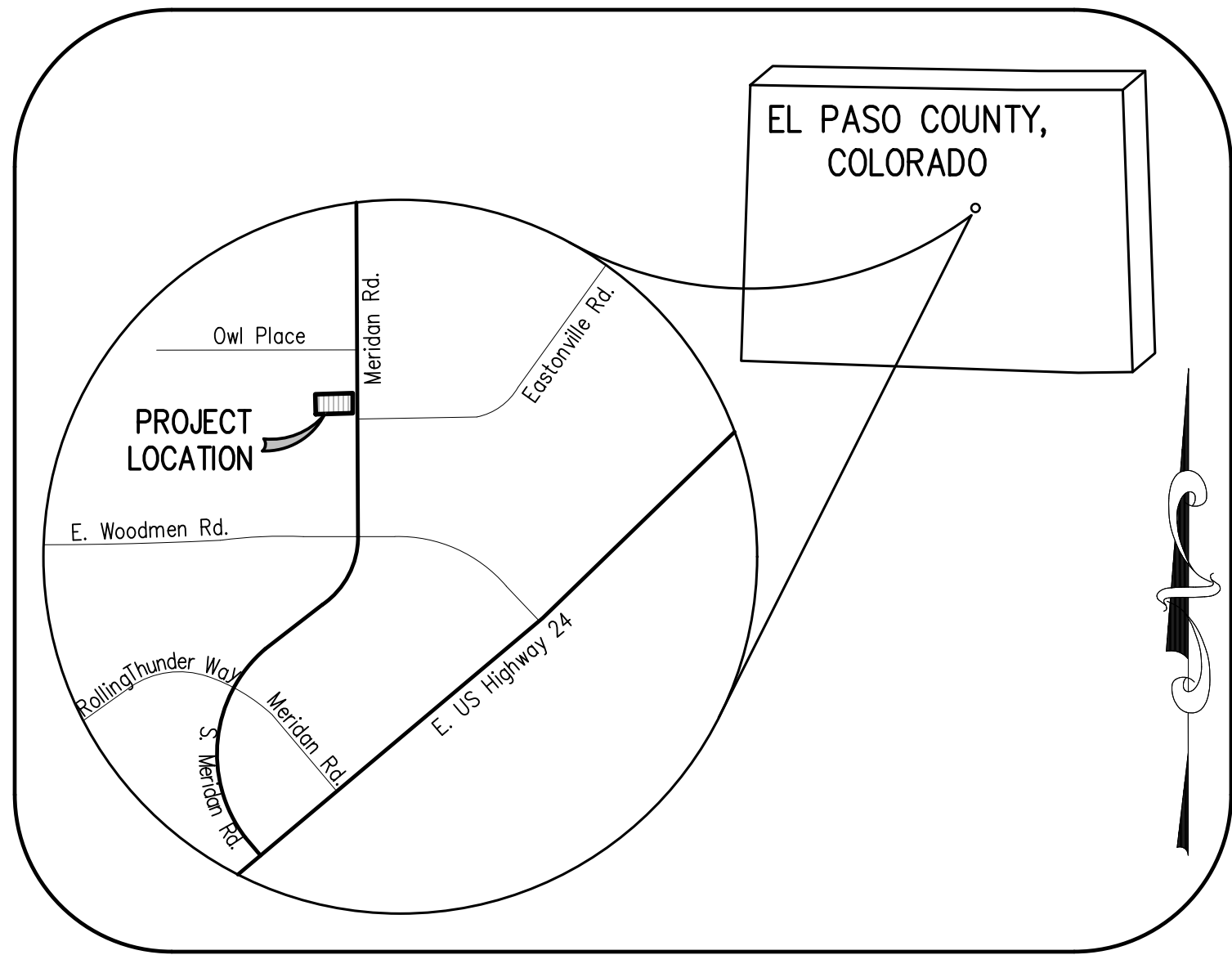


GRADING & EROSION CONTROL PLANS FOR MURPHY USA (NTI) EL PASO COUNTY, COLORADO 7825 MERIDIAN PARK DRIVE (MURPHY #7968)



VICINITY MAP
N.T.S.

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
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C-5.1	GENERAL NOTES
C-5.2	CUT & FILL EXHIBIT
C-5.3	PHASE I (INITIAL) PHASE II (INTERIM)
C-5.4	PHASE III (FINAL) EROSION CONTROL PLAN
C-5.5	EROSION CONTROL DETAILS
C-5.6	EROSION CONTROL DETAILS
C-5.7	EROSION CONTROL DETAILS
C-5.8	EROSION CONTROL DETAILS

GENERAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR RAZING AND REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED.
- CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- SAFETY NOTICE TO CONTRACTOR:** IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY AND SECURITY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.
- ALL CONSTRUCTION WITHIN STATE HIGHWAY DEPARTMENT RIGHT-OF-WAY SHALL BE COORDINATED WITH THE HIGHWAY DEPARTMENT RESIDENT MAINTENANCE ENGINEER.
- ALL SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE RELEVANT UTILITY COMPANY OR REGULATORY AUTHORITY, AND THE SPECIFICATIONS FOR THE CONSTRUCTION OF THE EXISTING IMPROVEMENTS WHICH ARE BEING ALTERED OR REPLACED. CONTRACTOR SHALL CONTACT THE ENGINEER FOR SPECIFICATION SECTIONS FOR ITEMS SUCH AS LANDSCAPING AND IRRIGATION THAT ARE AFFECTED BY THE WORK BUT NOT COMPLETELY DETAILED OR SPECIFIED ON THESE PLANS.

- CONSTRUCTION AND INSTALLATION OF 2,824 SF BUILDING, ALL UTILITY ENTRANCES AND (1) 25,000 GALLON & (1) 26,000 GALLON UNDERGROUND TANKS SHALL BE IN ACCORDANCE WITH ASSOCIATED PLANS.
- THE GENERAL CONTRACTOR TO COORDINATE THE CANOPY SIGN LOCATIONS AND FREE-STANDING SIGNAGE WITH MURPHY'S DEVELOPMENT PROJECT MANAGER AND SIGN COMPANY.

NOTES TO CONTRACTOR

- THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD WITH THE DATE WHEN CONSTRUCTION IS TO BEGIN.
- THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND LAYOUT.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE ENGINEER OF RECORD OF ANY DEVIATIONS DURING CONSTRUCTION AND SHALL REPORT THEM IMMEDIATELY.
- CONTRACTOR IS REQUIRED TO KEEP REDLINE AS-BUILTS AND TO PROVIDE THOSE TO MURPHY UPON COMPLETION.
- CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING THE AS-BUILT AND CERTIFICATE OF OCCUPANCY (C.O.) REQUIREMENTS FOR THE ISSUING AUTHORITY.
- IF AN ELEVATION CERTIFICATE OR AS-BUILT SURVEY IS REQUIRED BY THE ISSUING AUTHORITY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SCHEDULING OF THE SURVEY WITH THE CIVIL CONSULTANT PRIOR TO DEADLINE FOR OBTAINING THE C.O. AND AFTER NECESSARY COMPLETED WORK TO BE SHOWN ON SURVEY.

