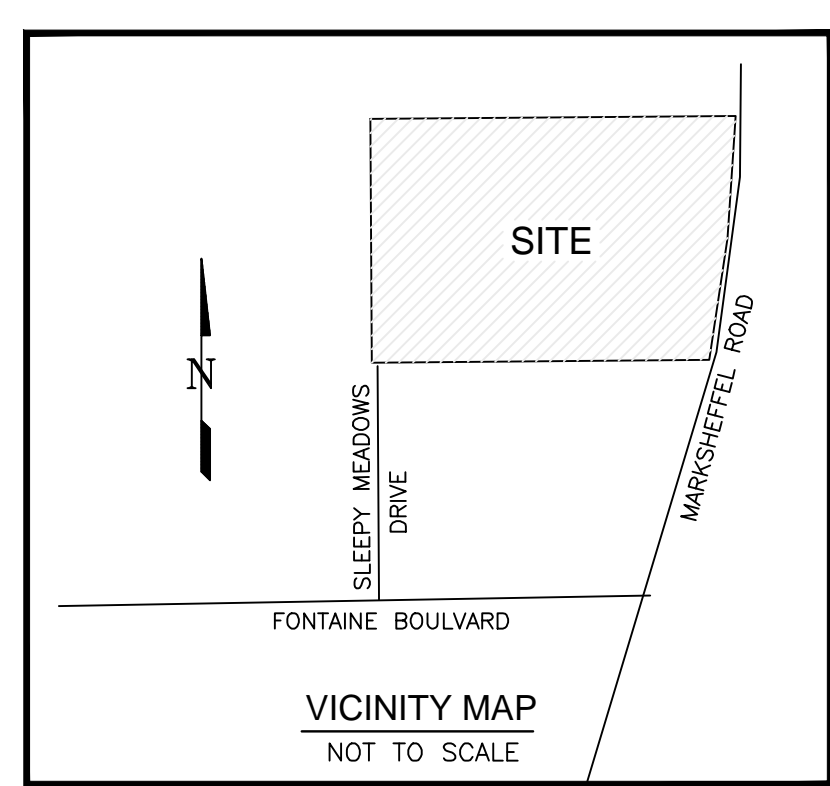


**PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES**

- Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off-site waters, including wetlands.
- Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations from regulations and standards must be requested, and approved, in writing.
- A separate Stormwater Management Plan (SWMP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. Management of the SWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP shall be located on site at all times during construction and shall be kept up to date with work progress and changes in the field.
- Once the ESQCP is approved and a "Notice to Proceed" has been issued, the contractor may install the initial stage erosion and sediment control measures as indicated on the approved GEC. A Preconstruction Meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County staff.
- Control measures must be installed prior to commencement of activities that could contribute pollutants to stormwater. Control measures for all slopes, channels, ditches, and disturbed land areas shall be installed immediately upon completion of the disturbance.
- All temporary sediment and erosion control measures shall be maintained and remain in effective operating condition until permanent soil erosion control measures are implemented and final stabilization is established. All persons engaged in land disturbance activities shall assess the adequacy of control measures at the site and identify if changes to those control measures are needed to ensure the continued effective performance of the control measures. All changes to temporary sediment and erosion control measures must be incorporated into the Stormwater Management Plan.
- Temporary stabilization shall be implemented on disturbed areas and stockpiles where ground disturbing construction activity has permanently ceased or temporarily ceased for longer than 14 days.

- Final stabilization must be implemented at all applicable construction sites. Final stabilization is achieved when all ground disturbing activities are complete and all disturbed areas either have a uniform vegetative cover with individual plant density of 70 percent of pre-disturbance levels established or equivalent permanent alternative stabilization method is implemented. All temporary sediment and erosion control measures shall be removed upon final stabilization and before permit closure.
- All permanent stormwater management facilities shall be installed as designed in the approved plans. Any proposed changes that affect the design or function of permanent stormwater management structures must be approved by the ECM Administrator prior to implementation.
- Earth disturbances shall be conducted in such a manner so as to effectively minimize accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time. Pre-existing vegetation shall be protected and maintained within 50 horizontal feet of a waters of the state unless shown to be infeasible and specifically requested and approved.
- Compaction of soil must be prevented in areas designated for infiltration control measures or where final stabilization will be achieved by vegetative cover. Areas designated for infiltration control measures shall also be protected from sedimentation during construction until final stabilization is achieved. If compaction prevention is not feasible due to site constraints, all areas designated for infiltration and vegetation control measures must be loosened prior to installation of the control measure(s).
- Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be a stabilized conveyance designed to minimize erosion and the discharge of sediment off site.
- Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to enter State Waters, including any surface or subsurface storm drainage system or facilities. Concrete washouts shall not be located in an area where shallow groundwater may be present, or within 50 feet of a surface water body, creek or stream.
- During dewatering operations of uncontaminated ground water may be discharged on site, but shall not leave the site in the form of surface runoff unless an approved State dewatering permit is in place.
- Erosion control blanketing or other protective covering shall be used on slopes steeper than 3:1.
- Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
- Waste materials shall not be temporarily placed or stored in the street, alley, or other public way, unless in accordance with an approved Traffic Control Plan. Control measures may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
- Tracking of soils and construction debris at site shall be minimized. Materials tracked off-site shall be cleaned up and properly disposed of immediately.
- The owner/developer shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, soil, and sand that may accumulate in roads, storm drains and other drainage conveyance systems and stormwater appurtenances as a result of site development.
- The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original manufacturer's labels.
- No chemical(s) having the potential to be released in stormwater are to be stored or used onsite unless permission for the use of such chemical(s) is granted in writing by the ECM Administrator. In granting approval for the use of such chemical(s), special conditions and monitoring may be required.
- Bulk storage of allowed petroleum products or other allowed liquid chemicals in excess of 55 gallons shall require adequate secondary containment protection to contain all spills onsite and to prevent any spilled materials from entering State Waters, any surface or subsurface storm drainage system or other facilities.
- No person shall cause the impediment of stormwater flow in the curb and gutter or ditch except with approved sediment control measures.
- Owner/developer and their agents shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS), and the "Clean Water Act" (33 USC 1344), in addition to the requirements of the Land Development Code, DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (1041, NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and other laws, rules, or regulations of other Federal, State, local, or County agencies, the most restrictive laws, rules, or regulations shall apply.
- All construction traffic must enter/exit the site only at approved construction access points.
- Prior to construction the permittee shall verify the location of existing utilities.
- A water source shall be available on site during earthwork operations and shall be utilized as required to minimize dust from earthwork equipment and wind.
- The soils report for this site has been prepared by Vivid Engineering Group (Dated: April 24, 2020) and shall be in accordance with an approved Traffic Control Plan.
- At least ten (10) days prior to the anticipated start of construction, for projects that will disturb one (1) acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this Grading and Erosion Control Plan may be a part. For information or application materials contact: Colorado Department of Public Health and Environment Water Quality Control Division WQCD - Permits 4300 Cherry Creek Drive South Denver, CO 80246-1530 Attn: Permits Unit
- Base mapping was provided by Pinnacle Land Surveying. The date of the last survey update was March 2005.
- Proposed Construction Schedule:  
Begin Construction: Spring 2022  
End Construction: Autumn 2022  
Total Site Area = 60.1 Acres  
Area to be disturbed = 57.7 Acres  
Existing 100-year runoff coefficient = 0.35  
Proposed 100-year runoff coefficient = 0.61  
Existing Hydrologic Soil Groups: B, C & D (B-Nelson-Tassel fine sandy loams; B-Stoneham sandy loam; C-Razor-Midway Complex)
- Site is currently undeveloped and covered with native grasses on moderate to steep slopes (3%-15%).
- Site is located in the West Fork Jimmy Camp Creek Drainage Basin.
- No Asphalt Batch Plants will be utilized at the site.



El Paso County (standalone GEC Plan): 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 ECM Section 1.12, 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.

County Engineer/ECM Administrator  
JENNIFER IRVINE, P.E. \_\_\_\_\_ 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 to the criteria established by the El Paso County Engineer. I accept responsibility for any liability caused by my negligence, errors or omissions on my part in preparing this plan.

\_\_\_\_\_  
ANDREW W. MCCORD P.E. 25057 PROFESSIONAL ENGINEER  
July 8, 2022 Date

Owner's Statement:  
I, the owner/developer have read and will comply with the requirements of the Grading and Erosion Control Plan.

\_\_\_\_\_  
July 8th, 2022 Date

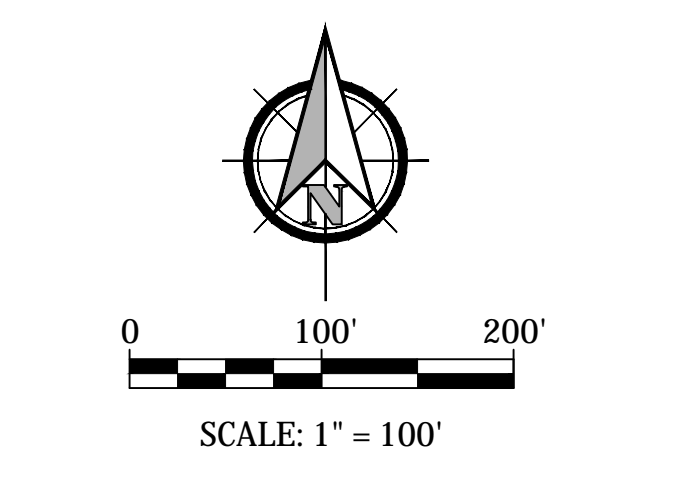
Owner Signature  
J. Mark Watson, President  
ADDRESS: GLEN DEVELOPMENT COMPANY  
3 WIDEFIELD BOULEVARD  
COLORADO SPRINGS, COLORADO 80911

**EROSION CONTROL INSPECTION AND MAINTENANCE**

A thorough inspection of the Erosion Control Plan/Stormwater Management System shall be performed every 14 days as well as after any rain or snowmelt event that causes Surface Erosion:

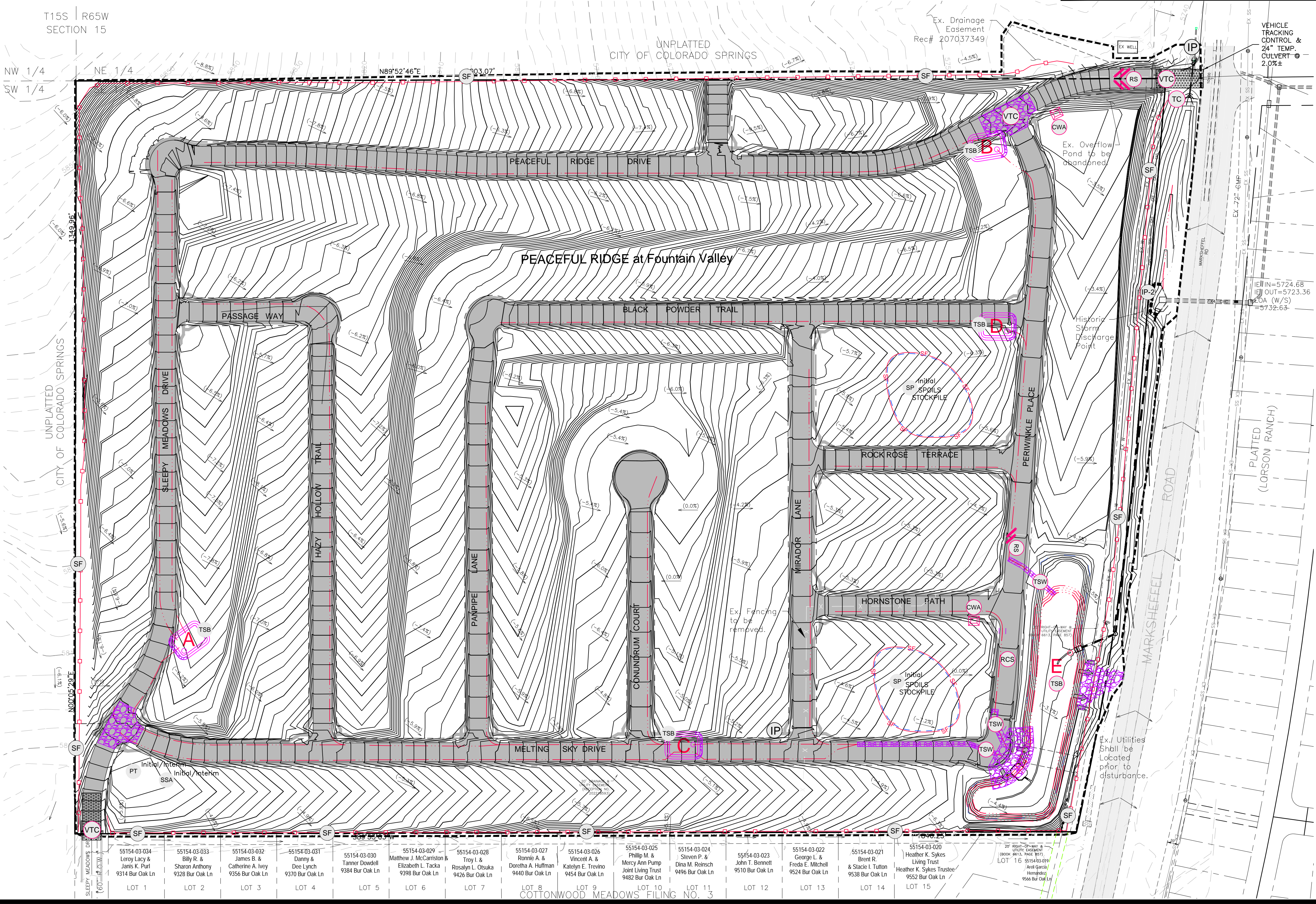
- When Silt Fences are up to their full height, the silt shall be removed, final grade re-established and slopes re-seeded, if necessary. Any silt fence that has shifted or decayed shall be replaced.
- Any Accumulated Trash or debris shall be removed from outlets.

An inspection and maintenance log shall be kept.



**INITIAL GRADING LEGEND**

- Ex. Flow Direction Arrow And Slope
- Stockpile With Double Silt Fence Perimeter
- Initial Silt Fence Or Approved Alt.
- Vehicle Tracking Control
- Initial Temporary Swale Place Riprap where shown on plan
- Temporary Culvert Crossing Location
- Initial Inlet Protection
- Initial Rough-cut Street Control Initial Condition Only
- Initial Concrete Washout Area
- Initial Rock Sock(s) (count)
- Initial Stabilized Staging Area
- Initial Portable Toilet
- Initial Stock Pile Management
- Initial Temporary Sediment Basin w/ Desig. See Det. Silt EGP-3'
- Riprap Stabilization
- Inlet Protection 2 (StrawBale)
- Limits Of Soil Disturbance/ Limits Of Construction
- Property Line
- 5925 Existing Contour
- Initial Emergency Overflow Path
- Existing Storm
- Existing Sanitary Sewer
- Existing Water
- Existing Gas
- Channel Flowline



**Kiowa Engineering Corporation**  
1604 South 21st Street  
Colorado Springs, Colorado 80904  
(719) 630-7342

**WIDEFIELD Investment Group**

**PEACEFUL RIDGE AT FOUNTAIN VALLEY**  
**EARLY GRADING PLAN**  
**INITIAL GRADING AND EROSION CONTROL PLAN**  
EL PASO COUNTY, COLORADO

FOUNTAIN VALLEY INVESTMENT PARTNERS, LLC

Project No.: 04092/21031
Date: Feb 10, 2022
Design: MJK
Drawn: MJK
Check: AWMc
Revisions:
No. "EGP-213"
<b>SHEET</b>
<b>EGP-1</b>
1 OF 7 SHEETS

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS				
ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
VEHICLE TRACKING CONTROL	2	EA	\$2,453.00	\$4,906.00
SILT FENCE	16,532	LF	\$2.60	\$42,983.00
INLET PROTECTION	13	EA	\$173.00	\$2,249.00
CONCRETE WASH OUT	2	EA	\$932.00	\$1,864.00
EROSION CONTROL BLANKET	17,875	SY	\$6.20	\$110,825.00
TEMPORARY SEDIMENT BASIN	1	EA	\$1,824.00	\$1,824.00
TEMPORARY SEEDING AND MULCH	45.2	AC	\$1,605.00	\$72,546.00
MAINTENANCE (25% OF EROSION CONTROL)	1	LS	\$14,879.00	\$59,299.00
<b>TOTAL</b>				<b>\$296,496.00</b>

SEED MIX			
AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.			
SPECIES	VARIETY	Rate	lbs/acre
SIDCOATS GRAMA	El Reno	3.0	
WESTERN WHEAT GRASS	Barton	2.5	
SLENDER WHEAT GRASS	Native	2.0	
LITTLE BLUESTEM	Fastaria	2.0	
SAND DROPSEED	Native	0.5	
SWITCH GRASS	Nebraska 28	3.0	
WEEPING LOVE GRASS	Morpha	1.0	
14.0 lbs			
SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS UNACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.			

