

**STORMWATER MANAGEMENT PLAN
FOR
LAZY Y AND ROCKING J SUBDIVISION,
EL PASO COUNTY, COLORADO**

Prepared For (Applicant):

Scott Smith
1172 Greenland Forest Drive
Monument, CO 80106
(719) 499-7764

Prepared By:

JR ENGINEERING, LLC
5475 Tech Center Drive, Suite 235
Colorado Springs, CO 80919
(303) 267-6254
Contact: Bryan Law

Qualified Stormwater Manager:

To Be Determined

Contractor:

To Be Determined

March 2025

Job No. **25228.00**

PCD File No.: **SF2428**

ENGINEER OF RECORD:

The Stormwater Management 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 and State for Stormwater Management Plans.

Bryan T. Law, P.E.

Date

Registered Professional Engineer

State of Colorado No. 25043

For and on behalf of JR Engineering, LLC.

TABLE OF CONTENTS

1.	Applicant / Contact Information	1
2.	Site Description and Location.....	1
3.	Proposed Sequence of Major Activities.....	3
4.	BMPs for Stormwater Pollution Prevention	4
5.	Final Stabilization and Long-Term Stormwater Management	6
6.	Inspection and Maintenance	7

Appendices

A. Vicinity Map

B. FEMA and Soils Map

C. GEC Plans and Details

D. Calculations

E. Inspection Report Template

1. Applicant / Contact Information

Owner/Developer:	Scott Smith Lazy Y Rocking J Subdivision 1172 Greenland Forest Drive Monument, CO 80831-7685 (719) 499-7764
Engineer:	JR Engineering, LLC 5475 Tech Center Drive, Suite 235 Colorado Springs, CO 80919 Attn: Bryan Law (303) 267-6254 blaw@jrengineering.com
SWMP Administrator:	To be Determined
Contractor:	To be Determined

2. Site Description and Location

Lazy Y rocking J Subdivision is currently used as a commercial equipment building. The site is located in the south half of Section 7, Township 12 South, Range 63 West of the Sixth Principal Meridian in El Paso County, State of Colorado. The site is bounded by Longhorn Acres Subdivision to the south, Peyton Highway to the east, and unplatted land to the west and north. Refer to the vicinity map in Appendix A for additional information.

The site is approximately 35 acres and is currently comprised of gravel roads, a building, a shed, concrete pads, a cell tower, dry utilities, and trees and vegetation. The existing ground cover has sparse, short, and mixed grass prairie vegetation. As well as natural drainageways. The proposed site development proposes asphalt and gravel drive aisles, asphalt and gravel parking spaces, tent sites, buildings, and concrete sidewalks.

The development of the proposed site will include implementation of BMPs, site grading, utility and storm installation, roadway paving, associated residential site development, and removal of temporary BMPs. Refer to the GEC plans in Appendix C for the phasing of BMPs.

Site details:

- a. Total site area: 35.37 acres
Estimated area to undergo disturbance: 22.5 acres
- b. Soil Type: Per a NRCS web soil survey of the area, the site is made up of Hydrologic Group B soils. Type B soils are typically infiltrate at a moderate rate when thoroughly wet. It also consists mainly of moderately deep and well drained soils. A NRCS soil survey map is presented in Appendix A. BMPs will be installed and maintained to mitigate adverse impacts due to soil erosion. OSHA classifies

soils into three main groups: Type A, Type B, and Type C. Type A is the most stable, and Type C is the least stable soil. Type A soil is cohesive and has a high unconfined compressive. Type A soil includes clay, silty clay, sandy clay, and clay loam. Type B soil is cohesive and has often been cracked or disturbed, with pieces that don't stick together as well as Type A soil. Type B soil includes angular gravel, silt, silt loam, and soils that are more susceptible to crack/break near to sources of vibration. Erosion can be mitigated on the site by abiding by the site geotech report and following the BMPs such as silt fence placement, vehicle tracking control, inlet protection, check dams, and seeding. If strong winds are present before stabilization is established, then the erosion control manager may find it necessary to use water to control the dust. The adverse impacts of soil erosion include stream/water pollution associated with increased turbidity.

- c. Existing vegetation is sparse short and mixed grass prairie vegetation with a cluster of trees and natural drainageways (approximately 70% coverage).
- d. Location and description of potential pollution sources: Potential sources of pollution include: Onsite waste management, portable toilets, onsite vehicle fueling, outdoor storage, disturbed soils, etc. The locations of these sources are shown in the GEC plans in Appendix C or will be determined by the contractor.
 - i. Non-industrial waste sources such as worker trash and portable toilets – Clean up litter and debris from the construction site daily and worker trash receptacles will be located by entrance/exit for easy removal/replace access. All portable toilets should be kept a minimum of 50 feet from a storm drain inlet or drainage course and secured to the ground. Toilets will be cleaned regularly and inspected daily for any spills or leaks. Waste disposal bins will be reasonably maintained at regular intervals to check for leaks and overflow capacity, and will be emptied routinely to prevent overflow.
 - ii. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc. – oil, grease, coolants, etc. that leak onto the soil or impervious surface should be cleaned up as soon as possible and on-site personnel notified.
 - iii. Vehicle, equipment maintenance, and fueling – all designated fueling and maintenance areas shall be located a minimum of 100 feet from any drainage course whenever possible. If the fueling area is located on a pervious surface, the area shall be covered with a non-pervious lining so as to prevent soil contamination by way of infiltration. Any spillage shall be cleaned up immediately.
 - iv. Raw materials, intermediate products, byproducts, process residuals, Finished products, containers, and materials storage areas can be sources of pollutants such as metals, oils and grease, sediment and other contaminants. Where practical, conduct operations indoors. Where impractical, select an appropriate temporary or permanent covering to reduce exposure of materials to rainfall and runoff.
 - v. Stockpile management should be used when soils or other erodible materials are stored at the construction site. Special attention should be

given to stockpiles in close proximity to natural or manmade storm systems. Soils stockpiled for an extended period (typically for more than 30 days) mulched with a temporary grass cover once the stockpile is placed (typically within 21 days). An area that will remain in an interim state for over 60 days must also be seeded. Use of mulch only or a soil binder is acceptable if the stockpile will be in place for a more limited time period (typically 30-60 days). Refer to DCM Vol 2 – Section 3.2- General principles - Basic Grading, Erosion and Stormwater Quality Requirements and General Prohibitions #16 for more information.

- e. Spill prevention and pollution controls for dedicated batch plants: Not applicable for this site since there will be no dedicated batch plants.
- f. Location and description of anticipated allowable non-stormwater discharges: There will be a concrete washout area (CWA) where the cleaning of concrete trucks could produce a non-stormwater discharge. Proper installation and maintenance of the CWA will not allow runoff from this area. Another potential source of non-stormwater discharge could be the irrigation of permanent seeding (PS). Irrigation will be kept at a rate so as to not create runoff.
- g. Ultimate receiving waters: Runoff from the project will be treated and released through an 18” outlet structure pipe that will direct the water north into Brackett Creek and south to an unnamed tributary of Brackett Creek.
- h. There are no streams that cross the project area.

3. Proposed Sequence of Major Activities

The project will follow standard construction sequences for construction, i.e., clearing and grubbing, over excavation, overlot grading, utility installation, and street paving. The contractor will be responsible for implementing and maintaining the erosion and sediment control measures described in this document and the accompanying design drawings. The contractor may designate these tasks to certain subcontractors as they see fit, but the ultimate responsibility for implementing these controls and their proposed function at each phase of the project remains with the contractor. The order of major activities will be as follows:

Initial (Spring 2025):

- 1. Establish vehicle tracking control.
- 2. Install silt fence and perimeter soil erosion control measures.
- 3. Establish staging area
- 4. Install concrete washout
- 5. Install sediment basins
- 6. Install temporary swales
- 7. Install check dams
- 8. Clear and rough grade for improvements.

Interim (Summer 2025):

- 9. Excavate and install improvements including underground piping and drainage structures.

