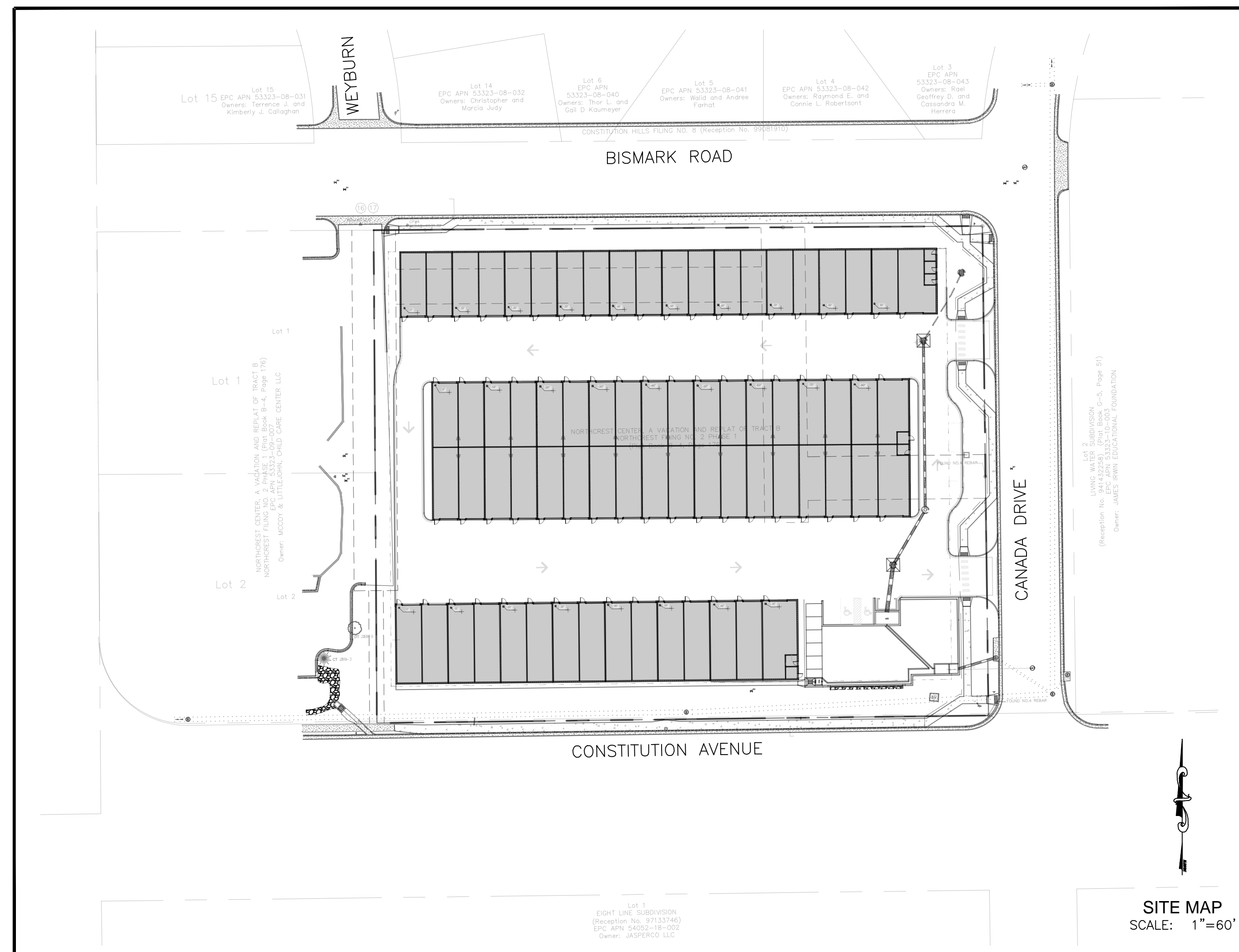


NORTHCREST CENTER GRADING AND EROSION CONTROL PLANS PREPARED FOR LEISURE CONSTRUCTION

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 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 an 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 on all disturbed areas 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 measures.
- 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 off-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 apertures 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 RMG Engineers/Architects, Inc. (Dated: March 11, 2024) and shall be considered a part of these plans.
- 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 Land Development Consultants. The date of the last survey update was July 27, 2021.
- Proposed Construction Schedule:
Begin Construction: Summer 2024
End Construction: Winter 2024
Total Site Area = 3.25 Acres
- Area to be disturbed = 3.26 Acres
Existing 100-year runoff coefficient = 0.37
Proposed 100-year runoff coefficient = 0.70
Existing Hydrologic Soil Groups: A
(A--Truckton sandy loam)
- Site is currently undeveloped and covered with native grasses on moderate to steep slopes (2%-25%).
- Site is located in the West Fork Jimmy Camp Creek Drainage Basin.
- No Asphalt Batch Plants will be utilized at the site.



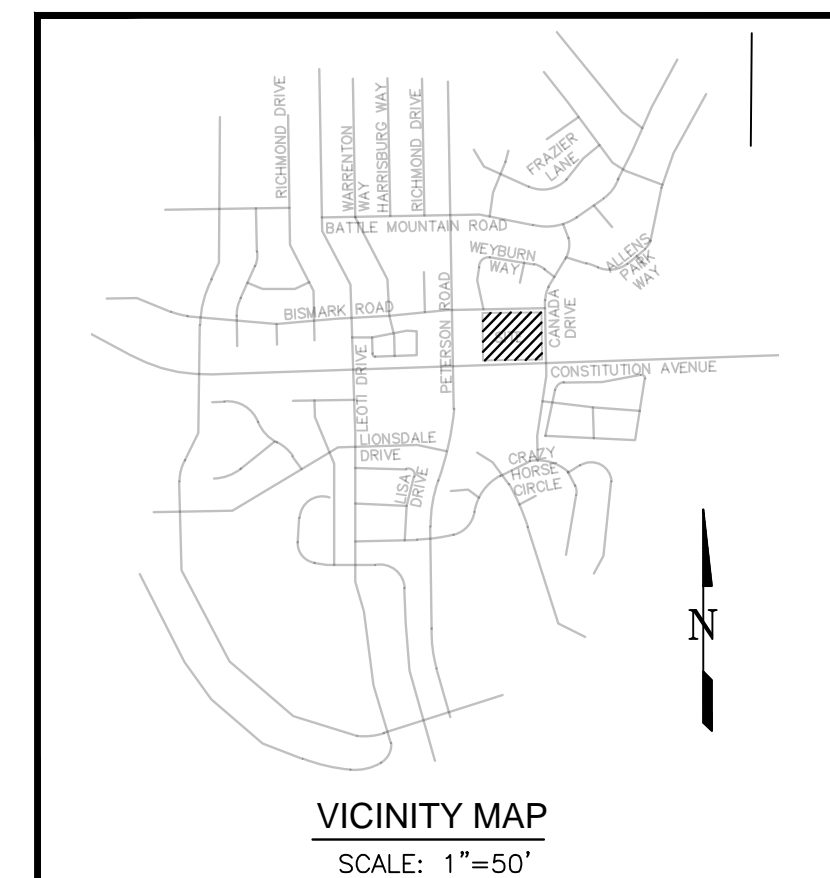
- ## STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS
- All drainage and roadway construction shall meet the standards and specifications of the City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes 1 and 2, and the El Paso County Engineering Criteria Manual.
 - Contractor shall be responsible for the notification and field notification of all existing utilities, whether shown on the plans or not, before beginning construction. Location of existing utilities shall be verified by the contractor prior to construction. Call 811 to contact the Utility Notification Center of Colorado (UNCC).
 - Contractor shall keep a copy of these approved plans, the Grading and Erosion Control Plan, the Stormwater Management Plan (SWMP), the soils and geotechnical report, and the appropriate design and construction standards and specifications at the job site at all times, including the following:
 - El Paso County Engineering Criteria Manual (ECM)
 - City of Colorado Springs/El Paso County Drainage Criteria Manual, Volumes 1 and 2
 - Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction
 - CDOT M & S Standards
 - 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. Any modifications necessary to meet criteria after-the-fact will be entirely the developer's responsibility to rectify.
 - It is the design engineer's responsibility to accurately show existing conditions, both onsite and offsite, on the construction plans. Any modifications necessary due to conflicts, omissions, or changed conditions will be entirely the developer's responsibility to rectify.
 - Contractor shall schedule a pre-construction meeting with El Paso County Planning and Community Development (PCD) - Inspections, prior to starting construction.
 - It is the contractor's responsibility to understand the requirements of all jurisdictional agencies and to obtain all required permits, including but not limited to El Paso County Erosion and Stormwater Quality Control Permit (ESQCP), Regional Building Floodplain Development Permit, U.S. Army Corps of Engineers-issued 401 and/or 404 permits, and county and state fugitive dust permits.
 - Contractor shall not deviate from the plans without first obtaining written approval from the design engineer and PCD. Contractor shall notify the design engineer immediately upon discovery of any errors or inconsistencies.
 - All public storm drain pipe shall be Class III RCP unless otherwise noted and approved by PCD.
 - Contractor shall coordinate geotechnical testing per ECM standards. Pavement design shall be approved by El Paso County PCD prior to placement of curb and gutter and pavement.
 - All construction traffic must enter/exit the site at approved construction access points.
 - Signage and striping shall comply with El Paso County DOT and MUTCD criteria. (If applicable, additional signage and striping notes will be provided.)
 - Contractor shall obtain any permits required by El Paso County DOT, including Work Within the Right-of-Way and Special Transport permits.
 - The limits of construction shall remain within the property line unless otherwise noted. The owner/developer shall obtain written permission and easements, where required, from adjoining property owner(s) prior to any off-site disturbance, grading, or construction.

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.



INDEX OF SHEETS

C300	COVER SHEET
C301	INITIAL CONDITIONS
C302	INTERIM CONDITIONS
C303	FINAL CONDITIONS
C304	GEC DETAILS
C305	GEC DETAILS
C306	GEC DETAILS

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 Manuals 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 County for grading and erosion control plans. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this plan.