**EROSION CONTROL INSPECTION AND MAINTENANCE**

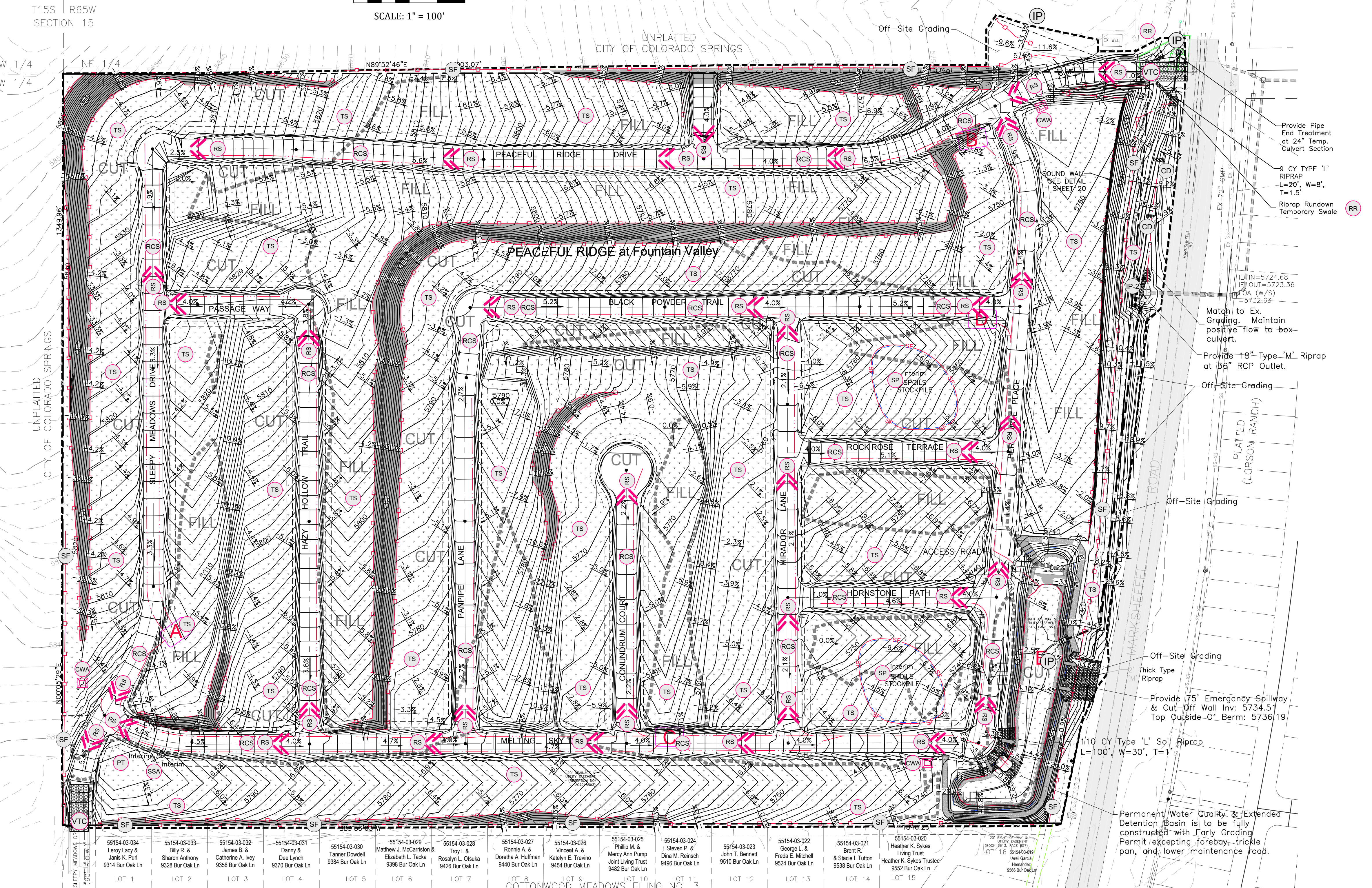
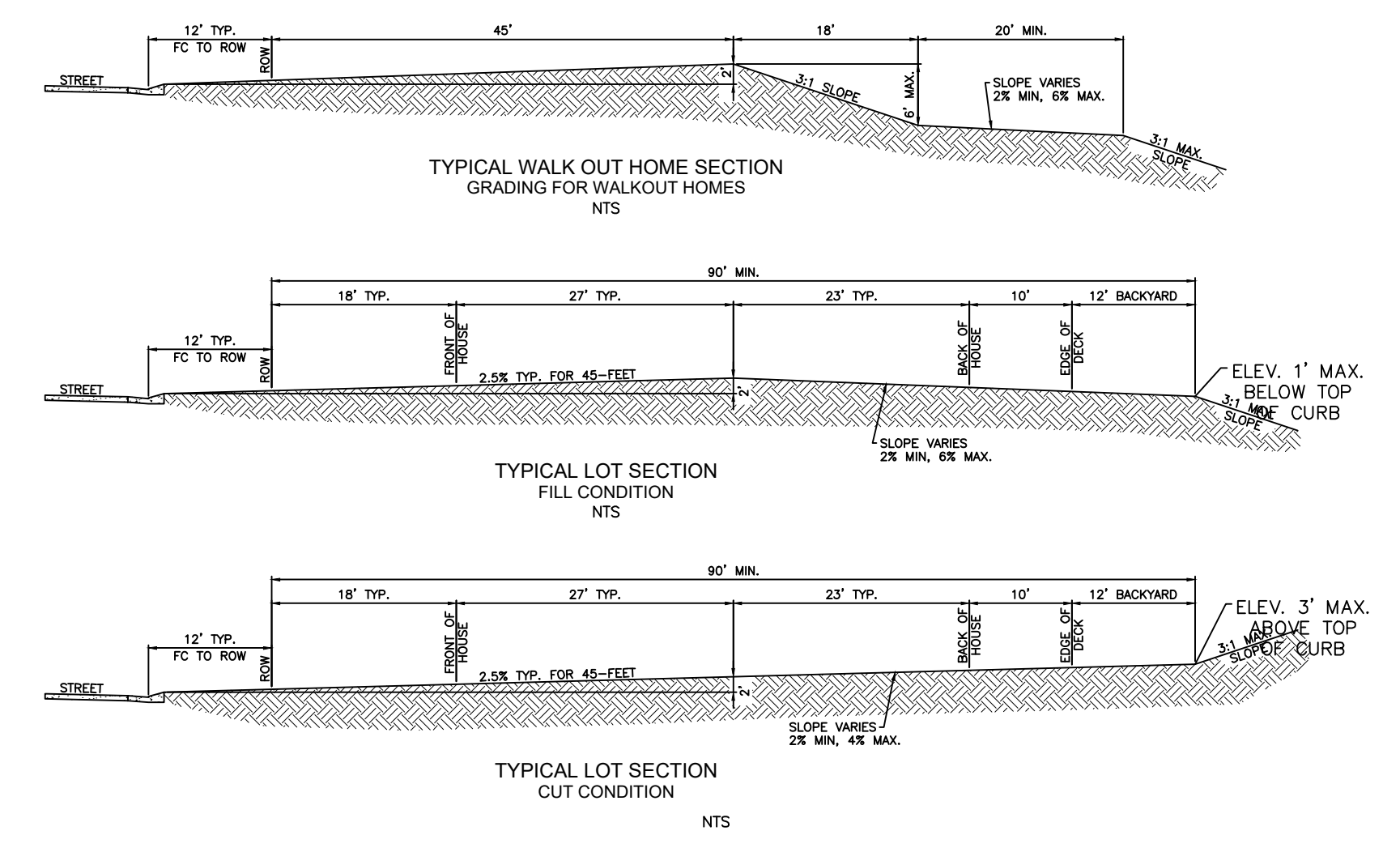
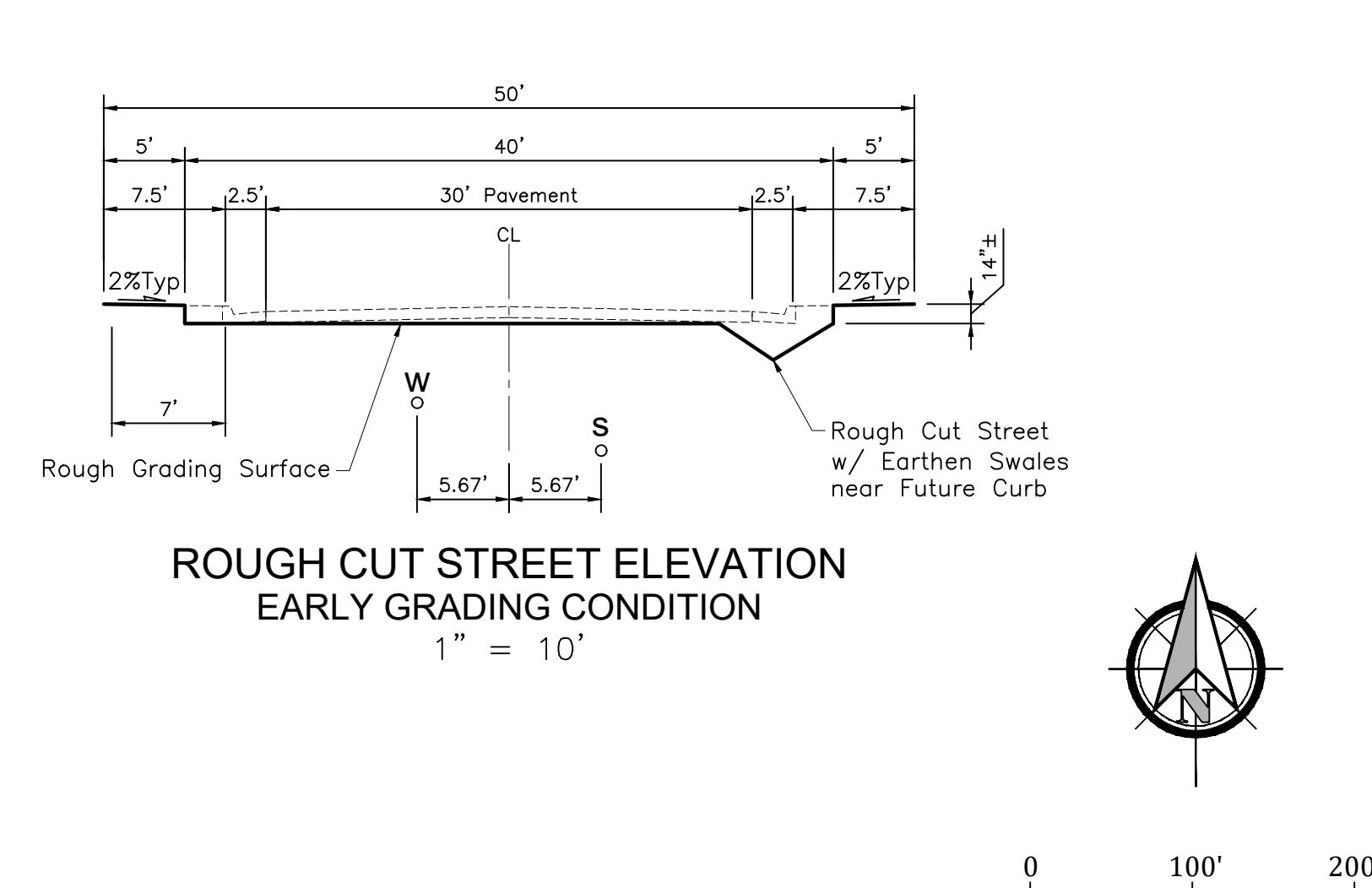
A Thorough inspection of the Erosion Control Plan/Stormwater Management System shall be performed every 14 days as well as after any rain or snowmelt event that causes Surface Erosion:

- When Silt Fences have silted up to half their height, the silt shall be removed, final grade re-established and slopes re-seeded, if necessary. Any silt fence that has shifted or decayed shall be repaired or replaced.
- Any Accumulated Trash or debris shall be removed from outlets.

An inspection and maintenance log shall be kept.

LEGEND	
(-30.1%)	Ex. Flow Direction Arrow And Slope
2.0%	New Flow Direction Arrow And Slope
CUT	Cut/Fill Delineation
FILL	Stockpile With Double Silt Fence Perimeter
SP	Initial Interim Silt Fence Or Approved Alt.
SF	Vehicle Tracking Control
VTC	Initial Interim Inlet Protection (Existing Only)
IP	Final Erosion Control Blanket*
ECB	Initial Rough-cut Street Control Initial Condition Only
RCS	Interim Concrete Washout Area
CWA	Interim Rock Sock(s) (count)
RS	Interim Stabilized Staging Area
SSA	Interim Portable Toilet
PT	Interim Stock Pile Management
SP	Interim Temporary Seeding And Mulching
TS	Interim Rock Check Dam
CD	Limits Of Soil Disturbance/ Limits Of Construction
---	Property Line
---	Existing Contour
---	Proposed Contour
---	Interim/Final Emergency Overflow Path
---	Existing Storm
---	Existing Sanitary Sewer
---	Existing Water
---	Proposed Water
---	Existing Gas
---	Channel Flowline

\*Shaded area denotes permanent erosion blanket. Curlex heavy duty erosion control blanket by American excelsior or equal shall be used.



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In accordance with ECM Section 1.12, 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.

County Engineer/ECM Administrator: JENNIFER IRVINE, P.E. 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 to the criteria established by the County for grading and erosion control plans. I accept responsibility for any liability caused by any misstatements, errors or omissions on my part in preparing this plan.

Engineer of Record Signature: ANDREW W. McCORD P.E. 25057 Date: July 8, 2022

Owner's Statement: I, the owner/developer have read and will comply with the requirements of the Grading and Erosion Control Plan.