10. Install inlet/outlet protection
11. Fine grading.
12. Install paving.
13. Maintain all BMPs

Final (Fall 2025):

14. Install seeding in all disturbed areas.
15. Remove all temporary BMPs after final stabilization.

3. BMPs for Stormwater Pollution Prevention

See GEC plans in Appendix C for BMP locations and detail sheets.

a. Erosion and Sediment Controls

i. Structural BMPs:

1. Sediment basins (SBs) to collect runoff before it enters receiving waters
2. Silt fence (SF) along downstream limits of disturbed areas to filter sediment from runoff
3. Stabilized staging area (SSA) near site entrance to consolidate construction equipment in a stabilized location
4. Construction marker (CM) to identify limits of construction (LOC)
5. Vehicle tracking control (VTC) at site entrance to prevent sediment from leaving the site via vehicle tires
6. Inlet protection (IP) around culvert entrances
7. Outlet protection (OP) at culvert outlets
8. Diversion ditch (DD) to convey runoff to sediment basins
9. Concrete washout area (CWA) to allow a controlled area for concrete trucks to be washed

ii. Non-structural BMPs:

1. Mulching (MU) to stabilize soils and promote seed growth
2. Permanent seeding (PS) to stabilize disturbed areas

b. Materials Handling and Spill Prevention

i. General Materials Handling Practices:

1. Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as required to prevent storm water from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spilled materials cannot combine and react.
2. Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.

3. Materials no longer required for construction shall be removed from the site as soon as possible.
 4. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and BMPs clear and functional. Construction waste will be emptied weekly and the sanitary porta potty will be pumped weekly. Storage bins shall be inspected weekly for damage, and that all defective containers shall be immediately replaced.
- ii. Specific Materials Handling Practices
1. All pollutants, including waste materials and demolition debris, that occur onsite during construction shall be handled in a way that does not contaminate storm water.
 2. All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored onsite shall be covered and protected from vandalism.
 3. Maintenance, fueling, and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
 4. Wheel wash water shall be settled and discharged onsite by infiltration.
 5. Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. Follow manufacturer's recommendations for application rates and procedures.
 6. pH-modifying sources shall be managed to prevent contamination of runoff and storm water collected onsite. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.
- iii. Spill Prevention and Response Procedures
1. The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted onsite storm water, it is critical to contain the released materials onsite and prevent their release into receiving waters.
 2. Spill Response Procedures:
 - a. Notify site superintendent immediately when a spill, or

the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.

- b. If spills represent an imminent threat of escaping onsite facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent after the situation has stabilized.
 - c. The site superintendent, or his/her designee, shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
 - d. Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
3. Spill kits shall be on-hand at all fueling sites. Spill kit location(s) shall be reported to the SWMP administrator.
4. Absorbent materials shall be on-hand at all fueling areas for use in containing inadvertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
5. Recommended components of spill kits include the following:
 - a. Oil absorbent pads (one bale)
 - b. Oil absorbent booms (40 feet)
 - c. 55-gallon drums (2)
 - d. 9-mil plastic bags (10)
 - e. Personal protective equipment including gloves and goggles
6. Concrete wash water: unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site.
7. Notification procedures:
 - a. In the event of an accident or spill, the SWMP administrator shall be notified.
 - b. Depending on the nature of the spill material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line: 887-518-5608), downstream water users, or other agencies may also need to be notified.
 - c. Any spill of oil which 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800) 424-8802.

4. Final Stabilization and Long-Term Stormwater Management

- a. Permanent seeding will be provided to achieve long-term stabilization of the

- site.
- b. Seed Mix: Pawnee Buttes Seed Inc. – “Low Grow native Mix” or approved equal.
 - c. Seeding Application Rate: Drill seed 0.25” to 0.5” into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25” to 0.5” into the soil. Apply seed at the following rates:
 - i. Dryland: 20-25 lbs/acre
 - ii. Irrigated: 40 lbs/acre
 - d. Soil stabilization Practices:
 - i. Mulching Application: Apply 1-1/2 tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier. On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of much and mulch tackifier.
 - e. Soil Conditioning and Fertilization Requirements:
 - i. Soil conditioner, organic amendment shall be applied to all seeded areas at 3 CY / 1000 SF.
 - ii. Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% potassium-magnesia with a grade of 6-1-3 or approved equal. Fertilizer shall be applied as recommended by seed supplier.
 - f. Final stabilization is reached when all soil-disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plan density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.
 - g. Two extended detention basins will be added to detain stormwater following storm events which will serve as flood-control as well as facilitate pollutant removal.
 - h. This project does not rely on control measures owned or operated by another entity.

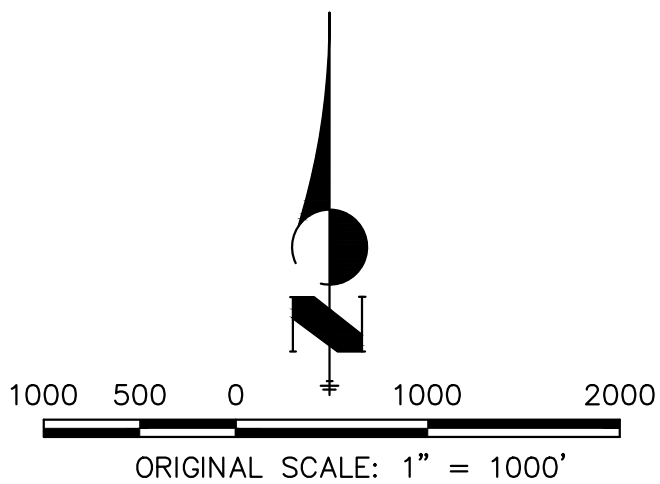
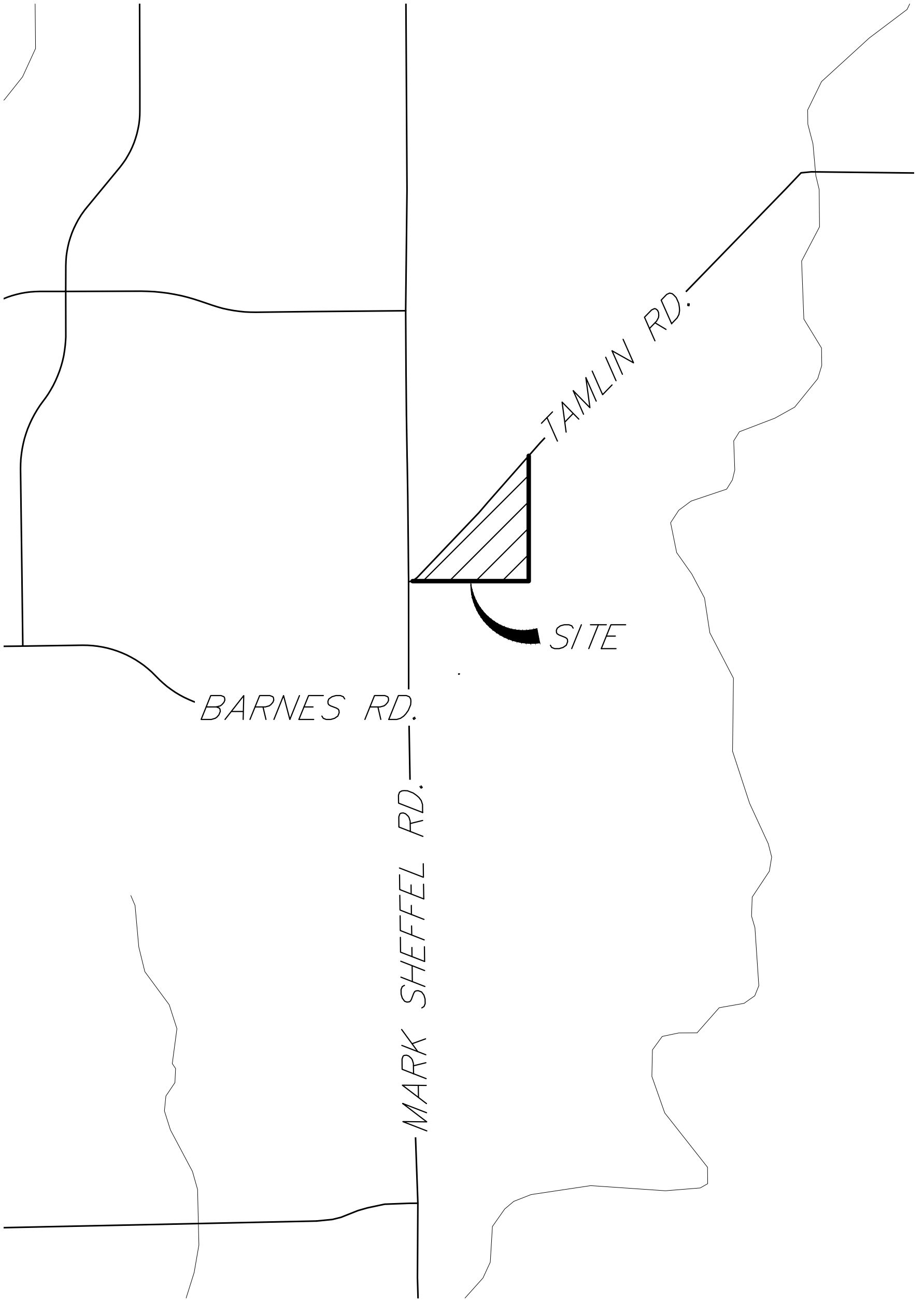
5. Inspection and Maintenance

