



Iron Ridge Filing No. 1 & 2

STORMWATER MANAGEMENT PLAN – SF2612 & 2613

ALL TERRAIN ENGINEERING PROJECT NO: 25009

SEPTEMBER 2026

APPLICANT: ATTICUS LAND, LLC

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QUALIFIED STORMWATER MANAGER:

COMPANY: _____

CONTACT: _____

PHONE: _____



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Company: All Terrain Engineering

Title: Project Manager

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PERMITTEE:

Name: TBD

Company:

Title:

Phone Number:

Address:



APPLICANT'S STATEMENT

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.

Engineer of Record and/or Qualified Stormwater Manager

Date

REVIEW ENGINEER

The Stormwater Management Plan was reviewed and found to meet the checklist requirements except where otherwise noted or allowed by an approved deviation request.

Review Engineer

Date

I. Site Location & Description

Iron Ridge Filing No. 1 & 2, referred to as 'the site' herein, is in a portion of southeast quarter of Section 13, Township 11 South, Range 66 West of the 6th P.m., County of El Paso, State of Colorado. The site is bound by Walker Road to the north, Equine Meadows Subdivision to the east and undeveloped parcels to the west and south. A vicinity map is presented in Appendix A.

The site is comprised of (3) existing Parcels. Parcel 1 is 43.47 acres, Parcel 2 is 42.52 acres and Parcel 3 is 35.14 acres for a total of approximately 121.13 acres of undeveloped land. The development of Iron Ridge Subdivision will occur on Parcel 1 and 2. Parcel 3 will remain undeveloped. Existing vegetation consists of prairie grasses based upon aerial imagery and a site visit. The approximate disturbed area is 11 acres, 5 acres within Filing No. 1 and 6 acres withing Filing No. 2. The development will plat (28) 2.5 acre+ "Large Lot single family residential lots" & public R.O.W. for an extension of Colt Court and proposed Brown Road, both Rural Local EPC cross sections with a 60' R.O.W.

Proposed improvements include Rural Local Roadways, associated road-side swales, culverts, (2) full spectrum extended detention basins, and grading. The residential lots will be served by private wells and OWTS.

In general, Parcel 1 slopes southeasterly towards an unnamed tributary of East Cherry Creek. East Cherry Creek is the ultimate receiving water for the site and El Paso County is the receiving MS4 entity. The confluence of the unnamed tributary and East Cherry Creek is approximately 3.2 miles northeast of the site. Parcel 2 drains northwesterly towards the same tributary. Onsite elevations range from 7,450' – 7,560' with slopes ranging 1 – 80%. Per a NRCS soil survey, the site is made up of Type B Peyton sandy loam, Type B Peyton-Pring complex, Type B Tomah-Crowfoot loamy sands. The NRCS soil survey is presented in Appendix A. The soils have K factors ranging from 0.15 – 0.2 & T factors ranging from 3-5 per the NRCS Web Soil Survey.

An unnamed tributary of East Cherry Creek bisects the site and flows northeasterly. This tributary will be referred to as Tributary #1 from herein. There are no existing utilities located on site. An existing drainage map is presented in Appendix F.

The site has sparse vegetation (approximately 60% based upon field observations) consisting of native grasses and few trees.

There are no existing, onsite utilities.

There are no streams located on site. Stormwater will be captured in on-site swales and conveyed to Pond 1 or 2 before discharging through the pond outlet structure towards the sites northern boundary. The ultimate receiving water for the site is East Cherry Creek. There are no allowable non-stormwater discharges allowed from the site associated with the below construction activities.

- II. Based on FEMA Firm map 08041C0305G dated December 7, 2018, the site is Zone X, which are areas determined to be outside the 0.2% annual chance flood.

III. Construction Phasing

The construction activity associated with this SWMP is the grading of approximately 3.6 acres, construction of Pond A, a permanent full spectrum water quality and detention pond, construction of proposed swales, culverts, and storm sewer, and construction of a public rural local roadway. There are no control measures located outside the construction limits. The proposed sequence of major construction activities and Construction Control Measures for the project as are follows:

1. Install VTC, SSA and other perimeter erosion and stormwater control measures (i.e. silt fence, construction fence etc.) (October 2026)
2. Clear, grub and grade site for improvements. Install CD and ECB per GEC plans. (October 2026)
3. Construct Pond 1 & 2. (October 2026-November 2026)
4. Excavate and install improvements including underground piping and drainage structures. (November 2026 – March 2027)
5. Asphalt paving (April 2027 – May 2027)
6. Landscaping, restoration and final stabilization. Ensure final stabilization achieved prior to site closure. In areas that utilize vegetative cover for final stabilization, vegetation must be evenly distributed and coverage will be a minimum of 70% of pre-disturbance conditions. (May 2027)

IV. Self-Inspections

Self-inspections of the Construction Control Measures must be completed by the certified GEC Administrator. The below provides the minimum to satisfy the El Paso County self-inspection requirements. A more frequent self-inspection schedule may be required to ensure Control Measures are operating in compliance with the approved GEC plan.

1. Inspection Schedules:
 - a. The GEC Administrator shall make a thorough inspection of the Control Measures:
 - i. At least once every fourteen (14) calendar days.
 - ii. Within 24 hours following any precipitation event (i.e. rain, snow, hail etc.) that causes surface erosion.