Engineer of Record Signature _____ Date _____
ANDREW W. McCORD P.E. 25057

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

Owner Signature _____ Date _____
Sean Edwards, President
ADDRESS: LEISURE CONSTRUCTION
3443 TAMPA ROAD, SUITE B PALM HARBOR, FL 34684

DEVELOPER:
LEISURE CONSTRUCTION 3443 TAMPA ROAD, SUITE B PALM HARBOR, FL 34684 (727) 242-5121

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

A.G.A./A.P.W.A. STANDARD UTILITY MARKING COLOR CODE

NATURAL GAS	YELLOW
ELECTRIC	RED
WATER	BLUE
WASTEWATER	GREEN

CALL BEFORE YOU DIG...
48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS AND MARKING GAS, ELECTRIC, WATER AND WASTEWATER

1-800-922-1987

SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	lbs/acre
SIDWAYS GRAMA	<i>El Paso</i>	1.0
WESTERN WHEAT GRASS	<i>Barton</i>	2.5
SLENDER WHEAT GRASS	<i>Native</i>	2.0
LITTLE BLUESTEM	<i>Pastura</i>	2.0
SAND DROPSIED	<i>Native</i>	0.5
SWITCH GRASS	<i>Nebraska 28</i>	3.0
WEAVING LOVE GRASS	<i>Morpha</i>	1.0
		14.0 lbs

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL, IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RATE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.

Add missing Pond design details

Add Pond construction details

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS

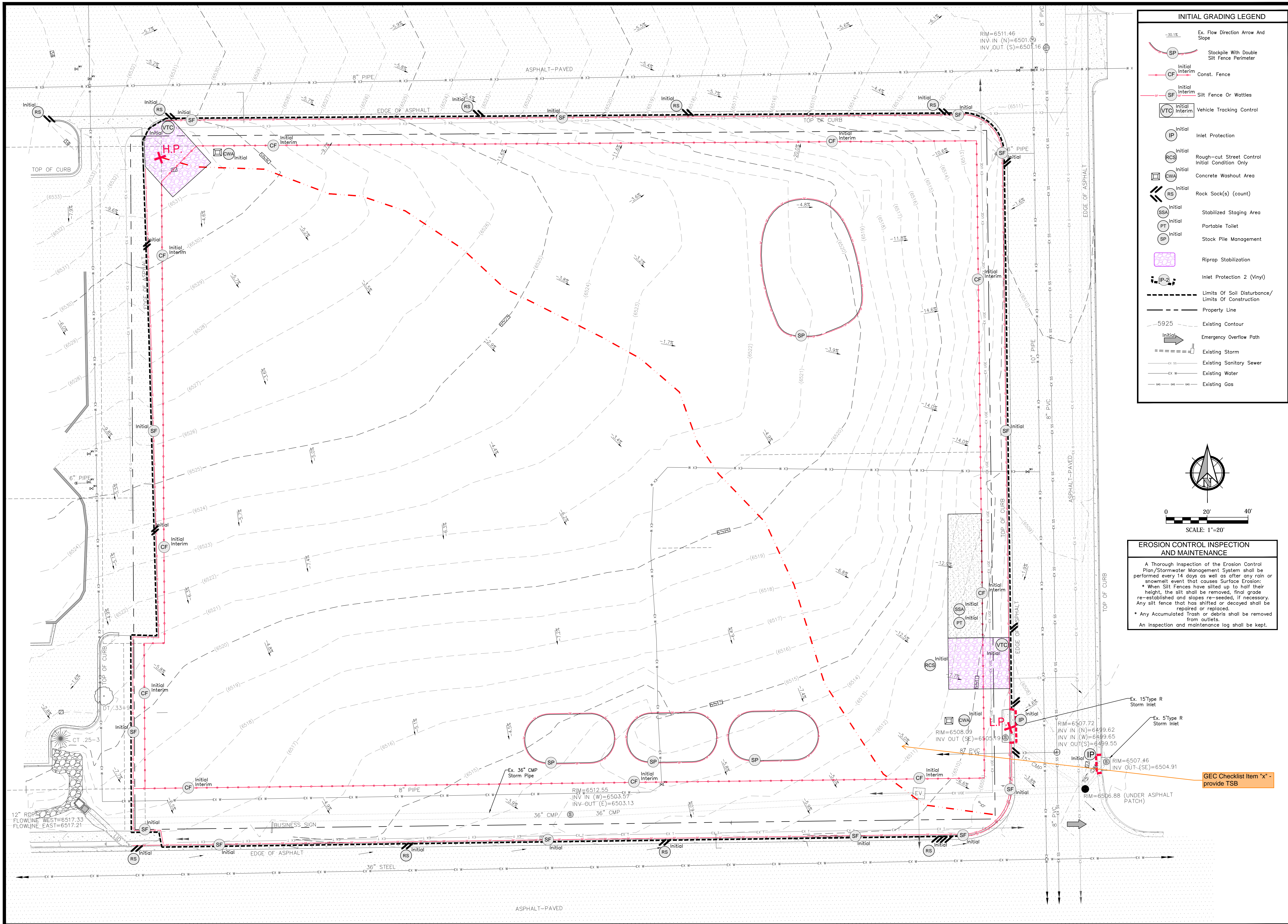
ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
VEHICLE TRACKING CONTROL	2	EA	\$3,085.00	\$6,170.00
SILT FENCE	6,320	LF	\$3.00	\$18,960.00
STRAW BALES	18	EA	\$33.00	\$594.00
INLET PROTECTION	6	EA	\$217.00	\$1,302.00
CONCRETE WASH OUT	2	EA	\$1,172.00	\$2,344.00
ROCK SOCKS	100	EA	\$24.00	\$2,400.00
SURFACE ROUGHENING	1.0	AC	\$269.00	\$269.00
TEMPORARY SEEDING AND MULCH	0.7	AC	\$1,793.00	\$1,255.00
MAINTENANCE (25% OF EROSION CONTROL)	1	LS	\$5,323.50	\$5,175.00
TOTAL				\$41,023.50

Kiowa Project No. 23049
April 2, 2024

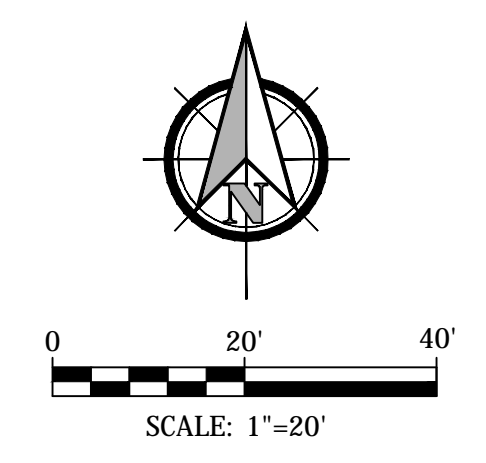
Kiowa
Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Northcrest Center
Grading Erosion Control Plan
COVER SHEET
City of Colorado Springs, Colorado

Project No.: 23049
Date: 04/02/2024
Design: MK
Drawn: MK
Check: AMcC
Revisions:
Sheet PCD File No. CDR-24-____
SHEET
C300
1 of 7 Sheets



INITIAL GRADING LEGEND	
	Ex. Flow Direction Arrow And Slope
	Stockpile With Double Silt Fence Perimeter
	Const. Fence
	Silt Fence Or Wattles
	Vehicle Tracking Control
	Inlet Protection
	Rough-cut Street Control Initial Condition Only
	Concrete Washout Area
	Rock Sock(s) (count)
	Stabilized Staging Area
	Portable Toilet
	Stock Pile Management
	Riprap Stabilization
	Inlet Protection 2 (Vinyl)
	Limits of Soil Disturbance/Limits of Construction
	Property Line
	Existing Contour
	Emergency Overflow Path
	Existing Storm
	Existing Sanitary Sewer
	Existing Water
	Existing Gas



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.

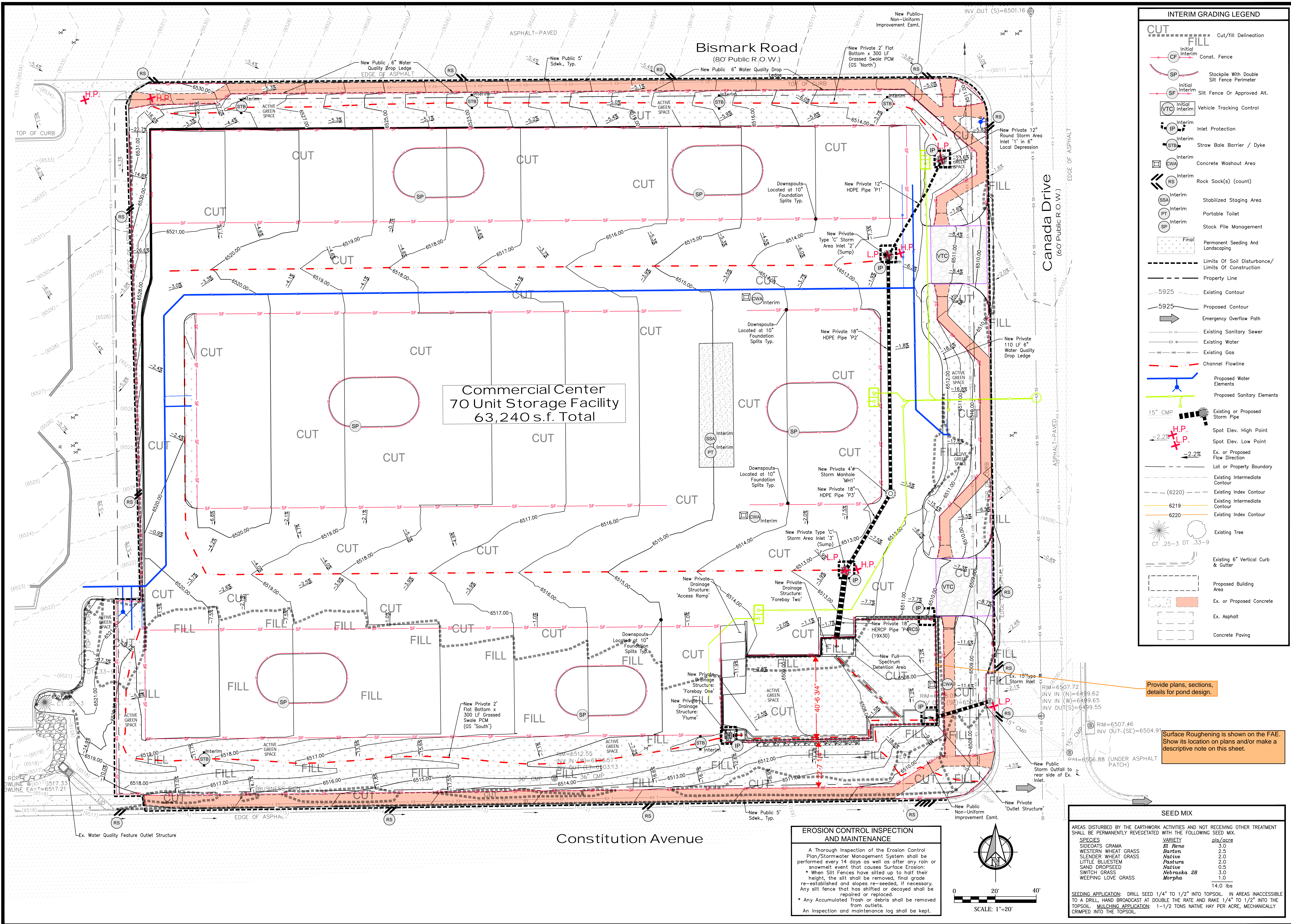
An inspection and maintenance log shall be kept.