- a. Inspection Schedules:
 - i. The contractor shall inspect BMPs once every 14 days at a minimum, and immediately (within 24 hours) after any precipitation or snowmelt event that causes surface erosion (i.e. that results in storm water running across the ground), to ensure that BMPs are maintained in effective operating condition.
- b. Inspection Procedures:
 - i. Site Inspection / Observation Items:
 1. Construction site perimeter and discharge points
 2. All disturbed areas
 3. Areas used for material / waste storage that are exposed to precipitation
 4. Other areas having a significant potential for storm water pollution, such as demolition areas or concrete washout areas,

- or locations where vehicles enter or leave the site
- 5. Erosion and sediment control measures identified in the SWMP
- 6. Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks, or the conditions of spill response kits.
- ii. Inspection Requirements:
 - 1. Determine if there is any evidence of, or potential for, pollutants entering the receiving waters.
 - 2. Review BMPs to determine if they still meet design and operational criteria in the SWMP, and if they continue to adequately control pollutants at the site.
 - 3. Upgrade and/or revise any BMPs not operating in accordance with the SWMP and update the SWMP to reflect any revisions.
- iii. BMP Maintenance / Replacement and Failed BMPs:
 - 1. The contractor shall remove sediment that has been collected by perimeter controls, such as silt fence and inlet protection, on a regular basis to prevent failure of BMPs, and remove potential of sediment from being discharged from the site in the event of BMP failure.
 - 2. Removed sediment must be moved to an appropriate location where it will not become an additional pollutant source, and should never be placed in ditches or streams.
 - 3. The contractor shall update the GEC as required with any new BMPs added during the construction period.
 - 4. The contractor shall address BMPs that have failed or have the potential to fail without maintenance or modifications, as soon as possible, immediately in most cases, to prevent discharge of pollutants.
- iv. Record Keeping and Documenting Inspections:
 - 1. The contractor shall maintain records of all inspection reports, including signed inspection logs, at the project site.
 - 2. The permittee shall document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage.
 - 3. Site inspection records shall include the following:
 - a. Inspection date
 - b. Name and title of personnel making the inspection
 - c. Location of discharges of sediment or other pollutants from the site
 - d. Location(s) of BMPs in need of maintenance
 - i. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
 - e. Location(s) where additional BMPs are needed that were not in place at the time of inspection
 - f. Deviations from the minimum inspection schedule

4. SWMP should be viewed as a “living document” that is continuously being reviewed and modified as a part of the overall process of evaluating and managing SW quality issues at the site. The QSM shall amend the SWMP when there is a change in design, construction, O&M of the site which would require the implantation of new or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in SW discharges associated with construction activity or when BMPs are no long necessary and are removed.

APPENDIX A – VICINITY MAP



VICINITY MAP
TAMLIN STORAGE LLC.
JOB NO. 25305.00
07/29/2024
SHEET 1 OF 1

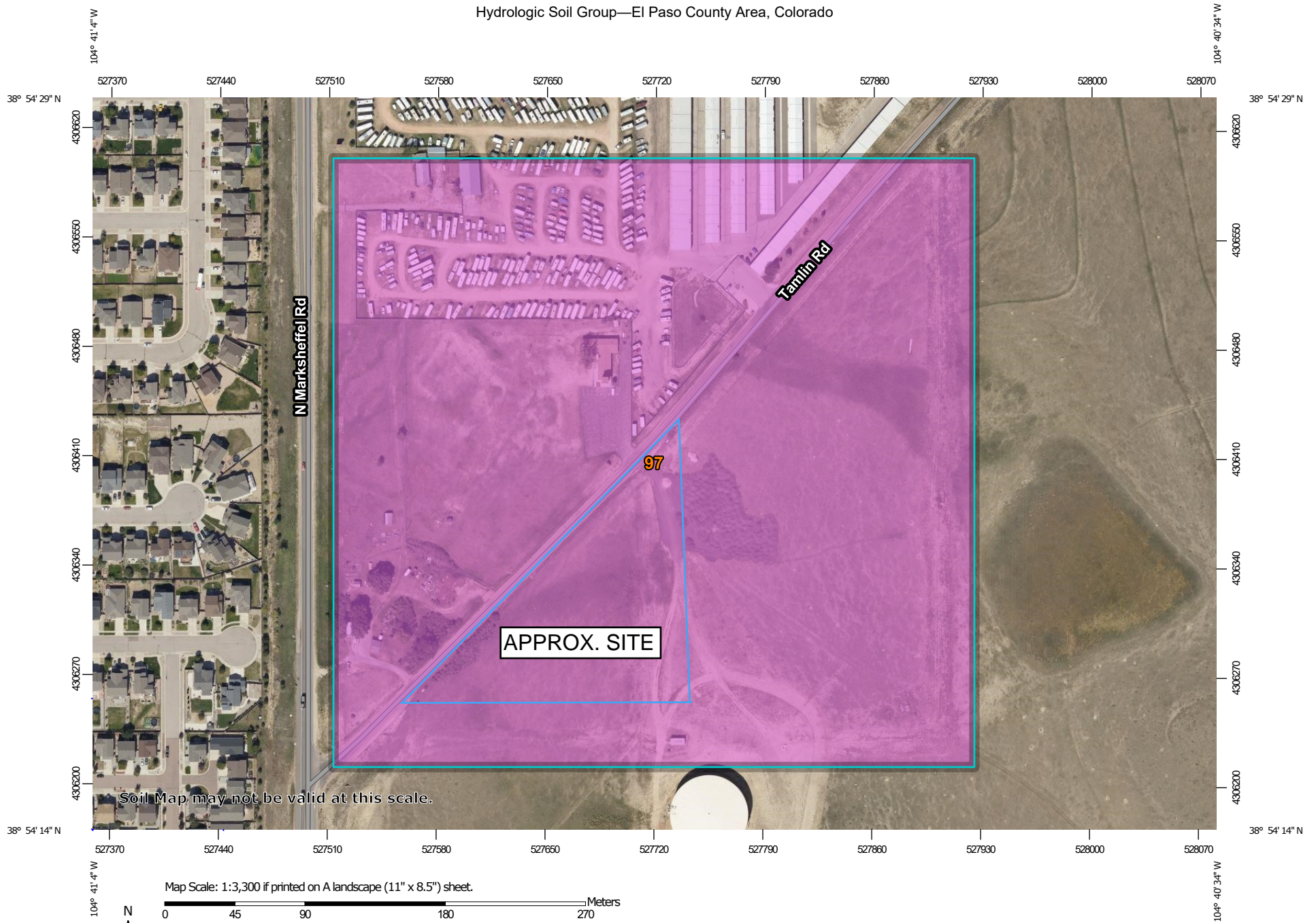


J-R ENGINEERING
A Westrian Company

Centennial 303-740-9998 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

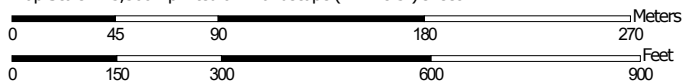
APPENDIX B – FEMA AND SOILS MAP

Hydrologic Soil Group—El Paso County Area, Colorado



Soil Map may not be valid at this scale.

