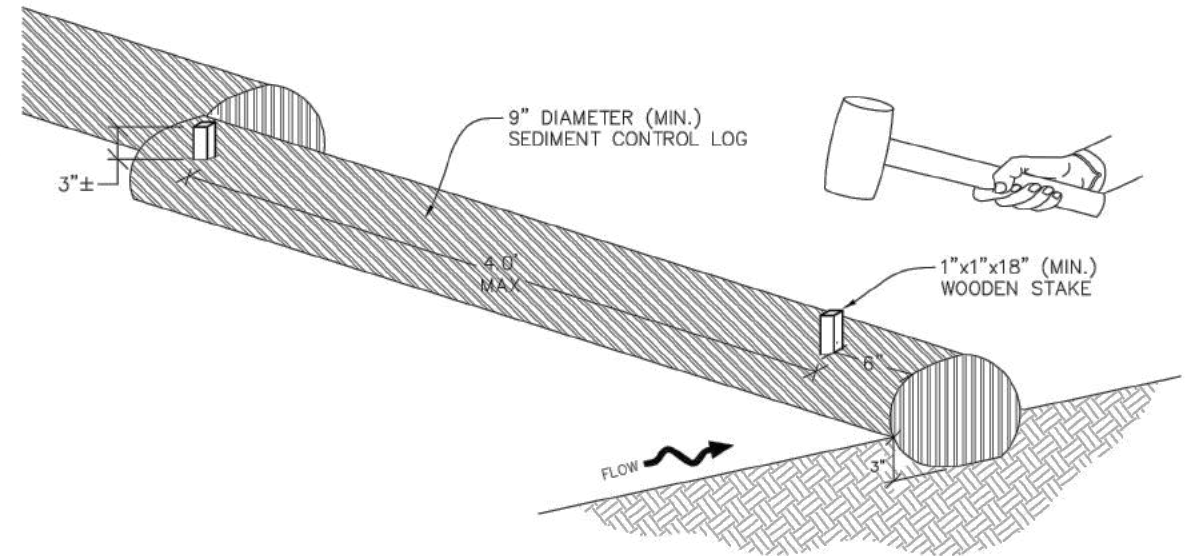
ROCK SOCK IN SWALE



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CONSTRUCTION BEST MANAGEMENT PRACTICES

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SECTION A



SEDIMENT CONTROL LOG



CBMP
CONSTRUCTION BEST MANAGEMENT PRACTICES

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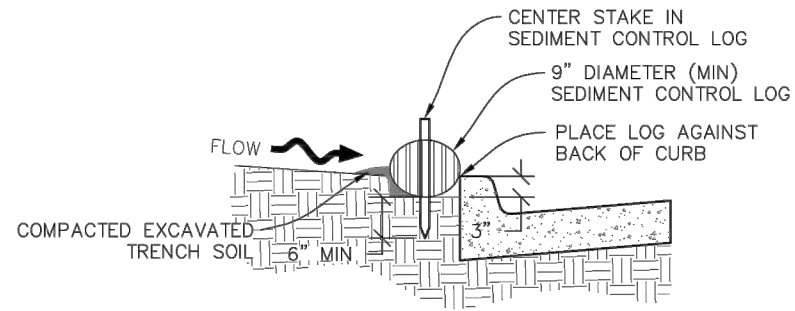
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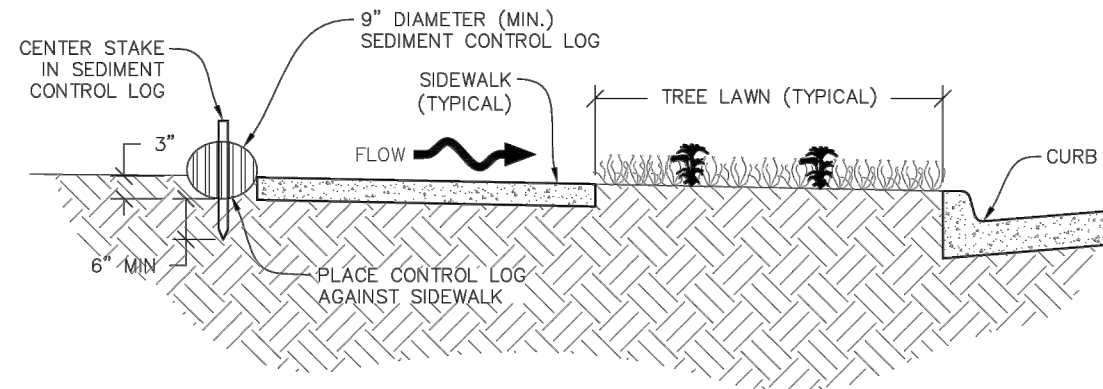
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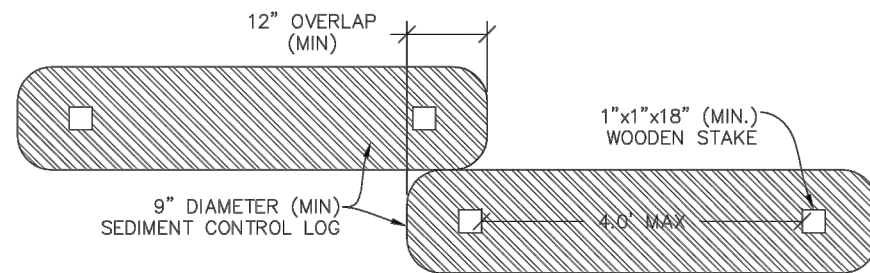
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SEDIMENT CONTROL LOG AT BACK OF CURB



SEDIMENT CONTROL LOG AT SIDEWALK WITH TREE LAWN



SEDIMENT CONTROL LOG JOINTS



SEDIMENT CONTROL LOG

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF SEDIMENT CONTROL LOGS.
2. ALL SEDIMENT CONTROL LOGS SHALL BE INSTALLED FREE OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
3. SEDIMENT CONTROL LOGS SHALL BE INSTALLED IMMEDIATELY ADJACENT TO AN IMPERVIOUS SURFACE SUCH AS A CURB HEAD, SIDEWALK, INLET LID, ETC. NO GAPS SHALL EXIST BETWEEN THE SEDIMENT CONTROL LOG AND THE IMPERVIOUS SURFACE.
4. A UNIFORM 3" DEEP ANCHOR TRENCH (APPROX.) IN THE SHAPE OF A HALF-SPHERE SHALL BE EXCAVATED USING A TRENCHER, SPADE-SHAPED SHOVEL, OR PICK. THE ANCHOR TRENCH SHALL BE SIZED TO ALLOW FOR THE SEDIMENT CONTROL LOG TO SEAT TIGHTLY AGAINST THE ANCHOR TRENCH.
5. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE ANCHOR TRENCH AND PROPERLY COMPACTED.
6. ANCHOR TRENCH SHALL BE RELATIVELY FREE OF ROCKS OR OTHER DEBRIS PRIOR TO THE PLACEMENT.
7. ALL SEDIMENT CONTROL LOGS SHALL BE PLACED 3" (APPROX.) BELOW THE GROUND AND PULLED TIGHT ON BOTH ENDS TO REMOVE ANY CURVES OR SNAGS.
8. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS RELATIVELY FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED AGAINST THE GROUND AND SEDIMENT CONTROL LOG USING A SHOVEL, OR SIMILAR DEVICE.
9. SEDIMENT CONTROL LOG STAKES SHALL BE MADE OF WOOD AND SECURELY ANCHOR THE SCL IN PLACE.
10. STAKES SHALL BE PLACED ON 4.0' CENTERS AND EMBEDDED APPROXIMATELY 6" INTO THE GROUND. STAKES THAT ARE BROKEN PRIOR TO OR DURING INSTALLATION SHALL BE REPLACED.
11. SEDIMENT CONTROL LOGS SHALL OVERLAP A MINIMUM OF 12". THE OVERLAPPING SHALL OCCUR ON THE UP-GRADIENT SIDE OF THE LOGS.
12. SEDIMENT CONTROL LOGS SHALL BE STAKED WITHIN 6" FROM EACH END.
13. SEDIMENT CONTROL LOGS THAT ARE INSTALLED BEHIND CURBS AND SIDEWALKS MUST BE DONE SO THAT NO MORE THAN A 2" GAP EXISTS BETWEEN THE CONCRETE AND THE LOG. EROSION CONTROL BLANKETING (ECB) BETWEEN THE GAP MAY BE REQUIRED IN INSTANCES WHERE THIS DOES NOT OCCUR.

SEDIMENT CONTROL LOG INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE SEDIMENT CONTROL LOGS.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE THE SEDIMENT HAS REACHED A DEPTH EQUAL TO 1/2 THE HEIGHT OF EXPOSED LOG.
3. SEDIMENT CONTROL LOGS SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
4. SEDIMENT CONTROL LOGS SHALL BE REPLACED WHEN THERE ARE ANY SIGNS OF WEAR OR DAMAGE THAT WOULD PREVENT THE SCL FROM FUNCTIONING AS DESIGNED.
5. WHEN THE SEDIMENT CONTROL LOGS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE SEDIMENT CONTROL LOGS MAY NEED TO BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).

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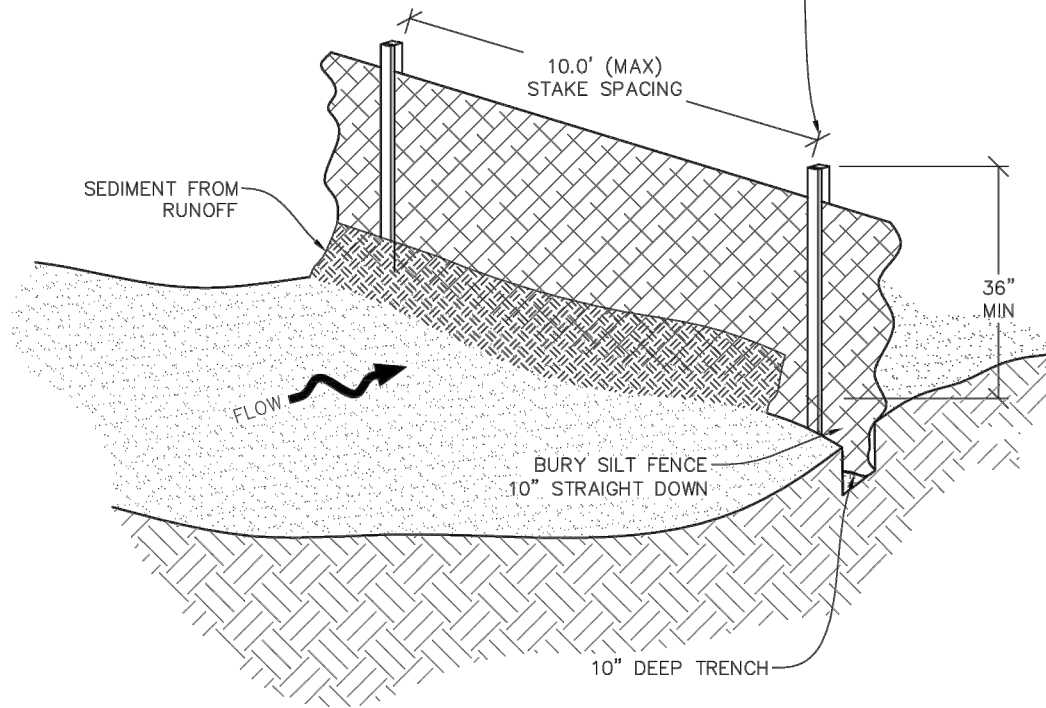
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A MIN. OF 1"x1"x48" WOODEN STAKES SHALL BE PLACED ON THE DOWNHILL SIDE OF THE SILT FENCE FABRIC. A 1-1/2" X 1/4" STAKE OR LATH SHALL BE STAPLED OR NAILED TO THE 48" STAKE ON THE UPHILL SIDE OF THE FABRIC SUCH THAT IT IS FLUSH AGAINST THE FABRIC AND STAKE. LENGTH OF STAKE IS DEPENDENT UPON HEIGHT OF FENCE. ALSO SEE ALTERNATIVE INSTALLATION - 360° TWIST DETAIL.