Owner Signature: GLEN DEVELOPMENT COMPANY ADDRESS: 3 WIDEFIELD BOULEVARD COLORADO SPRINGS, COLORADO 80911 Date: July 8th, 2022

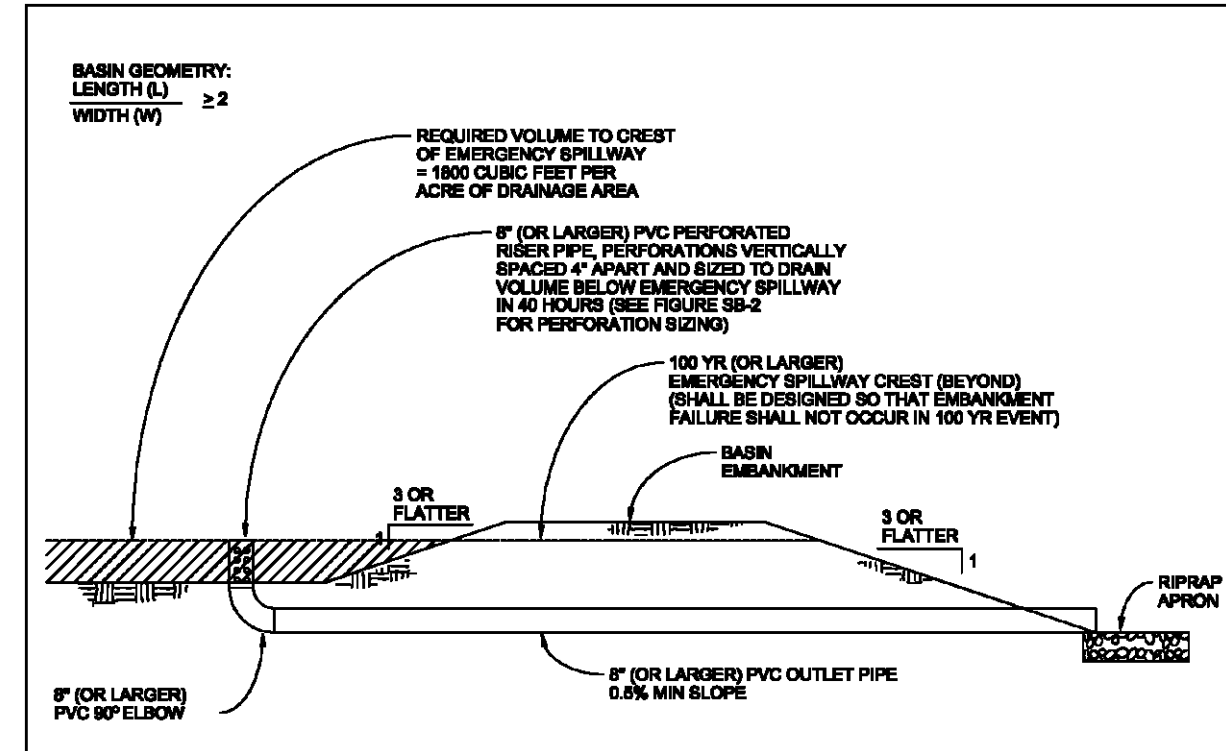
**Kiowa** Engineering Corporation  
1604 South 21st Street  
Colorado Springs, Colorado 80904  
(719) 630-7342

**W** WIDEFIELD Investment Group

**PEACEFUL RIDGE AT FOUNTAIN VALLEY**  
**EARLY GRADING PLAN**  
**INTERIM / FINAL GRADING AND EROSION CONTROL PLAN**  
EL PASO COUNTY, COLORADO

FOUNTAIN VALLEY INVESTMENT PARTNERS, L.L.C.

Project No.: 04092/21031
Date: Feb 10, 2022
Design: MJK
Drawn: MJK
Check: AWMc
Revisions:
No. "EGP-213"
SHEET
<b>EGP-2</b>
2 OF 7 SHEETS



**SEDIMENT BASIN**  
NTS

**SEDIMENT BASIN NOTES**

- INSTALLATION REQUIREMENTS**
- SEDIMENT BASIN 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. CHANNELS MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
  - EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
  - EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITH 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  
3-22

Required Area per Row (ft<sup>2</sup>)

Depth at Outlet (ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	14.94	7.71	5.10	3.79	2.85	2.41	2.02	1.73
1	7.52	5.06	3.55	2.81	2.21	1.81	1.51	1.27
0.8	4.81	3.21	2.21	1.73	1.39	1.13	0.93	0.78
0.6	3.01	1.94	1.33	0.99	0.78	0.63	0.51	0.43
0.4	1.80	1.17	0.81	0.58	0.46	0.37	0.30	0.25
0.2	0.75	0.50	0.35	0.26	0.20	0.16	0.13	0.10
0.08	0.45	0.29	0.19	0.14	0.11	0.09	0.07	0.06
0.04	0.30	0.19	0.13	0.09	0.07	0.06	0.04	0.03
0.02	0.15	0.09	0.06	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

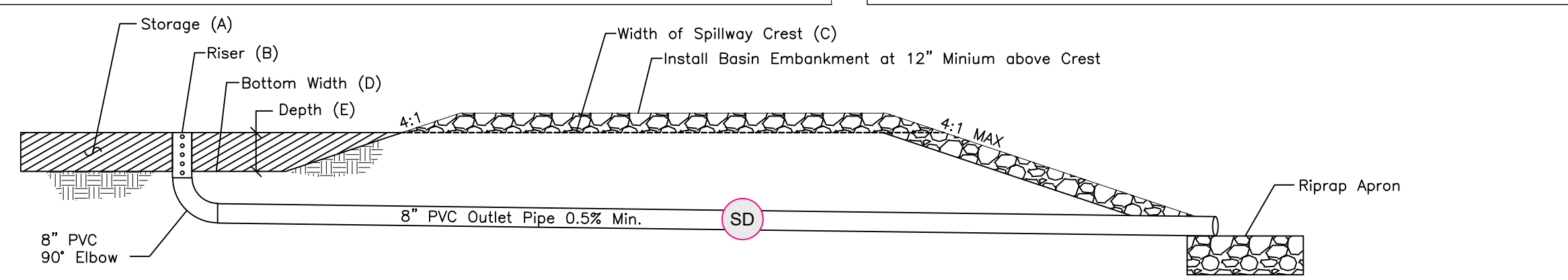
Hole Diameter (in)	Hole Diameter (in)	Area per Row (ft <sup>2</sup> )		
		n=1	n=2	n=3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.58
9/16	0.563	0.28	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	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	2.98
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	4.13	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.79	5.62	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"

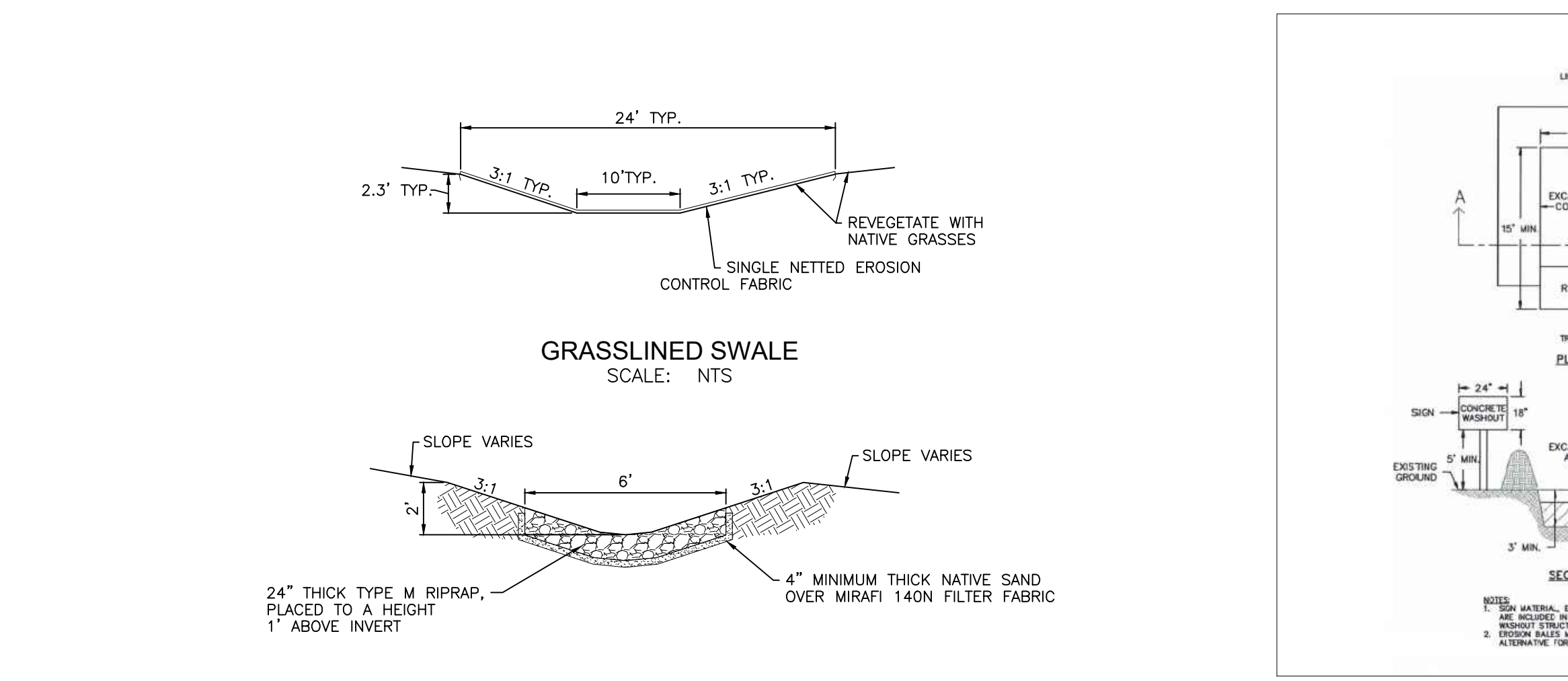
**TABLE SB-2**

City of Colorado Springs  
Stormwater Quality  
Figure SB-2  
Outlet Sizing  
Application Techniques and Maintenance  
Requirements  
3-33

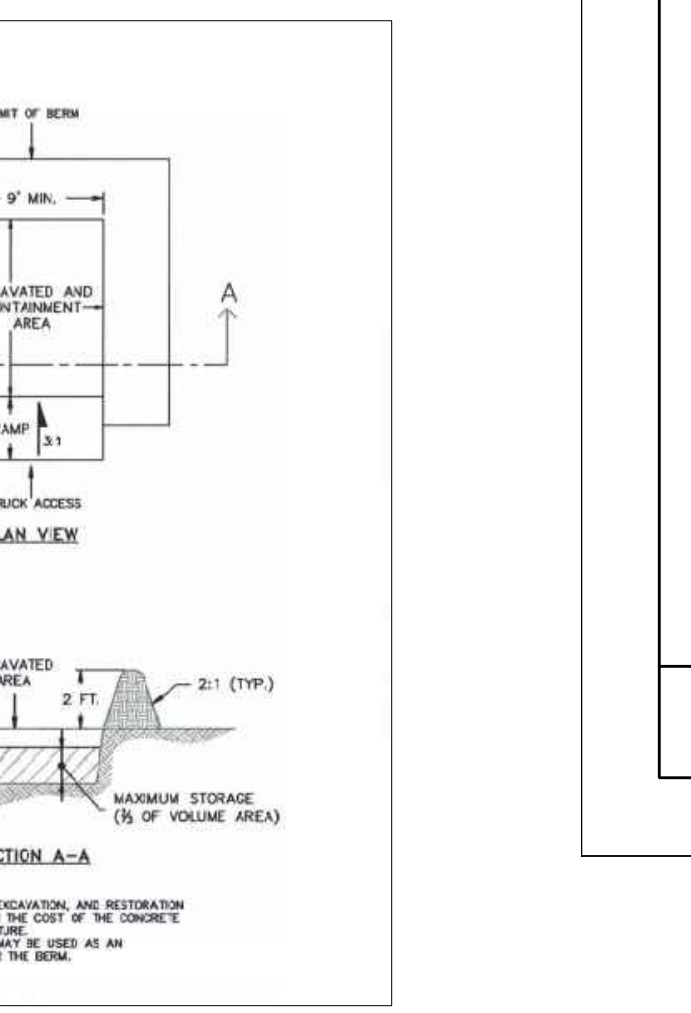


- TEMPORARY SEDIMENT BASIN "A"**
- 0.32 ac-ft Required to Spillway Crest
  - Use 8" PVC Perforated Riser Pipe: Perforations Vertically Spaced 4" Apart, 1 Column of 5 5/16"  $\phi$  Holes.
  - 12' Long Spillway: 1' Depth, Lined With 12" Thick Type 'L' Riprap to toe of slope.
  - Basin Bottom Width = 51'
  - Depth = 2.0'
- TEMPORARY SEDIMENT BASIN "B"**
- 0.28 ac-ft Required to Spillway Crest
  - Use 8" PVC Perforated Riser Pipe: Perforations Vertically Spaced 4" Apart, 1 Column of 5 5/16"  $\phi$  Holes.
  - 11' Long Spillway: 1' Depth, Lined With 12" Thick Type 'L' Riprap to toe of slope.
  - Basin Bottom Width = 47.25'
  - Depth = 2.0'
- TEMPORARY SEDIMENT BASIN "C"**
- 0.78 ac-ft Required to Spillway Crest
  - Use 8" PVC Perforated Riser Pipe: Perforations Vertically Spaced 4" Apart, 1 Column of 5 3/4"  $\phi$  Holes.
  - 22' Long Spillway: 1' Depth, Lined With 12" Thick Type 'L' Riprap to toe of slope.
  - Basin Bottom Width = 75'
  - Depth = 3.0'
- TEMPORARY SEDIMENT BASIN "D"**
- 0.53 ac-ft Required to Spillway Crest
  - Use 8" PVC Perforated Riser Pipe: Perforations Vertically Spaced 4" Apart, 1 Column of 5 9/16"  $\phi$  Holes.
  - 9' Long Spillway: 1' Depth, Lined With 12" Thick Type 'L' Riprap to toe of slope.
  - Basin Bottom Width = 43'
  - Depth = 2.5'

**TEMPORARY SEDIMENT BASIN**  
NTS  
TSB

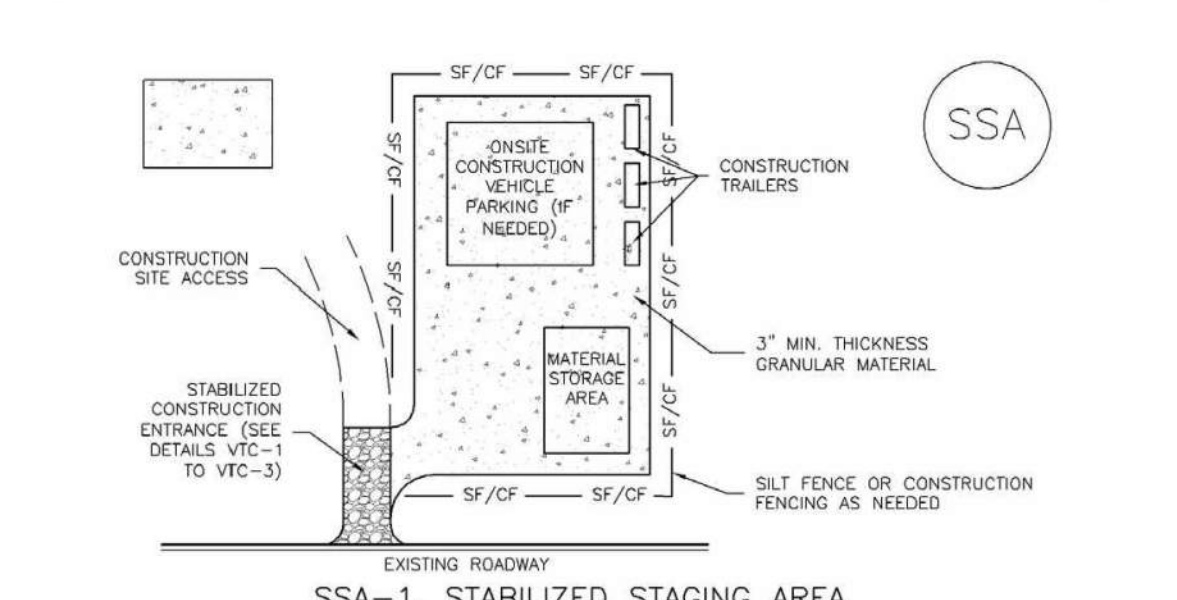


**RIPRAP RUNDOWN DETAIL**  
SCALE: NTS  
RR



**CONCRETE WASHOUT AREA**  
NTS  
CWA

**Stabilized Staging Area (SSA) SM-6**



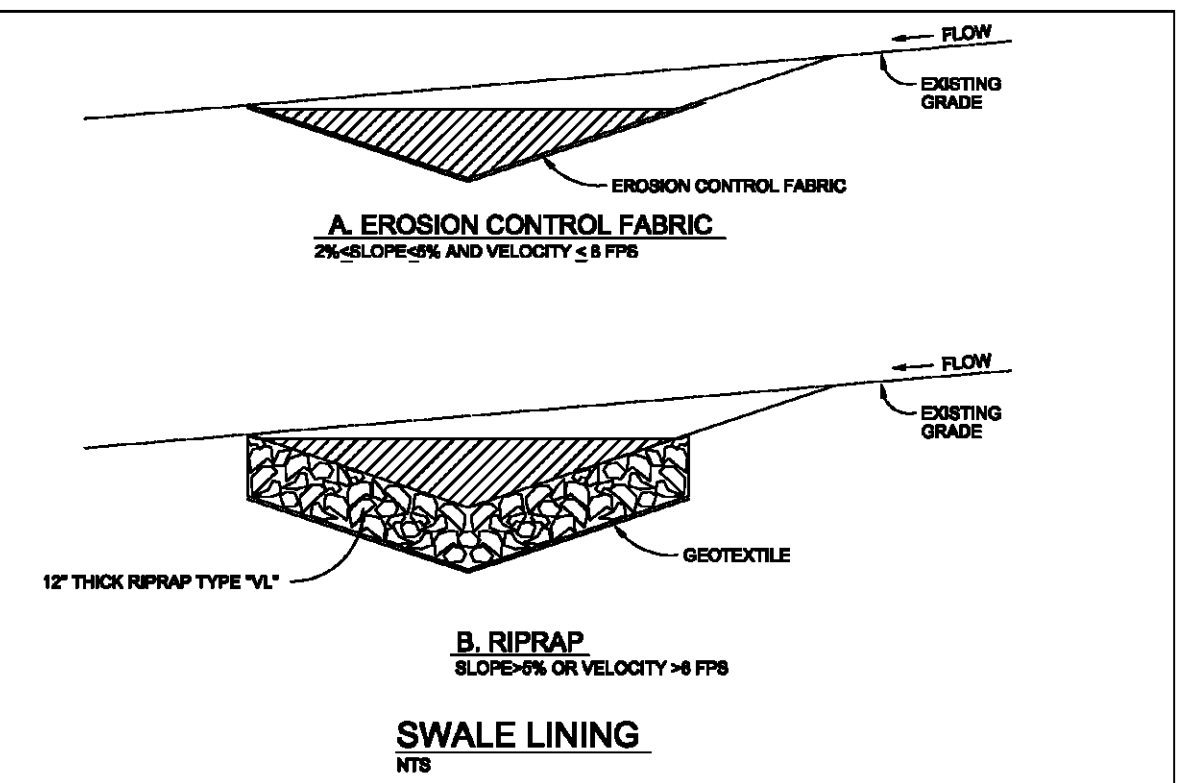
**SSA-1. STABILIZED STAGING AREA**

- STABILIZED STAGING AREA INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION OF STAGING AREA(S). CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
  - STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
  - STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
  - THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
  - UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 8" (MINUS) ROCK.
  - ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