Map Scale: 1:3,300 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84



**Natural Resources
Conservation Service**









Web Soil Survey
National Cooperative Soil Survey

7/30/2024
Page 1 of 4

MAP LEGEND**Area of Interest (AOI)**
 Area of Interest (AOI)
Soils**Soil Rating Polygons**





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available


Soil Rating Lines






-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available


Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features
 Streams and Canals
Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background
 Aerial Photography
MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2018—Sep 23, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
97	Truckton sandy loam, 3 to 9 percent slopes	A	39.8	100.0%
Totals for Area of Interest			39.8	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX C – GEC PLANS AND DETAILS

LAZY Y AND ROCKING J SUBDIVISION

LOCATED IN THE SOUTH HALF OF SECTION 7

TOWNSHIP 12 SOUTH, RANGE 63 WEST OF THE 6TH P.M.

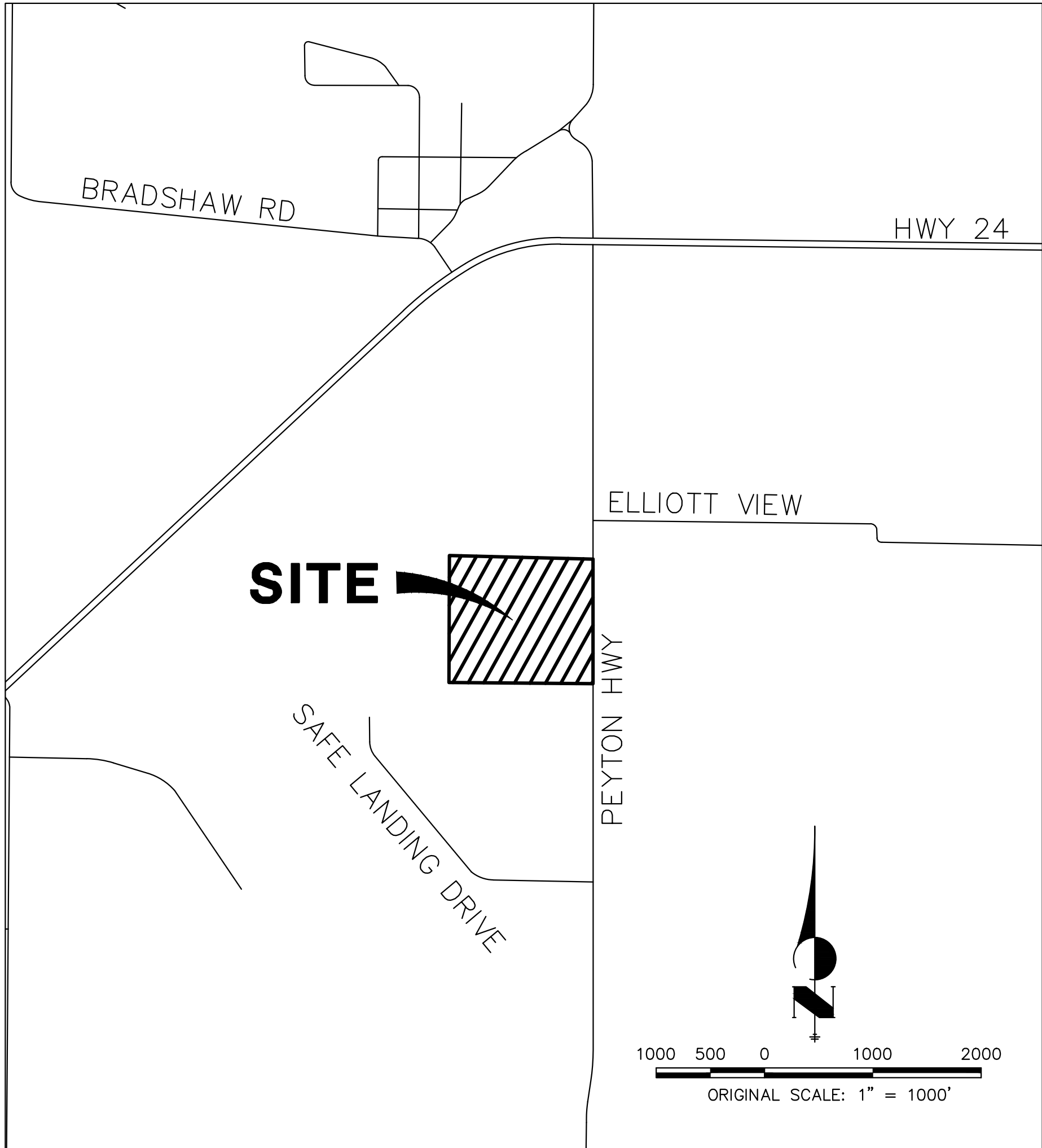
GRADING AND EROSION CONTROL PLANS

COUNTY OF EL PASO, STATE OF COLORADO

GRADING AND EROSION CONTROL STANDARD 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 DEC. 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 THE 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 LOOSENEED 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 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 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, C.R.S.), 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 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
WOOD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT



AGENCIES

OWNER/DEVELOPER:	LAZY Y AND ROCKING J SUBDIVISION 1172 GREENLAND FOREST DRIVE MONUMENT, CO 80106 SCOTT SMITH (719) 499-7764	FIRE DISTRICT:	FALCON FIRE PROTECTION 12072 ROYAL COUNTY DOWN ROAD FALCON, CO 80831 (719) 495-4050
CIVIL ENGINEER:	JR ENGINEERING LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 BRYAN LAW P.E. (303) 267-6254	GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 (719) 668-3556
COUNTY ENGINEER:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLARDO SPRINGS CO 80910 CHARLENE DURHAM, P.E. (719) 520-6460	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
TRAFFIC ENGINEER:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS FRIVE COLORADO SPRINGS, CO 80922 JOSHUA PALME, P.E. (719) 520-6460	COMMUNICATIONS:	QUEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 822-1987 (AT&T LOCATORS) (719) 635-3674

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 SOIL 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 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 VERSIONS 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 INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES 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.
- 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.
- SIGHT VISIBILITY TRIANGLES ARE IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED IN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS, 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.

SHEET INDEX

1 : COVER SHEET
2 : LEGEND
3 : GEO PLAN
4-6 : DETAILS

TOTAL SHEETS: 6



EL PASO COUNTY STATEMENT

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 THE 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 DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

OWNER/DEVELOPER STATEMENT

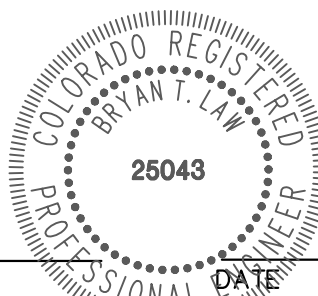
I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

PARKER SAMELSON DATE

TAMLIN STORAGE LLC
57 NEWPORT CIRCLE UNIT B
COLORADO SPRINGS, CO 80906

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 PLANS.



BRYAN T. LAW, P.E.
COLORADO P.E. 25043
FOR AND ON BEHALF OF JR ENGINEERING

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.








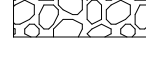
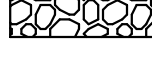































































PREPARED FOR
LYRJ
1172 GREENLAND FOREST DRIVE
MONUMENT, CO 80106
SCOTT SMITH
(719) 499-7764

J.R. ENGINEERING
A Westshin Company
Central 303-740-9888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION	No.	N/A	N/A	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
						03/13/25	DSG	DSG	

LAZY Y AND ROCKING J SUBDIVISION	COVER
SHEET 1 OF 6	JOB NO. 25228.00

Feature	Symbol	Symbol
PHASE LINE		
MATCH LINE		
SECTION LINE		
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
R.O.W. A LINE		
CENTERLINE		
CITY LIMITS		
WIRE FENCE		
CHAIN LINK FENCE		
WOOD FENCE		
MASONRY FENCE		
GUARDRAIL		
CONC. BARRIER		
CABLE TV		
ELECTRIC		
FIBER OPTIC		
GAS MAIN		
IRRIGATION MAIN		
OIL/PETRO. MAIN		
OVERHEAD UTILITY		
SANITARY SEWER		
STORM DRAIN		
TELEPHONE		
WATER MAIN		
RAW WATER LINE		
SWALE/WATERWAY FLOWLINE		
DIVERSION DITCH		
DIVERSION CHANNEL		
MAJOR DRAINAGE BASIN		
MINOR DRAINAGE BASIN		
TOP OF SLOPE		
TOE OF SLOPE		
EDGE OF WATER		
INDEX CONTOUR		
INTERMEDIATE CONTOUR		
DEPRESSION CONT. (INDEX)		
DEPRESSION CONT. (INTER)		
TOP OF CUTS		
TOE OF FILLS		
CUT AND FILL LINE		
SILT FENCE		
100 YEAR FLOODPLAIN		
500 YEAR FLOODPLAIN		
FLOODWAY		
BASE FLOOD ELEVATION		
EDGE OF WETLANDS		
STONE WALL		