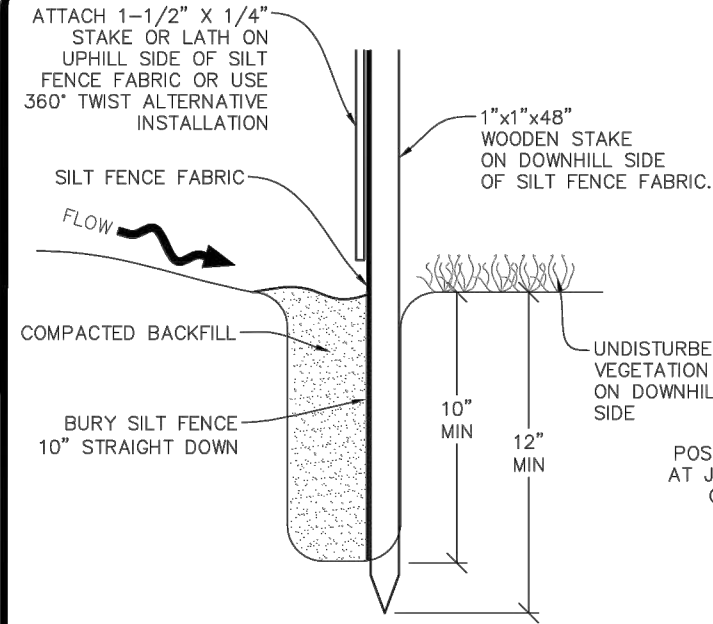
X X (SF) SILT FENCE



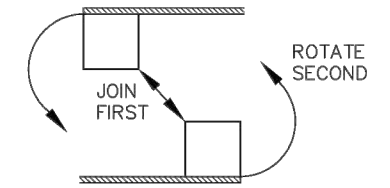
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INSTALLATION DETAIL

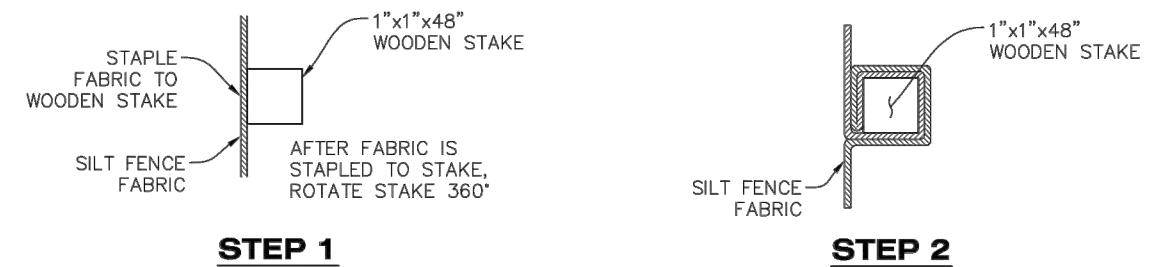


POSTS SHALL BE JOINED AS SHOWN, THEN ROTATED 180 DEG. IN DIRECTION SHOWN AND DRIVEN INTO THE GROUND.

POSTS SHALL OVERLAP AT JOINTS SO THAT NO GAPS EXIST IN SILT FENCE

NOTE: THICKNESS OF GEOTEXTILE HAS BEEN EXAGGERATED FOR CLARITY.

JOINT SECTIONS



ALTERNATIVE INSTALLATION - 360° TWIST

X X (SF) SILT FENCE



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SILT FENCE INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF SILT FENCE.
2. ALL SILT FENCE SHALL BE INSTALLED IN GOOD CONDITION AND FREE OF ANY DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
3. A UNIFORM 10" DEEP ANCHOR TRENCH SHALL BE EXCAVATED USING A TRENCHER.
4. A 10" DEEP ANCHOR SLIT SHALL BE FORMED IF USING A STATIC SLICING METHOD.
5. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE ANCHOR TRENCH.
6. ANCHOR TRENCH SHALL BE GENERALLY FREE OF ROCKS OR OTHER DEBRIS PRIOR TO THE PLACEMENT OF THE SILT FENCE.
7. THE ANCHOR TRENCH SHALL BE THOROUGHLY BACKFILLED WITH SOIL THAT IS GENERALLY FREE OF ROCKS AND DEBRIS.
8. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UP-GRADIENT SIDE OF THE SILT FENCE.
9. STAKES SHALL BE POSITIONED ON THE DOWNHILL SIDE OF THE SILT FENCE FABRIC AND PLACED ON 10.0' CENTERS OR LESS. STAKES SHALL BE EMBEDDED A MINIMUM OF 12" INTO THE GROUND. A WOODEN LATH SHALL BE ATTACHED TO THE OPPOSING (UPHILL) SIDE OF THE STAKE FOR ADDED STRENGTH AND SUPPORT. THE LATH SHALL HAVE THE FOLLOWING DIMENSIONS: 1"x1/4"x24".
10. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD NOT BE SIGNIFICANT SAGGING ALONG ANY PORTION OF THE SILT FENCE AFTER IT HAS BEEN ANCHORED TO THE STAKES.
11. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES AND LATHS USING STAPLES OR NAILS OF AN APPROXIMATE LENGTH. ENOUGH STAPLES AND NAILS SHOULD BE PLACED ALONG THE LATH TO ENSURE PROPER ATTACHMENT.
12. SILT FENCE FABRIC SHALL MEET THE FOLLOWING MANDATORY REQUIREMENTS:

PROPERTIES	TEST METHOD	MANDATORY REQUIREMENTS
GRAB TENSILE STRENGTH	ASTM D 4632	≥ 124 LBS
MULLEN BURST STRENGTH	ASTM D 3786	≥ 300 PSI
PUNCTURE STRENGTH	ASTM D 4833	≥ 60 LBS
TRAPEZOID TEAR STRENGTH	ASTM D 4533	≥ 65 LBS
UV RESISTANCE	ASTM D 4355	≥ 80% AT 500 HOURS OF UV EXPOSURE
FLOW RATE	ASTM D 4491	≥ 10 GAL/MIN/FT2

13. AN ORIGINAL PRODUCT SPECIFICATION SHEET FROM THE SILT FENCE MANUFACTURER SHALL BE MADE AVAILABLE AT THE REQUEST OF THE TOWN'S INSPECTOR. THE PRODUCT SPECIFICATION SHEET SHALL PROVIDE THE RESULTS FOR THE TEST METHODS ABOVE.
14. SILT FENCE JOINTS SHALL BE CONNECTED ACCORDING TO THE ATTACHED DRAWING.
15. SILT FENCE THAT IS INSTALLED BEHIND CURBS AND SIDEWALKS MUST BE DONE SO THAT NO MORE THAN A 2" GAP EXISTS BETWEEN CONCRETE AND THE SILT FENCE. EROSION CONTROL BLANKETING (ECB) BETWEEN THE GAP MAY BE REQUIRED IN INSTANCES WHERE THIS DOES NOT OCCUR.



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SILT FENCE INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE SILT FENCE.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED REGULARLY.
3. SILT FENCE SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
4. SILT FENCE SHALL BE REPLACED WHEN THERE ARE ANY SIGNS OF WEAR AND/OR DAMAGE.
5. WHEN THE SILT FENCE IS REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE SILT FENCE MAY NEED TO BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).



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SEEDING AND MULCHING SHALL BE PERFORMED ACCORDING TO THE ACCOMPANYING DETAIL(S) AND TEXT. NO EXCEPTIONS SHALL BE MADE

1. SEE PLAN VIEW FOR:
 - LOCATION(S) OF SEEDING AND MULCHING
 - TYPE OF SEED MIX
2. SEED MIXES MAY CONFORM TO THE TABLE PROVIDED WITH THE SMC NOTES OR ALTERNATIVES MAY BE ALLOWED WITH PRIOR PERMISSION BY THE TOWN'S INSPECTOR.
3. SEEDING MAY BE PERFORMED YEAR ROUND ASSUMING THE SOIL IS NOT FROZEN. SEEDING DURING TIMES OF EXTREME TEMPERATURES SHOULD BE AVOIDED IF POSSIBLE.
4. AT THE BEGINNING OF THE LAND DISTURBANCE ACTIVITIES, IT IS HIGHLY RECOMMENDED THAT AN APPROPRIATE AMOUNT OF NATIVE TOPSOIL BE STRIPPED FROM THE SITE AND STOCKPILED. ALL AREAS, PRIOR TO PERMANENT SEEDING AND MULCHING, WILL LIKELY NEED TO BE COVERED WITH AN APPROPRIATE LAYER OF TOPSOIL. THIS REQUIREMENT APPLIES TO ALL AREAS WHERE NATIVE SEEDING IS SPECIFIED ON THE CBMP PLAN AND/OR LANDSCAPING PLANS.
5. IT IS STRONGLY RECOMMENDED THAT SAMPLES FROM THE STRIPPED TOPSOIL BE PROPERLY COLLECTED AND TESTED BY A QUALIFIED LABORATORY TO ENSURE ADEQUATE NUTRIENT CONTENT PRIOR TO SEEDING AND MULCHING. IF IT IS DISCOVERED THAT THE TOPSOIL IS VOID OF THE NUTRIENTS NECESSARY TO SUCCESSFULLY ESTABLISH THE REQUIRED VEGETATION, THEN THE APPROPRIATE AMENDMENTS SHALL BE ADDED.
6. ALL AREAS TO BE SEEDED AND MULCHED SHALL BE SURFACE ROUGHENED ACCORDING TO THE SURFACE ROUGHENING DETAILS AND NOTES. SURFACE ROUGHENING SHALL OCCUR AFTER PLACEMENT OF THE TOPSOIL.
7. WHEN INSTALLED WITH A DRILL SEEDER, SEED SHALL BE PLACED AT A DEPTH OF ¼ - ½ INCH. ROW SPACING SHALL BE NO MORE THAN 6-INCHES.
8. ALL AREAS INCAPABLE OF BEING DRILL SEEDED SHALL BE SURFACE ROUGHENED ACCORDING TO THE SURFACE ROUGHENING NOTES OR EFFECTIVELY ROUGHENED USING A HARROW OR OTHER SUCH IMPLEMENT. ALL AREAS SHALL BE UNIFORMLY HAND BROADCASTED WITH THE PROPER SEED MIX APPLIED AT TWO TIMES THE DRILL SEEDED RATE. BROADCASTED AREAS SHALL THEN BE RE-HARROWED OR RE-RAKED USING A HARD-TIPPED RAKE TO ENSURE THAT SEEDS ARE BURIED TO AN APPROXIMATE DEPTH OF ¼ - ½ INCH.
9. AFTER SEEDING HAS BEEN COMPLETED, MULCH SHALL BE UNIFORMLY APPLIED AT A RATE OF 2 TONS/ACRE (4,000 LBS/ACRE). MULCH SHALL BE MECHANICALLY CRIMPED TO A DEPTH OF 2 INCHES USING A CRIMPER. MULCH SHALL BE HAND CRIMPED AND COVERED WITH A TACKIFIER IN AREAS WHERE MECHANICAL CRIMPING IS NOT POSSIBLE. WHEN SOILS PERMIT, ALL MULCH SHALL BE CRIMPED SUCH THAT THE INDIVIDUAL PIECES OF STRAW OR HAY FORM EXAGGERATED V-SHAPES PROTRUDING OUT OF THE GROUND SEVERAL INCHES.
10. IN CERTAIN INSTANCES, IT MAY BE NECESSARY TO APPLY A TACKIFIER IN ORDER TO HELP WITH STRAW DISPLACEMENT. TACKIFIER SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

SEEDING AND MULCHING MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE SEEDING AND MULCHING.
2. ANY SEEDED AND MULCHED AREAS THAT BECOME DAMAGED SHALL BE REPAIRED WITHIN THE TIME FRAME SPECIFIED BY THE TOWN'S INSPECTOR.

WEED MANAGEMENT

1. ALL HERBICIDES SHALL BE APPLIED BY COMMERCIAL PESTICIDE APPLICATORS LICENSED BY THE COLORADO DEPARTMENT OF AGRICULTURE AS QUALIFIED APPLICATORS. THE CONTRACTOR SHALL FURNISH DOCUMENTATION OF SUCH LICENSING PRIOR TO HERBICIDE APPLICATION.
2. HERBICIDE APPLICATION METHOD SHALL BE SUCH THAT PLANT GROWTH OUTSIDE THE DESIGNATED TREATMENT AREAS WILL NOT BE DAMAGED. ALL DAMAGE CAUSED BY IMPROPER HERBICIDE APPLICATION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. HERBICIDES SHALL BE APPLIED DURING THE APPROPRIATE SEASONS, WHEN TARGET PLANTS ARE ACTIVELY GROWING.
4. AFTER THE GRASS SEED IS ESTABLISHED, APPROPRIATE HERBICIDES SHALL BE APPLIED TO CONTROL THE REMAINING WEEDS TO ENSURE A TIMELY RETURN OF THE FINANCIAL SECURITY. PROPER TIMING OF HERBICIDE APPLICATIONS ARE NECESSARY TO ACHIEVE THE SUPPRESSION OF WEED SEED PRODUCTION AND DEPLETION OF WEED ROOT MASS. ULTIMATELY, THE HERBICIDES USED SHALL BE BASED UPON THE TARGET WEEDS.
5. HERBICIDE TREATMENTS SHALL CONTINUE AT AN APPROPRIATE RATE UNTIL IT IS EVIDENT THAT WEED GROWTH PRESENCE AND GROWTH IS MINIMAL AND MAY BE CONTROLLED THROUGH MOWING AND/OR ANNUAL HERBICIDE TREATMENT.