- STABILIZED STAGING AREA 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 REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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SSA-3

**STABILIZED STAGING AREA SSA**



**SWALE LINING**  
NTS

**SWALE LINING NOTES**

- INSTALLATION REQUIREMENTS**
- REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER INSTALLATION OF EROSION CONTROL FABRIC LINING.
  - SWALES WITH EROSION CONTROL FABRIC SHALL BE LINED WITH EROSION CONTROL FABRIC.
  - VELOCITIES FOR EROSION CONTROL FABRICS SHALL NOT EXCEED 8 FPS. SWALES WITH VELOCITIES GREATER THAN 8 FPS SHALL BE LINED WITH RIP RAP.
- MAINTENANCE REQUIREMENTS**
- CONTRACTOR SHALL INSPECT SWALE LININGS AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL.
  - DAMAGED LININGS SHALL IMMEDIATELY BE REPAIRED.
  - REFER TO THE EROSION CONTROL BLANKETS FACTSHEET FOR PROPER MAINTENANCE.
  - DISPLACED RIPRAP OR COARSE AGGREGATE IS TO BE REPLACED AS SOON AS POSSIBLE.
  - SWALE LININGS ARE TO REMAIN IN PLACE AND BE PROPERLY MAINTAINED UNTIL THE TEMPORARY SWALE IS REMOVED.

City of Colorado Springs  
Stormwater Quality  
Figure TSW-3  
Swale Linings  
Construction Detail and Maintenance  
Requirements  
3-21

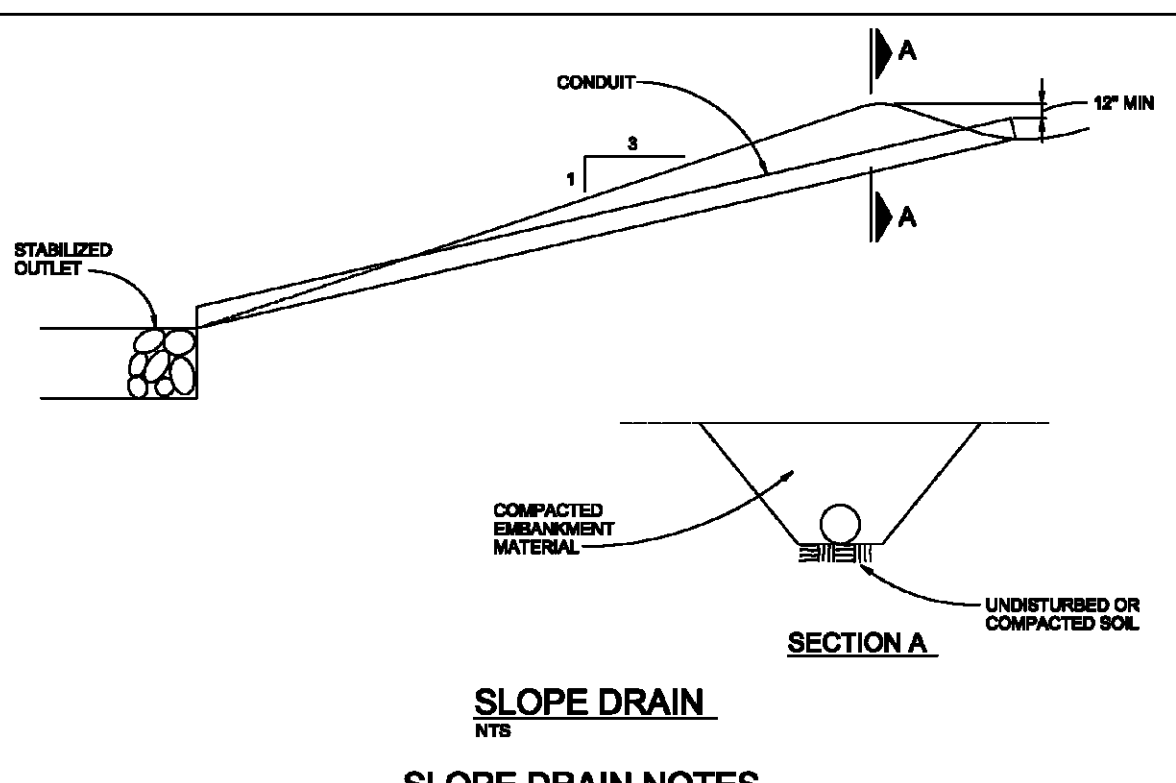
**TEMPORARY SLOPE DRAIN SD**

**SM-6 Stabilized Staging Area (SSA)**

- STABILIZED STAGING AREA MAINTENANCE NOTES**
- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
  - THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEED, AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- 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 DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4

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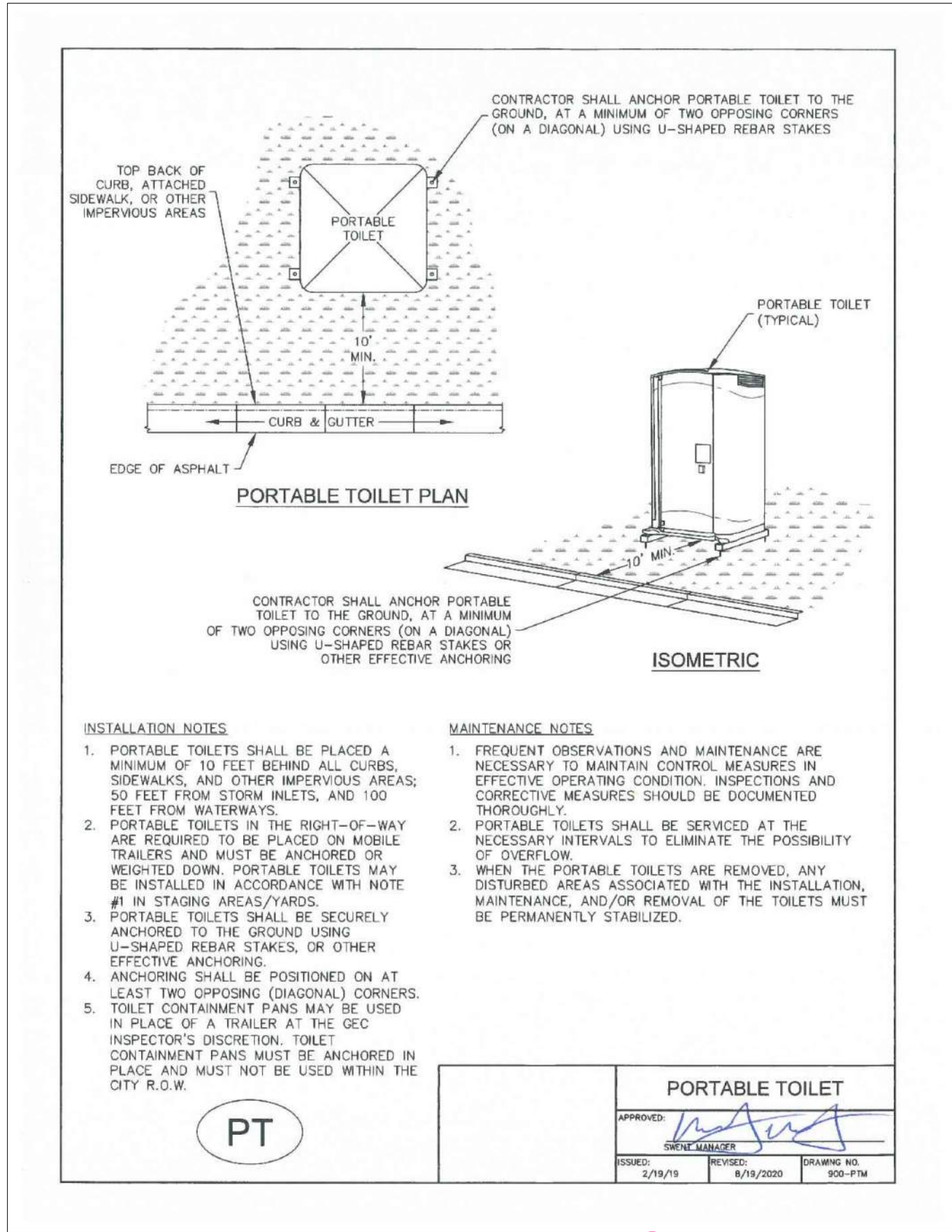


**SLOPE DRAIN**  
NTS

**SLOPE DRAIN NOTES**

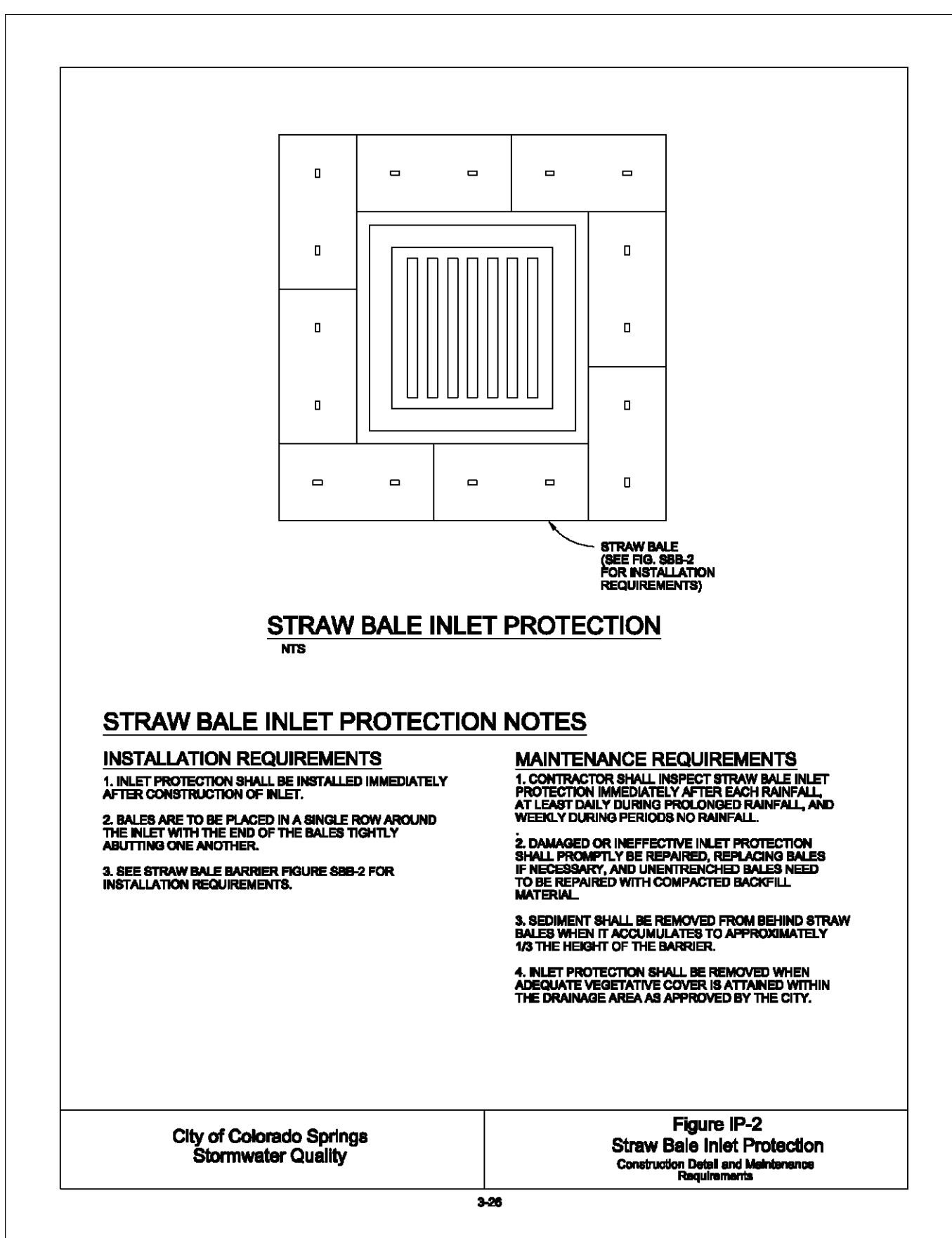
- INSTALLATION REQUIREMENTS**
- THE SLOPE DRAIN IS TO BE DESIGNED TO CONVEY THE PEAK RUNOFF FOR THE 5-YEAR STORM.
  - PIPE MATERIAL MAY INCLUDE CORRUGATED METAL, OR RIGID OR FLEXIBLE PLASTIC.
  - EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
  - EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITH 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
  - SLOPE DRAIN SECTIONS ARE TO BE SECURELY FASTENED TOGETHER AND HAVE WATER-TIGHT FITTINGS.
  - THE OUTLET IS TO BE STABILIZED AND, UNLESS THE DRAIN DISCHARGES DIRECTLY TO A SEDIMENT BASIN, A TEMPORARY SURFACE IS TO BE PROVIDED TO CONVEY FLOW DOWN STREAM.
  - IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY INSTALLATION OR REMOVAL OF THE PIPE SLOPE DRAIN.
- MAINTENANCE REQUIREMENTS**
- INLET AND OUTLET POINTS ARE TO BE CHECKED REGULARLY, AND AFTER HEAVY STORMS FOR CLOGGING AND OVERCHARGING. ANY BREAKS IN THE PIPE ARE TO BE PROMPTLY REPAIRED, AND CLOSURE REMOVED AS NEEDED.
  - WATER IS NOT TO BYPASS OR UNDERCUT THE INLET OR PIPE. IF THESE PROBLEMS DO EXIST, THE HEADWALL NEEDS TO BE REINFORCED WITH COMPACTED EARTH OR SANDFILLS.
  - THE OUTLET POINT IS TO BE FREE OF EROSION, AND, IF NECESSARY, ADDITIONAL OUTLET PROTECTION SHOULD BE INSTALLED.
  - CONSTRUCTION TRAFFIC IS NOT TO CROSS THE SLOPE DRAIN AND MATERIALS ARE NOT TO BE PLACED ON IT.
  - THE SLOPE DRAIN IS TO REMAIN IN PLACE UNTIL THE SLOPE HAS BEEN COMPLETELY STABILIZED OR UP TO 30 DAYS AFTER PERMANENT SLOPE STABILIZATION.