GEC Checklist Item "x" - provide TSB

Northcrest Center
Grading Erosion Control Plan
INITIAL CONDITIONS
City of Colorado Springs, Colorado

Project No.:	23049
Date:	04/02/2024
Design:	MJK
Drawn:	MJK
Check:	AMcC
Revisions:	

23049-GEC-Initial_C301.dwg/Apr. 02, 2024



INTERIM GRADING LEGEND

CUT --- Cut/fill Delineation
FILL --- Cut/fill Delineation

- CF Initial Interim Const. Fence
- SP Stockpile With Double Silt Fence Perimeter
- SF Initial Interim Silt Fence Or Approved Alt.
- VTC Initial Interim Vehicle Tracking Control
- IP Initial Interim Inlet Protection
- STB Initial Interim Straw Bale Barrier / Dyke
- CWA Initial Interim Concrete Washout Area
- RS Initial Interim Rock Sock(s) (count)
- SSA Initial Interim Stabilized Staging Area
- PT Initial Interim Portable Toilet
- SP Initial Interim Stock Pile Management
- Final Permanent Seeding And Landscaping
- Limits Of Soil Disturbance/ Limits Of Construction
- Property Line
- 5925 Existing Contour
- 5925 Proposed Contour
- Emergency Overflow Path
- Existing Sanitary Sewer
- Existing Water
- Existing Gas
- Channel Flowline
- Proposed Water Elements
- Proposed Sanitary Elements
- 15" CMP Existing or Proposed Storm Pipe
- Spot Elev. High Point
- Spot Elev. Low Point
- Ex. or Proposed Flow Direction
- Lot or Property Boundary
- Existing Intermediate Contour
- Existing Intermediate Contour
- Existing Intermediate Contour
- Existing Intermediate Contour
- Existing Tree
- Existing 6" Vertical Curb & Gutter
- Proposed Building Area
- Ex. or Proposed Concrete
- Ex. Asphalt
- Concrete Paving

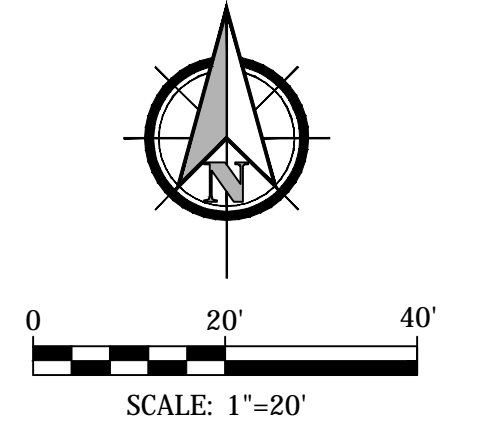
**Commercial Center
70 Unit Storage Facility
63,240 s.f. Total**

EROSION CONTROL INSPECTION AND MAINTENANCE

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SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	lbs./acre
SIDEOTS GRAMA	El Reno	3.0
WESTERN WHEAT GRASS	Barton	2.5
SLENDER WHEAT GRASS	Native	2.0
LITTLE BLUESTEM	Pastura	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 INACCESSIBLE 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.

Provide plans, sections, details for pond design.

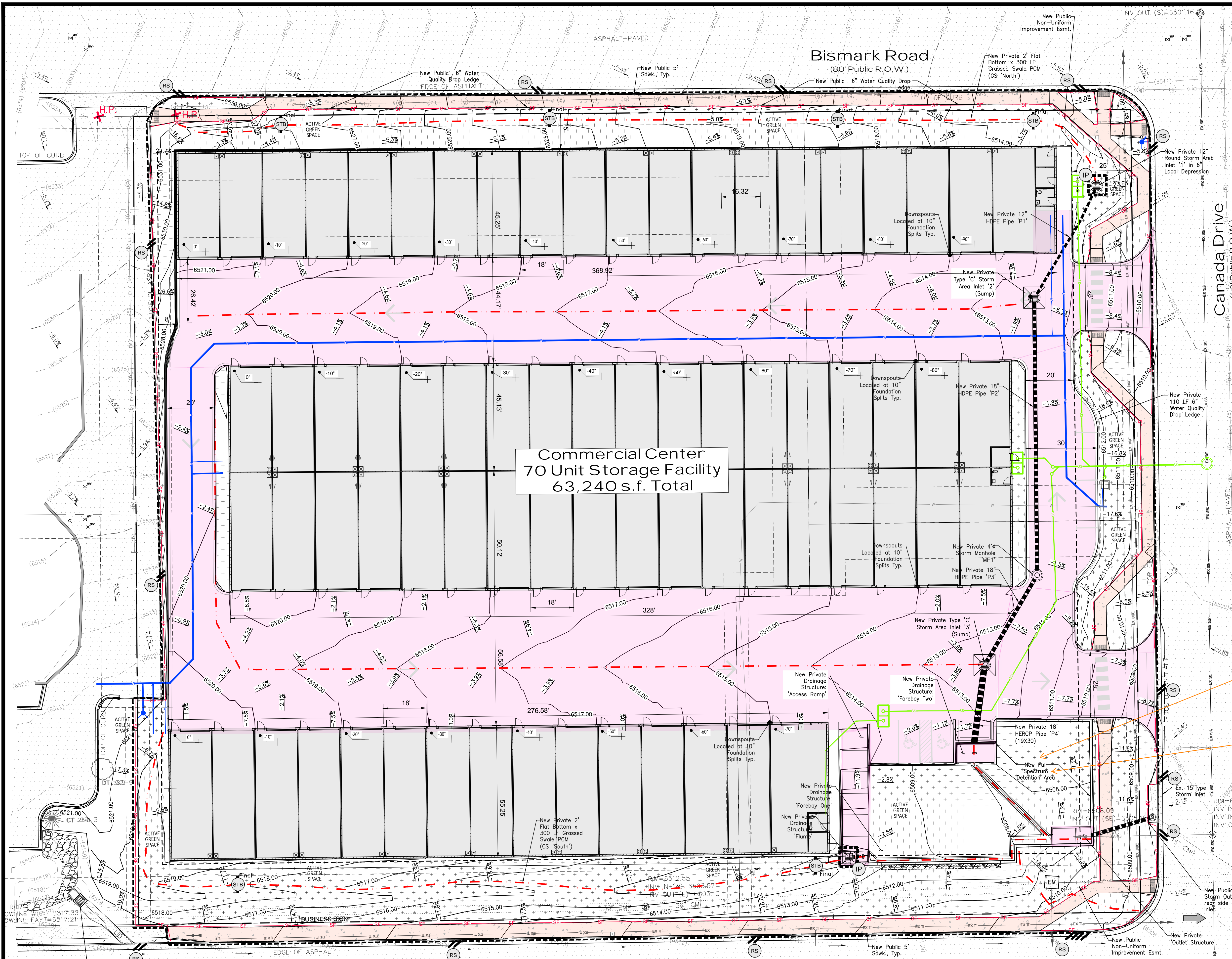
Surface Roughening is shown on the FAE. Show its location on plans and/or make a descriptive note on this sheet.

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

**Northcrest Center
Grading Erosion Control Plan
INTERIM CONDITIONS**
City of Colorado Springs, Colorado

Project No.: 23049
Date: 04/02/2024
Design: MKJ
Drawn: MKJ
Check: AMcC
Revisions:

Sheet
C302
3 of 6 Sheets



**Commercial Center
70 Unit Storage Facility
63,240 s.f. Total**

FINAL GRADING LEGEND

- Interim/Final Inlet Protection
- Interim/Final Rock Sock(s) (count)
- Interim/Final Straw Bale Barrier / Dyke
- Final Permanent Seeding And Landscaping
- Limits of Soil Disturbance/ Limits of Construction
- Property Line
- Existing Contour
- Proposed Contour
- Emergency Overflow Path
- Existing Sanitary Sewer
- Existing Water
- Existing Gas
- Channel Flowline
- Proposed Water Elements
- Proposed Sanitary Elements
- 15" CMP Existing or Proposed Storm Pipe
- Spot Elev. High Point
- Spot Elev. Low Point
- Ex. or Proposed Flow Direction
- Lot or Property Boundary
- Existing Intermediate Contour
- Existing Index Contour
- Existing Intermediate Contour
- Existing Index Contour
- Existing Tree
- Existing 6" Vertical Curb & Gutter
- Proposed Building Area
- Ex. or Proposed Concrete
- Concrete Paving

Seeding & mulching are shown on the FAE. Show their location on plans and/or make a descriptive note on this sheet.