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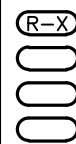
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**BELFORD-HAPPY CANYON CREEK
CBMP STANDARD
NOTES AND DETAILS**

Designer:	CDT	Structure	
Detailer:	KLT	Numbers	
Subset:	Erosion	Sheets:	ED-21 of 35

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TOWN OF PARKER, SEED MIX 1

- 20% CANADA WILD RYE
- 15% CRESTED WHEATGRASS
- 15% SLENDER WHEATGRASS
- 10% ANNUAL RYEGRASS
- 10% SHEEP FESCUE
- 10% BIG BLUESTEM
- 10% SIDEOATS GRAMA
- 5% CANADA BLUEGRASS
- 5% BLUE GRAMA

SEEDING RATE:

DRILLED: 25 LBS/ACRE
BROADCAST: 50 LBS/ACRE

TOWN OF PARKER, SEED MIX 2

- 22% SLENDER WHEATGRASS
- 18% SODAR STREAMBANK WHEATGRASS
- 13% ARIZONA FESCUE
- 13% BLUE GRAMA
- 12% BUFFALOGRASS
- 12% BARLEY OR OATS
- 5% SPIKE MUHLY
- 5% INDIAN RICEGRASS

SEEDING RATE:

DRILLED: 25 LBS/ACRE
BROADCAST: 50 LBS/ACRE

TOWN OF PARKER, SEED MIX 3 (LOW-GROWTH MIX)

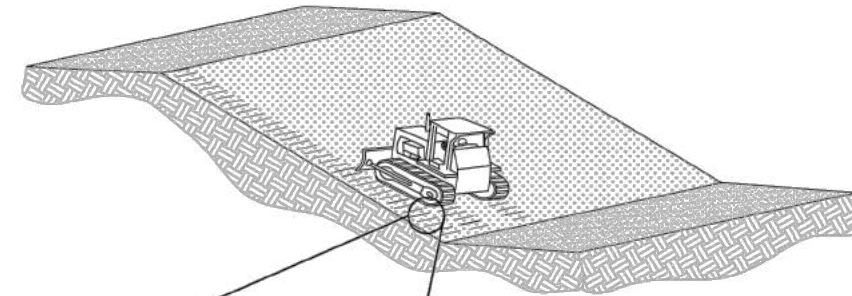
- 25% EPHRAIM CRESTED WHEATGRASS
- 23% SHEEP FESCUE
- 18% PERENNIAL RYEGRASS
- 13% CANADA BLUEGRASS
- 12% BARLEY OR OATS
- 9% BLUE FESCUE

SEEDING RATE:

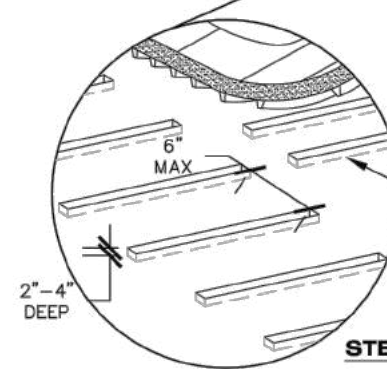
DRILLED: 25 LBS/ACRE
BROADCAST: 50 LBS/ACRE

SEED MIX 4:

OTHER SEED MIXES APPROVED BY THE TOWN OF PARKER

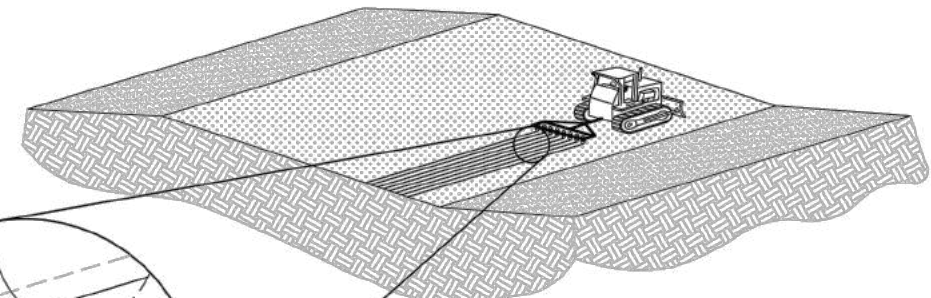


PROVIDE A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS. CAN BE COMPLETED WITH A TILLAGE OR OTHER EQUIPMENT WITH SIMILAR EFFICIENCY. LEAVE SLOPES IN A ROUGHENED CONDITION WITHOUT FINE GRADING. HOWEVER, SURFACE ROUGHENING SHOULD BE PERFORMED AFTER FINE GRADING. ROUGHENING CANNOT BE USED AS A CBMP IF SANDY OR ROCKY SOIL IS PRESENT.



FURROWS 2" TO 4" DEEP ON 6" CENTERS WITH 6" MAXIMUM SPACING PARALLEL TO CONTOURS OF SLOPE

STEEP SLOPES (3:1 OR STEEPER)



ROUGHENED ROWS SHALL BE 2" TO 4" DEEP ON 6" CENTERS WITH 6" MAXIMUM SPACING PARALLEL TO CONTOURS OF SLOPE

SURFACE ROUGHENING SHALL BE PERFORMED IMMEDIATELY AFTER FINAL GRADES HAVE BEEN ACHIEVED, UNLESS REQUIRED SOONER PER REGULATIONS. FILL SLOPES CAN BE CONSTRUCTED WITH A ROUGHENED SURFACE. CUT SLOPES THAT HAVE BEEN SMOOTH GRADED SHALL BE ROUGHENED AS A SUBSEQUENT OPERATION.

LESSER SLOPES (LESS THAN 3:1)



SR

SURFACE ROUGHENING



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SURFACE ROUGHENING INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF SURFACE ROUGHENING.
2. ANY DISTURBED LAND THAT REMAINS INACTIVE FOR MORE THAN 14 CONSECUTIVE DAYS MUST RECEIVE SURFACE ROUGHENING. DETERMINATION OF JOB SITE INACTIVITY IS AT THE DISCRETION OF THE TOWN'S INSPECTOR.
3. SURFACE ROUGHENING SHALL BE PERFORMED PERPENDICULAR TO THE SLOPE.
4. SOIL SHALL BE ROUGHENED A MINIMUM OF 6-INCHES DEEP USING RIGID SHANKS.
5. A FARMING DISC SHALL NOT BE USED FOR SURFACE ROUGHENING.
6. FOR STEEP SLOPES (3:1 OR STEEPER), IT IS ACCEPTABLE TO "TRACK" THE SLOPES, ACCORDING TO THE CBMP DETAILS.

SURFACE ROUGHENING INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL INSPECT THE SURFACE ROUGHENING AT THE FOLLOWING INTERVALS:
 - IMMEDIATELY FOLLOWING INITIAL INSTALLATION.
 - EVERY 7 DAYS DURING ACTIVE CONSTRUCTION.
 - IMMEDIATELY FOLLOWING ANY STORM EVENT.

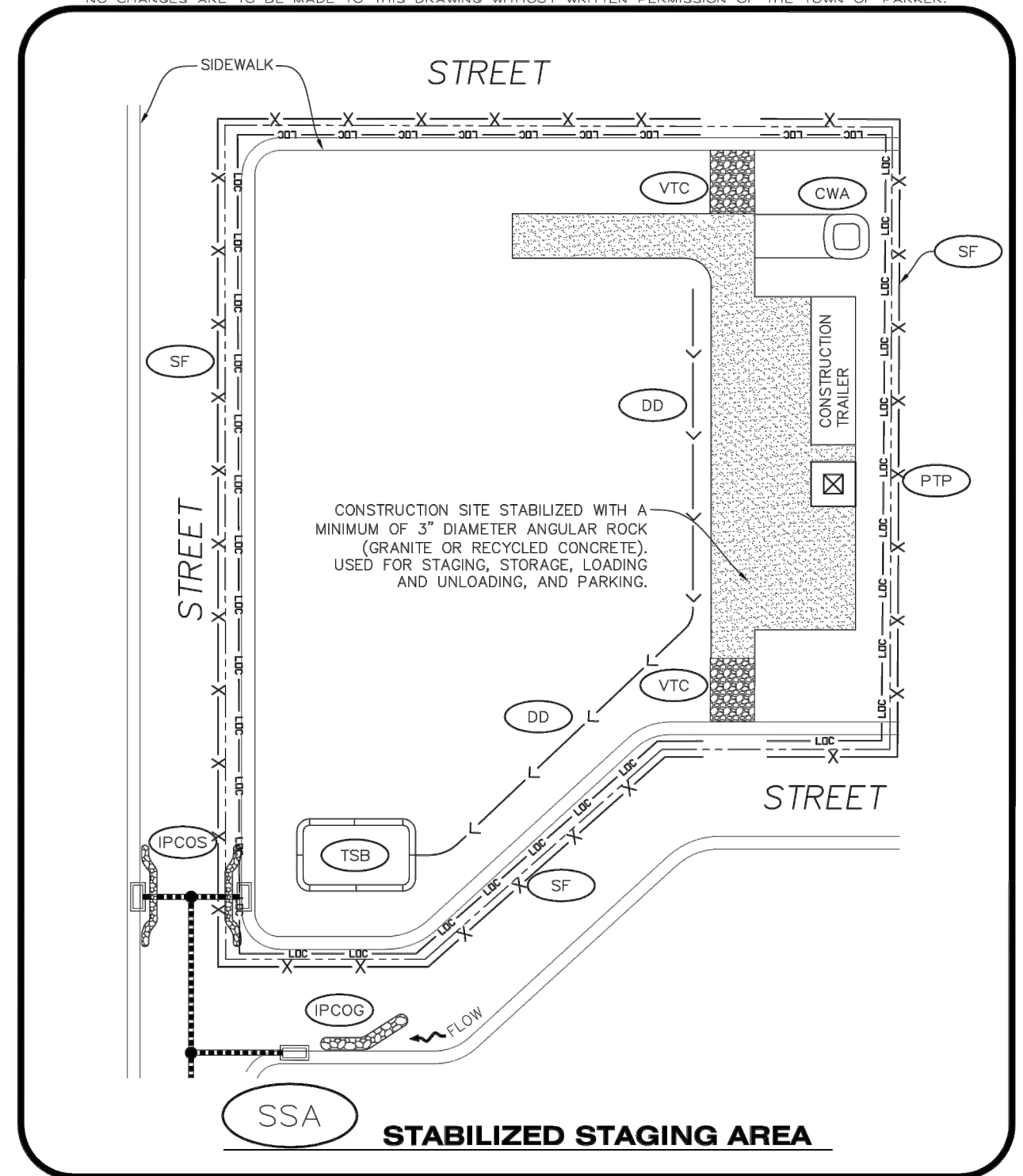


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STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION OF STAGING AREA. CONTRACTOR MAY MODIFY LOCATION AND SIZE OF STABILIZED STAGING AREA WITH TOWN APPROVAL.
2. STABILIZED STAGING AREA SHALL BE LARGE ENOUGH TO FULLY CONTAIN PARKING, STORAGE, AND LOADING OPERATIONS.
3. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM OF 3" DIAMETER OF ANGULAR ROCK (GRANITE OR RECYCLED CONCRETE).
4. SSA FOR SMALLER SITES MAY NOT BE PRACTICAL. IN THESE AND SIMILAR SITUATIONS, VARIANCES MAY BE PERMITTED BY THE TOWN.

STABILIZED STAGING AREA INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE STAGING AREA.
2. STABILIZED STAGING AREA SHALL BE ENLARGED AS NECESSARY TO CONTAIN PARKING, STORAGE, LOADING, AND UNLOADING.



