

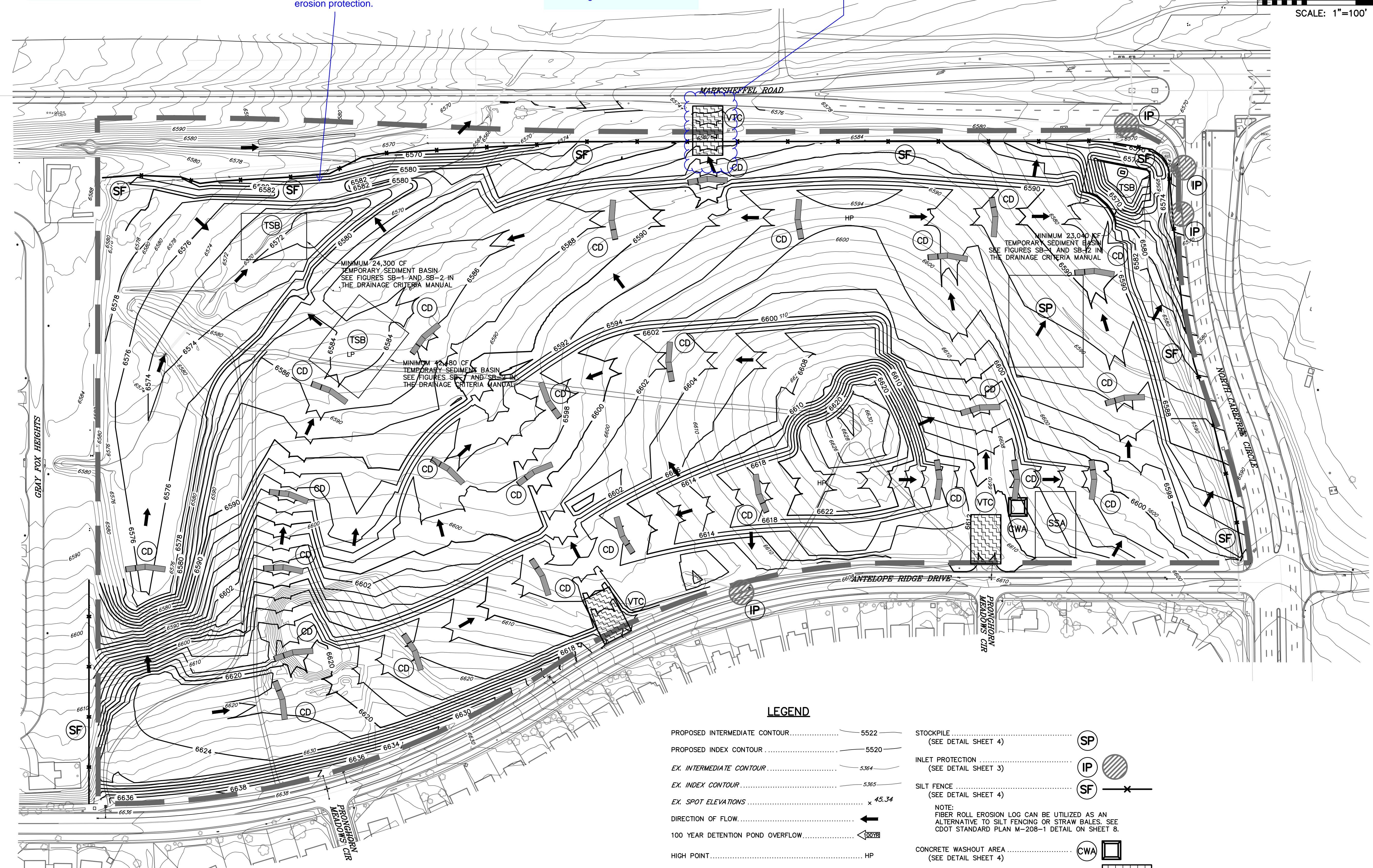
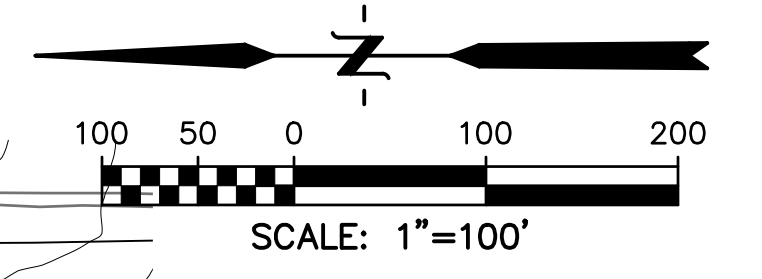
Label all features being constructed and removed.