City of Colorado Springs  
Stormwater Quality  
Figure SD-1  
Slope Drain  
Construction Detail and Maintenance  
Requirements  
3-28



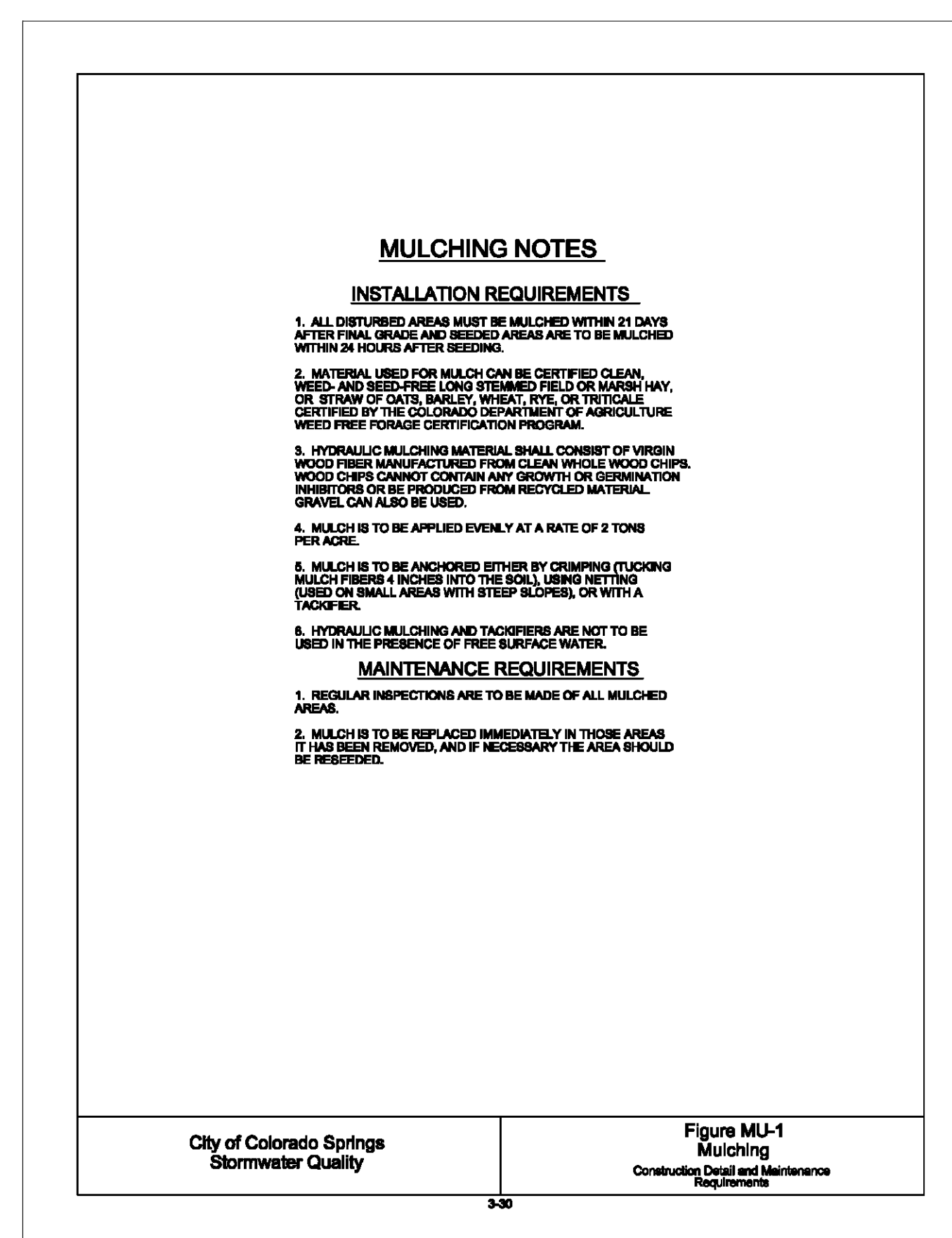
**PORTABLE TOILET**  
NTS

PT



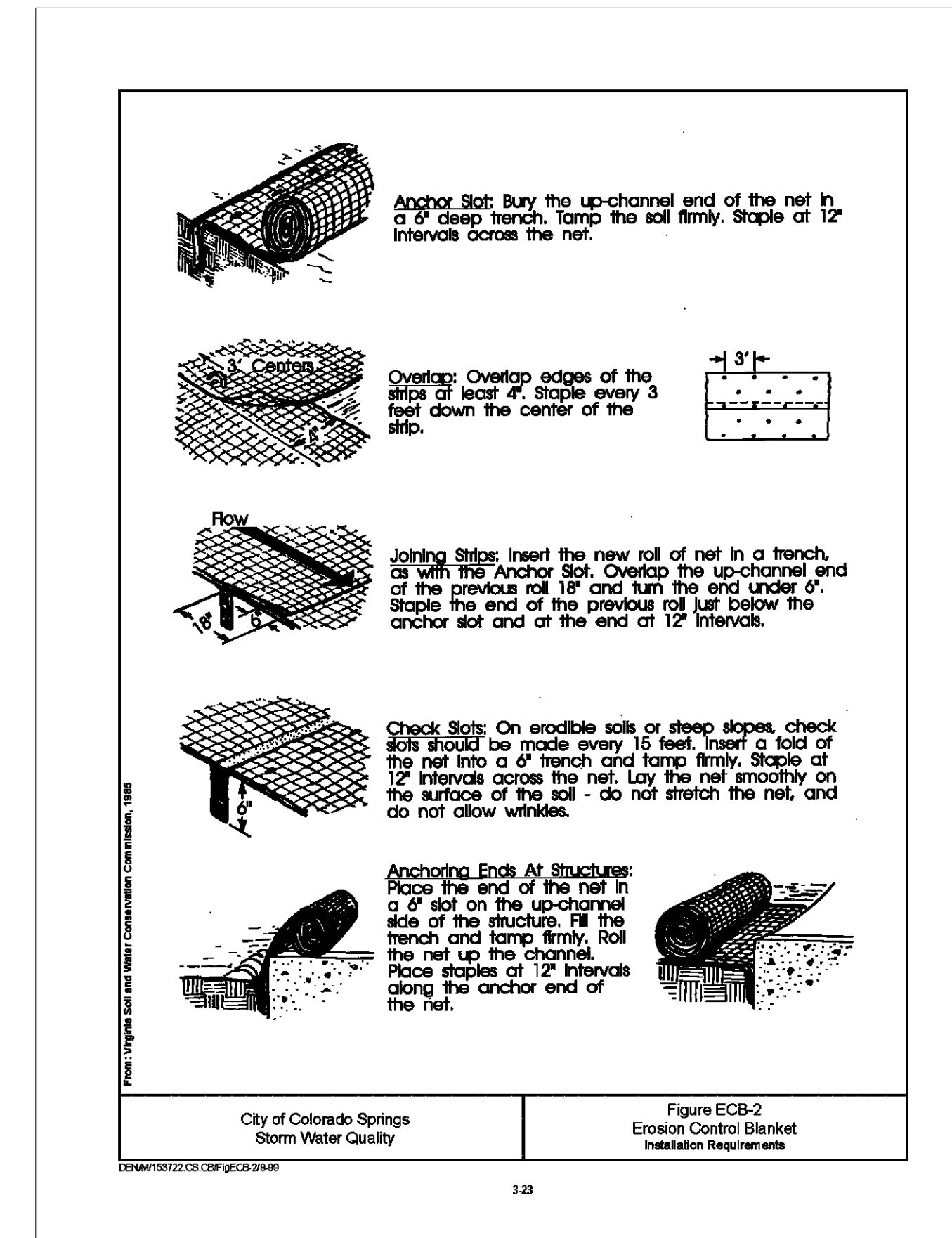
**INLET PROTECTION -2**  
NTS

IP-2



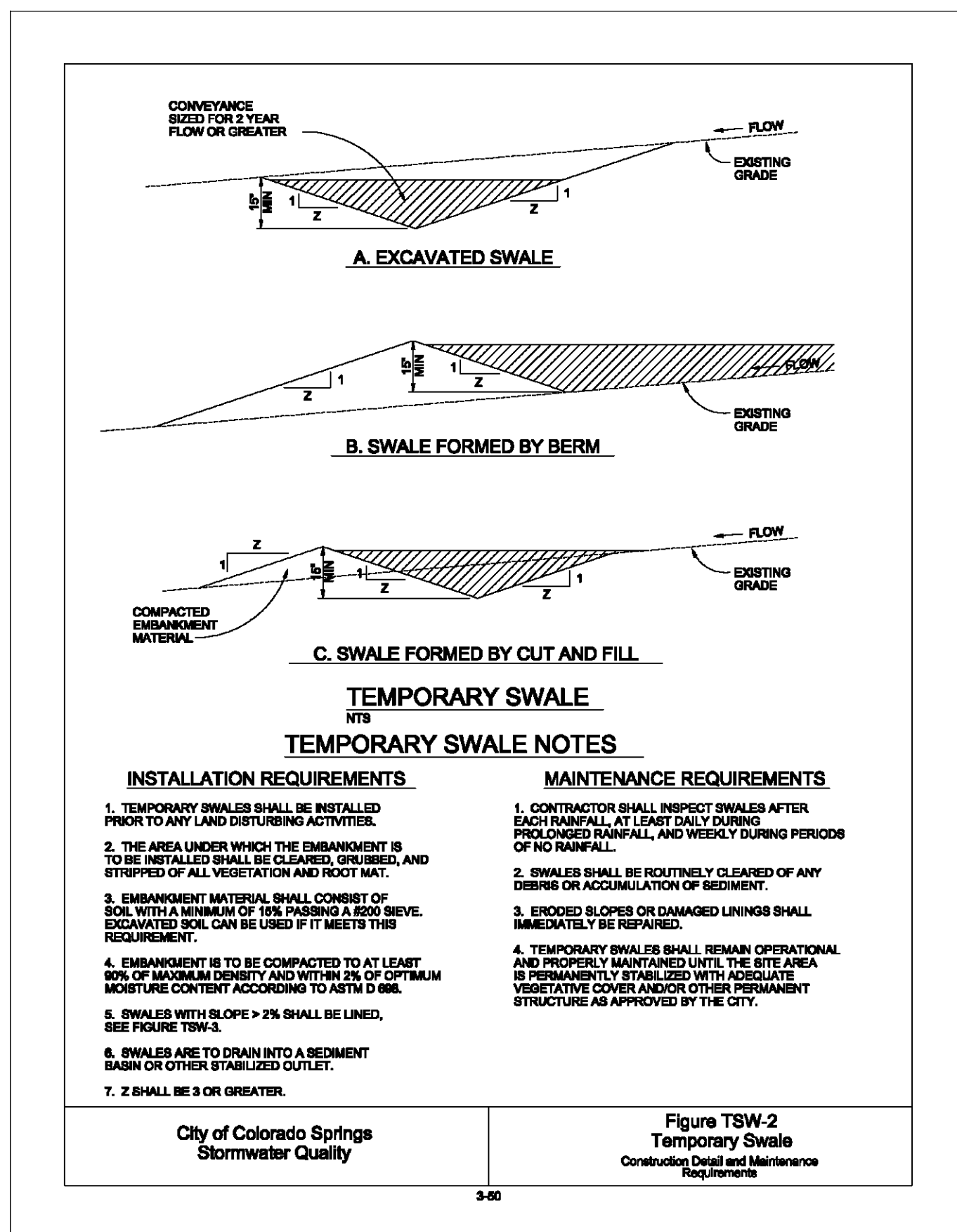
**MULCHING**  
NTS

MU



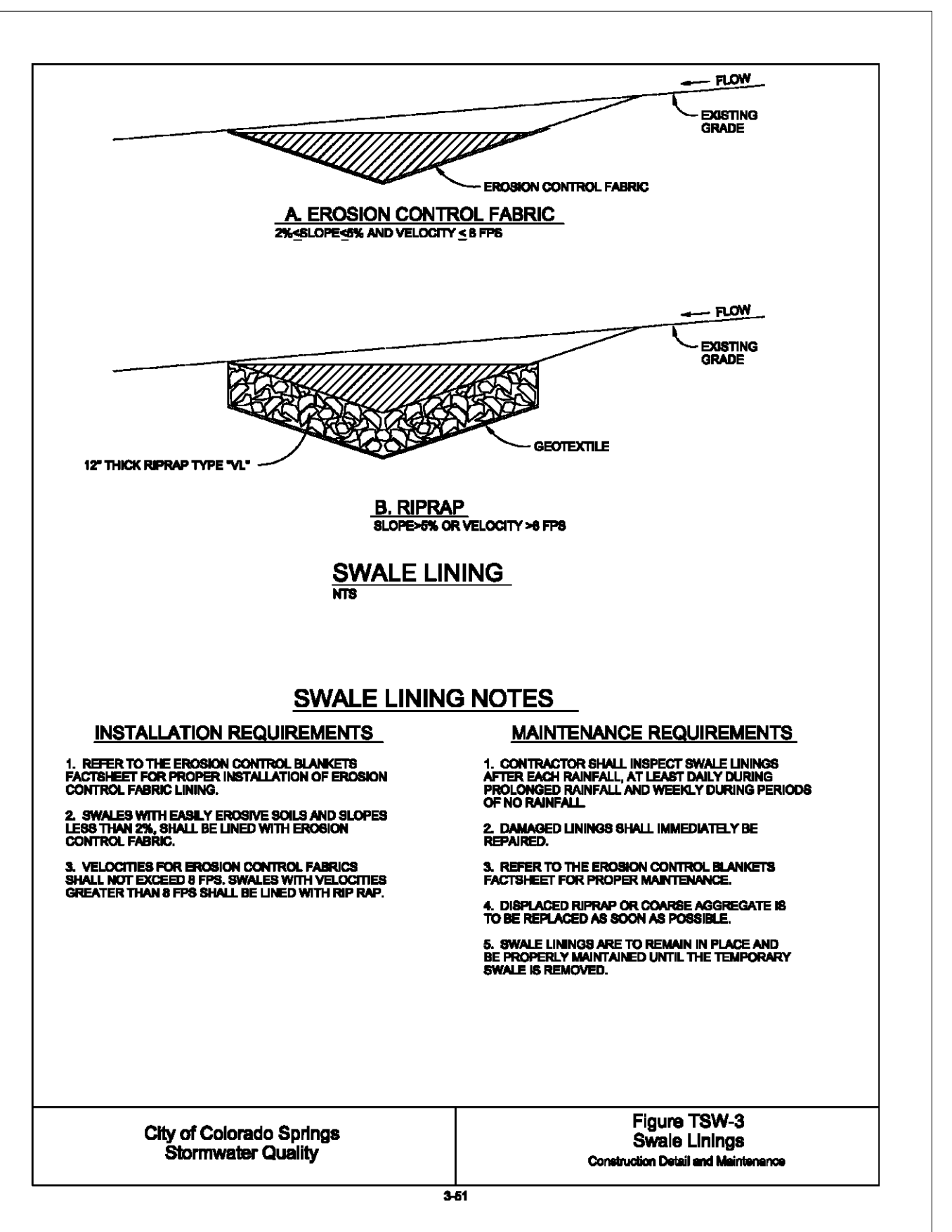
**EROSION CONTROL BLANKET**  
NTS

ECB



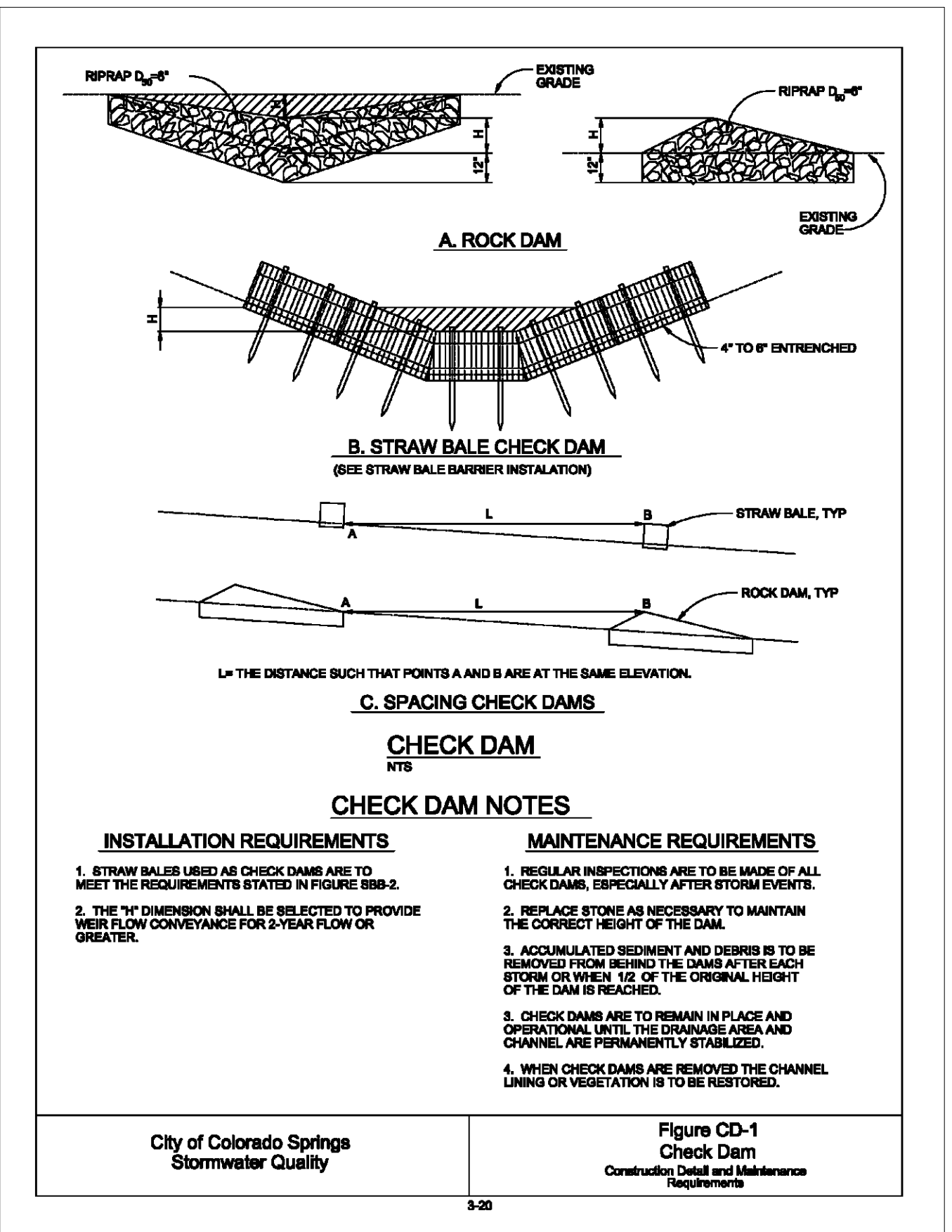
**TEMPORARY SWALES**  
NTS

TSW



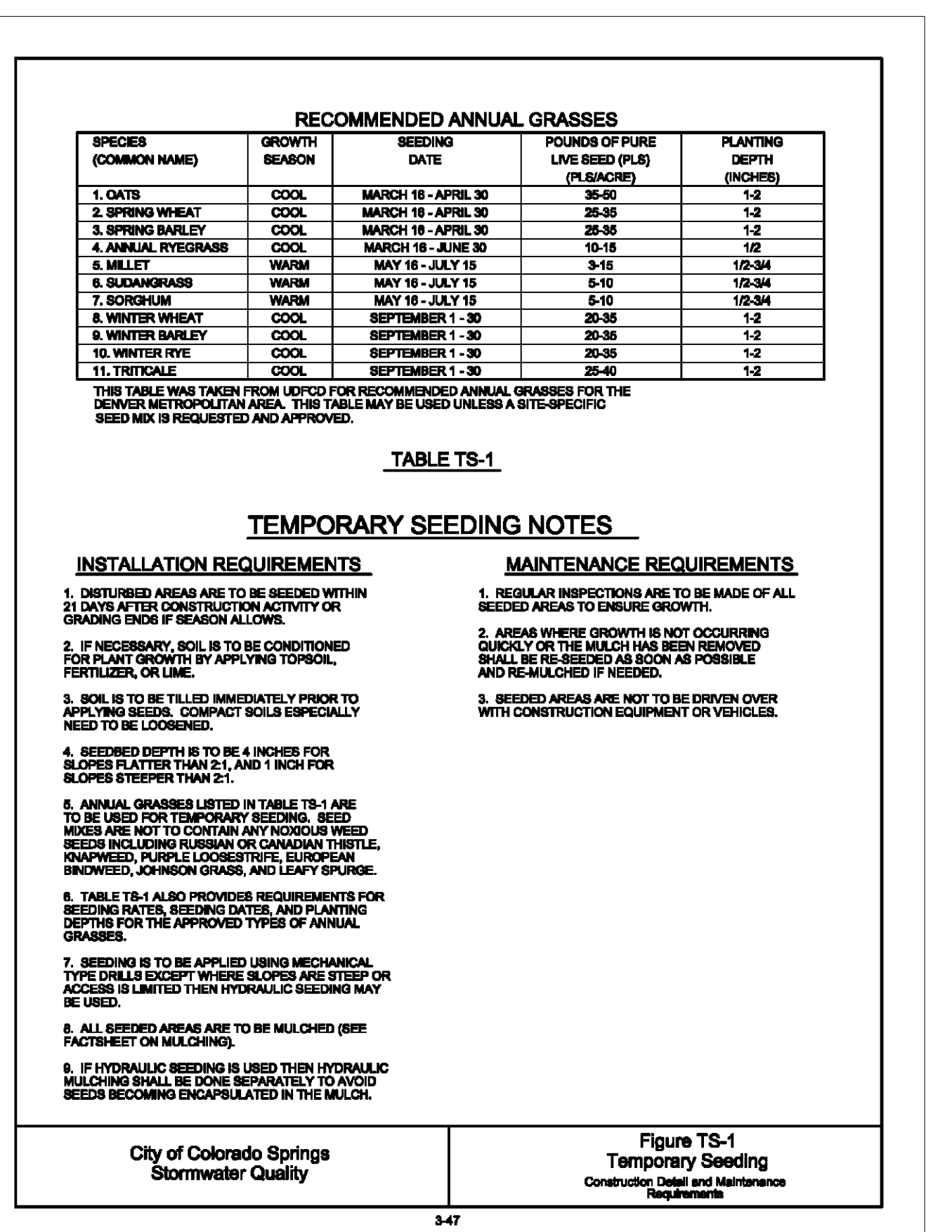
**SWALE LINING**  
NTS

TSW-3



**CHECK DAM**  
NTS

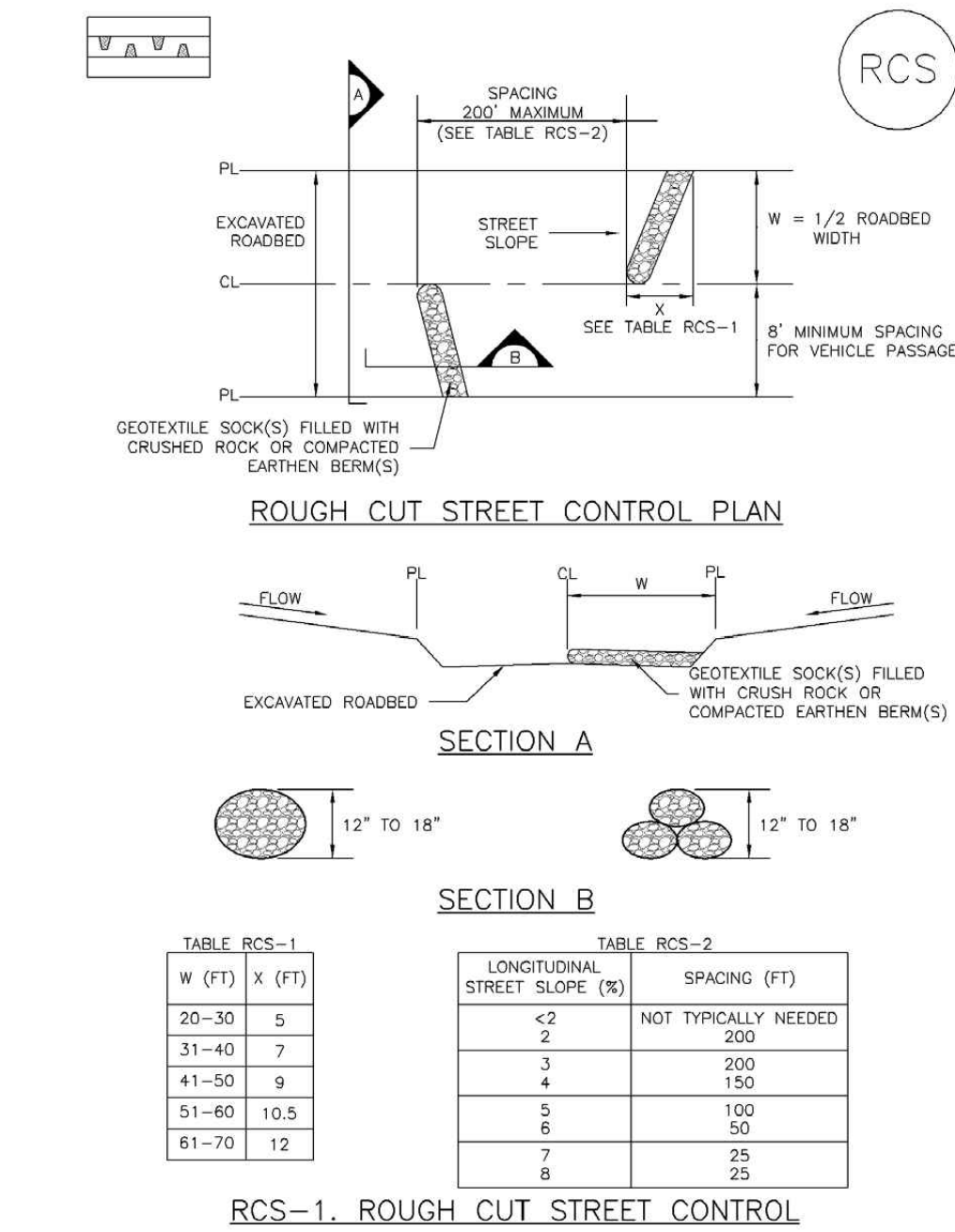
CD



**TEMPORARY SEEDING**  
NTS

TS