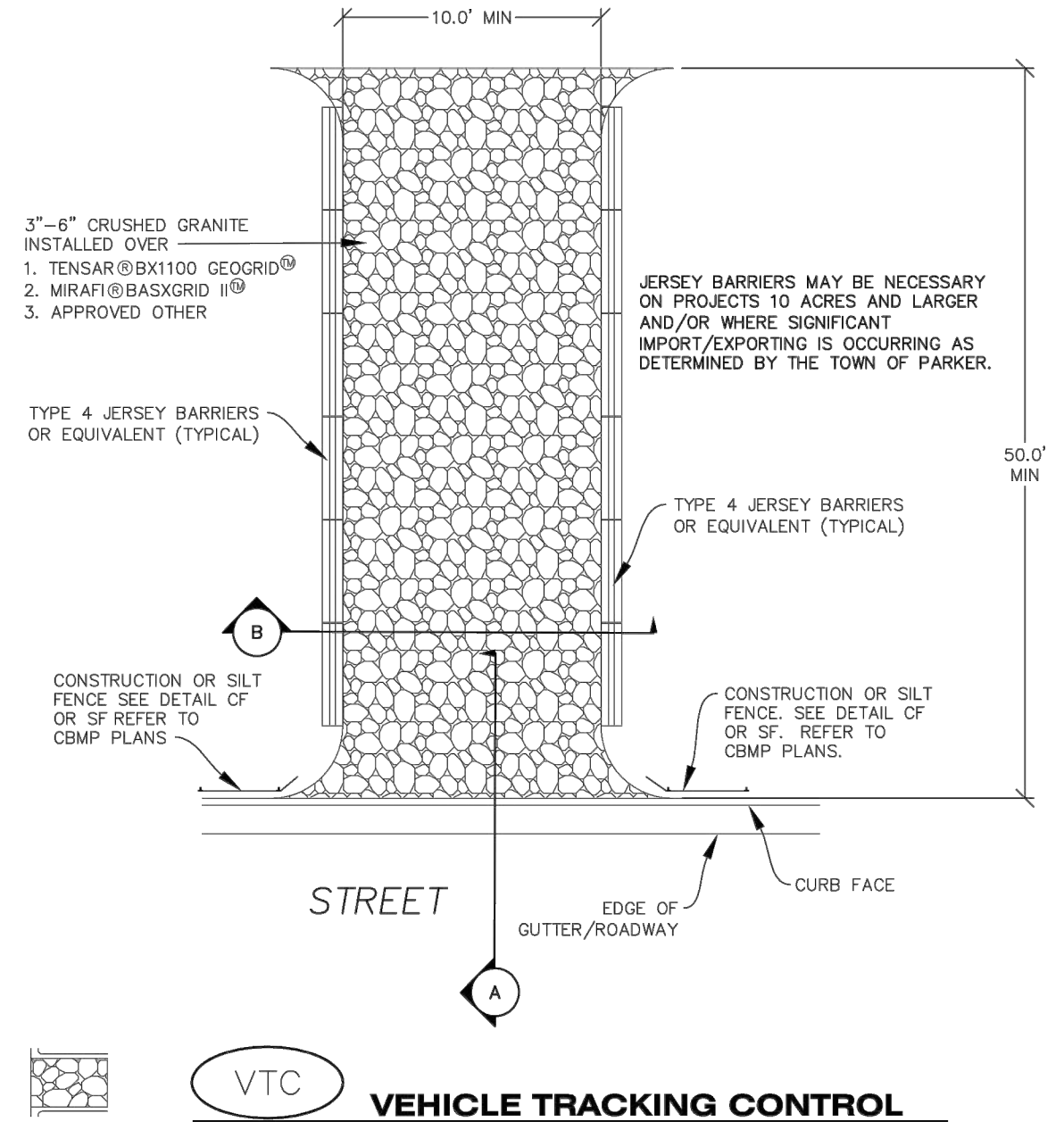
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ON SITES LESS THAN 10 ACRES AND WHERE SIGNIFICANT SOIL IMPORTING/EXPORTING IS NOT OCCURRING, CONSTRUCTION FENCE (CF) OR SILT FENCE (SF) MAY BE USED IN LIEU OF THE TYPE 4 JERSEY BARRIERS WITH PRIOR APPROVAL FROM THE TOWN'S INSPECTOR.





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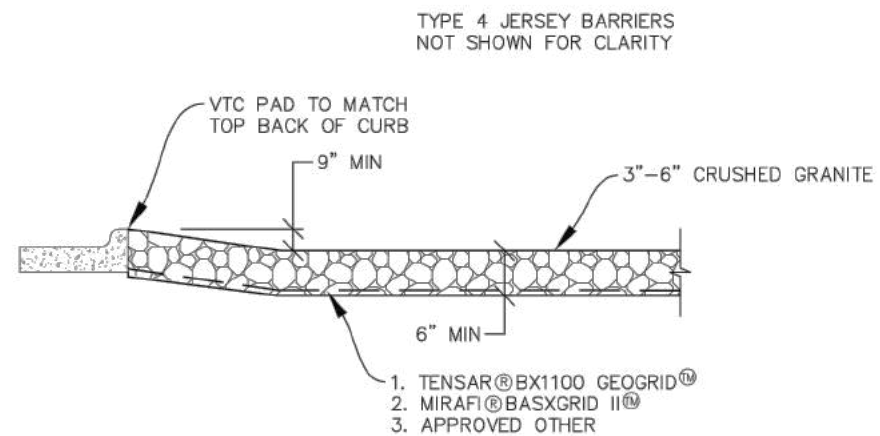
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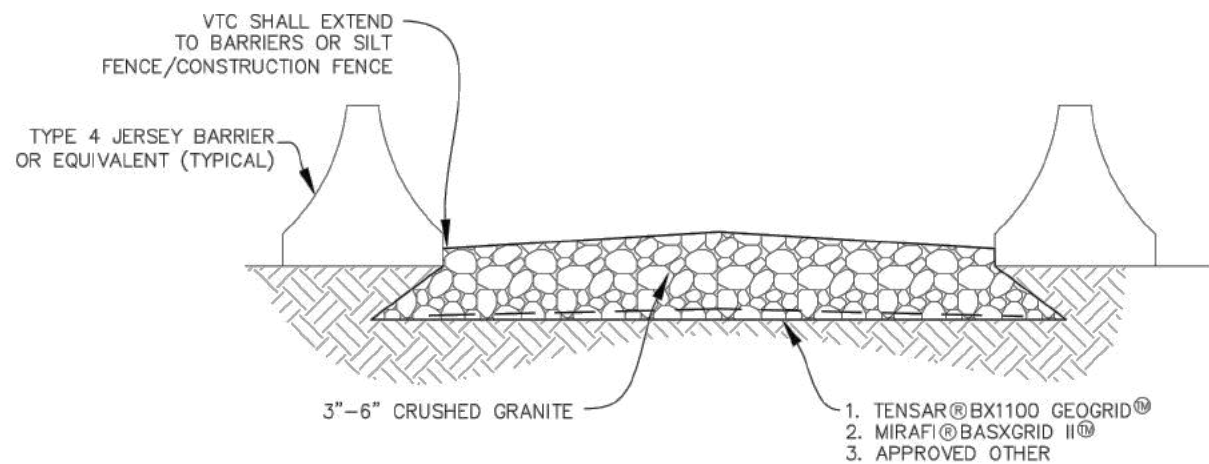
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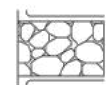
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SECTION A



SECTION B



VEHICLE TRACKING CONTROL



CBMP
CONSTRUCTION BEST MANAGEMENT PRACTICES

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VEHICLE TRACKING CONTROL PAD INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF VEHICLE TRACKING CONTROL PAD(S).
2. ALL CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE THROUGH THE APPROVED ACCESS POINT(S). A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT ALL APPROVED ACCESS POINTS TO THE SITE. EXCEPTIONS MAY BE CONSIDERED FOR CONSTRUCTION ACTIVITY OCCURRING IMMEDIATELY ADJACENT TO PAVED AREAS AND WHERE ALTERNATIVE BMP'S ARE IMPLEMENTED. SUCH ACTIVITY MAY INCLUDE, BUT NOT BE LIMITED TO RESIDENTIAL CONSTRUCTION, UTILITY CONSTRUCTION, ETC.
3. THE VEHICLE TRACKING CONTROL PAD(S) INDICATED ON CBMP PLAN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
4. VEHICLE TRACKING CONTROL PADS SHALL BE A MINIMUM OF 50-FOOT LONG AND 10-FOOT WIDE, UNLESS A VARIANCE HAS BEEN GRANTED BY THE TOWN'S INSPECTOR.
5. A BIAXIAL GEO-GRID SHALL BE PLACED UNDER THE VEHICLE TRACKING CONTROL PAD PRIOR TO THE PLACEMENT OF ROCK. THE AREA SHALL BE FREE FROM ANY VOIDS, ROCKS AND DEBRIS. THE BIAXIAL GEO-GRID SHALL BE TENSAR BX1100, MIRAFI BASXGRID II, OR AN APPROVED EQUAL. GEO-GRID SHALL BE PLACED, AND APPROPRIATELY OVERLAPPED IF NECESSARY, TO COVER THE ENTIRE LENGTH AND WIDTH OF THE VEHICLE TRACKING CONTROL PAD.
6. CRUSHED ROCK SHALL BE A MINIMUM OF 3-6" GRANITE WITH A FRACTURED FACE (ALL SIDES).

VEHICLE TRACKING CONTROL PAD INSTALLATION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE VEHICLE TRACKING CONTROL PAD.
2. WHEN THE VEHICLE TRACKING CONTROL PAD IS REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE VEHICLE TRACKING CONTROL PAD SHALL BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).
3. THE VEHICLE TRACKING CONTROL PAD SHALL BE MAINTAINED SUCH THAT THE ROCK REMAINS RELATIVELY LOOSE AND ACCUMULATED MUD AND OTHER DEBRIS IS REGULARLY REMOVED.