PROJECT BENCHMARK

ELEVATIONS ARE BASED ON DREXEL, BARRELL & CO. "CONTROL POINT #300, A 2" ALUMINUM CAP LOCATED 30' NORTH OF THE SE CORNER OF LOT OWL MARKETPLACE, WITH AN ELEVATION OF 6912.90 (NAVD 88)

BASIS OF BEARINGS

THE BEARINGS AS SHOWN HEREON ARE BASED UPON THE CONSIDERATION THAT THE SOUTH LINE OF THE NORTH ONE-HALF OF THE SE¼ OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE SIXTH P.M. IS ASSUMED TO BEAR SOUTH 89°43'52" WEST, BEING MONUMENTED AS SHOWN HEREON. NOTE: BASIS OF BEARINGS AND ACTUAL DIMENSIONS MAY VARY FROM LEGAL DESCRIPTION DUE TO ROTATIONAL ANALYSIS OF BOUNDARY LINES AND ACCEPTED FOUND MONUMENTS FROM PREVIOUS SURVEYS.

WETLANDS NOTE

ANY DEVELOPMENT, EXCAVATION, CONSTRUCTION, OR FILLING IN A U.S. ARMY CORPS OF ENGINEERS DESIGNATED WETLAND IS SUBJECT TO LOCAL, STATE AND FEDERAL APPROVALS. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND/OR RESTRICTIONS AND ANY VIOLATION WILL BE SUBJECT TO FEDERAL PENALTY. THE CONTRACTOR SHALL HOLD THE OWNER/DEVELOPER, THE ENGINEER AND THE LOCAL GOVERNING AGENCIES HARMLESS AGAINST SUCH VIOLATION.

FLOOD CERTIFICATION

THIS PROPERTY IS LOCATED WITHIN ZONE X--AREA OF MINIMAL FLOOD HAZARD AS DETERMINED BY THE FEMA FLOOD INSURANCE RATE MAP, PANEL MAP NUMBER 08041C0553 G HAVING AN EFFECTIVE DATE OF DECEMBER 7, 2018. A CONDITIONAL LETTER OF MAP REVISION (LOMR) HAS BEEN APPROVED FOR THE SITE PER FEMA CASE NO. 22-08-0669R, DATED DEC. 21, 2022. PIKES PEAK REGIONAL BUILDING DEPARTMENT WILL REQUIRE AN EFFECTIVE LOMR REMOVING LOTS #1-5 FROM THE FLOODPLAIN PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS FOR THE INDIVIDUAL LOTS.

NOTICE TO BIDDERS

ALL QUESTIONS REGARDING THE PREPARATION OF THE GENERAL CONTRACTOR'S BID SHALL BE DIRECTED THROUGH MURPHY'S CONSTRUCTION WEBSITE (HTTPS://MURPHYUSA.PROJECTMATES.COM/) INCLUDING Q&A, RFI'S, BID SUBMISSION, CHANGE ORDER REQUESTS, ETC. ONCE AWARDED THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S PROJECT MANAGER. SUBCONTRACTORS MUST DIRECT THEIR QUESTIONS THROUGH THE GENERAL CONTRACTOR. THE CONSULTING ARCHITECT AND/OR THE CONSULTING ENGINEER SHALL NOT BE CONTACTED DIRECTLY WITHOUT PRIOR AUTHORIZATION FROM THE OWNER/DEVELOPER.

OWNER'S STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

Ronald Grant Dennis
OWNER

05.26.2026
DATE

ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I AM NOT RESPONSIBLE FOR ANY LIABILITY CAUSED BY AN NEGLIGENT ACTS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

KYLE GOODWIN, COLORADO P.E. NO. 63208

6/19/2026
DATE

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/ OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH EGM SECTION 1.1.2, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

Digital signed by Daniel Torres.
P.E.
Reason: Authorized signatory as
County Engineer designee
Date: 2026.06.25 16:49:15-0600
Daniel Torres, P.E.
JOSHUAL PALMER, P.E.
COUNTY ENGINEER / EGM ADMINISTRATOR

6/25/2026
DATE

RESOURCE LIST

PLANNING & ZONING

EPC PLANNING & COMMUNITY DEVELOPMENT
2880 INTERNATIONAL CIRCLE, SUITE 110
COLORADO SPRINGS, CO 80910
CONTACT: LACEY DEAN
(719) 520-6300

STORMWATER

EL PASO COUNTY DEPT. OF PUBLIC WORKS
2880 INTERNATIONAL CIRCLE
COLORADO SPRINGS, CO 80910
CONTACT: GLENN REESE, P.E.
(719) 675-2654

ELECTRIC

MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMEN ROAD
FALCON, CO 80831
CONTACT: LES ULFERS
(719) 495-2283

SEWER & WATER

WOODMEN HILLS METROPOLITAN DISTRICT
8046 EASTONVILLE ROAD
FALCON, CO 80831
CONTACT: CODY RITTER
(719) 491-4149

INTERNET CABLE COMPANY

-

CODE ENFORCEMENT

PIKES PEAK REGIONAL BUILDING DEPARTMENT
2880 INTERNATIONAL CIRCLE
COLORADO SPRINGS, CO 80910
CONTACT:
(719) 327-2880

HEALTH DEPARTMENT

EL PASO COUNTY PUBLIC HEALTH
1675 W. GARDEN OF THE GODS RD., STE 2044
COLORADO SPRINGS, CO 80907
CONTACT:
(719) 578-3199

FAA

N/A

LANDSCAPE

GALLOWAY & COMPANY, LLC
1155 KELLY JOHNSON BLVD., SUITE 305
CONYERS, GEORGIA 30012
CONTACT: JON ROMERO
(719) 308-2532

TANK AND PRODUCT PIPING

GALLOWAY & COMPANY, LLC
5500 GREENWOOD PLAZA BLVD SUITE 200
GREENWOOD VILLAGE, CO 80111
CONTACT: DAVE JONES
(303) 962-8506

OWNER

MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730
PM: GRANT DENNIS
(870) 315-3430

CIVIL ENGINEER

GALLOWAY & COMPANY, LLC
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
CONTACT: KYLE GOODWIN
(719) 900-7227

GEOTECHNICAL

UNITED CONSULTING
625 HOLCOMB BRIDGE RD.
NORCROSS, GA 30071
CONTACT: CHRIS ROBERDS
(770) 209-0029

BUILDING CANOPY MANUFACTURER

FREY MOSS STRUCTURES
1801 ROCKDALE INDUSTRIAL BLVD.
CONYERS, GEORGIA 30012
CONTACT: JENNIFER GOODMAN
(770) 483-7543 EXT. 151

BUILDING/CANOPY DESIGN

GREENBERG FARROW
3 EXECUTIVE DRIVE, SUITE 150
SOMERSET, NJ 08873
CONTACT: CHRIS CERBO
(732) 537-0832

BASED ON SURVEY BY:
DREXEL, BARRELL & CO.
36 SOUTH 7TH STREET
COLORADO SPRINGS, CO 80905
EMAIL: KVARNUM@DREXELBARRELL.COM
PHONE: (719) 260-0887
DATE: 05/30/23