See comment letter and checklist.

Show spillway erosion protection.

Use a "hidden" or dashed linetype for existing contours.

no construction access from Marksheffel



LEGEND

PROPOSED INTERMEDIATE CONTOUR..... 5522	STOCKPILE SP
PROPOSED INDEX CONTOUR 5520	(SEE DETAIL SHEET 4)
EX. INTERMEDIATE CONTOUR 5364	INLET PROTECTION IP
EX. INDEX CONTOUR 5365	(SEE DETAIL SHEET 3)
EX. SPOT ELEVATIONS 45.34	SILT FENCE SF
DIRECTION OF FLOW ←	(SEE DETAIL SHEET 4)
100 YEAR DETENTION POND OVERFLOW ←	NOTE: FIBER ROLL EROSION LOG CAN BE UTILIZED AS AN ALTERNATIVE TO SILT FENCING OR STRAW BALES. SEE CDOT STANDARD PLAN M-208-1 DETAIL ON SHEET 8.
HIGH POINT HP	CONCRETE WASHOUT AREA CWA
LOW POINT LP	(SEE DETAIL SHEET 4)
PROPOSED INLET —	VEHICLE TRACKING CONTROL VTC
PROPOSED MANHOLE ●	(SEE DETAIL SHEET 3)
PROJECT BOUNDARY —	STRAW BALE CHECK DAM CD
	(SEE DETAIL SHEET 4)
	STABILIZED STAGING AREA SSA
	(SEE DETAIL SHEET 4)
	TEMPORARY SEDIMENT BASIN TSB
	(SEE DETAIL SHEET 5)

811 Know what's below.
Call before you dig.

CALL 3-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR
EXCAVATE FOR THE MARKING OF
UNDERGROUND MEMBER UTILITIES.

COUNTY FILE NO.: SP 1413/EA 18200

PREPARED BY:


DREXEL, BARRELL & CO.
Engineers & Surveyors
3 SOUTH 7TH STREET
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CLIENT:

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(719) 200-9594
CONTACT: JAMES TODD STEVENS

**WINDERMERE
PRELIMINARY PLAN**
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19

DESIGNED BY: GES
DRAWN BY: GES
CHECKED BY: TDM
FILE NAME: 21187-01EC1

PREPARED UNDER MY DIRECT
SUPERVISION FOR AND ON
BEHALF OF
DREXEL, BARRELL & CO.

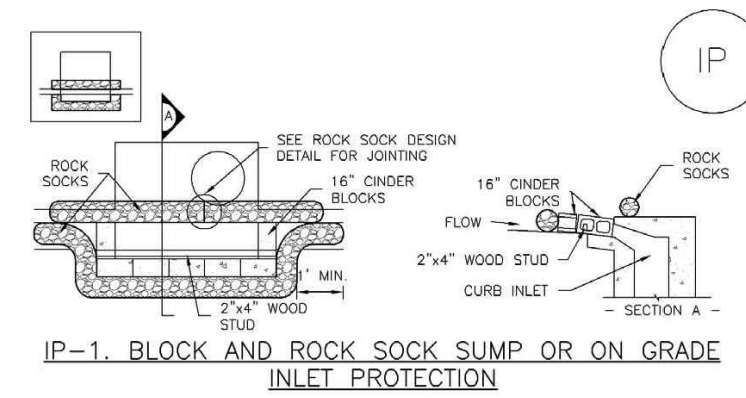
DRAWING SCALE:
HORIZONTAL: 1" = 100'
VERTICAL: N/A

**PRELIMINARY
EROSION CONTROL
PLAN**

PROJECT NO. 21187-01CSCV
DRAWING NO.

EC02

SC-6 Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- CONCRETE "CINDER" BLOCKS SHALL BE Laid ON THEIR SIDES AROUND THE INLET IN A SHAKE ROW JABTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
- GRAVEL BASE SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.