Is it to be an EDB? If so, label as such.

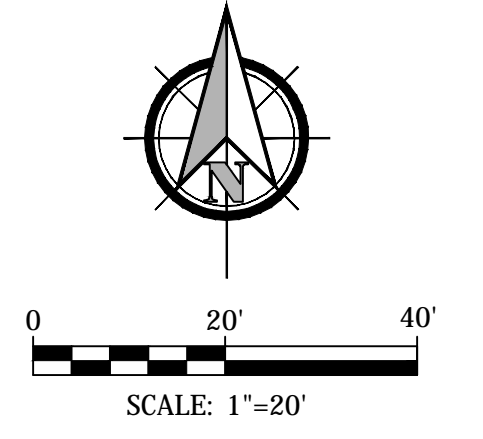
Assign a name/number to all PBMPs and then update all submitted text and drawings accordingly with consistent labeling throughout (example: "Pond A" or "Pond 1").

EROSION CONTROL INSPECTION AND MAINTENANCE

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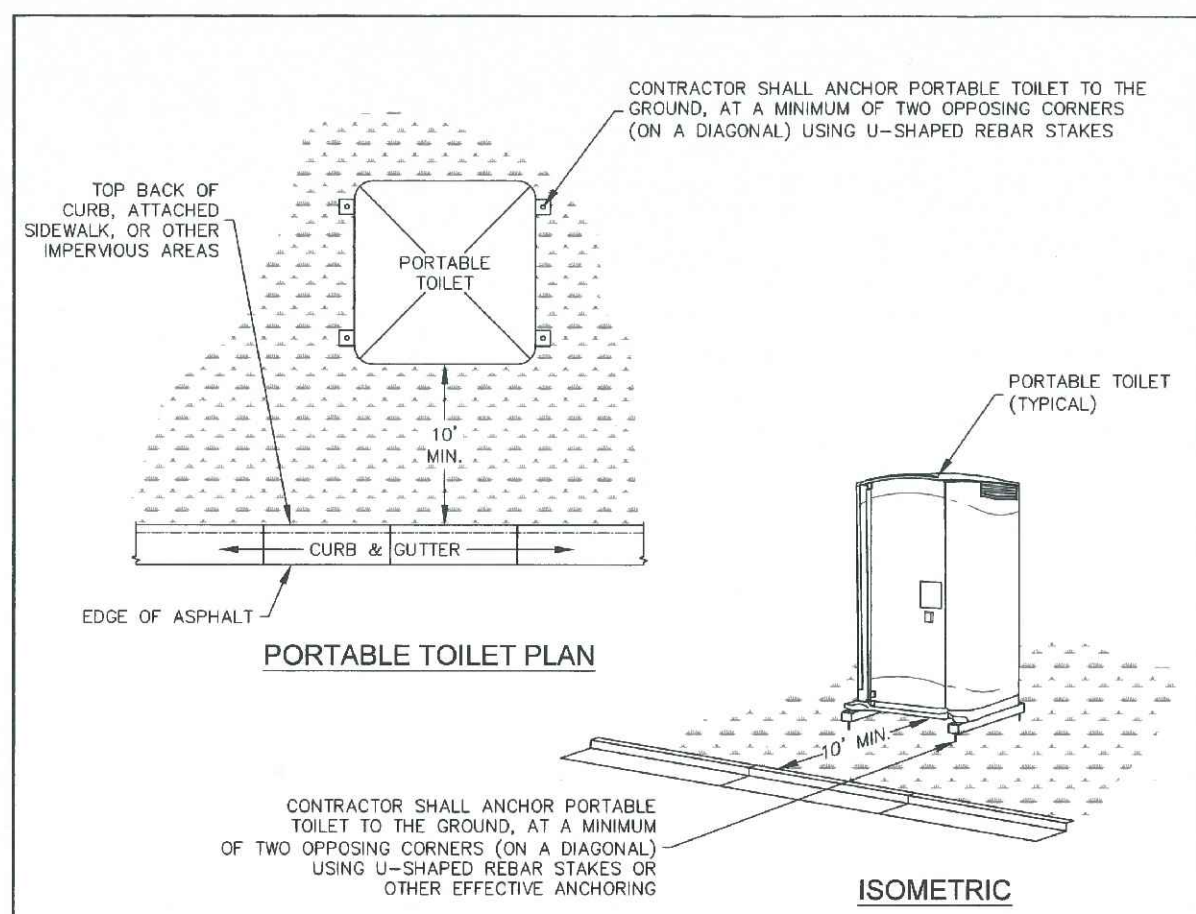
SPECIES	VARIETY	lbs/acre
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**Northcrest Center
Grading Erosion Control Plan**
FINAL CONDITIONS
City of Colorado Springs, Colorado

Project No.: 23049
Date: 04/02/2024
Design: MJK
Drawn: MJK
Check: AMcC
Revisions:

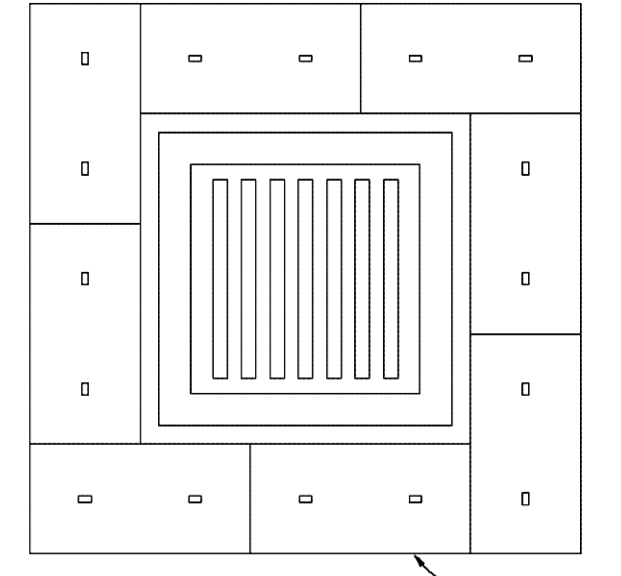
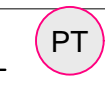
23049-SEC-Final_C303.dwg/Apr 04, 2024



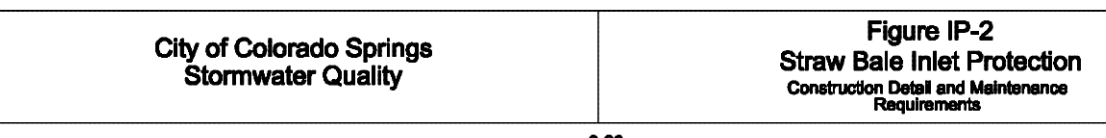
- INSTALLATION NOTES**
1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS; 50 FEET FROM STORM INLETS, AND 100 FEET FROM WATERWAYS.
 2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/YARDS.
 3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
 4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
 5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE O.C. INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.
- MAINTENANCE NOTES**
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
 3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.



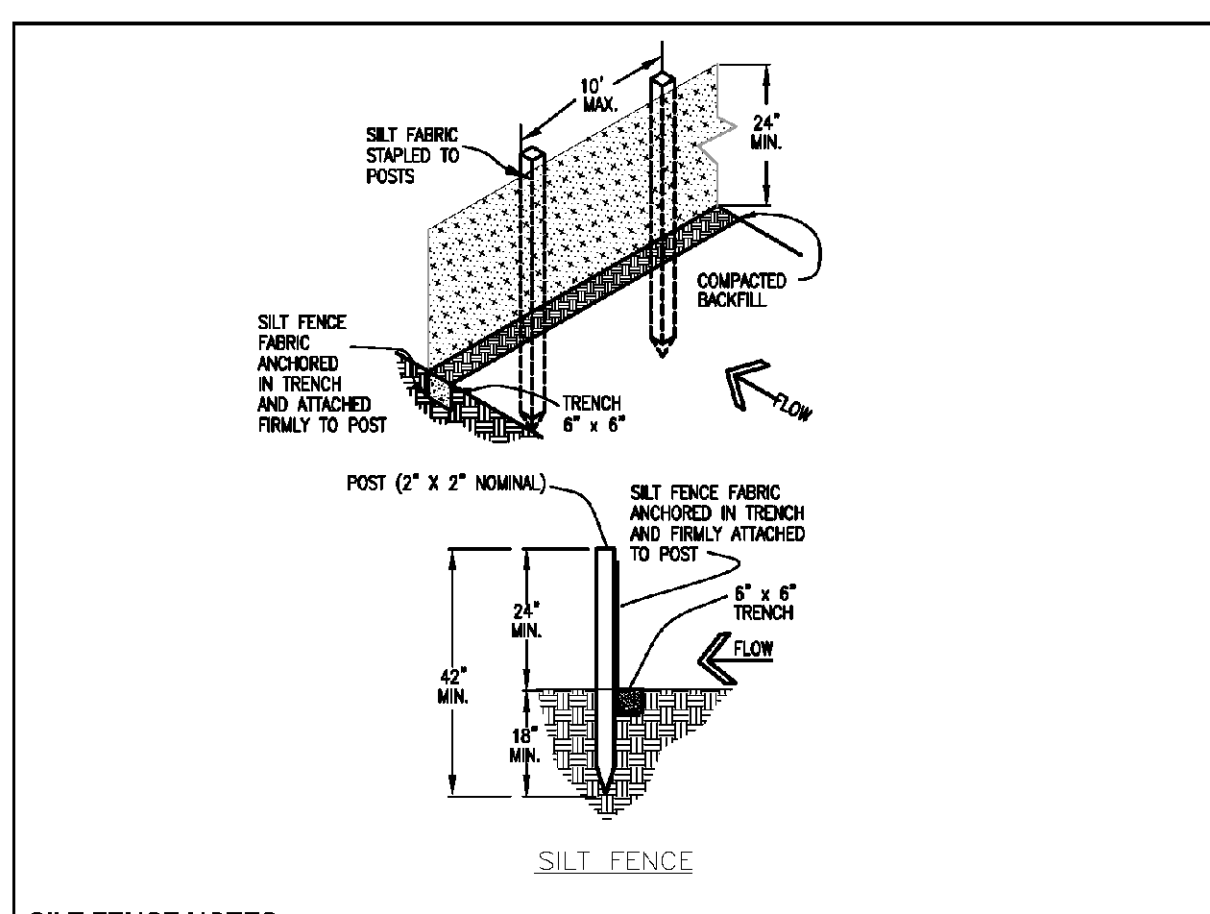
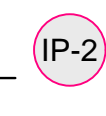
PORTABLE TOILET
NTS