GALLOWAY & COMPANY, LLC
1155 KELLY JOHNSON BLVD.
COLORADO SPRINGS, CO 80920
(719) 900-7227
CONTACT: KYLE GOODWIN

JOB NO.:
22120 -- MOC99
DATE: 5/15/2025
REV-1
SHEET NO.:
C-0



LEGEND

 AREAS OF CUT
 AREAS OF FILL
 LOD  LIMITS OF DISTURBANCE / CONSTRUCTION

NOTES

1. CUT & FILL SUMMARIES ARE BASED ON FINAL FINISH GRADE SURFACES. ACCURATE EARTHWORK QUANTITIES MUST TAKE INTO ACCOUNT CONCRETE FOR BUILDING FOUNDATIONS, ROADWAY SECTIONS, SIDEWALK, ETC.
2. ALL SOIL AND PAVEMENT PREPARATION SHALL FOLLOW RECOMMENDATIONS FROM THE GEOTECH REPORT.
3. LIMITS OF DISTURBANCE/CONSTRUCTION IS OFFSET FOR CLARITY.

THESE DRAWINGS DO NOT INCLUDE COMPONENTS FOR
CONSTRUCTION SAFETY

CAUTION – NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY EITHER THROUGH POLOING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



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

SHEET NO.

C-5.2



6/19/2026

REV-2	6/5/2025	22120	KG	JDM	JDM
	DATE	PRN	PM	DES	DRW

Galloway

1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
GallowayUS.com
Galloway & Company, LLC

Galloway & Company, LLC

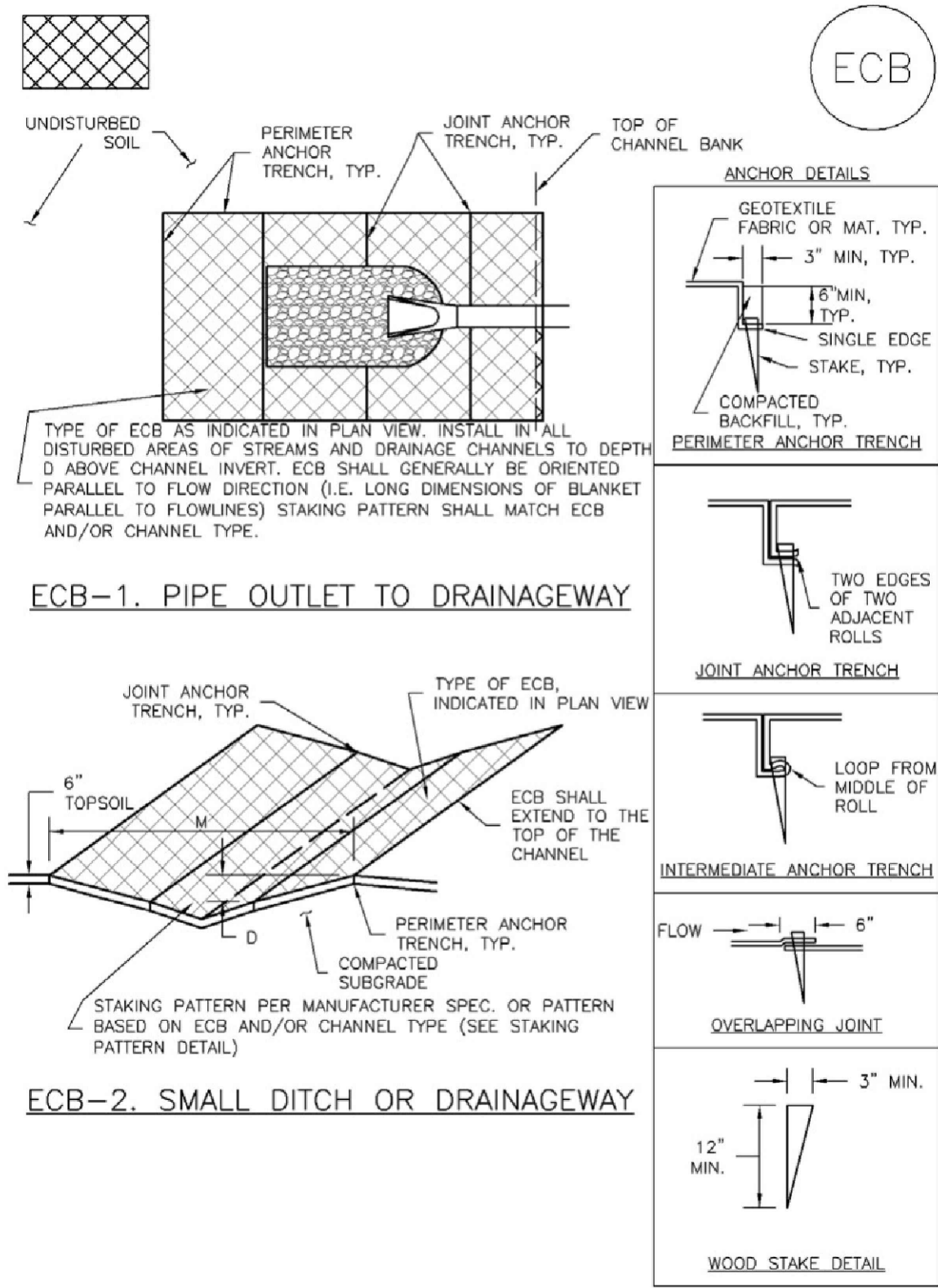
CUT & FILL EXHIBIT
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FALCON COLORADO

MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730

MURPHY
USA 

EC-6 Rolled Erosion Control Products (RECP)