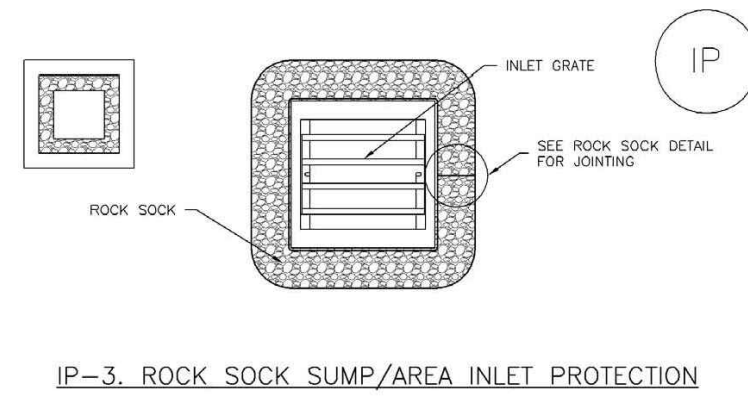
BLOCK AND ROCK SOCK INLET PROTECTION (SEE DETAIL IP-1)

CURB SOCK INLET PROTECTION INSTALLATION NOTES

- SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 1/2 FEET APART.
- AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

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Inlet Protection (IP) SC-6



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- STRAW MATS/SEDIMENT CONTROL LOSS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PREVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

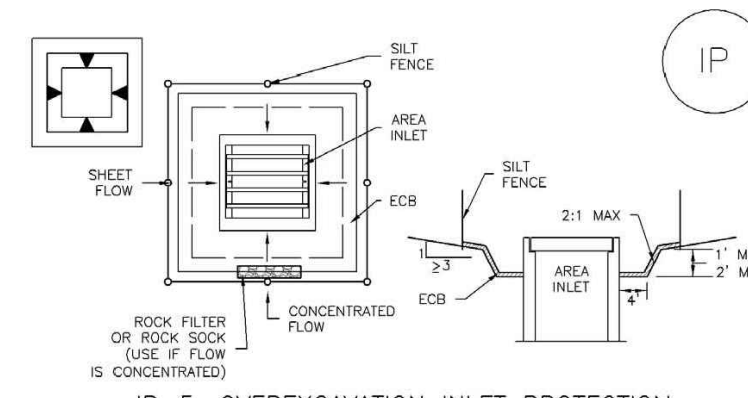
SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

- SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
- STRAW MATS/SEDIMENT CONTROL LOSS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PREVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

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SC-6 Inlet Protection (IP)



IP-5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

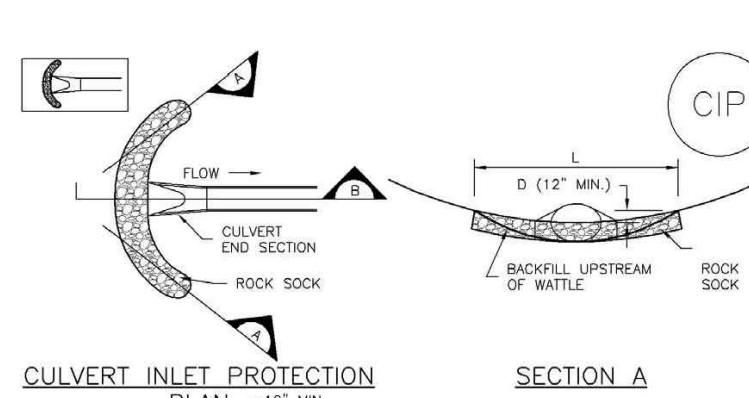
- THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
- WHEN USING FOR CONCENTRATED FLOW, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARD DIRECTION OF FLOW.
- SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

- SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.

IP-6 Urban Drainage and Flood Control District August 2013
Urban Storm Drainage Criteria Manual Volume 3

Inlet Protection (IP) SC-6



CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF INLET PROTECTION.
 - LOCATION OF CULVERT INLET PROTECTION.
- SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
- CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

August 2013 Urban Drainage and Flood Control District IP-7
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SC-6 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF INLET PROTECTION.
 - TYPE OF INLET PROTECTION (P.1, P.2, P.3, P.4, P.5, P.6).
- INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/MURPHY EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
- MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/2 OF THE HEIGHT FOR STRAW BALES.
- INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
- WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDS AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTODO)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS SHEET SHOW COMMONLY USED CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY NON-PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. LOCAL MEMBER ENGINEERS MAY DISCOUNTAGE USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWAP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