**EC-9 Rough Cut Street Control (RCS)**



RCS-2 Urban Drainage and Flood Control District  
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**ROUGH-CUT STREET CONTROL** (RCS) NTS

**Rough Cut Street Control (RCS) EC-9**

**ROUGH CUT STREET CONTROL INSTALLATION NOTES**

- SEE PLAN VIEW FOR LOCATION OF ROUGH CUT STREET CONTROL MEASURES.
- ROUGH CUT STREET CONTROL SHALL BE INSTALLED AFTER A ROAD HAS BEEN CUT IN, AND WILL NOT BE PAID FOR MORE THAN 14 DAYS OR FOR TEMPORARY CONSTRUCTION ROADS THAT HAVE NOT RECEIVED ROAD BASE.

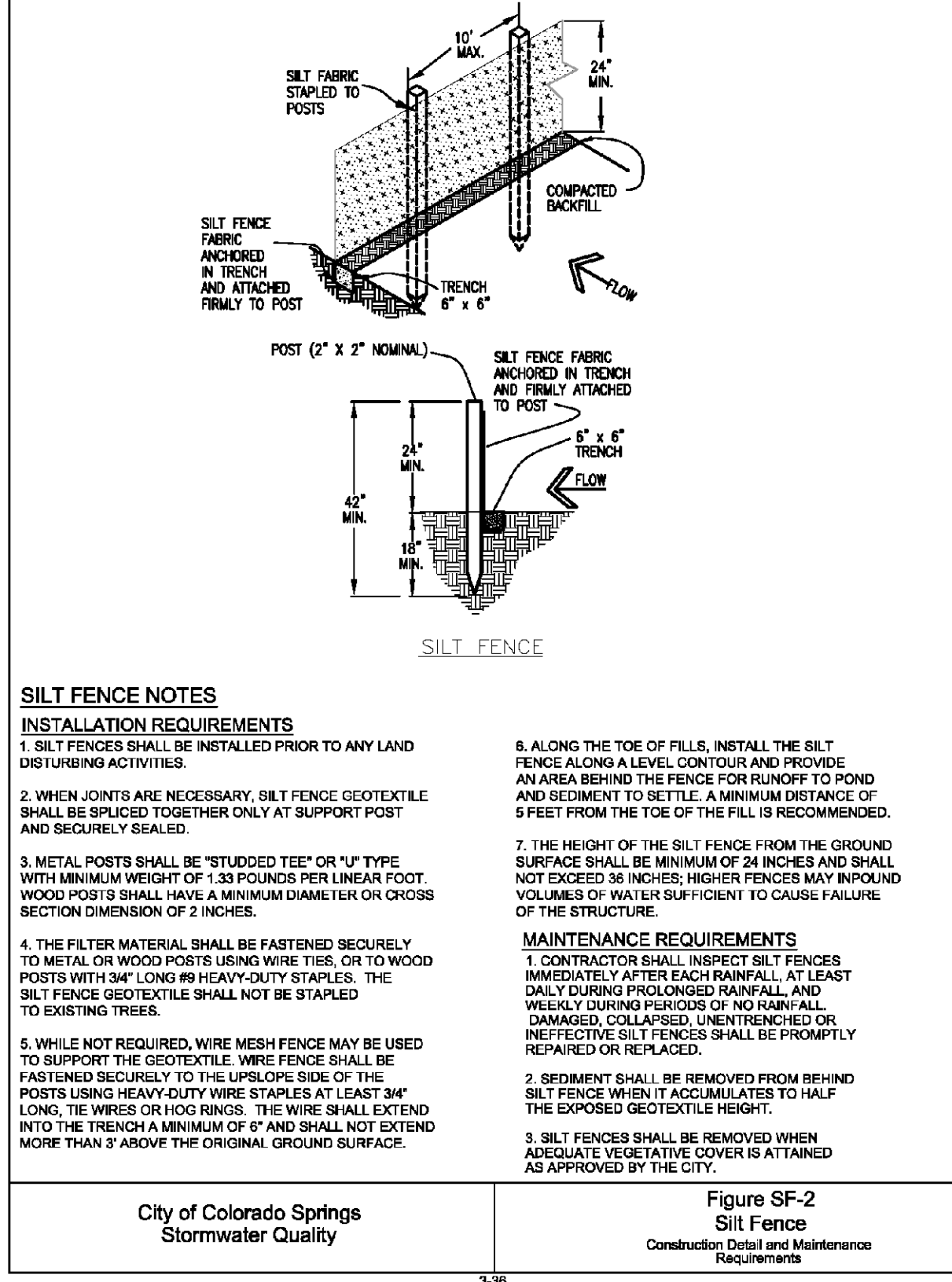
**ROUGH CUT STREET CONTROL INSPECTION AND MAINTENANCE NOTES**

- 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.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