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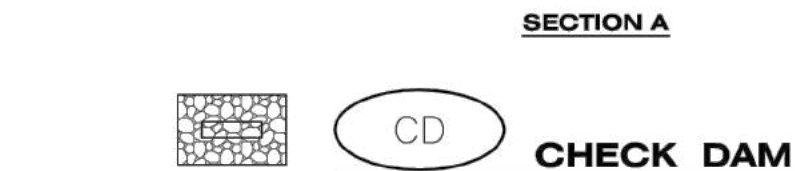
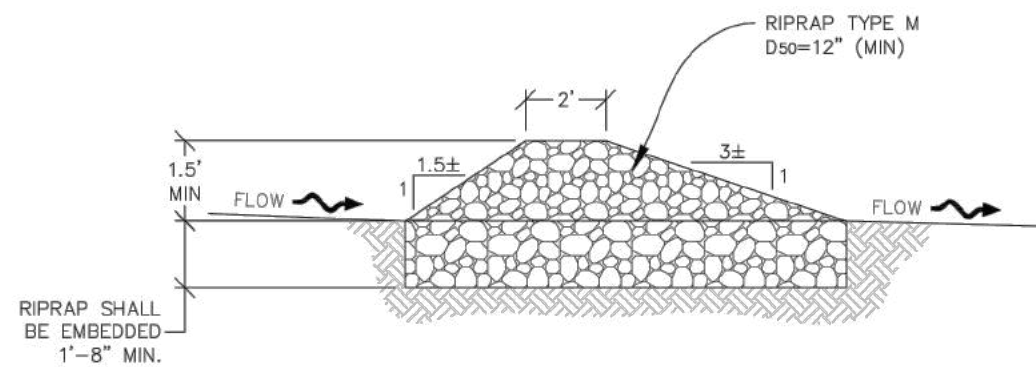
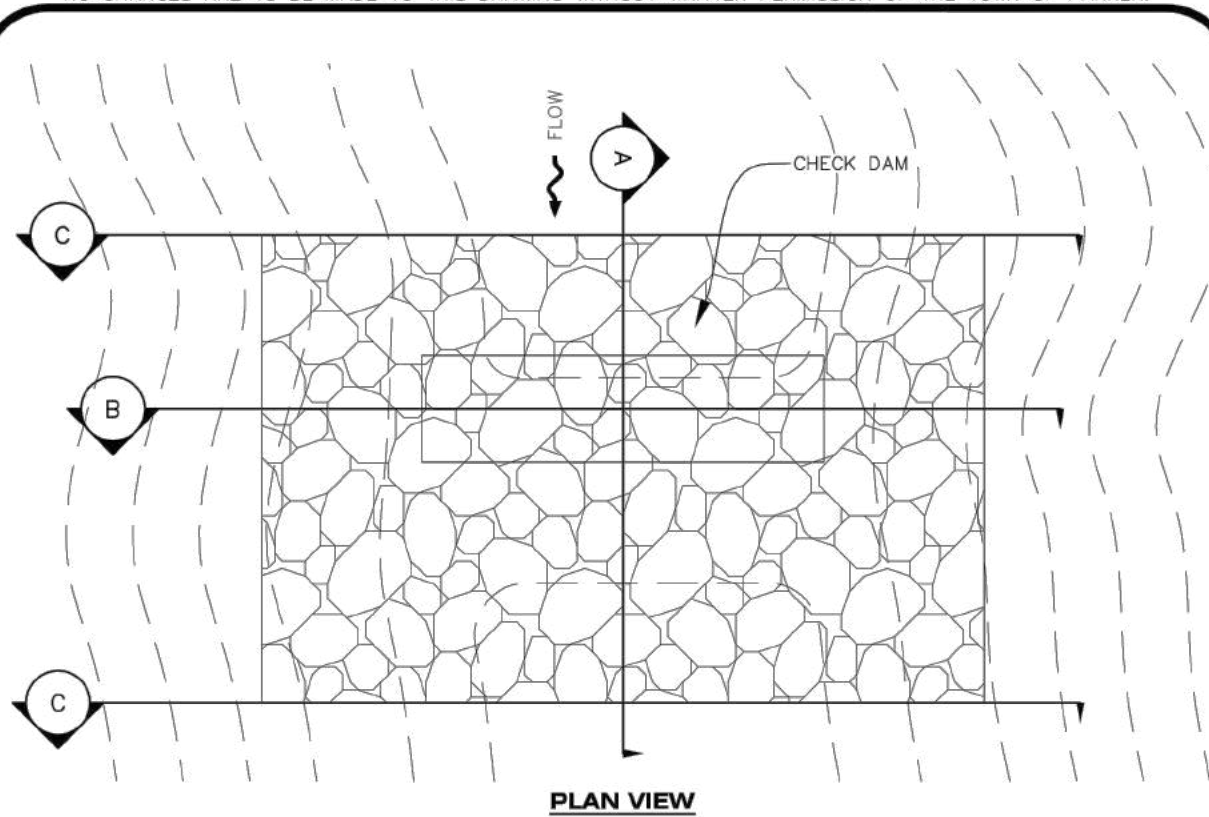
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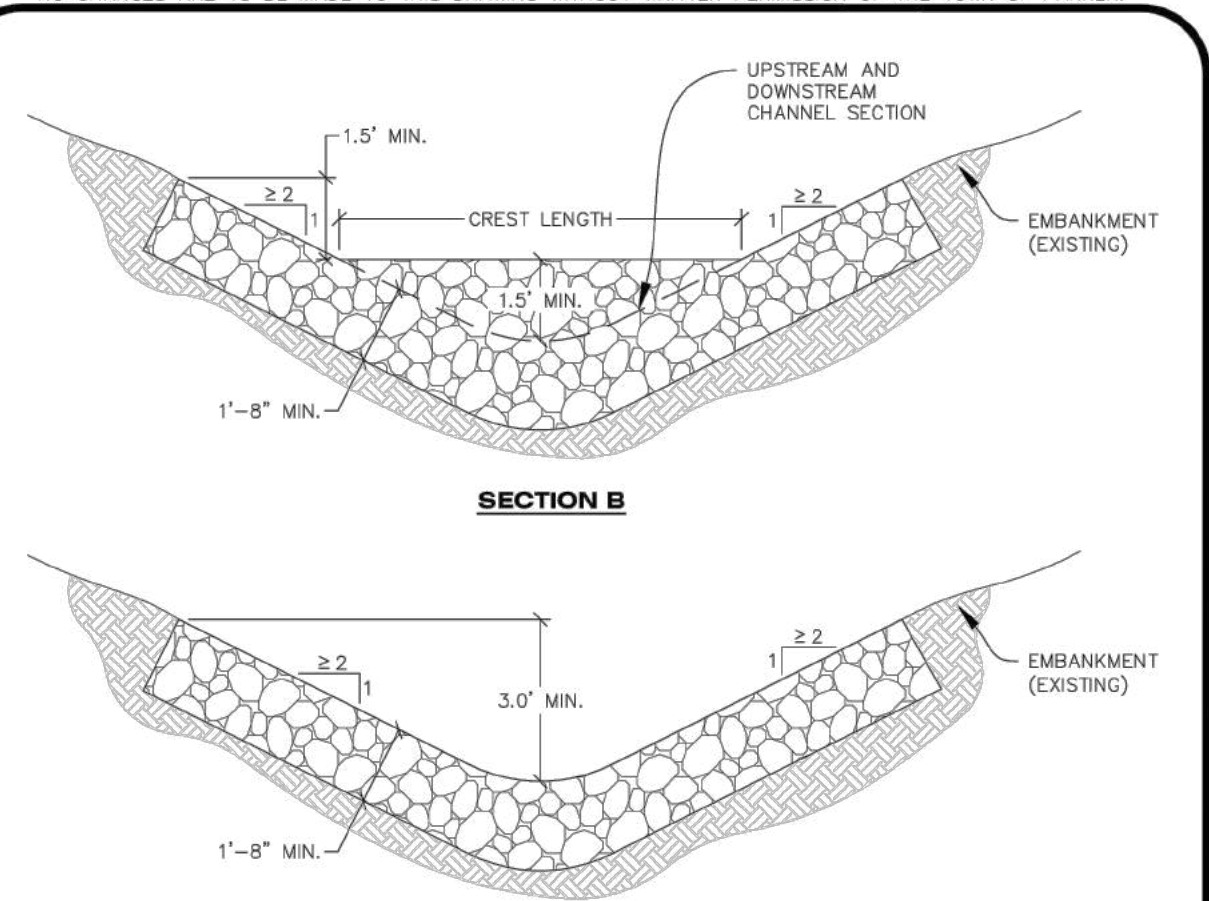
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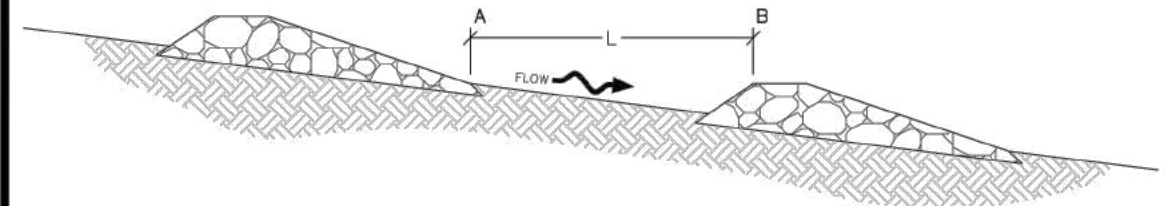
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 CONSTRUCTION BEST MANAGEMENT PRACTICES | 1 OF 3
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NOTE: SECTION C IS LOCATED IMMEDIATELY UPSTREAM AND DOWNSTREAM OF THE CHECK DAM, THEREFORE NO ROCK IS SHOWN WITHIN THE CHANNEL FLOW AREA.

L = THE DISTANCE SUCH THAT POINT A AND B ARE OF EQUAL ELEVATION.



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CHECK DAM INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION(S) OF CHECK DAMS.
2. CHECK DAMS SHOWN ON CBMP PLAN SHALL BE INSTALLED WHEN DIRECTED BY THE TOWN'S INSPECTOR.
3. RIPRAP UTILIZED FOR CHECK DAMS SHALL HAVE A D50 MEDIAN STONE SIZE OF 12".
4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'-8".
5. THE MAXIMUM SPACING BETWEEN CHECK DAMS SHOULD BE SUCH THAT THE BOTTOM OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM AS SHOWN IN THE DETAIL.

CHECK DAM INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE CHECK DAMS.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE SEDIMENT HAS REACHED A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE CREST OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
3. CHECK DAMS SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
4. WHEN CHECK DAMS ARE REMOVED, THE TOWN'S INSPECTOR MAY REQUIRE EXCAVATIONS TO BE FILLED WITH SUITABLE COMPACTED TOPSOIL AND ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE CHECK DAMS BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).
5. IN SOME INSTANCES, CHECK DAMS MAY REMAIN IN PLACE PERMANENTLY.

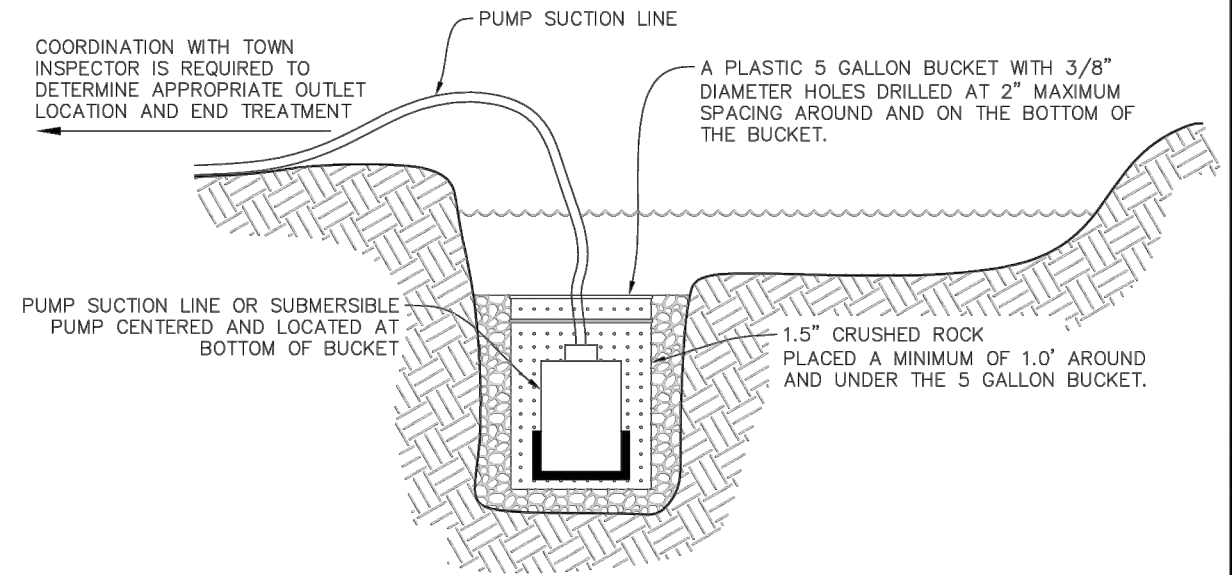


CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

CD

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TYPICAL DEWATERING SUMP

NOTE:
IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE APPROPRIATE MEASURES TO PROTECT PUMPING EQUIPMENT AND MINIMIZE SEDIMENT. USE OF A PLASTIC 5 GALLON BUCKET IS SUGGESTED BUT NOT REQUIRED. THE CONTRACTOR SHALL NOT HOLD THE TOWN LIABLE FOR DAMAGE TO PUMPING EQUIPMENT REGARDLESS OF METHODS USED.



DEWATERING




CBMP

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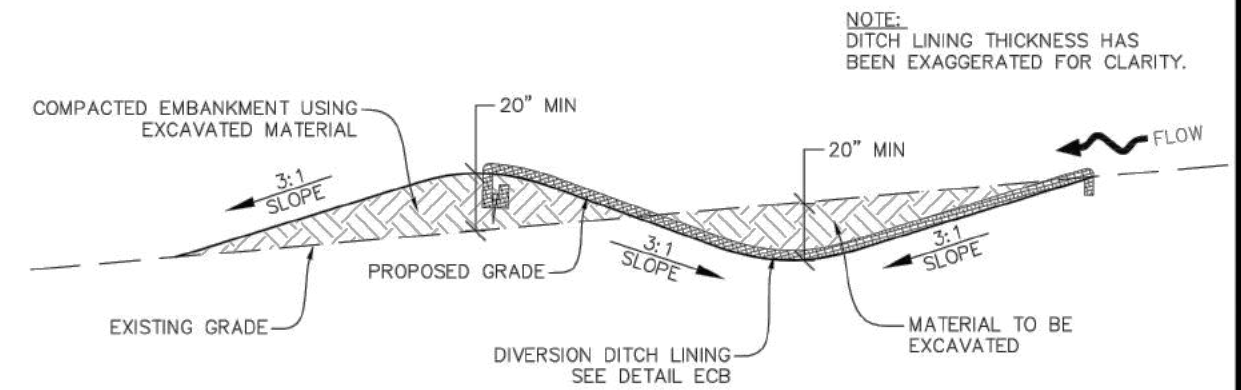
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DEWATERING INSTALLATION NOTES

- IT IS THE EROSION CONTROL SUPERVISOR'S RESPONSIBILITY TO ENSURE THAT ALL DEWATERING IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE).