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

Rolled Erosion Control Products (RECP) EC-6

EROSION CONTROL BLANKET MAINTENANCE NOTES

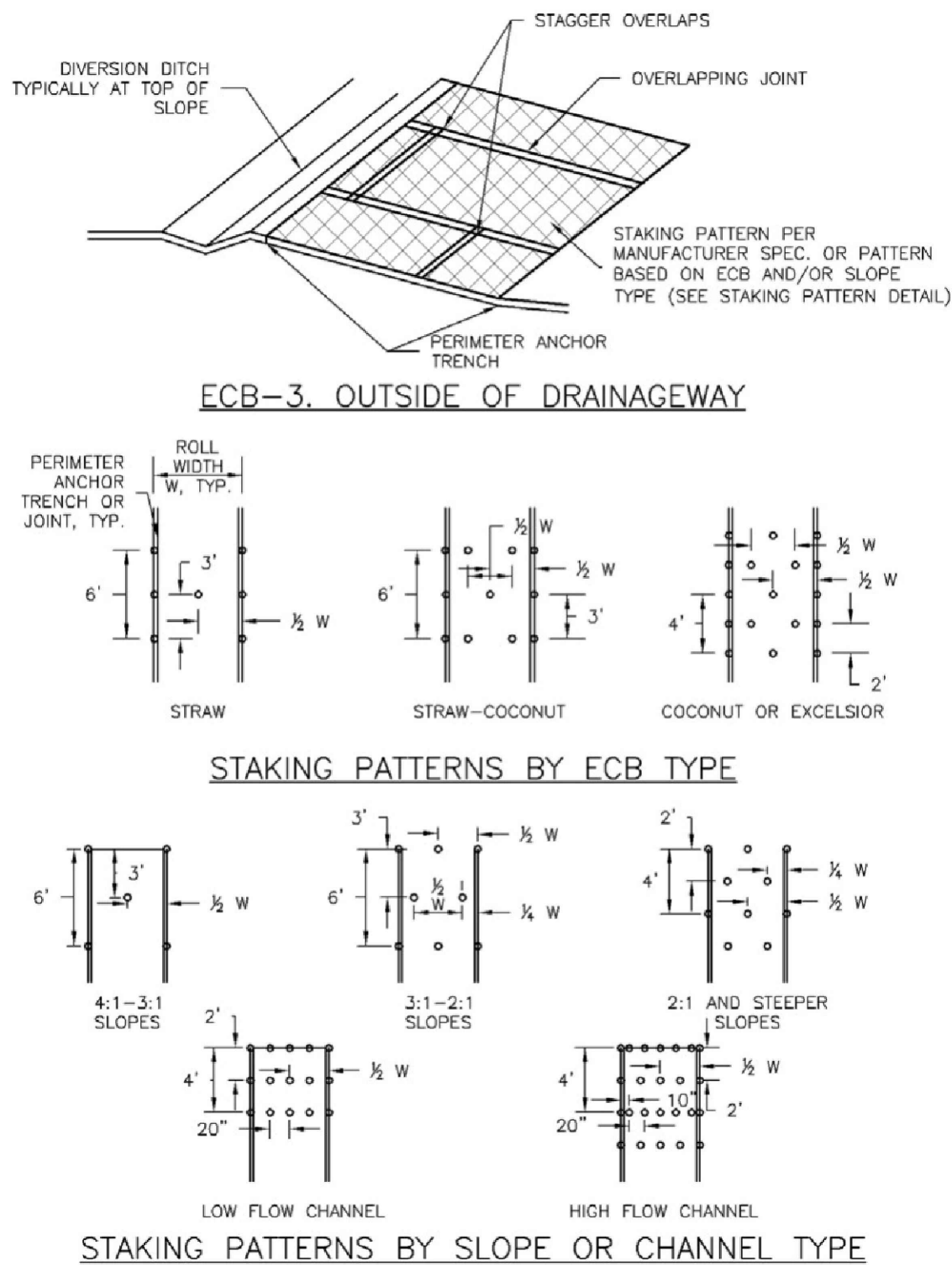
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEDED AND MULCHED AND THE ECB REINSTALLED.

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

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

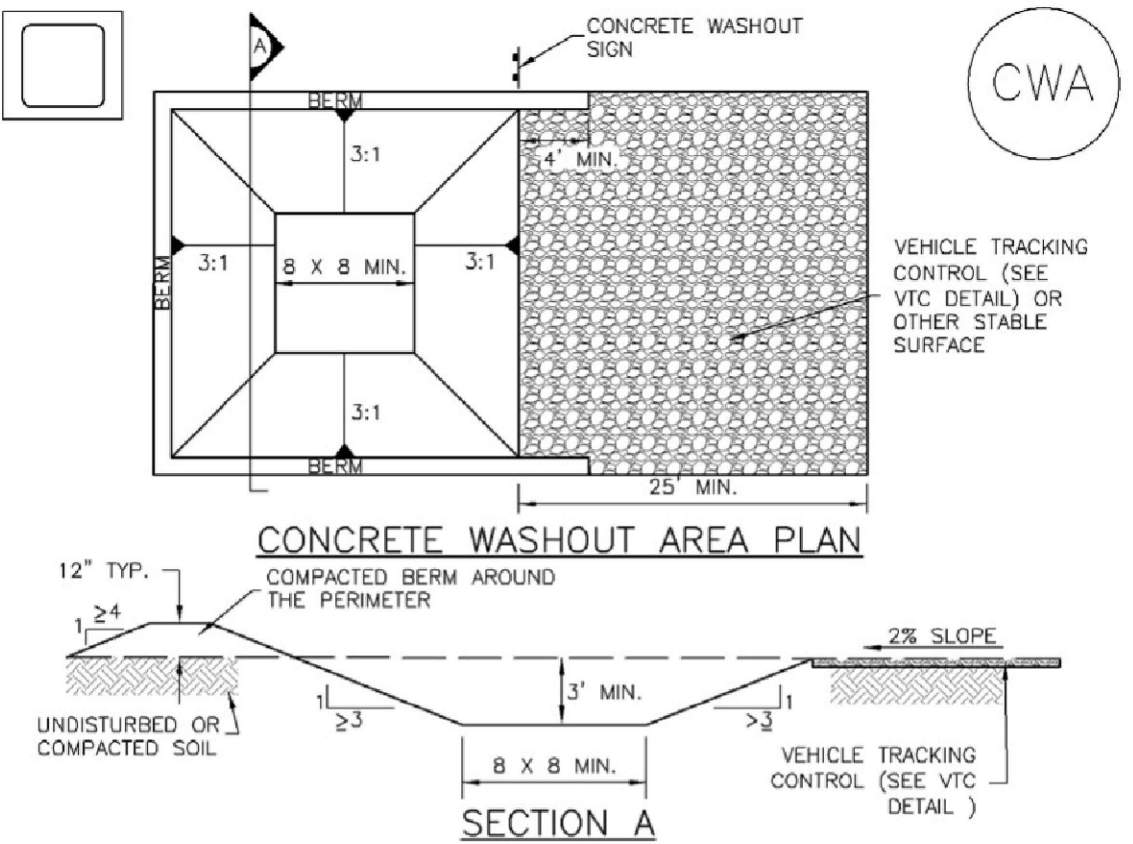
November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RECP-9

Rolled Erosion Control Products (RECP) EC-6



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RECP-7

Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (18 MIL. MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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

EC-6 Rolled Erosion Control Products (RECP)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF ECB.
 - TYPE OF ECB (STRAW, STRAW-COCOONUT, COCONUT, OR EXCELSIOR).
 - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB-1. ECB MATERIAL SPECIFICATIONS				
TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCOONUT	30% MIN	70% MAX	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNELS.