STORM SEWER		
MANHOLE		
STORM INLET		
AREA INLET - SQUARE		
AREA INLET - ROUND		
FLARED END SECTION		
RIPRAP		
SANITARY SEWER		
LINE MARKER	<i>Mkr</i> 	
SERVICE MARKER		
CLEAN-OUT		
MANHOLE W/ DIRECTIONAL FLOW ARROW		
WATER LINE		
LINE MARKER	<i>Mkr</i> 	
SERVICE MARKER		
FIRE HYDRANT		
FIRE CONNECTION		
MANHOLE		
BEND		
BLOW-OFF VALVE		
WELL		
METER		
VALVE		
REDUCER		
THRUST BLOCK		
CROSS		
PLUG W/ THRUST BLOCK		
TEE		
REVERSE ANCHOR		
ANODE		
AIR & VACUUM VALVE ASSEMBLY		
TRANSMISSION BLOW-OFF ASSEMBLY		
GAS LINE		
MARKER	<i>Mkr</i> 	
SERVICE MARKER		
METER		
VALVE		
PLUG		
TEE		
DRY UTILITIES		
CABLE TV MARKER	<i>Mkr</i> 	
CABLE TELEVISION PEDESTAL		
ELECTRIC MARKER	<i>Mkr</i> 	
ELECTRIC SERVICE MARKER		
ELECTRICAL PEDESTAL		
ELECTRICAL METER		
ELECTRICAL MANHOLE		
FIBER-OPTIC MARKER	<i>Mkr</i> 	
IRRIGATION PEDESTAL		
TELEPHONE MARKER	<i>Mkr</i> 	
TELEPHONE PEDESTAL		
TELEPHONE MANHOLE		
UTILITY POLE		
GUY ANCHOR		
GUY POLE		
MISC. UTILITIES		
VENT PIPE		
TEST HOLE DESIGNATOR		

BRASS CAP – FOUND	
BENCHMARK – FOUND	
CROSS – FOUND	
MONUMENT – SET	
MONUMENT – FOUND (DEFAULT)	
MONUMENT – FOUND (ALTERNATE 1)	
MONUMENT – FOUND (ALTERNATE 2)	
MONUMENT – FOUND (ALTERNATE 3)	
MONUMENT – FOUND (ALTERNATE 4)	
MONUMENT – FOUND (ALTERNATE 5)	
MONUMENT – FOUND (ALTERNATE 6)	
MONUMENT – FOUND (ALTERNATE 7)	
NAIL & WASHER – FOUND	
PANEL – FOUND	
PK NAIL – FOUND	
ROW MONUMENT – FOUND	
ROW MARKER – FOUND	
SECTION CORNER – FOUND	
SECTION CORNER – SET	
QUARTER-SECTION CORNER – FOUND	
QUARTER-SECTION CORNER – SET	
SECTION CENTER – FOUND	
SECTION CENTER – FOUND	
CONTROL/TRaverse POINT – SET	

ARCH	AHEAD	IRR	IRRIGATION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	KB	KICK (THRUST) BLOCK
ASSY	ASSEMBLY	LB	LOAD
AVE	AVENUE	LE	LANDSCAPE EASEMENT
BB	BACK BASE	LF	LINEAR FOOT
BNDY	BOUNDARY	LN	LANE
BOP	BOTTOM OF PIPE	LMR	LETTER OF MAP REVISION
BOV	BLOW OFF VALVE	LP	LOW POINT
BFV	BUTTERFLY VALVE	LT	LUMP SUM
BLVD	BOULEVARD	LS	LEFT
BW	BOTTOM OF WALL	MAX	MAXIMUM
C&G	CURB & GUTTER	M/D	MOISTURE DENSITY
CATV	CABLE TELEVISION	MDP	MASTER DEVELOPMENT
CB	CATCH BASIN	MIN	MINIMUM
CBC	CONCRETE BOX CULVERT	MS	MOUNTABLE SIDEWALK
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	N	NORTH
CDS	CUL-DE-SAC	NRPC	NON-REINFORCED CONCRETE PIPE
CF	CUBIC FOOT	ODP	OFFICIAL DEVELOPMENT PLAN
CFS	CUBIC FEET PER SECOND	OHE	OVERHEAD ELECTRIC
CL	COMPLETE IN PLACE	OHU	OVERHEAD UTILITY
CIP	CENTER LINE	PC	POINT OF CURVATURE
CLOMR	CONVENTIONAL LETTER OF MAP REVISION	PCC	POINT OF COMPOUND CURVATURE
CLR	CLEAR	PCR	POINT OF CURB RETURN
CMO	CORRUGATED METAL PIPE	PDP	PRELIMINARY DEVELOPMENT PLAN
CNP	CLEAN OUT	PE	PROFESSIONAL ENGINEER
COCs	CITY OF COLORADO SPRINGS	PI	POINT OF INTERSECTION
CONC	CONCRETE	PKWY	PARKWAY
CR	CIRCLE	PL	PROPERTY LINE
CSP	CORRUGATED STEEL PIPE	PR	PROPOSED
CSU	COLORADO SPRINGS UTILITIES	PRC	POINT OF REVERSE CURVATURE
CT	CONCRETE	PT	POINT OF TANGENCY
CTRB	CONCRETE THRUST REDUCER BLOCK	PV	PLUG VALVE
CY	CUBIC YARD	PVC	POLYVINYL CHLORIDE
DBPS	DRAINAGE BASIN PLANNING STUDY	R	RADIUS
DE	DRAINAGE EASEMENT	RBCB	REINFORCED CONCRETE BOX CULVERT
DIA	DIAMETER	RCD	REINFORCED CONCRETE PIPE ROAD
DUC	DUCTILE IRON PIPE	ROP	RIGHT OF WAY
DR	DRIVE	RT	RIGHT
DRC	DESIGN REVIEW COMMITTEE	S	SOUTH
DU	DWELLING UNITS	STE	STEEL
DY	DAY	SAN	SANITARY SEWER
E	EAST	SF	SQUARE FOOT
EA	EACH	ST	STREET
EGL	ENERGY GRADE LINE	STA	STATION
EL	ELEVATION	STM	STORM SEWER
ELEC	ELECTRIC	SY	SQUARE YARD
EOP	EDGE OF ASPHALT	SY-IN	SQUARE YARD INCH
EPC	ENGINEERING PLAN QUALITY	TB	THRUST BLOCK
EPG	ELLIPITICAL RCP	TBC	TOP BACK OF CURB
ESMT	EASEMENT	TBW	TOP BACK OF WALK
EST	ESTIMATE	TEL	TELEPHONE
EX	EXISTING	TN	TON
FDP	FINAL DEVELOPMENT PLAN	TOA	TOP OF ASPHALT
FDR	FINAL DRAINAGE REPORT	TOB	TOP OF BOX
FES	FLARED END SECTION	TOC	TOP OF CURB OR CONCRETE
FF	FINISHED FLOOR ELEVATION	TOF	TOP OF FOUNDATION
FG	FINISHED GRADE	TOP	TOP OF PIPE
FH	FIRE HYDRANT	TW	TOP OF WALL
FL	FLOWLINE	TYP	TYPICAL
FIL	FILING	UFCDD	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
FO	FIBER OPTIC CABLE	UE	UTILITY EASEMENT
GB	GRADE BREAK	U&DE	UTILITY & DRAINAGE EASEMENT
GE	GAS EASEMENT	UGE	UNDERGROUND ELECTRIC
GIS	GEOGRAPHIC INFORMATION SYSTEM	VCP	VETRIFIED CLAY PIPE
GL	GAS LINE	VPC	VERTICAL POINT OF CURVATURE
GPS	GLOBAL POSITIONING SYSTEM	VPI	VERTICAL POINT OF INTERSECTION
GV	GATE VALVE	VPT	VERTICAL POINT OF TANGENCY
HBP	HOT BITUMINOUS PAVEMENT	VTC	VEHICLE TRACKING CONTROL
HC	HANDICAP	W	WEST
HDC	HIGH DEFLECTION COUPLING	WA	WATER LINE
HDPE	HIGH DENSITY POLYETHYLENE	WM	WATER MAIN
HGR	HYDRAULIC GRADE LINE	WRD	WATER RESOURCES
HMA	HOT MIX ASPHALT		DEPARTMENT
HOA	HOME OWNERS ASSOCIATION	WS	WATER SURFACE
HP	HIGH POINT	WSE	WATER SURFACE ELEVATION
HR	HOUR	WTR	WATER
I	INLET	YR	YEAR
IE	IRRIGATION EASEMENT		