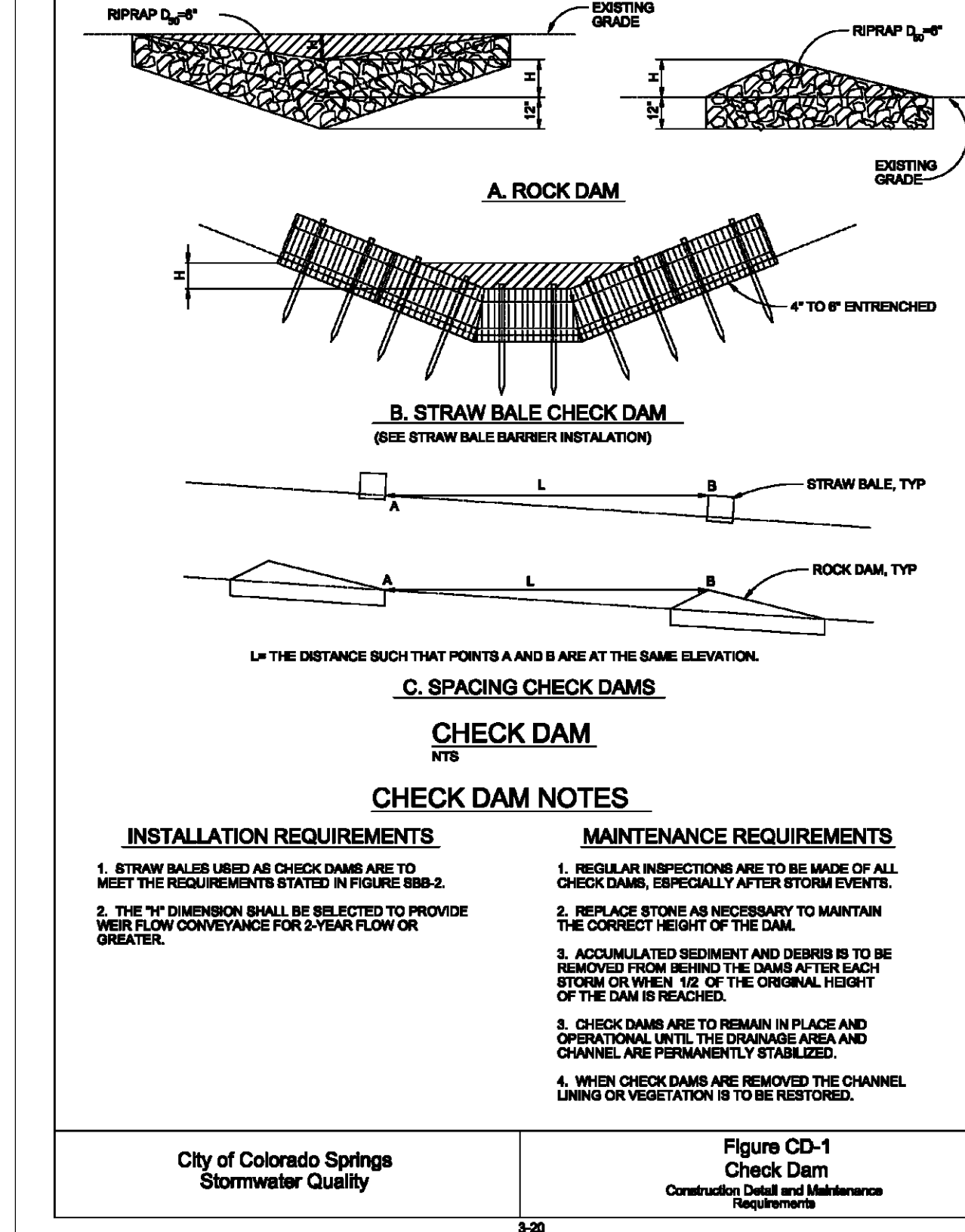
**NOTE:** MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USFC STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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**SILT FENCE** (SF) NTS

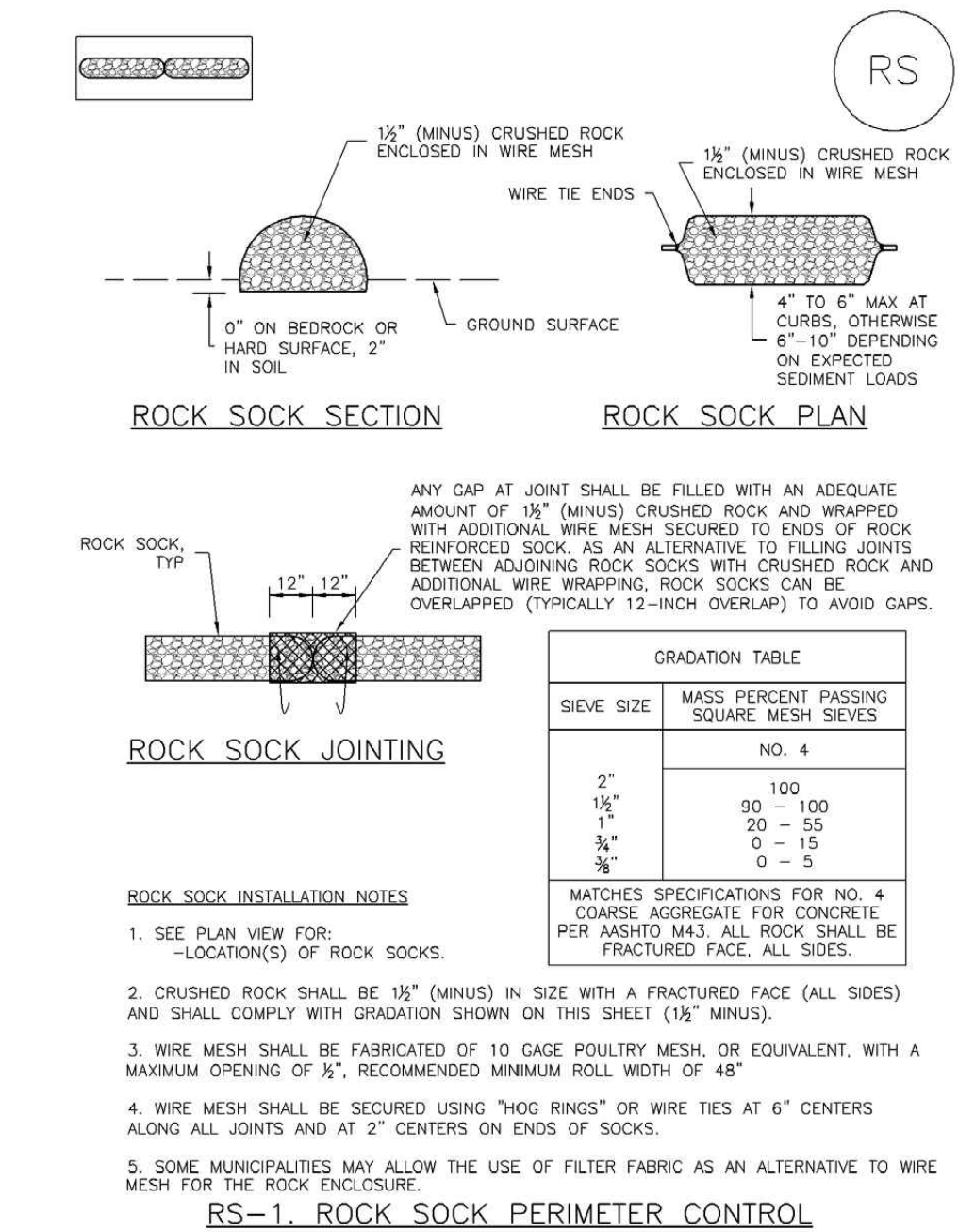
City of Colorado Springs Stormwater Quality Figure SF-2 Silt Fence Construction Detail and Maintenance Requirements



**CHECK DAM** (CD) NTS

City of Colorado Springs Stormwater Quality Figure CD-1 Check Dam Construction Detail and Maintenance Requirements

**SC-5 Rock Sock (RS)**



RS-2 Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3 November 2010

**ROCK SOCK** (RS) NTS

**Rock Sock (RS) SC-5**

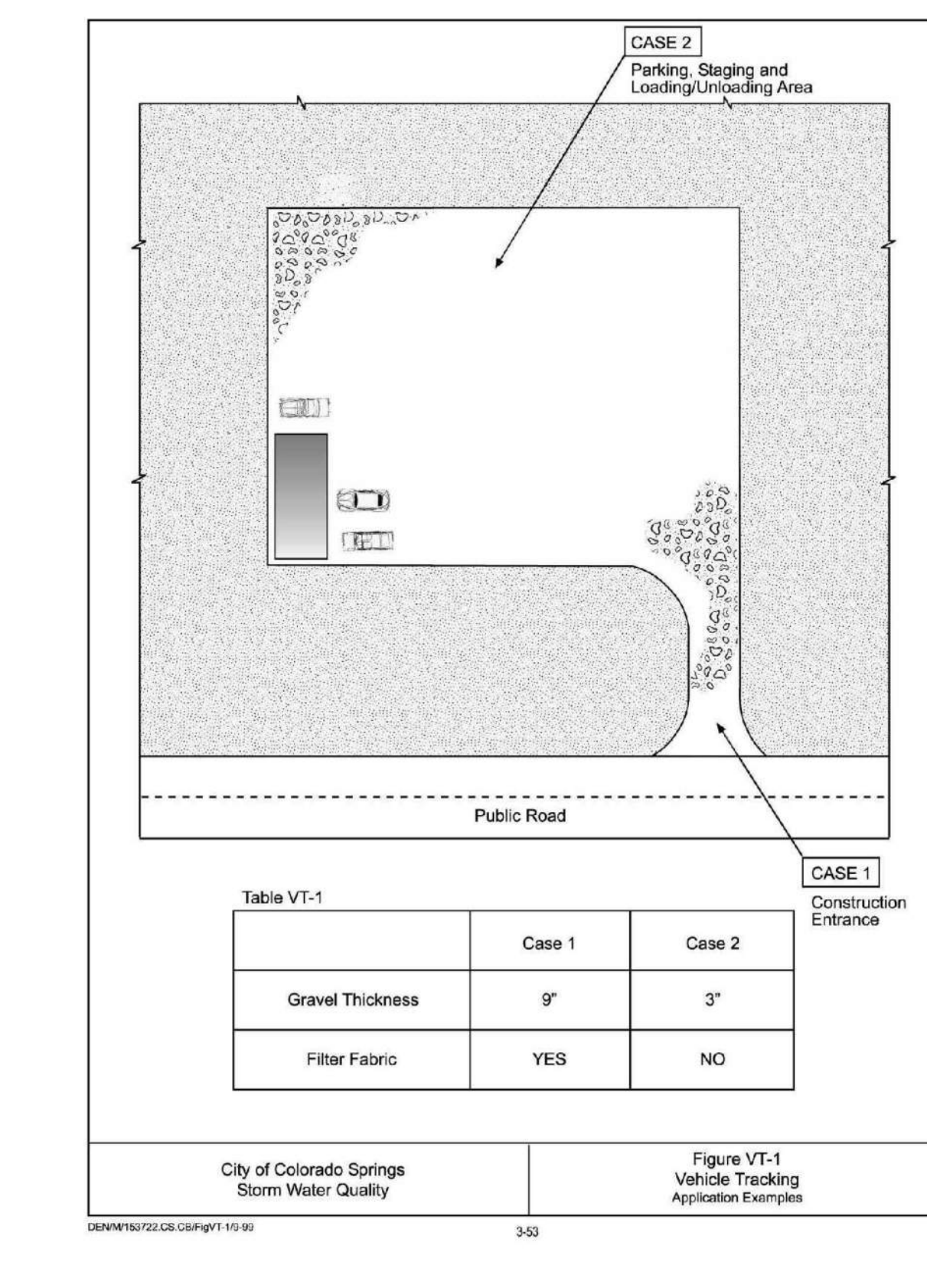
**ROCK SOCK MAINTENANCE NOTES**

- 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 SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
- SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENT IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

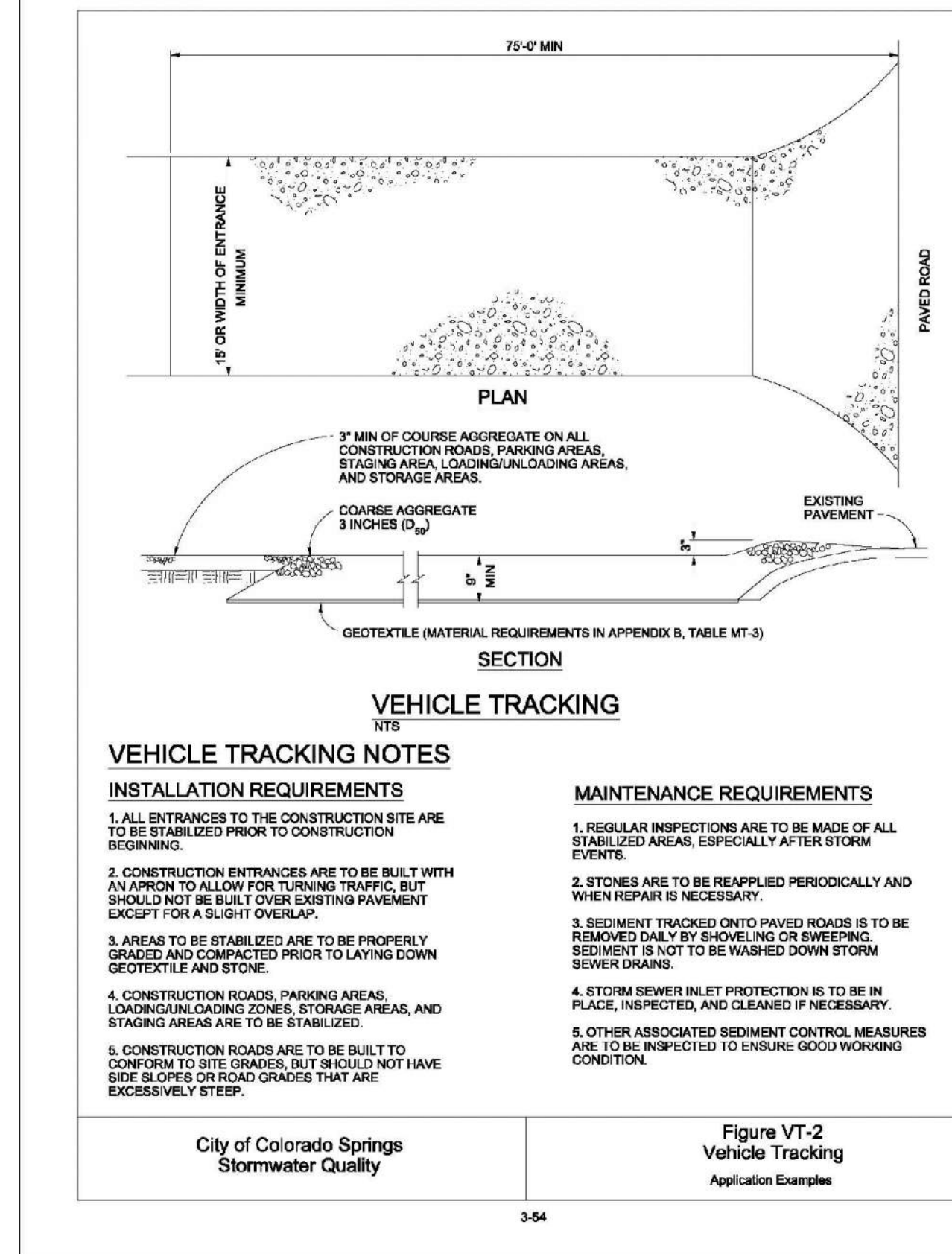
**NOTE:** THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. USFC NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, 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.