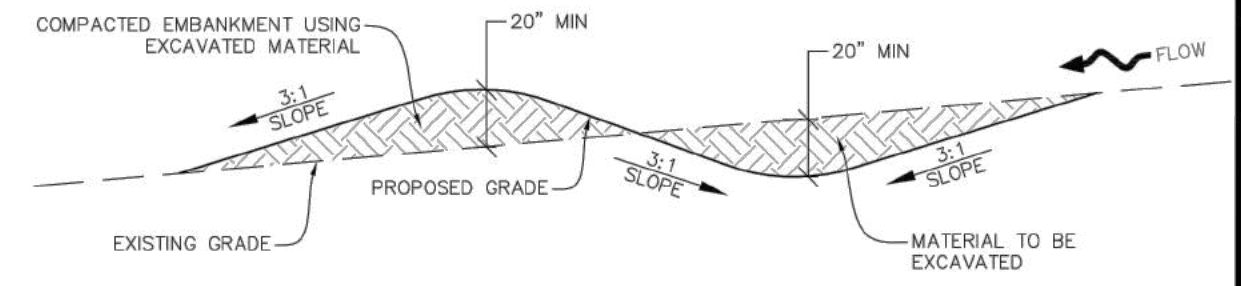
DEWATERING MAINTENANCE NOTES

- THE EROSION CONTROL SUPERVISOR SHALL INSPECT THE DEWATERING OPERATION TO ENSURE THAT THE DISCHARGE WATER IS DRAINING TO THE PROPER LOCATION(S) AND PERFORM ANY NECESSARY REPAIRS OR MAINTENANCE ON A FREQUENT BASIS.



DIVISION DITCH GEOMETRY AND REQUIRED LINING MATERIAL SHALL BE OBTAINED FROM ASSOCIATED CBMP PLANS VIA THE DESIGN ENGINEER. IF THIS INFORMATION IS NOT PROVIDED ON THE CBMP PLANS, THE CONTRACTOR SHALL NOTIFY THE TOWN PRIOR TO CONSTRUCTION

DIVERSION DITCH SECTION LINED CHANNEL



DIVERSION DITCH SECTION UNLINED CHANNEL

DD

DIVERSION DITCH

CBMP

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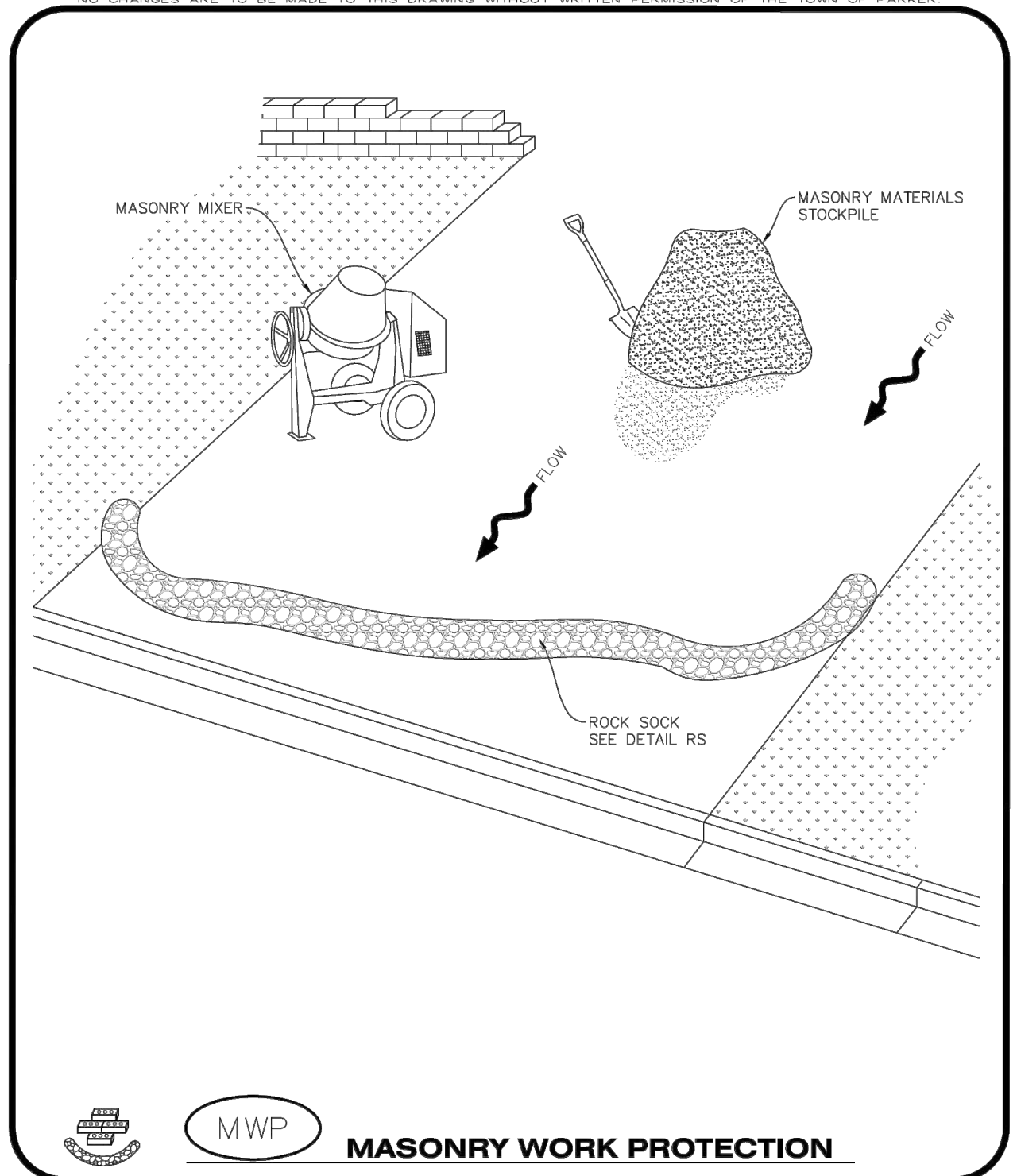
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DIVERSION DITCH INSTALLATION NOTES

1. SEE THE PLAN VIEW FOR THE LOCATION(S) OF THE DIVERSION DITCHES.
2. A PLASTIC LINER, RIPRAP, OR EROSION CONTROL BLANKET MAY BE NECESSARY TO PROTECT THE DIVERSION DITCH. THE REQUIRED LINING MATERIAL SHALL BE OBTAINED FROM THE CBMP PLANS VIA THE DESIGN ENGINEER.
3. ALL MATERIAL EXCAVATED FROM THE DITCH MAY BE USED TO CONSTRUCT THE BERM ON THE DOWNHILL SIDE OF THE DITCH.
4. THE DIVERSION DITCH SHALL BE A MINIMUM OF 20" DEEP WITH APPROX. 3:1 SIDE SLOPES. THE ADJACENT BERM SHALL BE A MINIMUM OF 20" IN HEIGHT WITH APPROX. 3:1 SIDE SLOPES. ALL EMBANKMENTS SHALL BE FIRMLY COMPACTED.
5. THE DISCHARGE FROM THE DIVERSION DITCH SHALL BE DIRECTED TOWARDS AN APPROPRIATELY SIZED TEMPORARY SEDIMENT BASIN OR OTHER APPROVED AREA.

DIVERSION DITCH INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE DIVERSION DITCH.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE THE SEDIMENT HAS REACHED A DEPTH EQUAL TO 1/2 (10") THE CREST HEIGHT.
3. DIVERSION DITCHES SHALL BE RE-GRADED FOLLOWING THE SIGNS OF MODERATE OR MORE SOIL EROSION OR ANY DAMAGE.
4. DIVERSION DITCHES ARE TO REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR. ALTERNATIVELY, THE DIVERSION DITCHES MAY BE REMOVED WHEN THE SITE'S TOPOGRAPHY CHANGES SUCH THAT SIGNIFICANT RUNOFF IS NO LONGER POSSIBLE. IN SOME INSTANCES, THE DIVERSION DITCHES MAY REMAIN IN PLACE PERMANENTLY.



MASONRY WORK PROTECTION


CBMP


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MASONRY WORK PROTECTION INSTALLATION NOTES

- MASONRY WORK PROTECTION MAY NEED TO BE INSTALLED WHEN MASONRY WORK AND MIXING IS OCCURRING.
- A ROCK SOCK SHALL BE INSTALLED IN A CRESCENT SHAPE ON THE DOWNHILL SIDE OF THE MASONRY WORK AND MIXER.
- CRUSHED ROCK SHALL BE 2.0"—3.0" IN SIZE WITH A FRACTURED FACE (ALL SIDES).
- ROCK SOCK SHALL BE ONE CONTINUOUS PIECE OR SHALL BE CONSTRUCTED USING WIRE WRAPPED JOINTS (SEE DETAIL RS).
- ROCK SOCK SHALL BE CONSTRUCTED USING CHICKEN WIRE OR OTHER APPROVED MATERIAL, SIZED TO KEEP ROCK FROM SPILLING OUT.

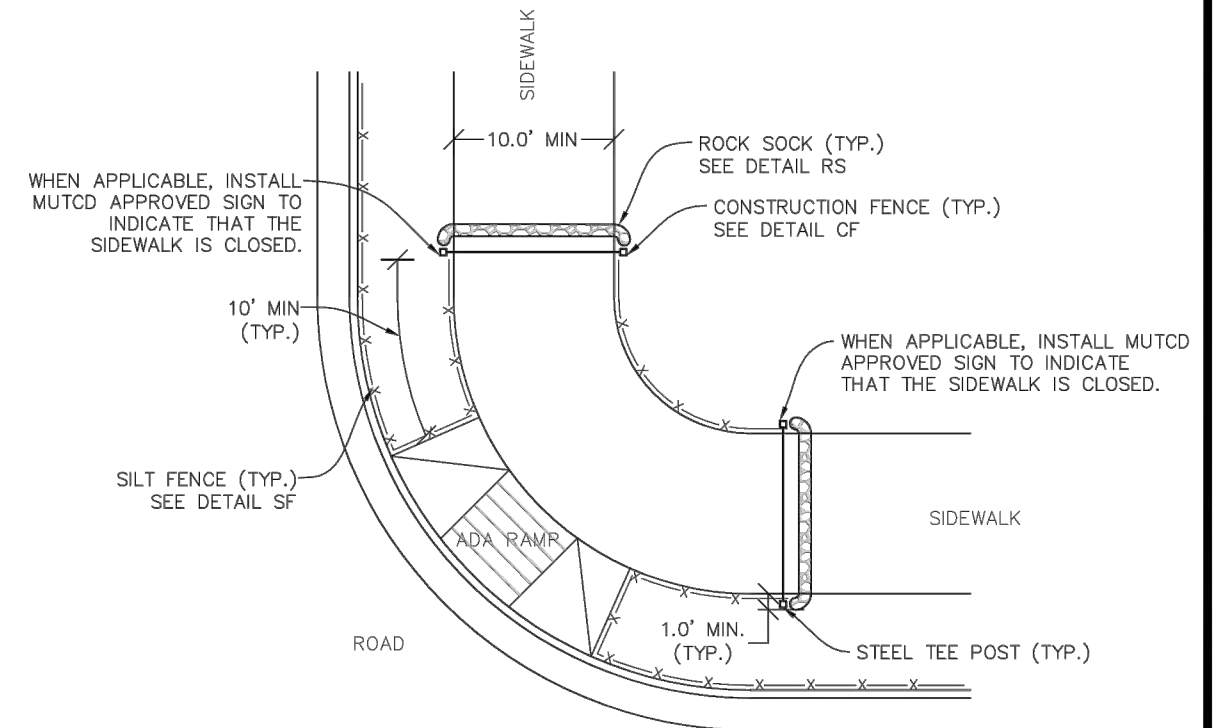
MASONRY WORK PROTECTION INSPECTION AND MAINTENANCE NOTES

- THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE MASONRY WORK PROTECTION.
- ALL CONCRETE WASTE SHALL BE REGULARLY CLEANED AND PLACED IN THE CONCRETE WASH OUT AREA.
- ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED.



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NOTE:
SEDIMENT CONTROL LOGS (SCL) MAY BE USED IN LIEU OF SILT FENCE (SF) WITH PRIOR APPROVAL FROM TOWN.