SILT FENCE	(SF)		CONCRETE WASHOUT AREA	(CWA)	
PERMANENT SEEDING & MULCHING	(SM)		VEHICLE TRACKING CONTROL	(VTC)	
TEMPORARY SEDIMENT BASIN	(TSB)		INLET PROTECTION	(IP)	
CHECK DAM	(CD)		OUTLET PROTECTION	(OP)	
ROCK SOCK	(RS)		CONCRETE WASHOUT AREA	(CWA)	



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

STANDARD DETAILS SHOWN WERE REVISED ONLY

STANDARD DETAILS SHOWN WERE REVISED ONLY AS TO THEIR APPLICATION ON THIS PROJECT



BRYAN T. LAW, P.E.
COLORADO P.E. 25043
FOR AND ON BEHALF OF JR ENGINEERING

PREPARED FOR

LYRJ
1172 GREENLAND FOREST DRIVE
MONUMENT, CO 80106
SCOTT SMITH
(719) 499-7764



J·R ENGINEERING
A Westrian Company

Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrenateering.com

BY	DATE
----	------

No.	REVISION
-----	----------

H-SCALE	N/A
---------	-----

LAZY Y AND ROCKING J
SUBDIVISION

LEGEND

SHEET 2 OF 6

JOB NO. 25228.0

CHECK DAMS SHALL BE INSTALLED A MINIMUM OF EVERY 1.5' VERTICAL FALL, SEE TABLE BELOW FOR HORIZONTAL SPACING REQUIREMENTS (TYP.)

PROPOSED GRAVEL PARKING (TYP.)

943 LF OF SILT FENCE

PROP. DP1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=1.75'

PROP. DP2.1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.00'

PROP. DP3.1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.10'

PROPOSED 5' SIDEWALK (TYP.)

PROPOSED 30" FES (TYP.)

PROPOSED 30" STORM

PROPOSED FOREBAY

PROP. DP5.1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.15'

PROP. 24" RCP CULVERT

PROP. DP5.1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.15'

PROPOSED SEPTIC FIELD

PROP. DP10 (HALF-FLOWS) SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=1.00'

PROP. DP10 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.00'

PROPOSED GRAVEL ROADWAY (TYP.)

PROP. DP11 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=1.00'

PROP. DP11.1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.00'

PROP. 18" RCP CULVERT

PROP. DP12.1 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=2.00'

PROP. DP13 SWALE
SIDE SLOPES=4.00,4.00
MIN. DEPTH=1.75'

PROPOSED 18" FES (TYP.)

PROPOSED 18" STORM

PROPOSED FOREBAY

GEC PLAN SHEET NOTES

- TOTAL AREA TO BE SEED & MULCHED POST-CONSTRUCTION IS 11.5 AC
- IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION OF THE POND, PROPER MITIGATION MEASURES SHALL BE PROVIDED ACCORDING TO MHPD DCM VOL 2 & 3
- ALL CONSTRUCTION MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL AND DETAILS.
- NON-STRUCTURAL CONTROLS INCLUDING STREET SWEEPING, WILL BE AT THE DISCRETION OF THE PROJECT'S CERTIFIED GEC ADMINISTRATOR THROUGHOUT THE DURATION OF LAND DISTURBING ACTIVITIES.
- EXISTING VEGETATION CONSISTS OF SPARSE GRASSES AND CLUSTER OF TREES.
- TOTAL PARKING COUNT:90
- WAGON SPOT COUNT:10

BMP PHASING

INITIAL (SPRING 2025):

- ESTABLISH VEHICLE TRACKING CONTROL
- INSTALL SILT FENCE AND PERIMETER SOIL EROSION CONTROL MEASURES
- ESTABLISH STAGING AREA
- INSTALL CONCRETE WASHOUT
- INSTALL SEDIMENT BASINS
- INSTALL TEMPORARY SWALES
- INSTALL CHECK DAMS
- CLEAR AND ROUGH GRADE FOR IMPROVEMENTS

INTERIM (SUMMER 2025):

- EXCAVATE AND INSTALL IMPROVEMENTS INCLUDING UNDERGROUND PIPING AND DRAINAGE STRUCTURES
- INSTALL INLET/OUTLET PROTECTION
- FINE GRADING
- INSTALL PAVING
- MAINTAIN ALL BMP'S

FINAL (FALL 2025):

- INSTALL SEEDING IN ALL DISTURBED AREAS
- REMOVE ALL TEMPORARY BMP'S AFTER FINAL STABILIZATION

GEC LEGEND

LIMITS OF CONSTRUCTION/DISTURBANCE

LOC

SILT FENCE

SF

PERMANENT SEEDING & MULCHING

SM

TEMPORARY SEDIMENT BASIN

TSB

CHECK DAM

CD

ROCK SOCK

RS

STABILIZED STAGING AREA

SSA

VEHICLE TRACKING CONTROL

VTC

INLET PROTECTION

IP

OUTLET PROTECTION

OP

CONCRETE WASHOUT AREA

CWA

Check Dam Spacing for 1.5' of Vertical Fall										
Channel Slope (%)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
Check Dam Spacing (ft)	150	75	50	37.5	30	25	21.4	18.8	16.7	15



Know what's below.
Call before you dig.

60 30 0 60 120
ORIGINAL SCALE: 1" = 60'

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 PLANS.



BRYAN T. LAW, P.E.
COLORADO P.E. 25043
FOR AND ON BEHALF OF JR ENGINEERING

DATE

LAZY Y AND ROCKING J
SUBDIVISION
GEC

SHEET 3 OF 6

JOB NO. 25228.00

BY DATE

No. REVISION

H-SCALE 1"=60'
V-SCALE N/A
DATE 03/13/25
DESIGNED BY DSG
DRAWN BY DSG
CHECKED BY

J.R. ENGINEERING
A Western Company

1172 GREENLAND FOREST DRIVE
MONUMENT, CO 80106
SCOTT SMITH
(719) 499-7764
Central 303-740-9888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE AGENCIES, OR ENGINEERING APPROVES THEIR USE, DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
LYRJ

SEEDING & MULCHING

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

SOIL PREPARATION

1. IN AREAS TO BE SEEDDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
2. AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
3. THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
4. TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

SEEDING

1. ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
2. SEED SHOULD BE DRILL-SEEDDED WHENEVER POSSIBLE.
 - *SEED DEPTH MUST BE $\frac{1}{2}$ TO $\frac{3}{4}$ INCHES WHEN DRILL-SEEDING IS USED.
 - *BROADCAST SEEDING OR HYDRO-SEEDING WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
 - *SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDING.
 - *BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.