**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

RECP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

MM-1 Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

1. 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.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

CWA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

SHEET NO. C-5.5



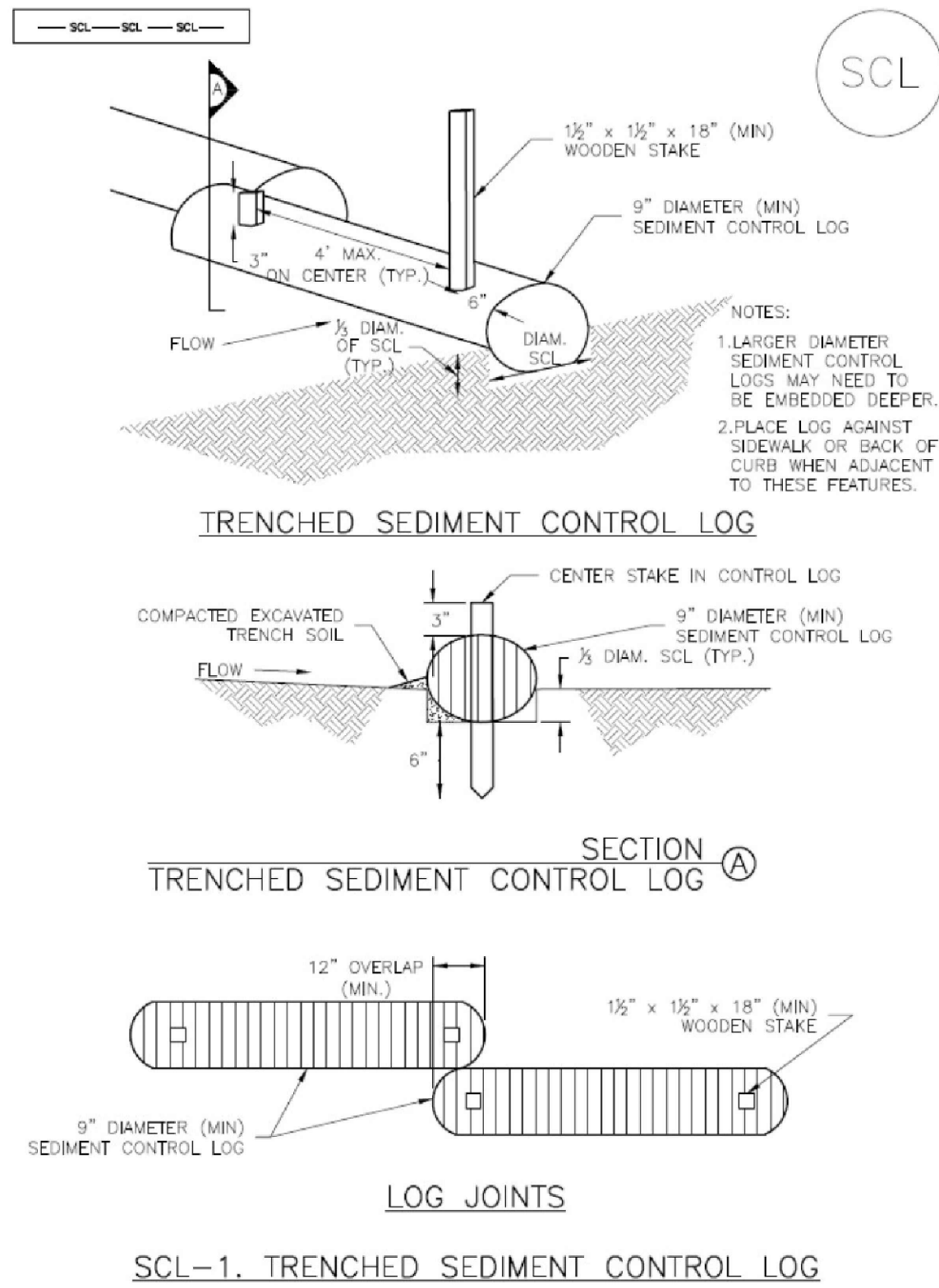
EROSION CONTROL DETAILS
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MURPHY OIL USA, INC.
200 PEACH STREET
EL DORADO, AR 71730
MURPHY USA

Sediment Control Log (SCL)

SC-2



November 2015 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SCL-3

SC-2

Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
- SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADED LAND-DISTURBING ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
- THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.
- FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4" CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10" ON CENTER.

SEDIMENT CONTROL LOG 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 SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

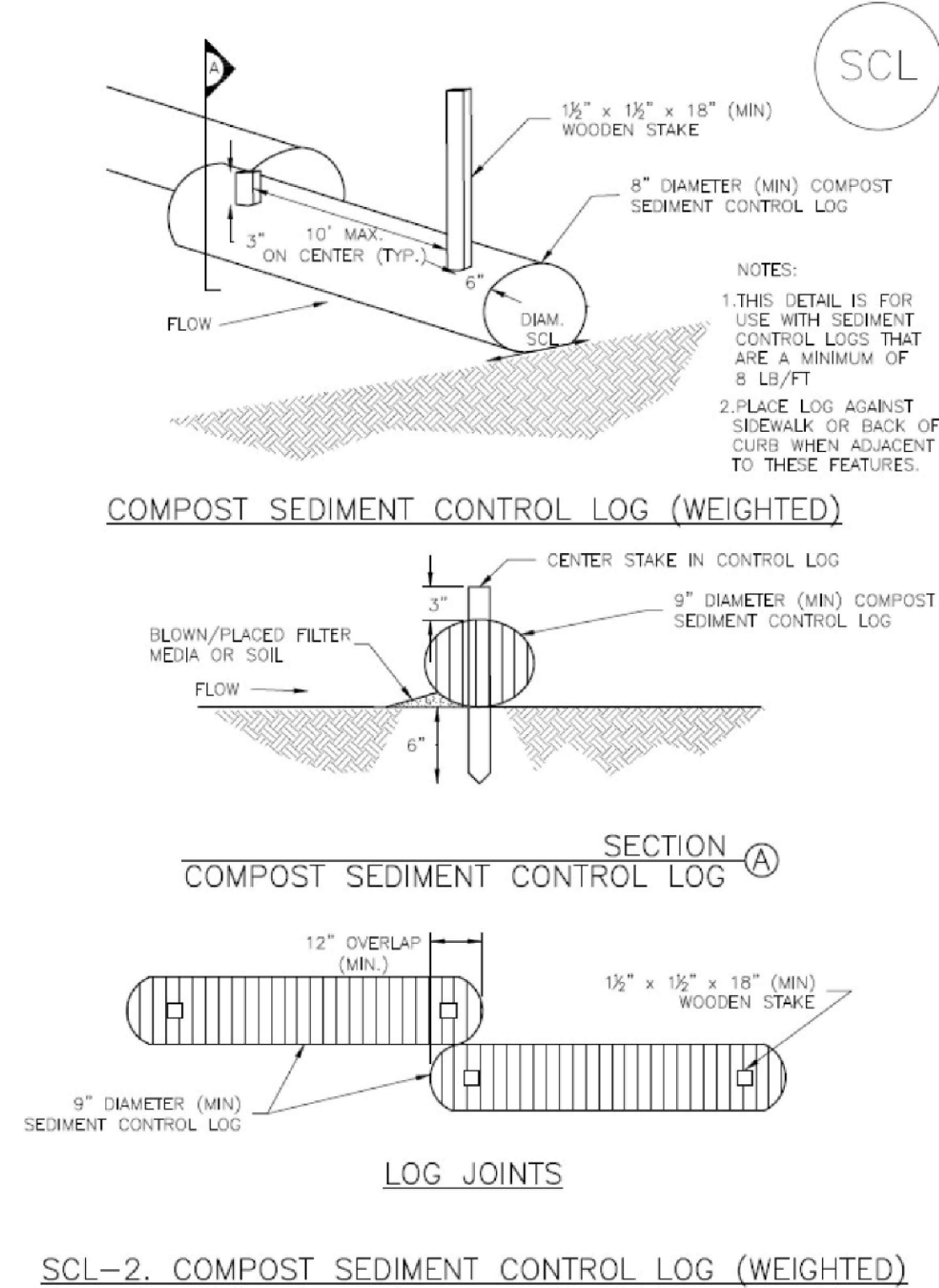
(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOGIS)