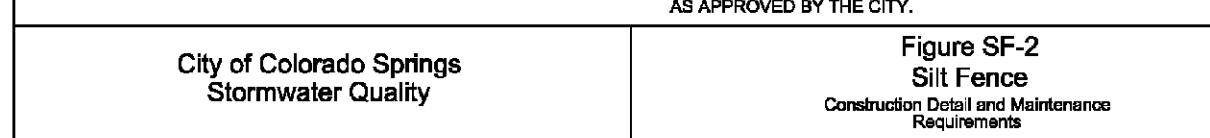
- STRAW BALE INLET PROTECTION NOTES**
- INSTALLATION REQUIREMENTS**
1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
 2. BALES ARE TO BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE END OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
 3. SEE STRAW BALE BARRIER FIGURE 88B-2 FOR INSTALLATION REQUIREMENTS.
- MAINTENANCE REQUIREMENTS**
1. CONTRACTOR SHALL INSPECT STRAW BALE INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
 2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED. REPAIRING BALES IF NECESSARY, AND UNRETRIEVED BALES NEED TO BE REPAIRED WITH COMPACTED BACKFILL MATERIAL.
 3. SEDIMENT SHALL BE REMOVED FROM BEHIND STRAW BALES WHEN IT ACCUMULATES TO APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER.
 4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.



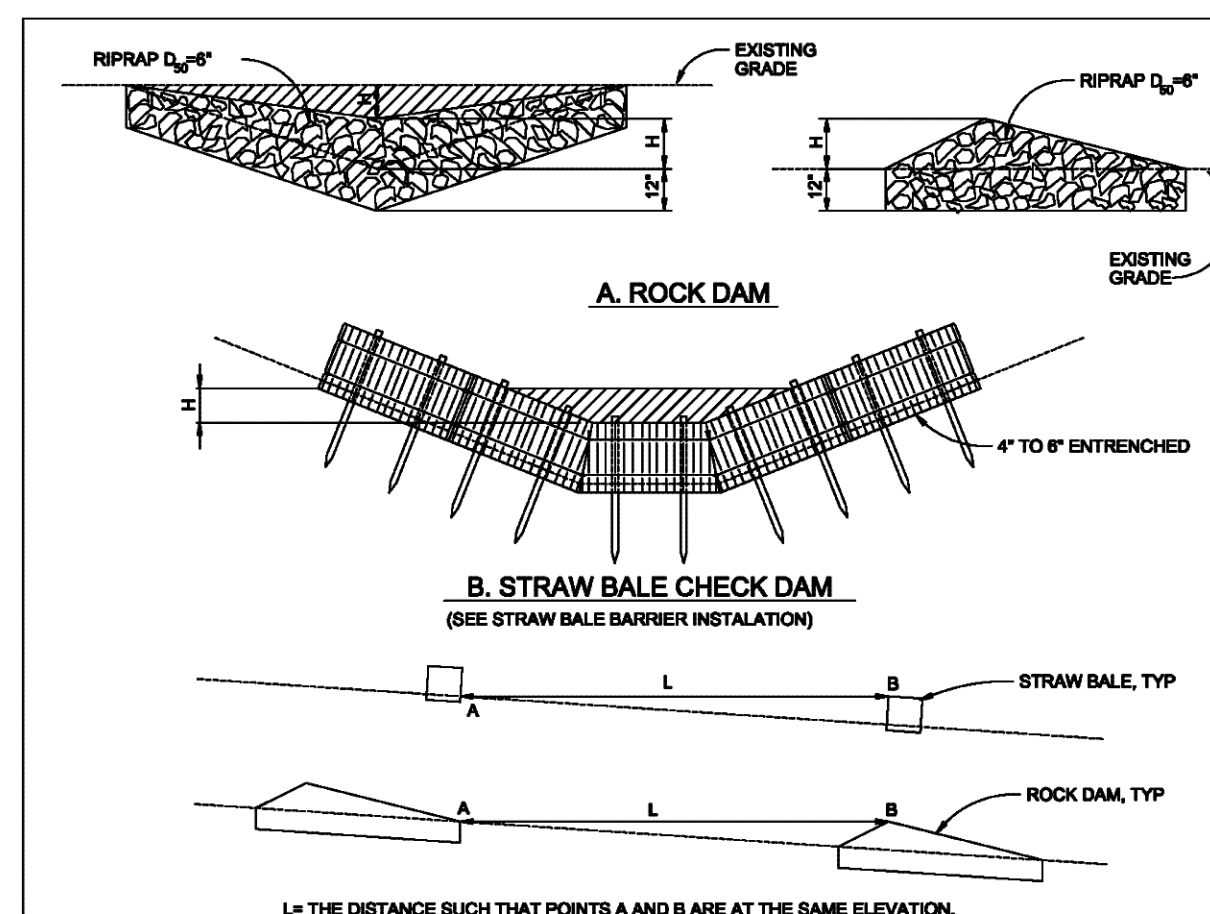
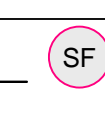
INLET PROTECTION -2
NTS



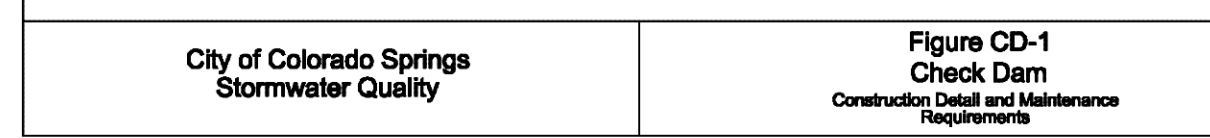
- SILT FENCE NOTES**
- INSTALLATION REQUIREMENTS**
1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
 2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPUN TOGETHER ONLY AT SUPPORT POSTS AND SECURELY SEALED.
 3. METAL POSTS SHALL BE "STUDDED TEE" OR "I" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
 4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIEB, OR TO WOOD POSTS WITH 3/4" LONG #8 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
 5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG. THE WIRES OR HOOKS SHOULD NOT EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 7" ABOVE THE ORIGINAL GROUND SURFACE.
 6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
 7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
- MAINTENANCE REQUIREMENTS**
1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNRETRIEVED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
 2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCES WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
 3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.