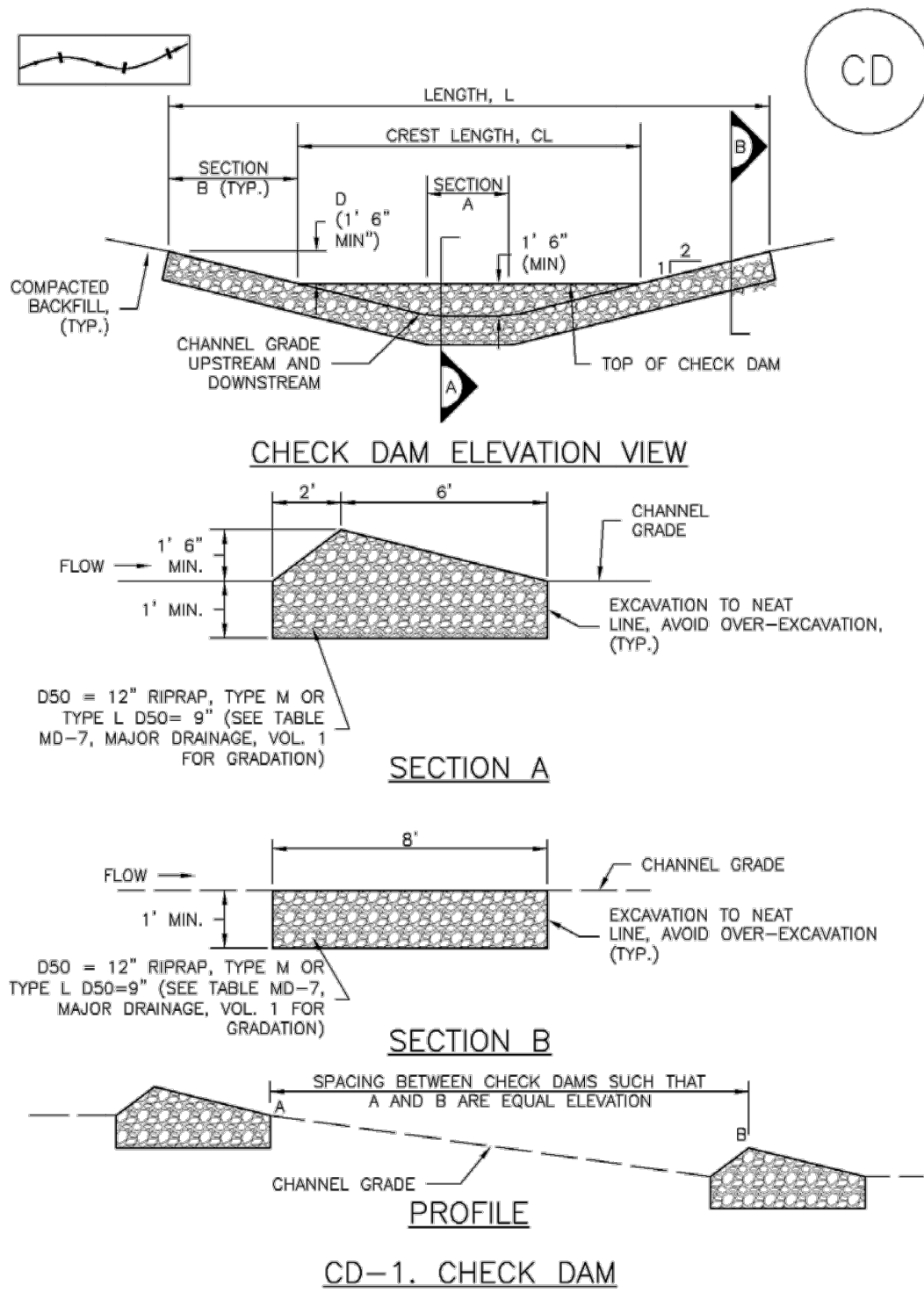
MULCHING

1. MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
2. MULCHING REQUIREMENTS INCLUDE:
 - *HAY OR STRAW MULCH
 - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
 - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
 - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
 - *HYDRAULIC MULCHING
 - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
 - IF HYDRO-SEEDING IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
 - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
 - *EROSION CONTROL BLANKET
 - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

STORMWATER ENTERPRISE		SEEDING & MULCHING	
APPROVED:		CREAT. MANAGER:	
ISSUED: 10/17/19	REVISED: 8/18/2020	DRAWING NO. 900-SM	

Check Dams (CD)

EC-12



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

EC-12

Check Dams (CD)

CHECK DAM INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF CHECK DAMS.
 - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
 - LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).
2. CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
3. RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12") OR TYPE L (D50 9").
4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.
5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM 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 THE CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN $\frac{1}{2}$ OF THE HEIGHT OF THE CREST.
5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
6. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDDED AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, 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.

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

Rock Sock (RS)

SC-5

Description

A rock sock is constructed of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter. Rock socks are typically used either as a perimeter control or as part of inlet protection. When placed at angles in the curb line, rock socks are typically referred to as curb socks. Rock socks are intended to trap sediment from stormwater runoff that flows onto roadways as a result of construction activities.

Appropriate Uses

Rock socks can be used at the perimeter of a disturbed area to control localized sediment loading. A benefit of rock socks as opposed to other perimeter controls is that they do not have to be trenched or staked into the ground; therefore, they are often used on roadway construction projects where paved surfaces are present.

Use rock socks in inlet protection applications when the construction of a roadway is substantially complete and the roadway has been directly connected to a receiving storm system.

Design and Installation

When rock socks are used as perimeter controls, the maximum recommended tributary drainage area per 100 lineal feet of rock socks is approximately 0.25 acres with disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. A rock sock design detail and notes are provided in Detail RS-1. Also see the Inlet Protection Fact Sheet for design and installation guidance when rock socks are used for inlet protection and in the curb line.

When placed in the gutter adjacent to a curb, rock socks should protrude no more than two feet from the curb in order for traffic to pass safely. If located in a high traffic area, place construction markers to alert drivers and street maintenance workers of their presence.

Maintenance and Removal

Rock socks are susceptible to displacement and breaking due to vehicle traffic. Inspect rock socks for damage and repair or replace as necessary. Remove sediment by sweeping or vacuuming as needed to maintain the functionality of the BMP, typically when sediment has accumulated behind the rock sock to one-half of the sock's height.

Once upstream stabilization is complete, rock socks and accumulated sediment should be removed and properly disposed.

Rock Sock	
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	No

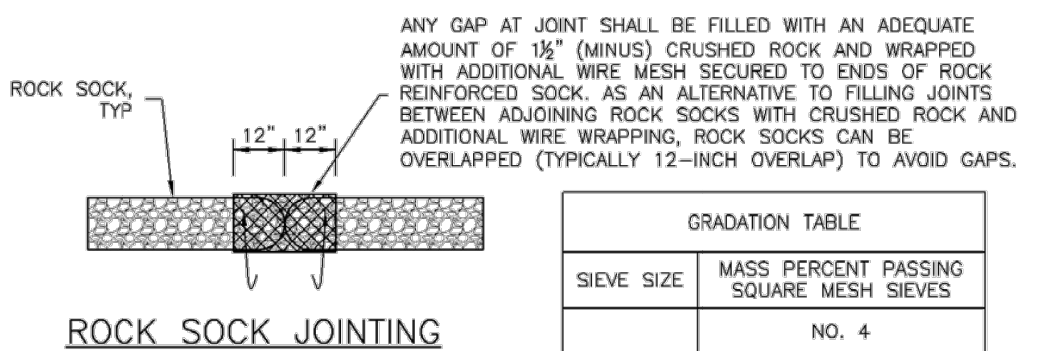
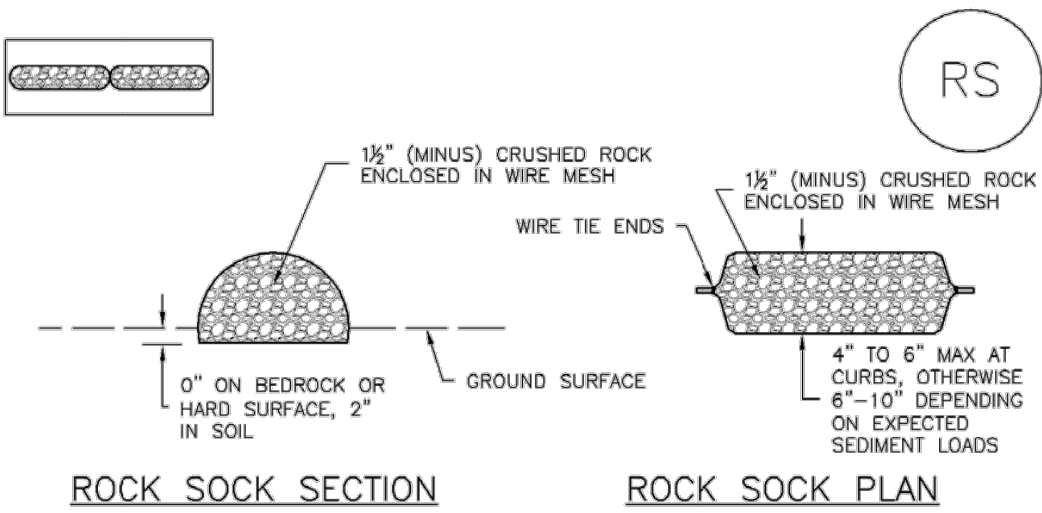
November 2010	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	RS-1
---------------	--	------



Photograph RS-1. Rock socks placed at regular intervals in a curb line can help reduce sediment loading to storm sewer inlets. Rock socks can also be used as perimeter controls.