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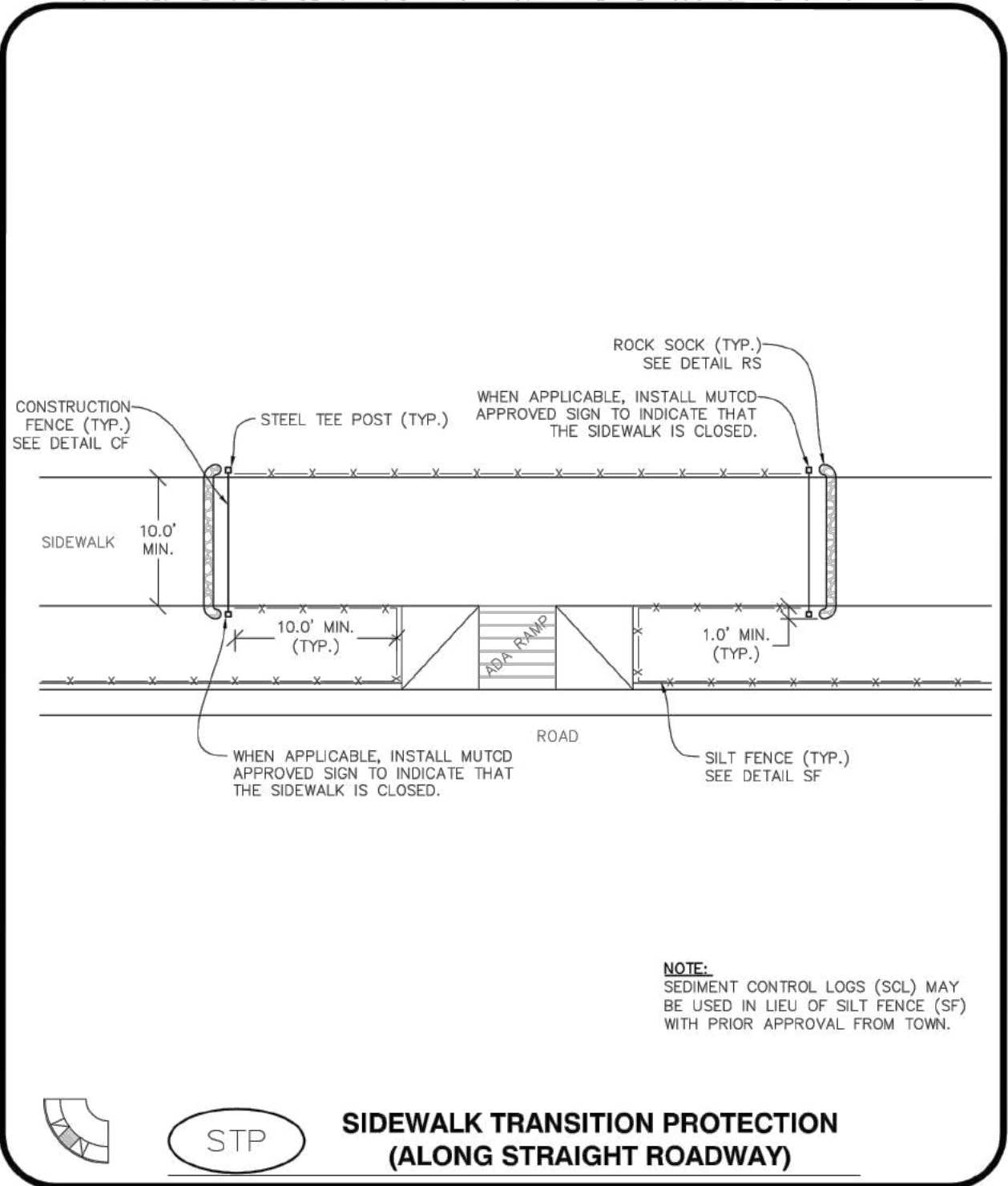
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NOTE:
SEDIMENT CONTROL LOGS (SCL) MAY BE USED IN LIEU OF SILT FENCE (SF) WITH PRIOR APPROVAL FROM TOWN.

 **STP** **SIDEWALK TRANSITION PROTECTION (ALONG STRAIGHT ROADWAY)**

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SIDEWALK TRANSITION PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION(S) OF SIDEWALK TRANSITION PROTECTION.
2. ROCK SOCK SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL (SEE DETAIL RS).
3. SILT FENCE SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL (SEE DETAIL SF).
4. CONSTRUCTION FENCE SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL (SEE DETAIL CF).
5. SEDIMENT CONTROL LOGS MAY BE USED IN LIEU OF SILT FENCE WITH PRIOR APPROVAL FROM THE TOWN.

SIDEWALK TRANSITION PROTECTION INSPECTION & MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE SIDEWALK TRANSITION INSPECTION.

 **CBMP** **STP**
CONSTRUCTION BEST MANAGEMENT PRACTICES 2 OF 3 Oct. 2013

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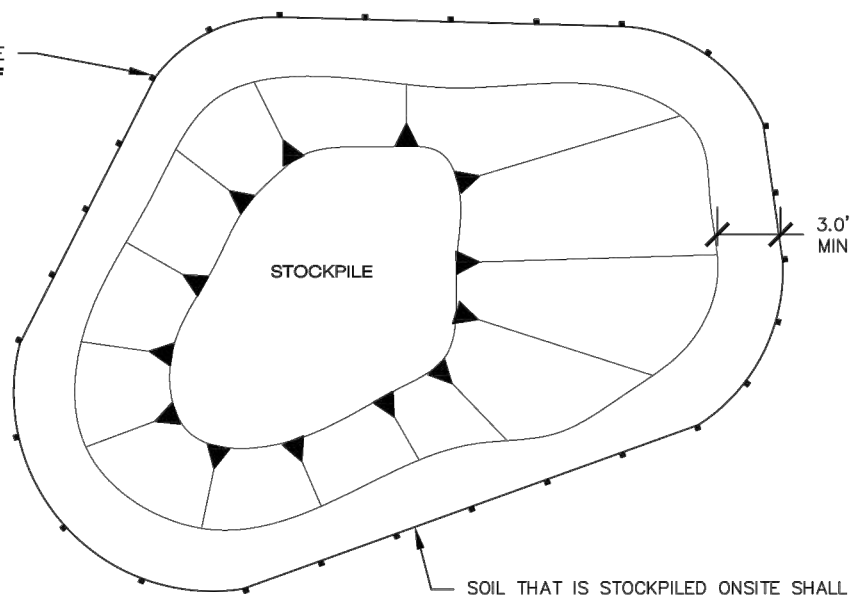
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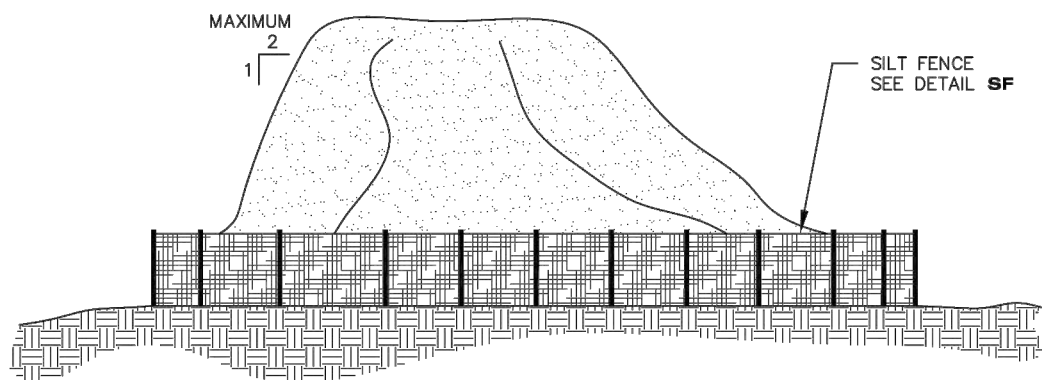
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SILT FENCE
SEE DETAIL SF



SOIL THAT IS STOCKPILED ONSITE SHALL BE ENCLOSED WITH SILT FENCE. IF THE SOIL IS TO REMAIN EXPOSED FOR MORE THAN 30 DAYS, IT SHALL BE HAND BROADCASTED OR DRILL SEEDED AND MULCHED ACCORDING TO THE TOWN'S DETAILS (SEE DETAIL SMC).



STOCKPILES SHALL BE LOCATED ONSITE PER THE APPROVED CBMP PLAN.



SP

STOCKPILE PROTECTION



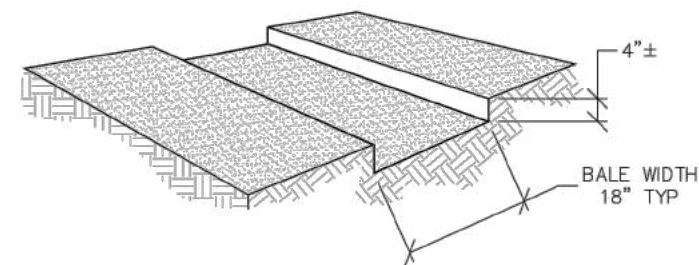
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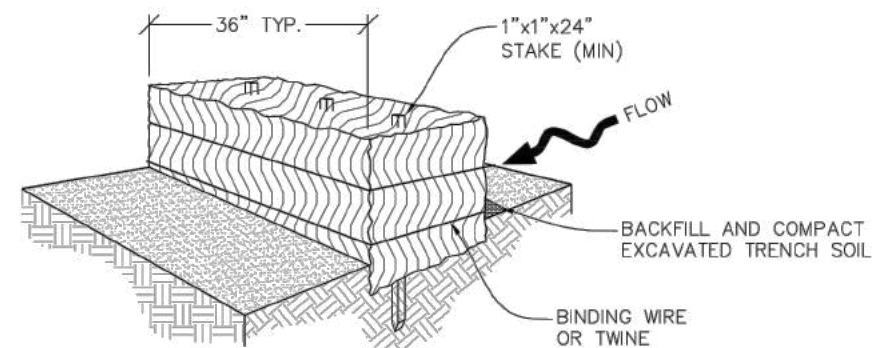
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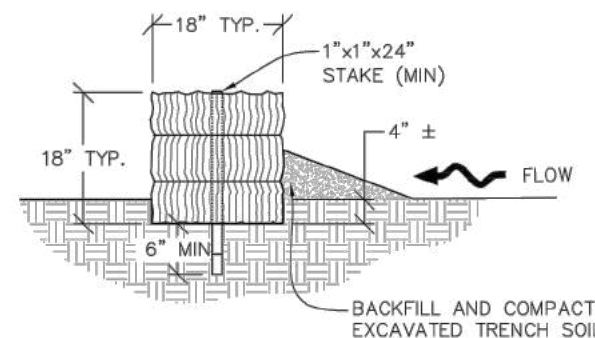
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TRENCH EXCAVATION



STRAW BALE INSTALLATION

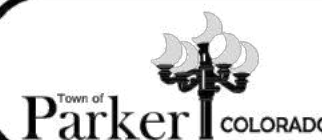


SECTION



SB

STRAW BALE



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CONSTRUCTION BEST MANAGEMENT PRACTICES

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STRAW BALE INSTALLATION NOTES

1. SEE CBMP PLAN FOR LOCATION(S) OF STRAW BALES.
2. TYPICAL STRAW BALES SHALL BE APPROXIMATELY 36"X18"X18".
3. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE A MINIMUM OF 1"X1"X24".
4. WOODEN STAKES SHALL BE PLACED APPROXIMATELY 6" INTO THE GROUND.
5. STRAW BALES SHALL BE SPACED AND POSITIONED ACCORDING TO DETAILS.

STRAW BALE INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE STRAW BALES.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE THE SEDIMENT HAS REACHED A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE STRAW BALE.
3. STRAW BALES MAY NEED TO BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR OTHERWISE DAMAGED.
4. STRAW BALES SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR OR AS OTHERWISE DIRECTED BY THE TOWN INSPECTOR.
5. WHEN THE STRAW BALES ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE STRAW BALES MAY NEED TO BE ROUGHENED, SEEDED, MULCHED, AND CRIMPED PER THE TOWN'S SPECIFICATIONS (SEE DETAIL SMC).

To allow for a proper and timely establishment of native grasses, temporary irrigation is required over all areas where permanent native seeding is proposed. This includes, but is not limited to: detention ponds, drainageways, park and trail areas, general open space, etc. **In addition to the landscape plans, please show the temporary irrigation symbol (TI) on the CBMP Plan over all areas where permanent native seeding is proposed.** As a reminder, when working within Parker Water and Sanitation District's (PWSD) jurisdiction, the following is required:

- Temporary irrigation for native seed must be supplied by a fire hydrant hook-up. Use of proposed/existing landscape irrigation taps is not allowed. Please indicate on the irrigation plans fire hydrants that are to be used for the temporary irrigation mainline and provide a detail for the connection. This detail should show the hydrant, PRV, PWSD water meter, a 2" backflow assembly, a 2" x 2" cam lock for fire department quick disconnect and a support system for all components
- The following note must be shown on the Irrigation plan set "Temporary irrigation for establishment of native vegetation must be installed above ground, and removed immediately after establishment is complete, or in no case, any longer than one growing season." PWSD may allow temporary irrigation to continue for one additional growing season with prior approval.
- The following note must be shown on the Irrigation plan set "All temporary irrigation components including but not limited to mainlines, laterals, valves, heads and quick couplers must be installed above ground."
- All temporary irrigation components including but not limited to mainlines, laterals, valves, heads and quick couplers must be clearly labeled on the plans.
- Provide detail drawings for all above ground components including but not limited to mainlines, laterals, valves, heads and quick couplers.