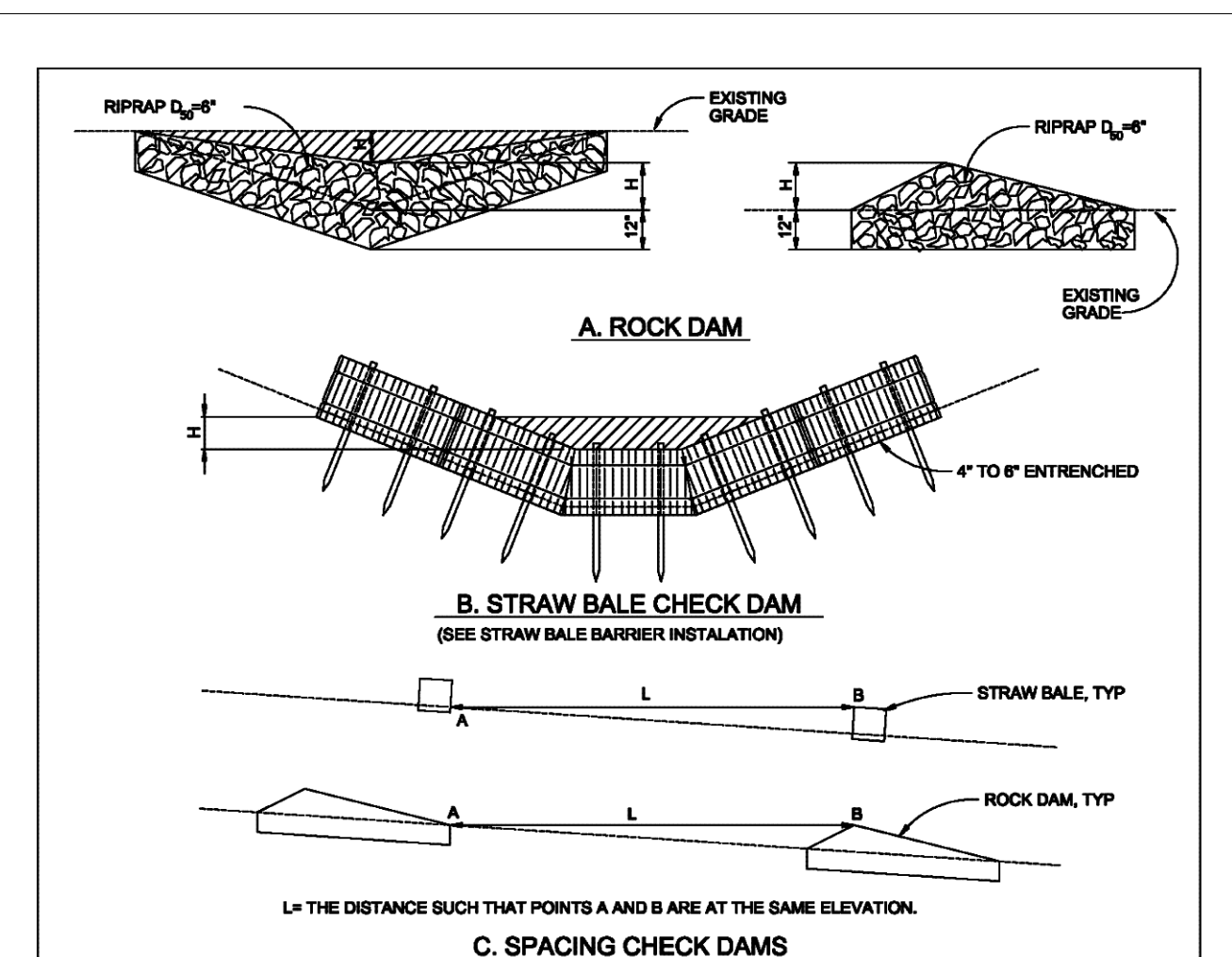
SILT FENCE
NTS



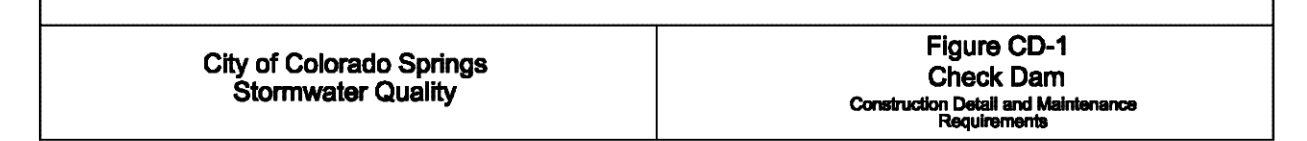
- INSTALLATION REQUIREMENTS**
1. STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE 88B-2.
 2. THE "H" DIMENSION SHALL BE SELECTED TO PROVIDE WEIR FLOW CONVEYANCE FOR 2-YEAR FLOW OR GREATER.
- MAINTENANCE REQUIREMENTS**
1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.
 2. REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.
 3. ACCUMULATED SEDIMENT AND DEBRIS IS TO BE REMOVED FROM BEHIND THE DAM AFTER EACH STORM OR WHEN 1/2 OF THE ORIGINAL HEIGHT OF THE DAM IS REACHED.
 4. CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.
 5. WHEN CHECK DAMS ARE REMOVED THE CHANNEL LINING OR VEGETATION IS TO BE RESTORED.



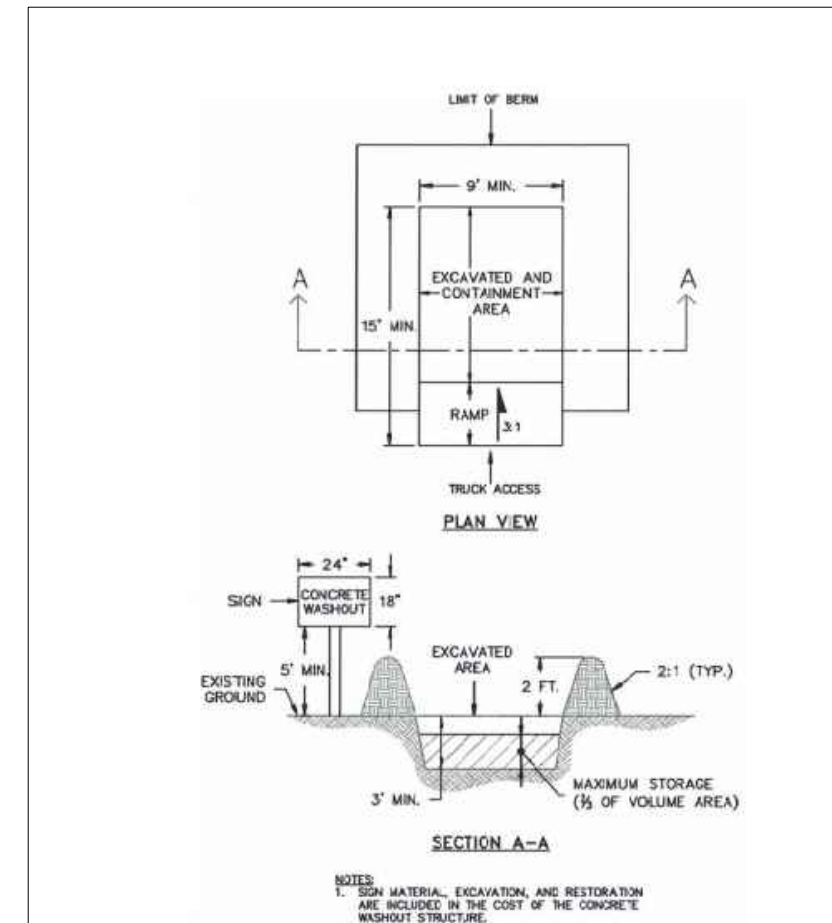
CHECK DAM
NTS



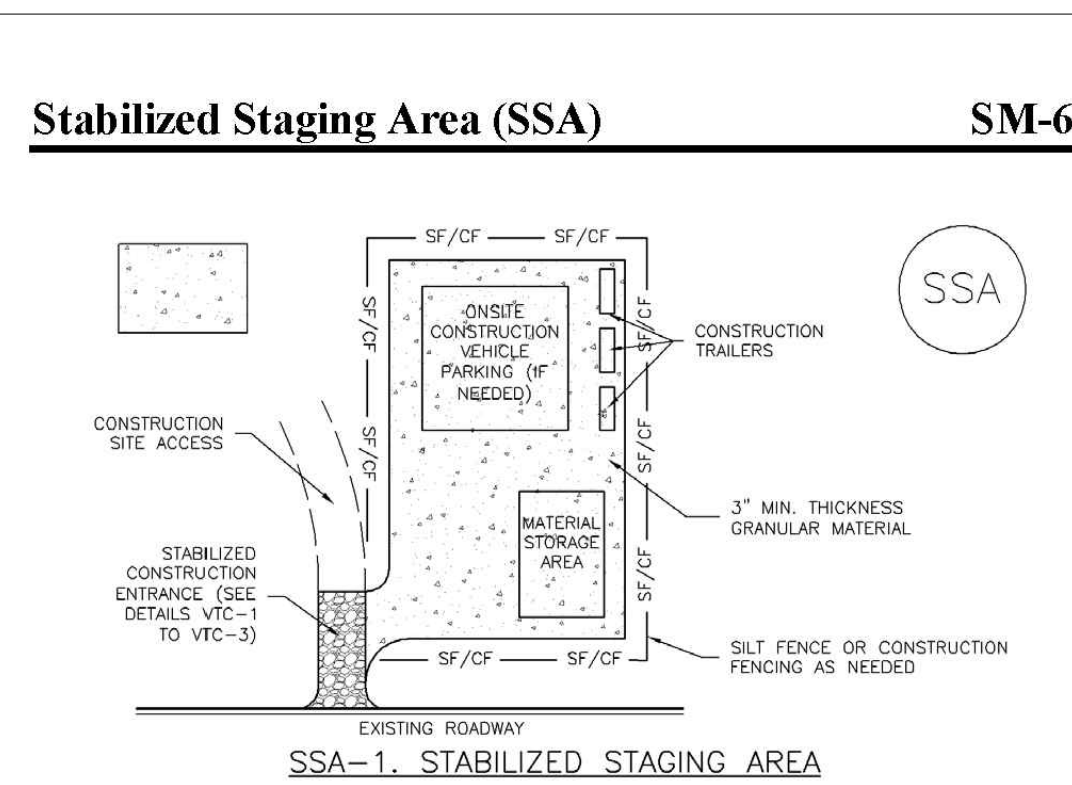
- INSTALLATION REQUIREMENTS**
1. STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE 88B-2.
 2. THE "H" DIMENSION SHALL BE SELECTED TO PROVIDE WEIR FLOW CONVEYANCE FOR 2-YEAR FLOW OR GREATER.
- MAINTENANCE REQUIREMENTS**
1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.
 2. REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.
 3. ACCUMULATED SEDIMENT AND DEBRIS IS TO BE REMOVED FROM BEHIND THE DAM AFTER EACH STORM OR WHEN 1/2 OF THE ORIGINAL HEIGHT OF THE DAM IS REACHED.
 4. CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.
 5. WHEN CHECK DAMS ARE REMOVED THE CHANNEL LINING OR VEGETATION IS TO BE RESTORED.