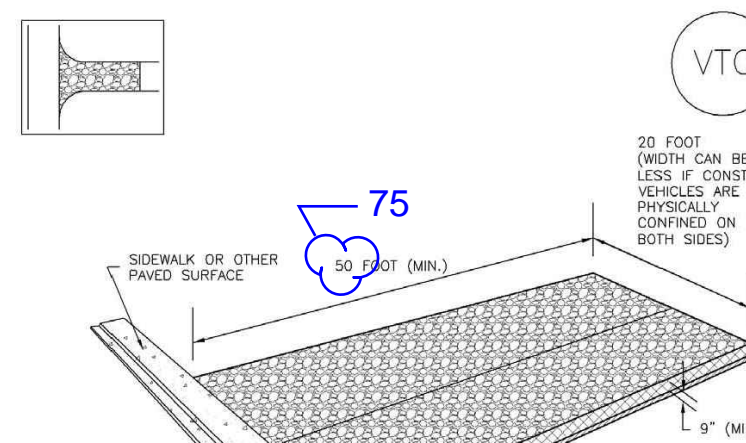
NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION SINCE WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

(DETAILS ADAPTED FROM DENVER COUNTY, COLORADO, NOT AVAILABLE IN AUTODO)

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IP-8 Urban Drainage and Flood Control District August 2013
Urban Storm Drainage Criteria Manual Volume 3

Vehicle Tracking Control (VTC) SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
 - TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REPAIRED OR REGRASSED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SHEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USDC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTODO)

November 2010 Urban Drainage and Flood Control District VTC-3
Urban Storm Drainage Criteria Manual Volume 3

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
 - TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

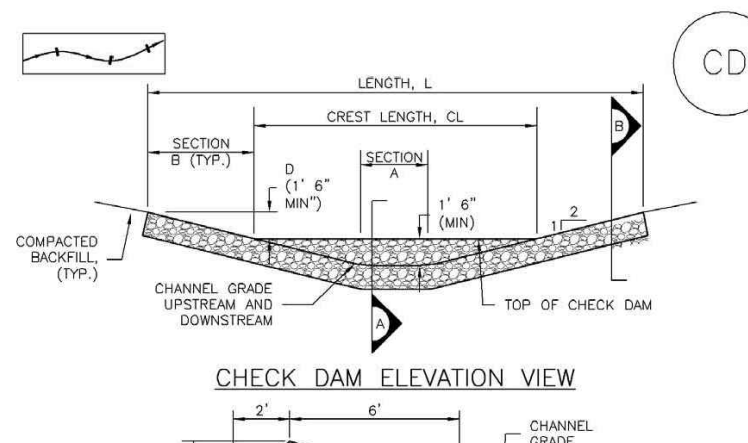
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- ROCK SHALL BE REPAIRED OR REGRASSED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SHEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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(DETAILS ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTODO)

VTC-6 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

Check Dams (CD) EC-12



CD-1. CHECK DAM

CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF CHECK DAM.
 - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
 - LENGTH (CL), CREST LENGTH (CL), AND DEPTH (D).
- CHECK DAMS INDICATED ON INITIAL SWAP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
- RRAPAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RRAPAP USED FOR CHECK DAMS ARE TYPE M (D50 12") OR TYPE L (D50 9").
- RRAPAP PAV SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1".
- THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 8" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION AND PERFORM NECESSARY MAINTENANCE.
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- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE CREST.
- CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN CHECK DAMS ARE REPAIRED, RECONSTRUCTION SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDS AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DENVER COUNTY, COLORADO, NOT AVAILABLE IN AUTODO)

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November 2010 Urban Drainage and Flood Control District CD-3
Urban Storm Drainage Criteria Manual Volume 3

EC-12 Check Dams (CD)

CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
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 - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
 - LENGTH (CL), CREST LENGTH (CL), AND DEPTH (D).
- CHECK DAMS INDICATED ON INITIAL SWAP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
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- RRAPAP PAV SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1".
- THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 8" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM MAINTENANCE NOTES

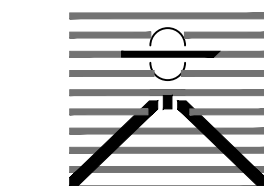
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- CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
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CD-4 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

PREPARED BY:



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CONTACT: JAMES TODD STEVENS

**WINDERMERE
PRELIMINARY PLAN**
N MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19
DESIGNED BY:	SBN
DRAWN BY:	SBN
CHECKED BY:	TDM
FILE NAME:	21187-01ECOT

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
DREXEL, BARRELL & CO.

DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

EROSION CONTROL DETAILS

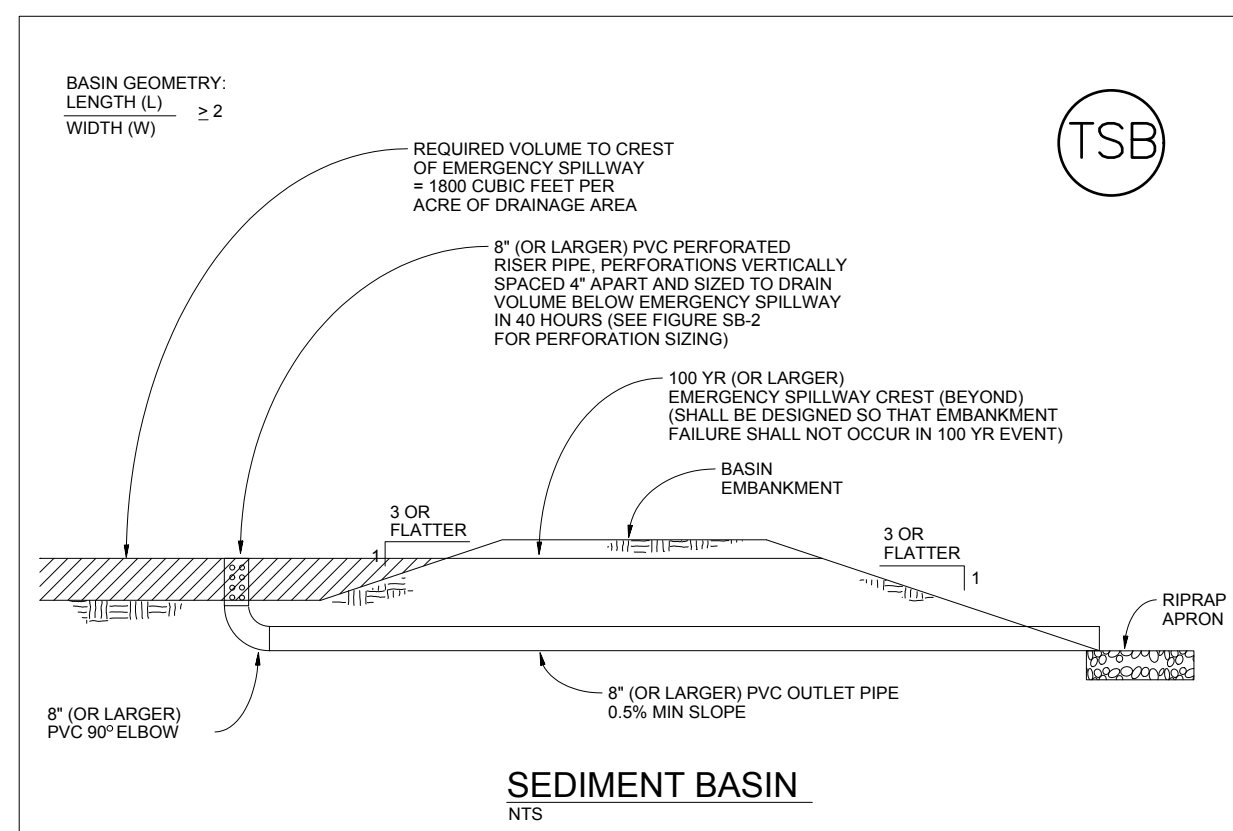
PROJECT NO. 21187-01CSCV
DRAWING NO.

EC03

SHEET: 3 OF 5



Know what's below.
Call before you dig.
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



SEDIMENT BASIN NOTES

- INSTALLATION REQUIREMENTS**
- SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
 - THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
 - THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
 - THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. Baffles MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
 - EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #20 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
 - EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
 - WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.
- MAINTENANCE REQUIREMENTS**
- CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
 - SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
 - SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality

Figure SB-1 Sediment Basin Construction Detail and Maintenance Requirements

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Required Area per Row (n²)

Design Volume (ac-ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.05	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

TABLE SB-1

Circular Perforation Sizing

Hole Diameter (in)	Hole Diameter (in)	Area per Row (in ²)		
		n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.96
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42
n = Number of columns of perforations				
Minimum steel plate thickness		1/4"	5/16"	3/8"

TABLE SB-2

City of Colorado Springs Stormwater Quality

Figure SB-2 Outlet Sizing Application Techniques and Maintenance Requirements

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WINDERMERE
PRELIMINARY PLAN
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19

DESIGNED BY: SBN
DRAWN BY: SBN
CHECKED BY: TDM
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PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.

DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

EROSION CONTROL
DETAILS

PROJECT NO. 21187-01CSCV
DRAWING NO.

EC05

Know what's below.
Call before you dig.
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.