If the project is outside of PWSD's jurisdiction, check with the applicable water provider regarding their specific requirements for temporary irrigation.



CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

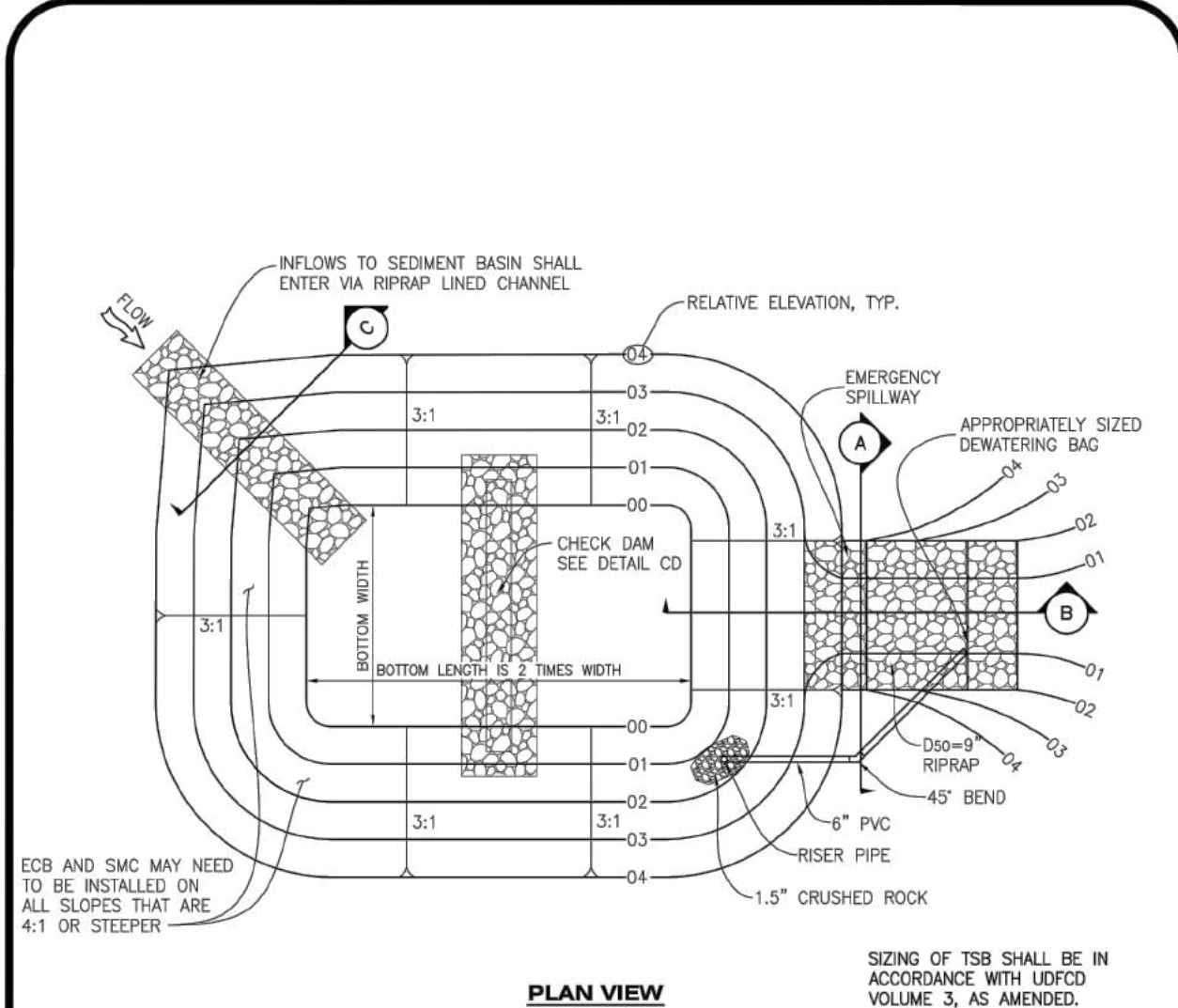
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Print Date: 3/14/2021 2:41:42 PM File Name: E115360-01DET33.dwg Horizontal Scale: 1"=40' Vertical Scale: NTS	(R-X) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Sheet Revisions</th> </tr> <tr> <th style="width: 15%;">Date</th> <th style="width: 60%;">Comments</th> <th style="width: 25%;">Initials</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Sheet Revisions			Date	Comments	Initials										 <p style="font-size: 8pt;">8008 E. Arapahoe Court, Suite 110, Denver, CO 80112 ph:303.708.0900 fax:303.708.0400 manhard.com Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers Construction Managers • Environmental Scientists • Landscape Architects • Planners</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">As Constructed</td> <td colspan="2" style="text-align: center;">BELFORD-HAPPY CANYON CREEK CBMP STANDARD NOTES AND DETAILS</td> <td style="width: 50%;">Project No./Code</td> </tr> <tr> <td>No Revisions:</td> <td>Designer: CDT</td> <td>Structure Numbers</td> <td> </td> </tr> <tr> <td>Revised:</td> <td>Detailer: KLT</td> <td> </td> <td> </td> </tr> <tr> <td>Void:</td> <td>Subset: Erosion</td> <td>Sheets: ED-33 of 35</td> <td>Sheet Number 127</td> </tr> </table>	As Constructed	BELFORD-HAPPY CANYON CREEK CBMP STANDARD NOTES AND DETAILS		Project No./Code	No Revisions:	Designer: CDT	Structure Numbers		Revised:	Detailer: KLT			Void:	Subset: Erosion	Sheets: ED-33 of 35	Sheet Number 127
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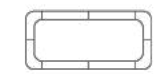
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PLAN VIEW

SIZING OF TSB SHALL BE IN ACCORDANCE WITH UDFCD VOLUME 3, AS AMENDED.

ECB AND SMC MAY NEED TO BE INSTALLED ON ALL SLOPES THAT ARE 4:1 OR STEEPER



TSB

TEMPORARY SEDIMENT BASIN



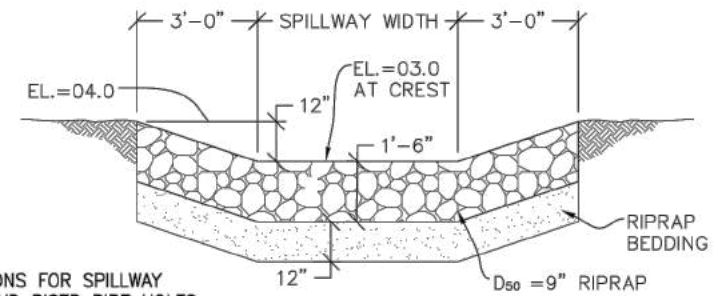
CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

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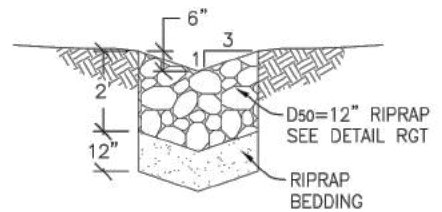
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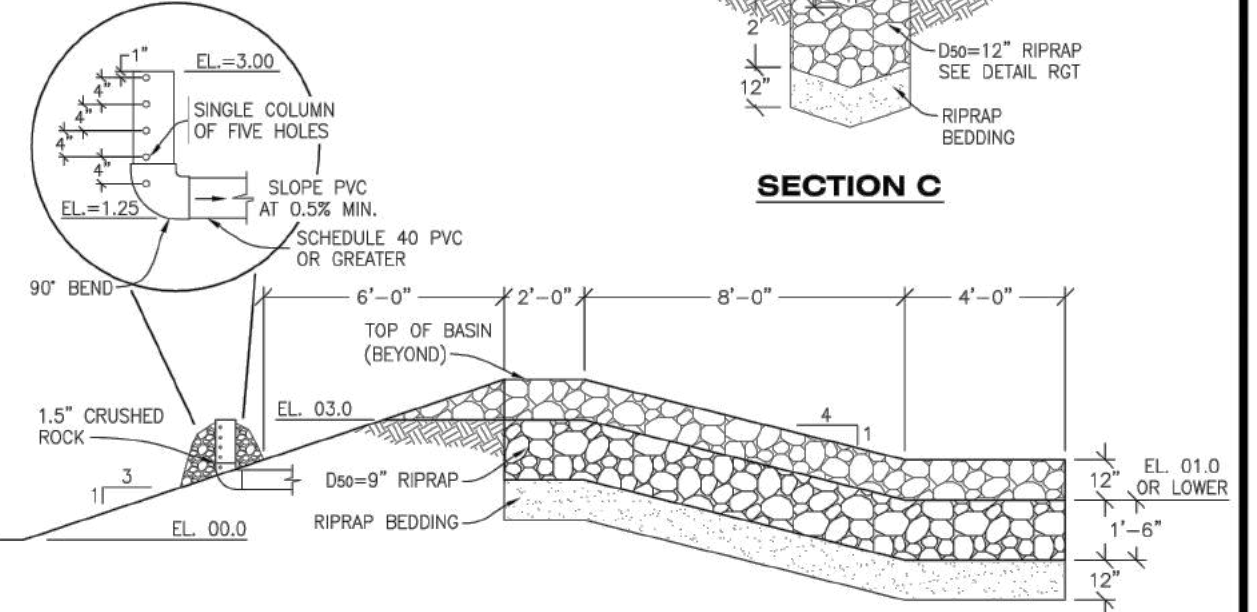


DIMENSIONS FOR SPILLWAY WIDTH AND RISER PIPE HOLES SHALL BE IN ACCORDANCE WITH UDFCD VOLUME 3, AS AMENDED.

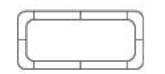
SECTION A



SECTION C



SECTION B



TSB

TEMPORARY SEDIMENT BASIN



CBMP

CONSTRUCTION BEST MANAGEMENT PRACTICES

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	Detailer: KLT		
Void:	Subset: Erosion	Sheets: ED-34 of 35	Sheet Number 128

TEMPORARY SEDIMENT BASIN INSTALLATION NOTES


1. SEE CBMP PLAN FOR LOCATION(S) OF SEDIMENT BASIN(S).
2. THE TEMPORARY SEDIMENT BASIN(S) SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY OTHER GRADING ACTIVITIES.
3. THE EXACT DIMENSIONS AND DETAILS OF THE TEMPORARY SEDIMENT BASIN SHALL BE DETERMINED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH UDFCD VOLUME 3, AS AMENDED.
4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3" AND SHALL HAVE A MINIMUM OF 15% BY WEIGHT PASSING THE NO. 200 SIEVE.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% DENSITY, AND WITHIN +/- 2% OF OPTIMUM MOISTURE IN ACCORDANCE WITH ASTM D698.
6. AN APPROPRIATELY SIZED DEWATERING BAG SHALL BE SECURED TO THE END OF THE DISCHARGE PIPE. THE DEWATERING BAG SHALL BE REPLACED ONCE SEDIMENT ACCUMULATION REACHES 50%.

TEMPORARY SEDIMENT BASIN INSPECTION AND MAINTENANCE NOTES

1. THE EROSION CONTROL SUPERVISOR SHALL REGULARLY INSPECT THE TEMPORARY SEDIMENT BASIN.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT REACHES A DEPTH OF 2.0', OR WITHIN 2.0' OF THE SPILLWAY CREST, OR AS OTHERWISE DIRECTED BY THE TOWN'S INSPECTOR.
3. SEDIMENT BASINS SHALL REMAIN IN PLACE AND PROPERLY MAINTAINED UNTIL UPSTREAM VEGETATIVE COVER HAS REACHED A CONSISTENT DENSITY OF AT LEAST 70% OF FULL VEGETATIVE COVER AND EROSION AND SEDIMENTATION IS NO LONGER A POSSIBILITY AS DETERMINED BY THE TOWN'S INSPECTOR.

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CONSTRUCTION BEST MANAGEMENT PRACTICES		3 OF 3 Oct. 2013

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