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

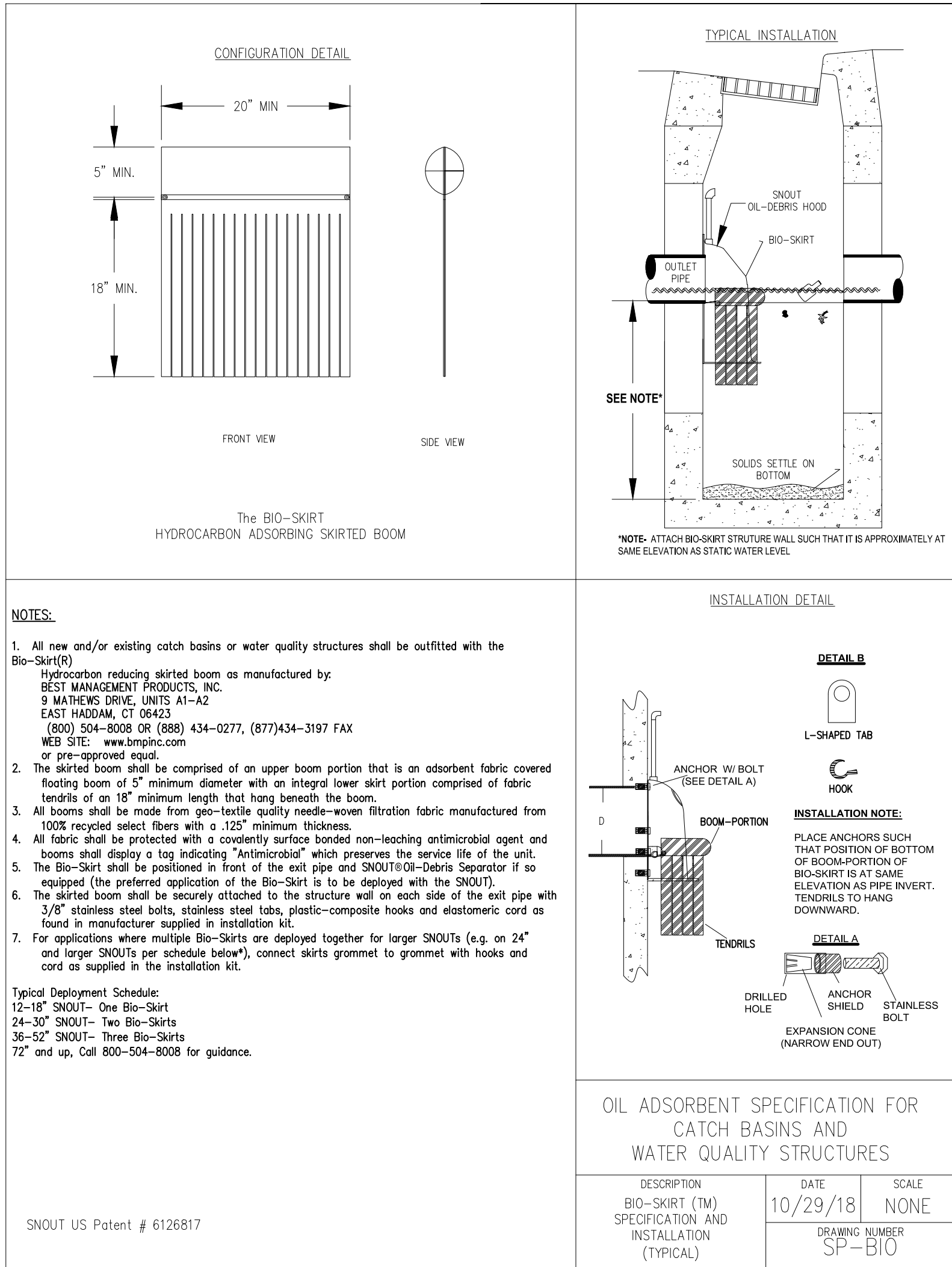
SCL-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

SC-2

Sediment Control Log (SCL)