CHECK DAM
NTS



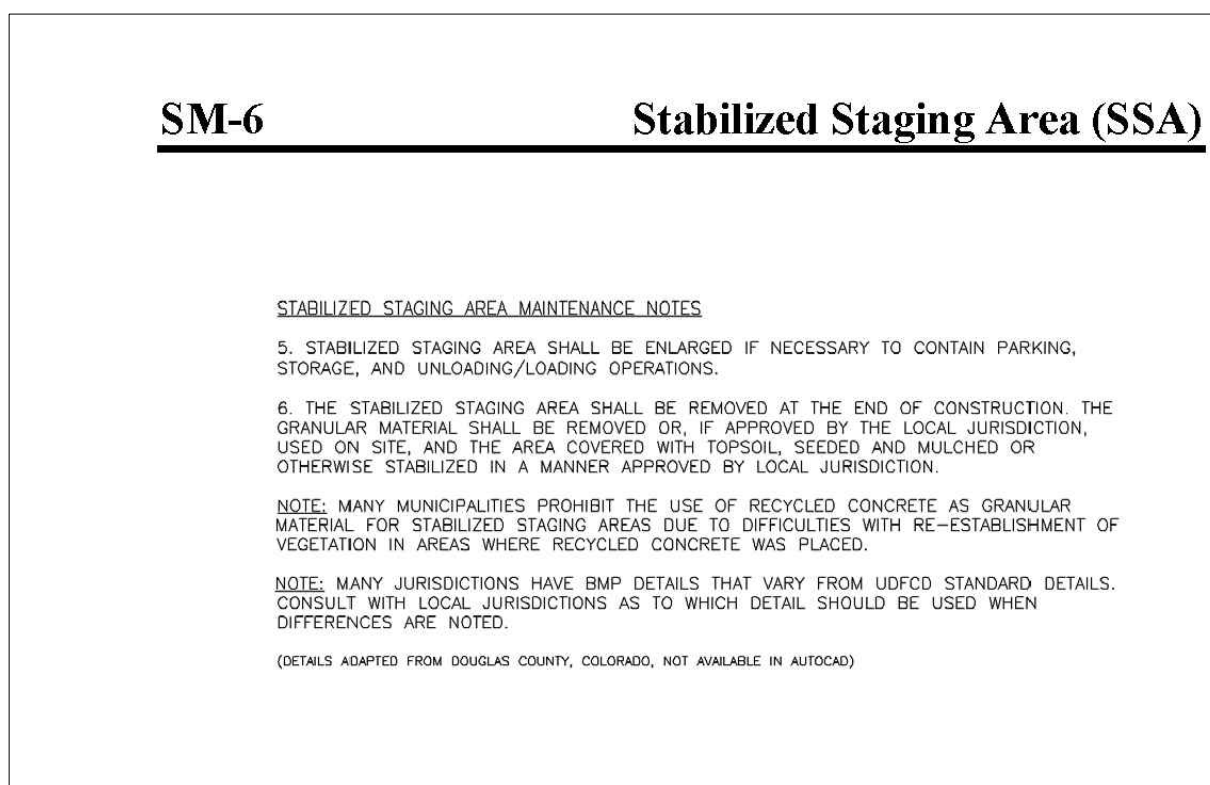
CONCRETE WASHOUT AREA (CWA)
NTS



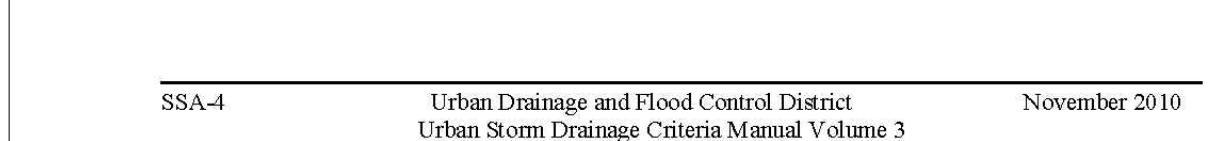
- STABILIZED STAGING AREA INSTALLATION NOTES**
1. SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
 2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
 3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
 4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
 5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 8" (MINUS) ROCK.
 6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
- STABILIZED STAGING AREA MAINTENANCE NOTES**
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PRODUCTIVE, 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. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.



STABILIZED STAGING AREA
NTS



- STABILIZED STAGING AREA MAINTENANCE NOTES**
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
 6. 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 UDFCD 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 UDFCD)



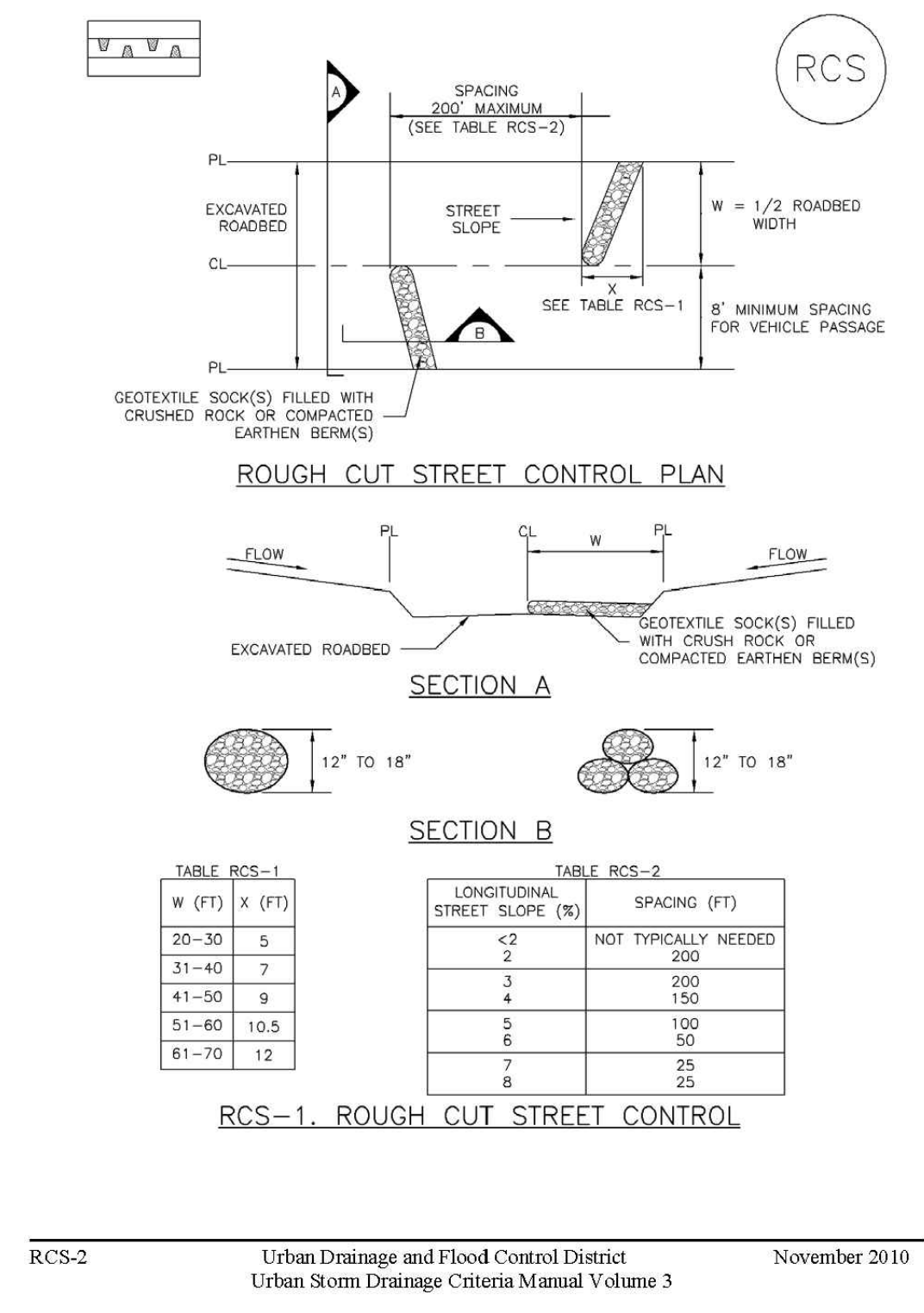
STABILIZED STAGING AREA
NTS



Project No.:	23049
Date:	04/02/2024
Design:	MJK
Drawn:	MJK
Check:	AMcC
Revisions:	

23049-SEC-DT-LS.dwg/Apr. 04, 2024

EC-9 Rough Cut Street Control (RCS)



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

ROUGH-CUT STREET CONTROL
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 PAVED 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)

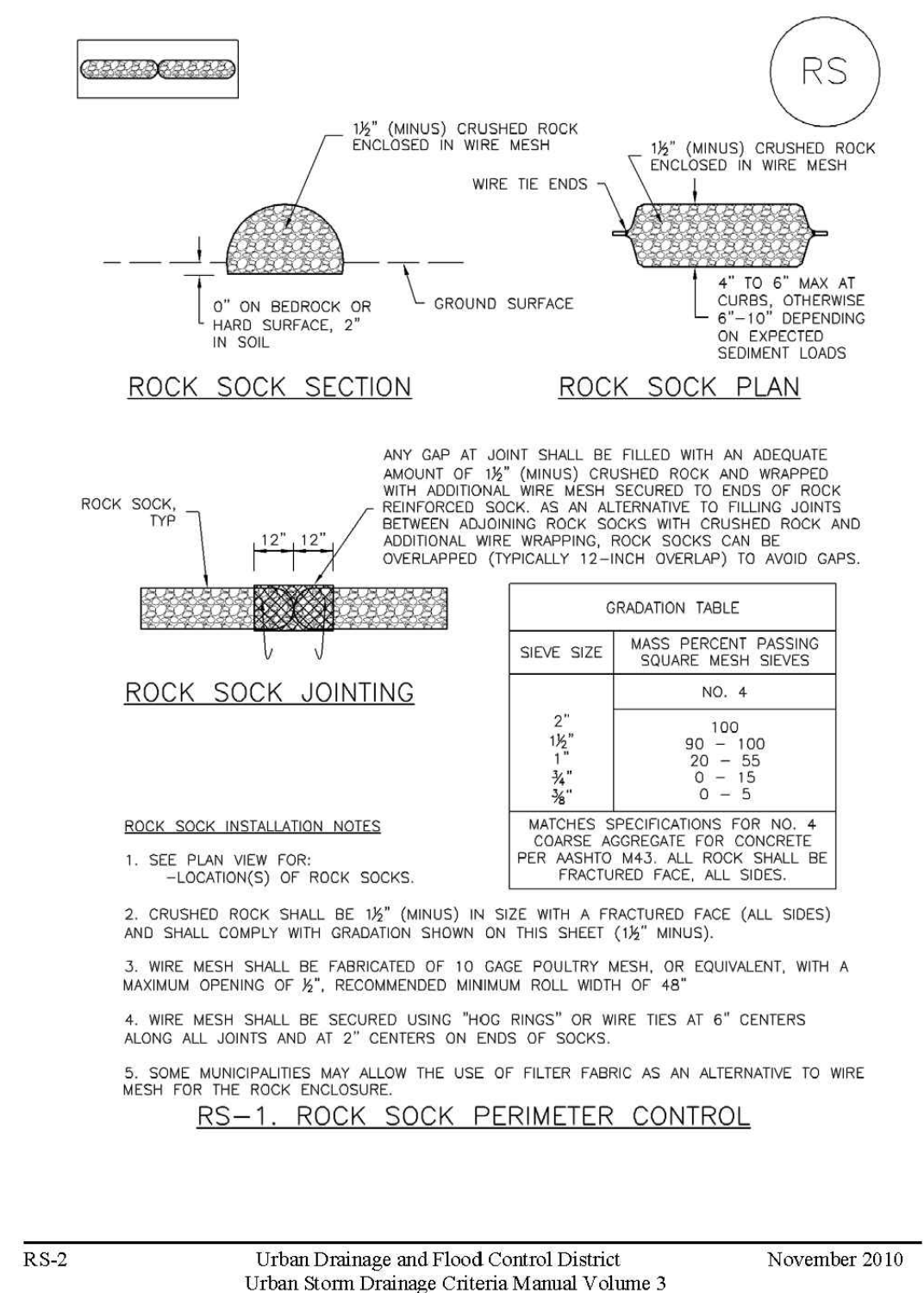
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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GEC Checklist Item Z. Include details for the following BMP's. Examples of acceptable details for each are provided:

BMP	Detail # and Source		
	DCM (Vol 2: Chap 3.3)	MHFD (USDCM Vol 3: Chap 7)	COS - Stormwater Construction Manual (App E)
Construction Fence		SM-3	
Mulching	MU-1	EC-4	X
Seeding	TS-1	EC-2	X
Stockpile Protection & Mgmt		MM-2	X
Surface Roughening		EC-1	X

SC-5 Rock Sock (RS)



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

ROCK SOCK
NTS

Rock Sock (RS) SC-5

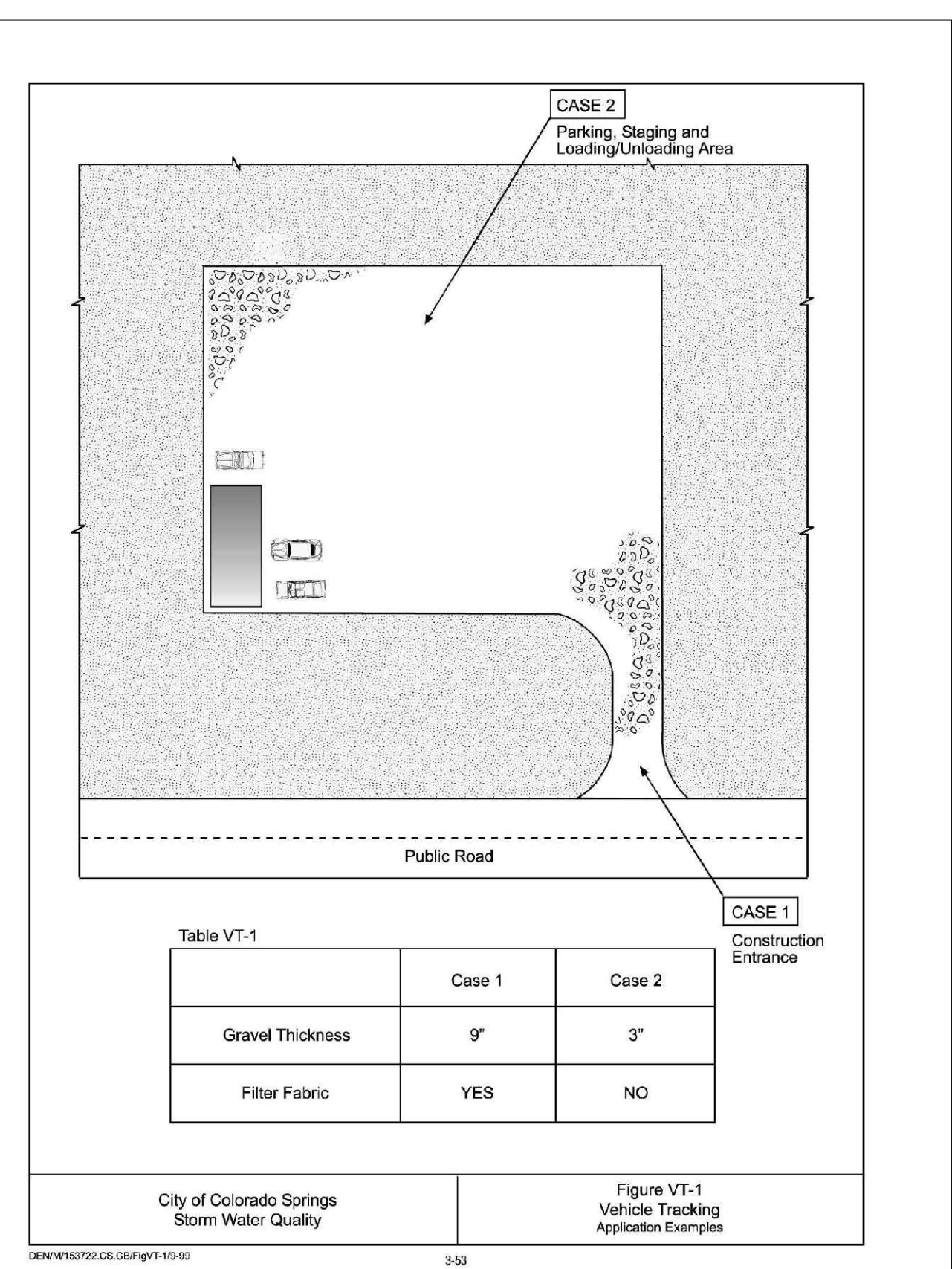
ROCK SOCK MAINTENANCE NOTES

- 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 SEDIMENTS 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)

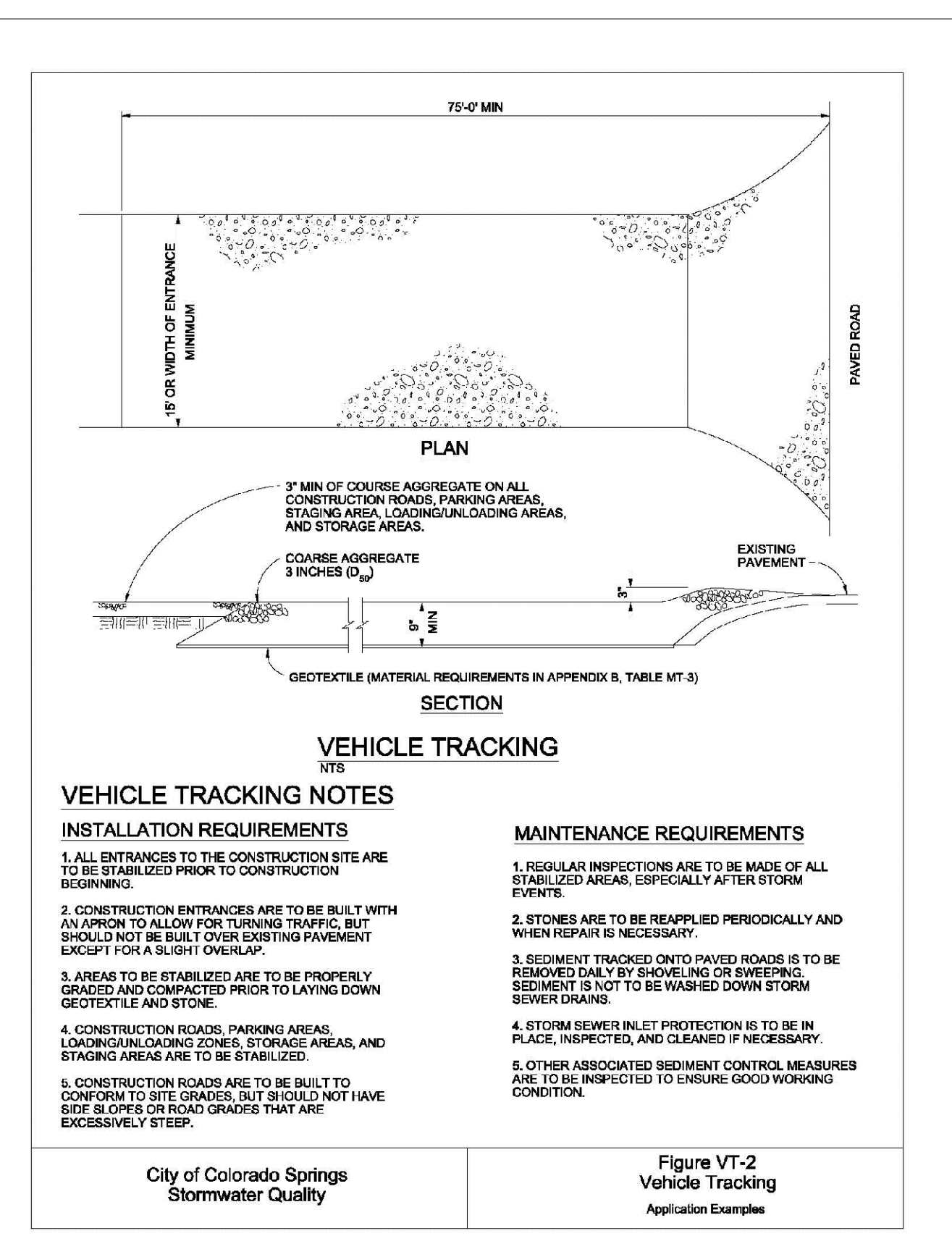
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. USFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, 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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City of Colorado Springs Storm Water Quality November 2010 Figure VT-1 Vehicle Tracking Application Examples

VEHICLE TRACKING CONTROL
NTS



City of Colorado Springs Stormwater Quality November 2010 Figure VT-2 Vehicle Tracking Application Examples