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**VEHICLE TRACKING CONTROL** (VT) NTS

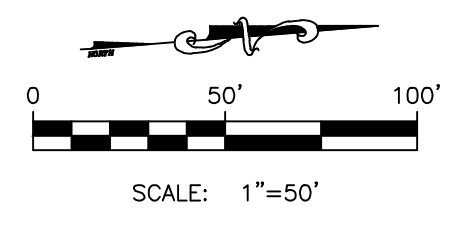
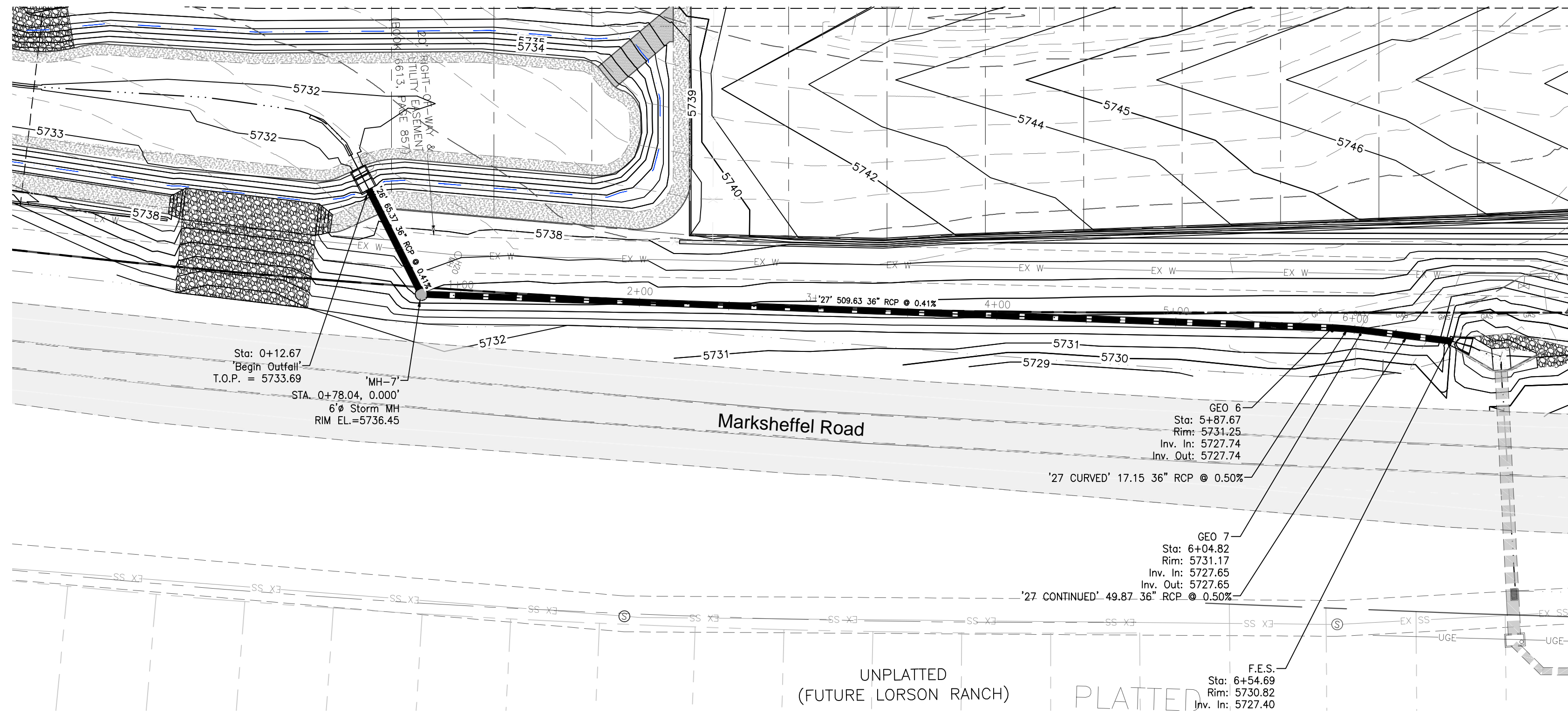
City of Colorado Springs Storm Water Quality Figure VT-1 Vehicle Tracking Application Examples



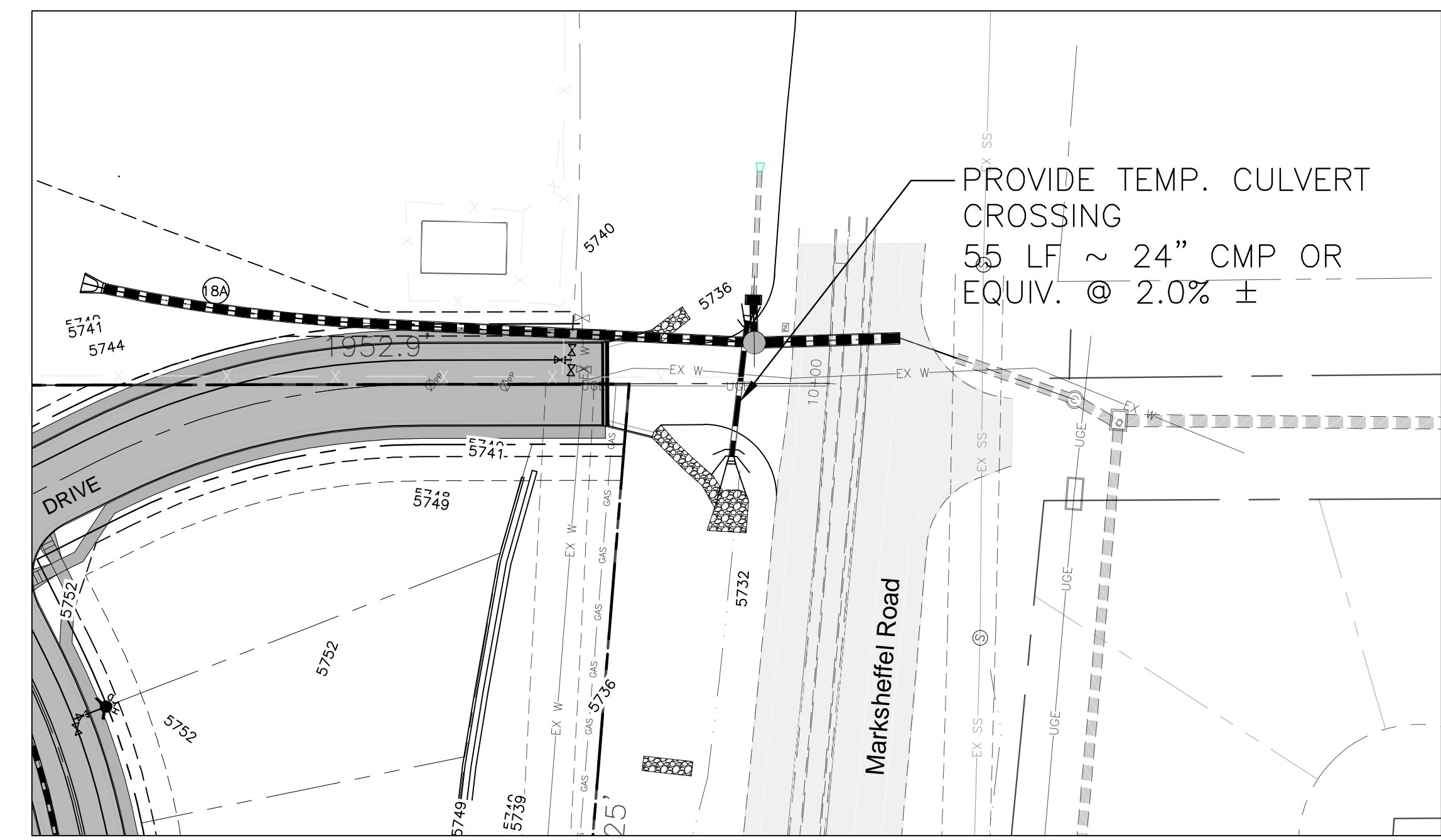
**VEHICLE TRACKING** (VT) NTS

City of Colorado Springs Stormwater Quality Figure VT-2 Vehicle Tracking Application Examples

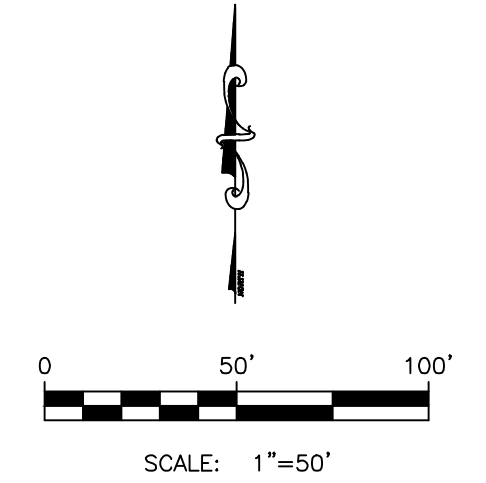
### STORM SEWER C (OUTFALL) PLAN VIEW



### STORM SEWER E PLAN VIEW

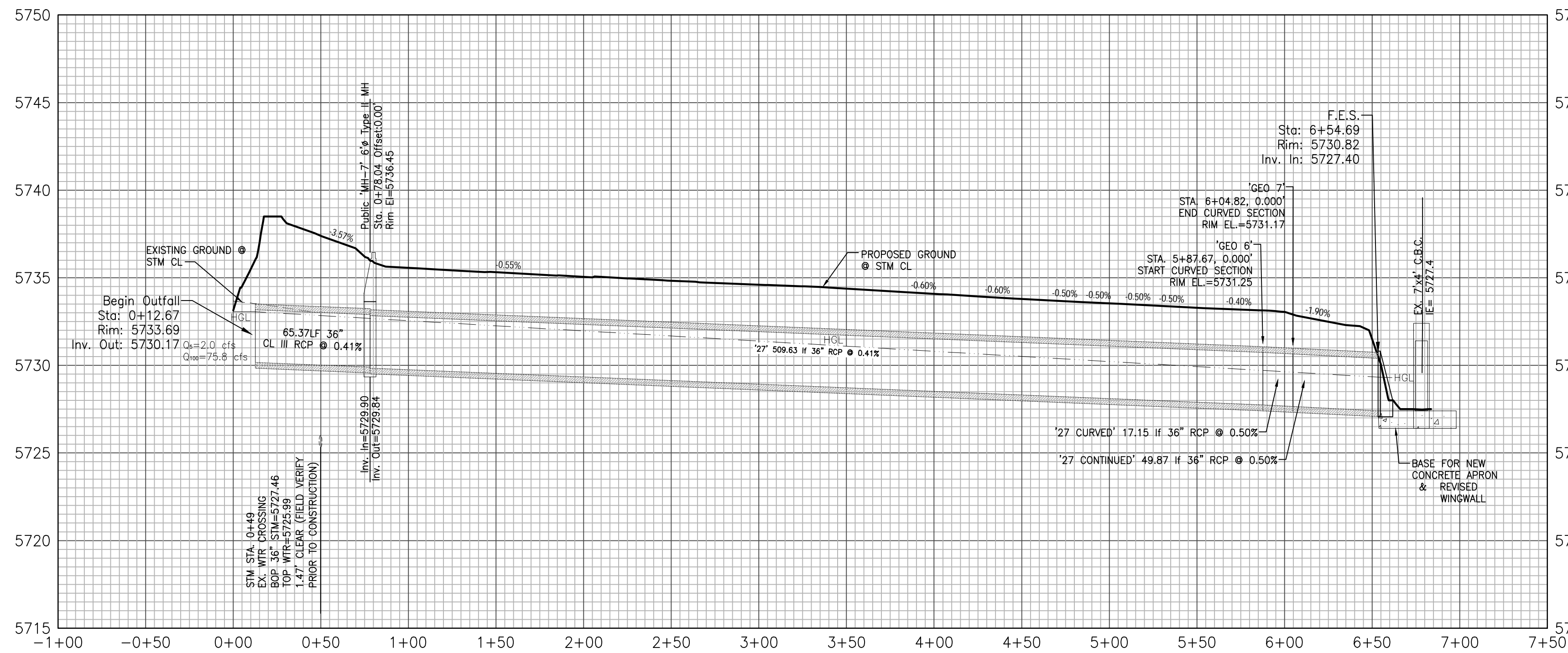


STORM SEWER CURVE DATA	
18A	D=13'22"18"
	R=500.00'
	L=116.69'

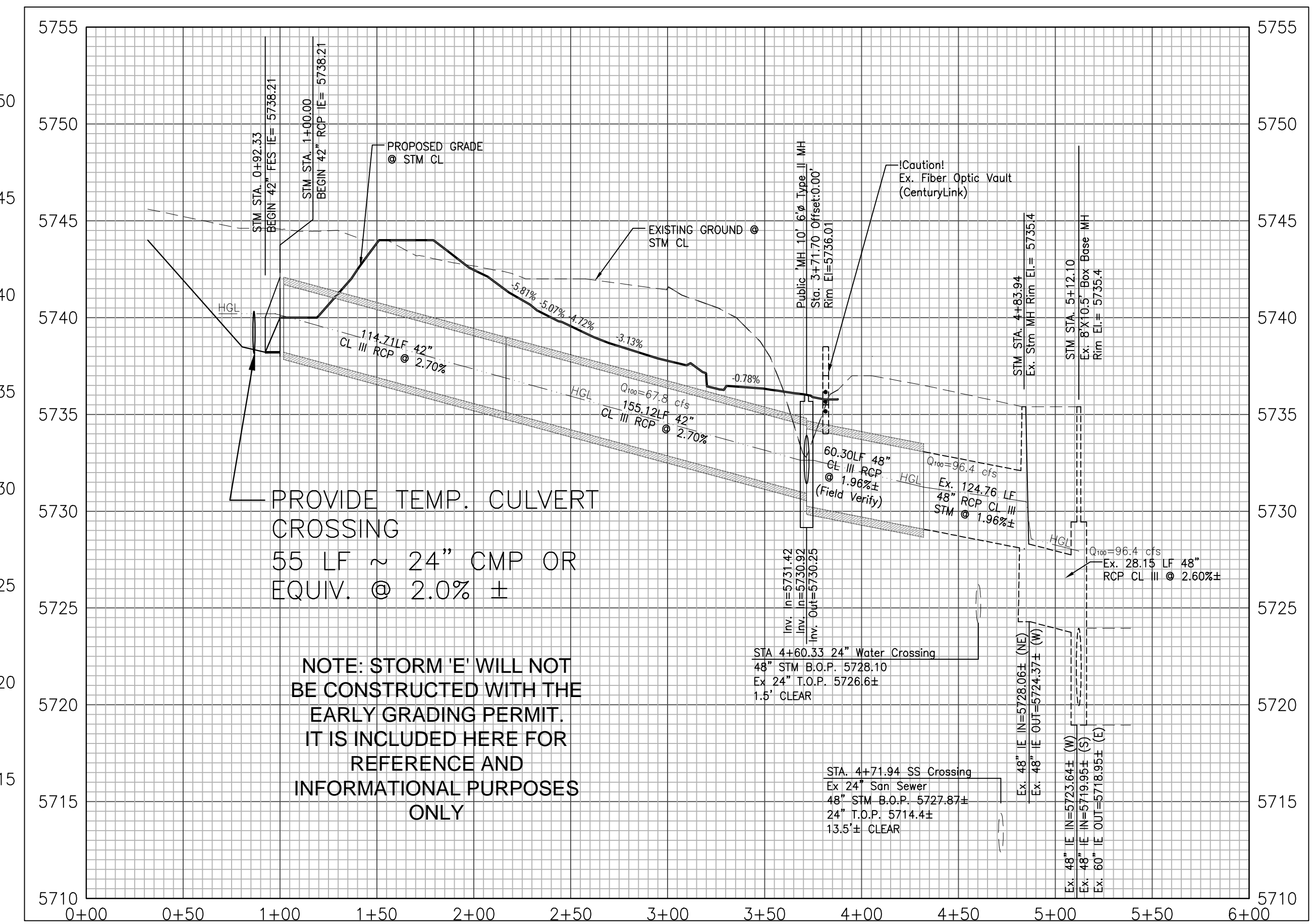


NOTE: STORM 'E' WILL NOT BE CONSTRUCTED WITH THE EARLY GRADING PERMIT. IT IS INCLUDED HERE FOR REFERENCE AND INFORMATIONAL PURPOSES ONLY

### STORM SEWER C (OUTFALL) PROFILE VIEW



### STORM SEWER E PROFILE VIEW



PROVIDE TEMP. CULVERT CROSSING  
55 LF ~ 24" CMP OR EQUIV. @ 2.0% ±

NOTE: STORM 'E' WILL NOT BE CONSTRUCTED WITH THE EARLY GRADING PERMIT. IT IS INCLUDED HERE FOR REFERENCE AND INFORMATIONAL PURPOSES ONLY