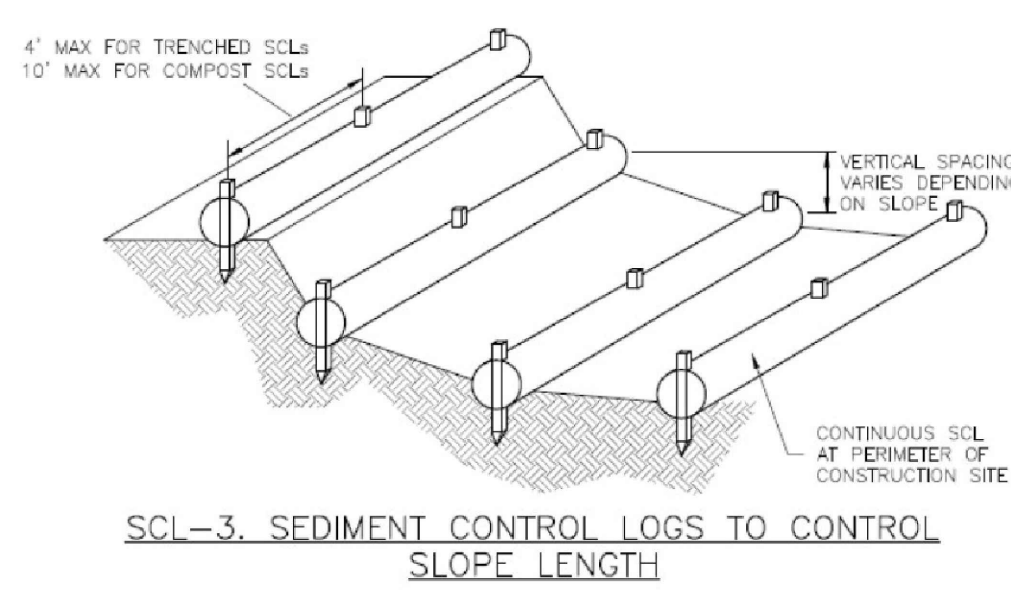


SCL-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

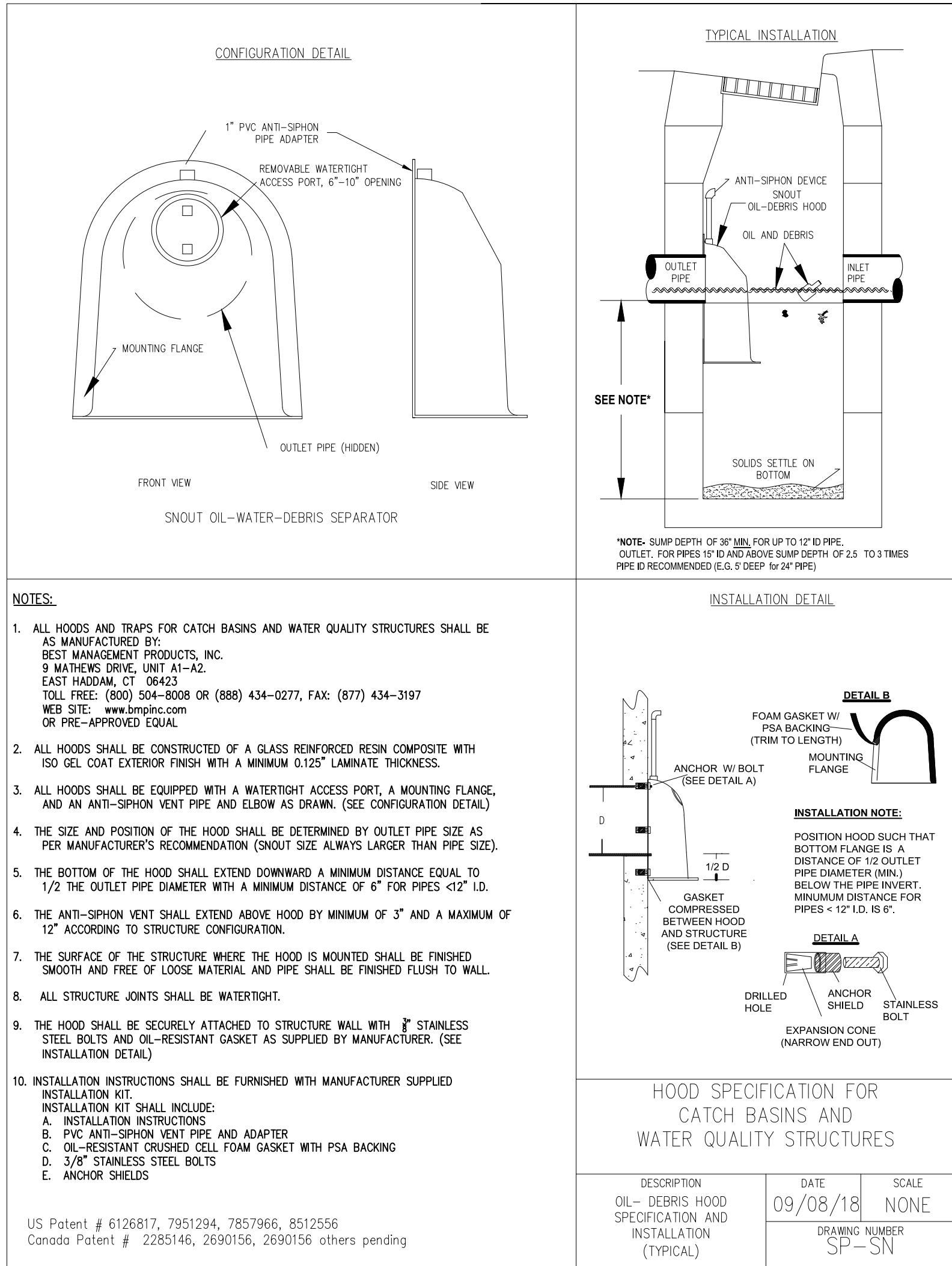


Sediment Control Log (SCL)

SC-2



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SHEET NO.

C-5.6



EROSION CONTROL DETAILS
MURPHY USA (NTI)
7825 MERIDIAN PARK DRIVE
FALCON COLORADO

Galloway

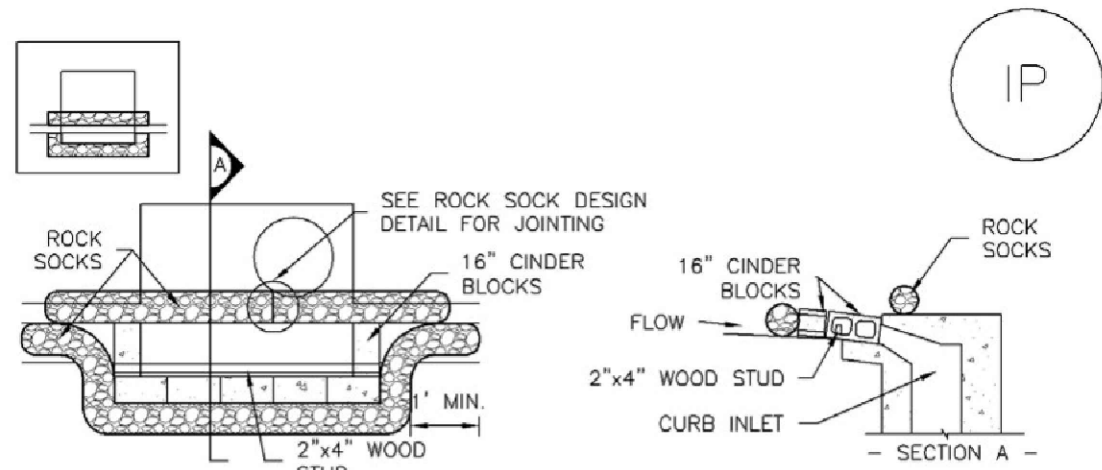
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.800.7220
GallowayUS.com
Galloway & Company, LLC

MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730



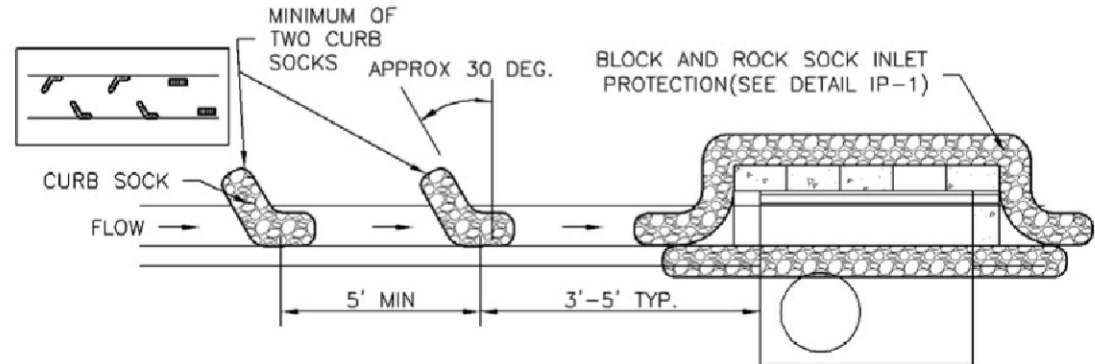
SC-6
 Inlet Protection (IP)



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

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

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EC-2
 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

Seeding Dates	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
	Warm	Cool	Warm	Cool
January 1–March 15			✓	✓
March 16–April 30	4	1,2,3	✓	✓
May 1–May 15	4		✓	
May 16–June 30	4,5,6,7			
July 1–July 15	5,6,7			
July 16–August 31				
September 1–September 30		8,9,10,11		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