SC-5

Rock Sock (RS)



ROCK SOCK PLAN

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1/2" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
2"	100
1 1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAUGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF $\frac{1}{2}$ ", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL

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

Rock Sock (RS)

SC-5

ROCK SOCK 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. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
5. 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 $\frac{1}{2}$ OF THE HEIGHT OF THE ROCK SOCK.
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

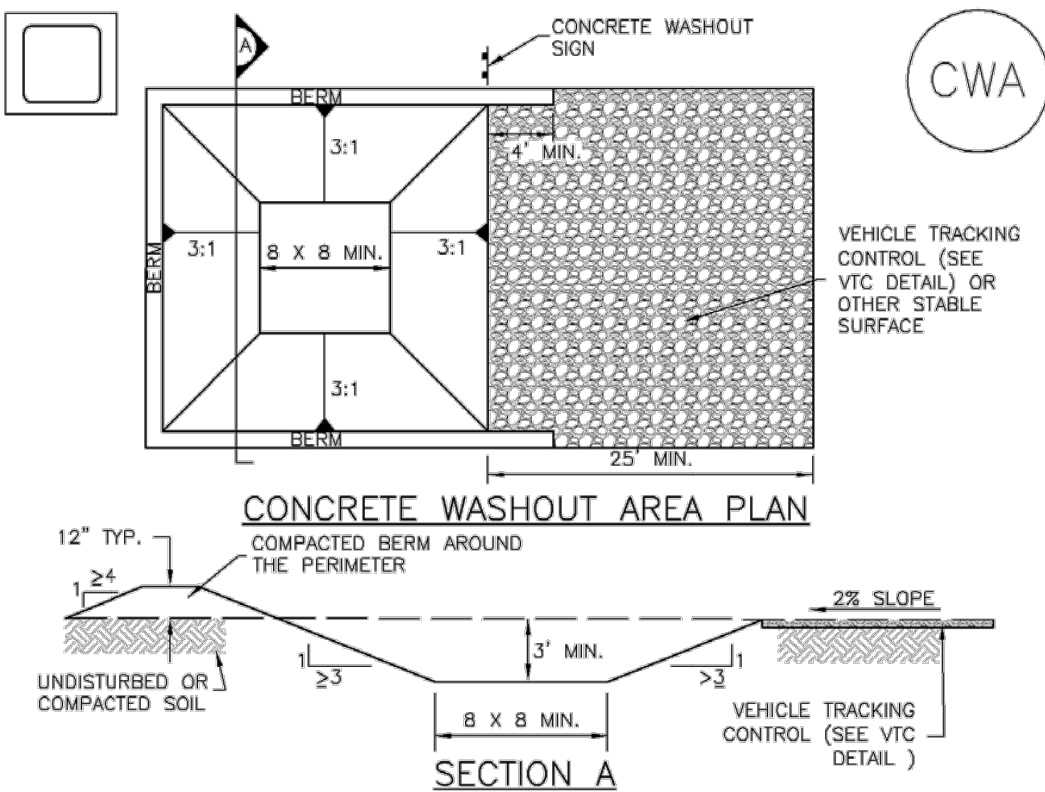
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD 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.

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

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 INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 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 PERMETER BERM CONSTRUCTION.

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

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
-------	--	---------------

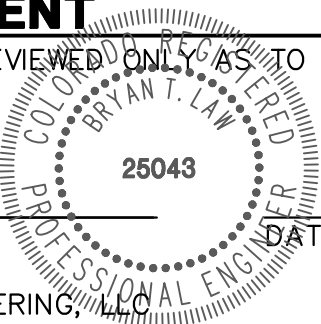


Know what's below.
Call before you dig.

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

BRYAN T. LAW, P.E.
COLORADO P.E. 25043
FOR AND ON BEHALF OF JR ENGINEERING



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR

LVRJ
GREENLAND FOREST DRIVE
MONUMENT, CO 80106
SCOTT SMITH
(719) 499-7764

J.R. ENGINEERING
A Westman Company



Central 303-740-8888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION	No.	N/A	N/A	03/13/25	PAL	PAL	DESIGNED BY	DRAWN BY	CHECKED BY

LAZY Y AND ROCKING J
SUBDIVISION
DETAILS

SHEET 6 OF 6

JOB NO. 25228.00

APPENDIX D – CALCULATIONS

APPENDIX E – INSPECTION REPORT TEMPLATE

CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name		Permittee					
Date of Inspection		Weather Conditions					
Permit Certification #		Disturbed Acreage					
Phase of Construction		Inspector Title					
Inspector Name							
Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	YES	NO	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO						
<input type="checkbox"/>	<input type="checkbox"/>						

INSPECTION FREQUENCY					
Check the box that describes the minimum inspection frequency utilized when conducting each inspection					
At least one inspection every 7 calendar days	<input type="checkbox"/>				
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	<input type="checkbox"/>				
<ul style="list-style-type: none"> This is this a post-storm event inspection. Event Date: _____ 	<input type="checkbox"/>				
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	<input type="checkbox"/>				
<ul style="list-style-type: none"> Post-storm inspections at temporarily idle sites 	<input type="checkbox"/>				
<ul style="list-style-type: none"> Inspections at completed sites/area 	<input type="checkbox"/>				
<ul style="list-style-type: none"> Winter conditions exclusion 	<input type="checkbox"/>				
Have there been any deviations from the minimum inspection schedule? If yes, describe below.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	YES	NO	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO				
<input type="checkbox"/>	<input type="checkbox"/>				

INSPECTION REQUIREMENTS*
i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications
ii. Determine if there are new potential sources of pollutants
iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges
iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action
*Use the attached Control Measures Requiring Routine Maintenance and Inadequate Control Measures Requiring Corrective Action forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED			
Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?			
	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions Inadequate Control Measures Requiring Corrective Action form
Construction site perimeter	<input type="checkbox"/>	<input type="checkbox"/>	
All disturbed areas	<input type="checkbox"/>	<input type="checkbox"/>	
Designated haul routes	<input type="checkbox"/>	<input type="checkbox"/>	
Material and waste storage areas exposed to precipitation	<input type="checkbox"/>	<input type="checkbox"/>	
Locations where stormwater has the potential to discharge offsite	<input type="checkbox"/>	<input type="checkbox"/>	
Locations where vehicles exit the site	<input type="checkbox"/>	<input type="checkbox"/>	
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	

CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

Definition: Any control measure that is still operating in accordance with its design and the requirements of the permit, but requires maintenance to prevent a breach of the control measure. These items are not subject to the corrective action requirements as specified in Part I.B.1.c of the permit.

Are there control measures requiring maintenance?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

[illegible]

INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

Definition: Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. This includes control measures that have not been implemented for pollutant sources. If it is infeasible to install or repair the control measure immediately after discovering the deficiency the reason must be documented and a schedule included to return the control measure to effective operating condition as possible.

Are there inadequate control measures requiring corrective action?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

Are there additional control measures needed that were not in place at the time of inspection?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

[illegible]

REPORTING REQUIREMENTS

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit			
a. Endangerment to Health or the Environment Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit) <i>This category would primarily result from the discharge of pollutants in violation of the permit</i>			
b. Numeric Effluent Limit Violations <ul style="list-style-type: none"> ○ Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit) ○ Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit) ○ Daily maximum violations (See Part II.L.6.d of the Permit) <i>Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.</i>			

Has there been an incident of noncompliance requiring 24-hour notification?	NO	YES	
	<input type="checkbox"/>	<input type="checkbox"/>	If "YES" document below

Date and Time of Incident	Location	Description of Noncompliance	Description of Corrective Action	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification *

*Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.

After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement:

“I verify that, to the best of my knowledge and belief, all corrective action and maintenance items identified during the inspection are complete, and the site is currently in compliance with the permit.”

Name of Qualified Stormwater Manager

Title of Qualified Stormwater Manager

Signature of Qualified Stormwater Manager

Date

Notes/Comments