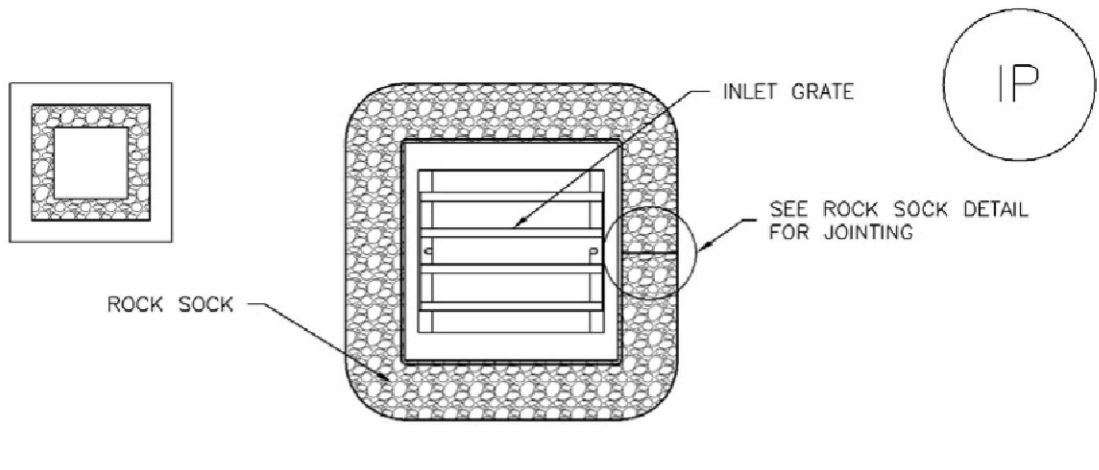
An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

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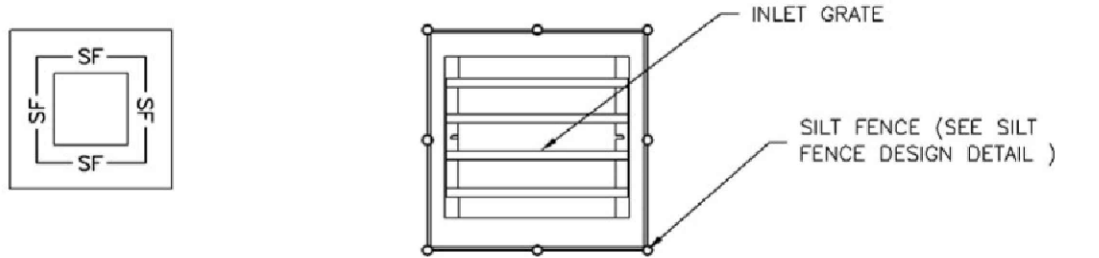
Inlet Protection (IP)
 SC-6



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

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

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EC-4
 Mulching (MU)

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

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SC-6
 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF INLET PROTECTION.
 - TYPE OF INLET PROTECTION (IP-1, IP-2, IP-3, IP-4, IP-5, IP-6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

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

INLET PROTECTION MAINTENANCE NOTES

1. 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.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. 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.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

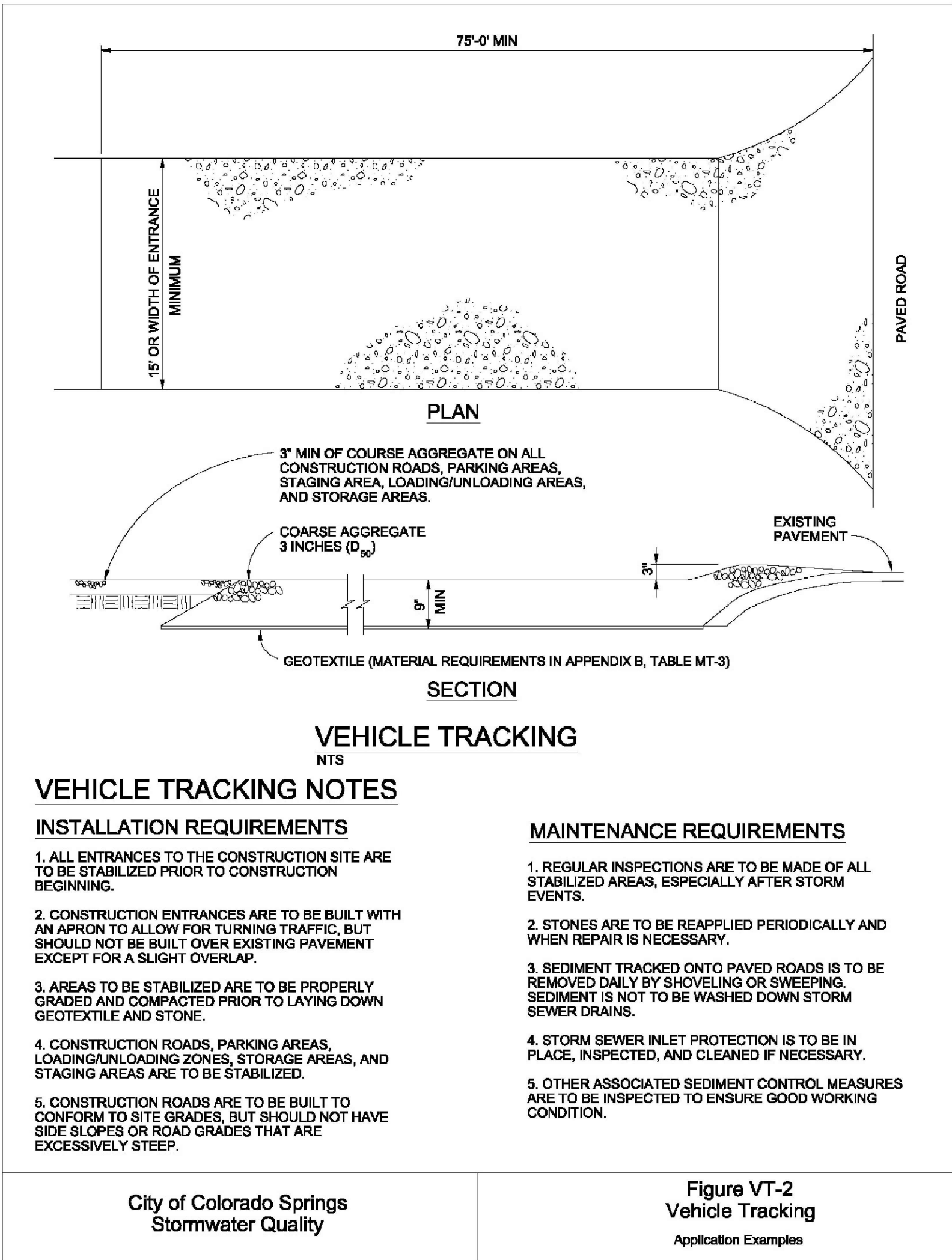
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP 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. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

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SHEET NO.
 C-5.8



EROSION CONTROL DETAILS
 MURPHY USA (NTI)
 7825 MERIDIAN PARK DRIVE
 FALCON
 COLORADO

Galloway
 1155 Kelly Johnson Blvd., Suite 305
 Colorado Springs, CO 80920
 719.800.7220
 GallowayUS.com
 Galloway & Company, LLC

MURPHY OIL USA, INC.
 200 PEACH STREET
 EL DORADO, AR 71730
 MURPHY USA