- Alternatively, the GEC Administrator can perform a thorough inspection of the Control Measures once every seven (7) days and forego post-precipitation inspections.
 - b. For sites where construction activities have completed and final stabilization measures installed but final stabilization has not yet been achieved, the GEC Administrator shall make a thorough inspection of the Control Measures:
 - i. At least once every month
 - ii. Within 72 hours following any precipitation event that causes surface erosion
- 2. Inspection Procedures:
 - a. Site Inspection & Observation Items:
 - i. Qualified Stormwater Manager's signature required on self-inspection reports and provide the location of SWMP records on site
 - ii. Limits of disturbance perimeter and stormwater discharge points
 - iii. All disturbed areas to ensure necessary Construction Control Measures are in place to control potential stormwater runoff
 - iv. Areas used for material/waste storage
 - v. Any areas having a signification potential for storm water pollution (i.e site entrances, concrete washout areas etc.)
 - vi. All Construction Control Measures identified on the GEC plans.
 - b. Inspection Requirements:
 - i. Determine any locations, or potential locations, where pollutants and stormwater may be exiting the site/entering the receiving waters
 - ii. Evaluate Construction Control measures and determine if they are constructed in accordance with the latest revision of the approved GEC plan and operating effectively
 - iii. Provide recommendations for the need of additional Construction Control measures and the maintenance of existing measures in disrepair to ensure complication with the El Paso County Stormwater Construction Manual.
 - c. Construction Control Measure Maintenance/Replacement:
 - i. The GEC administrator shall ensure sediment has been removed from perimeter controls and relocated to an area without the potential for sediment to discharge from the site
 - ii. The GEC administrator shall ensure diversion ditches and temporary sediment ponds have not accumulated excess sediment that impedes their functionality.
 - iii. The GEC administrator shall ensure that failed Control Measures are repaired/reinstalled within three (3) calendar days, according to the El Paso County Stormwater Control Measure details, to ensure pollutants and/or

sediment do not discharge from the site. GEC details are provided in Appendix

D.

d. Documentation:

- i. Upon updates to the SWMP, updates must include a notation in the SWMP identifying the dated and description of the change. Methods may include notations on the site map, a log of changes, redline changes in the SWMP, or other measures.
- ii. Update the GEC plan to document the installation/revision of Control Measures
- iii. Identify Control Measure deficiencies and that noncompliance is resolved within three(3) calendar days.
- iv. Identify Self-Inspection schedule in most recent inspection form
- v. Complete and submit Self-Inspection forms to the El Paso County within five (5) business days of the completed inspection
- vi. Ensure Self-Inspections are available, either physically or electronically, throughout the duration of the project
- vii. Self-Inspection Report shall contain at least the following:
 1. Inspection Date
 2. Name and title of the GEC Administrator performing inspection
 3. Location(s) of illicit discharges of stormwater, sediment or pollutants from the site
 4. Location(s) of Construction Control Measures in need of maintenance/repair
 5. Location(s) of Construction Control Measures that failed to operate as designed or proved inadequate
 6. Location(s) of additional Construction Control Measures not shown on the latest, approved revision of the GEC plan
 7. Any deviations from the minimum inspection schedule

V. Materials Handling

1. General Materials Handling Practices:

- a. 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 be located away from storm drain inlets and should be equipped with covers, roofs or secondary containment as required to prevent stormwater from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spill materials cannot combine and react.
- b. Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
- c. Materials no longer required for construction shall be removed from the site as soon as possible.
- d. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and

Control Measures clear and functional.

2. Specific Materials Handling Practices:

- e. All pollutants, including waste materials and demolition debris, that occur onsite during construction shall be handled in a way that does not contaminate stormwater.
- f. All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored onsite shall be covered and protected from vandalism.
- g. Maintenance, fueling, and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operation, 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.
- h. Wheel wash water shall be settled and discharged onsite by infiltration.
- i. 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 stormwater runoff. Follow manufacturer's recommendations for application rates and procedures.
- j. pH-modifying sources shall be managed to prevent contamination of runoff and stormwater 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, wastestreams generated from concrete grinding and sawing, exposed aggregate

VI. Spill Prevention & Response Plan

- 1. The primary objective in responding to a spill is to quickly contain the material and prevent or minimize their mitigation into stormwater runoff and conveyance systems. If the release has impacted onsite stormwater, 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 once the situation has stabilized.
 - c. The site superintendent 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 locations shall be reported to the GEC administrator.
4. Absorbent materials shall be on-hand at all fueling areas for use in containing advertent 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
 - b. Oil absorbent booms
 - c. 55-gallon drums
 - d. 9-mil plastic bags
 - 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:
 - e. In the event of an accident or spill, the GEC administrator shall be notified.
 - f. Depending on the nature of the spill and material involved, the Colorado Department of Public Health and Environment, downstream water users, or other agencies may also need to be notified.
 - g. 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.

VII. Potential Sources of Pollution

1. Potential sources of pollution from construction activities include
 - a. Disturbed or stored soils
 - b. Vehicle tracking of sediment
 - c. Loading & unloading operations
 - d. Outdoor Storage activities
 - e. Vehicle and Equipment Maintenance/Fueling
 - f. Dust or Particulate Generating Processes
 - g. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents etc.
 - h. On-site waste management (waste piles, liquid wastes, dumpsters)
 - i. Concrete truck/equipment washing (washing truck chute and associated fixtures)
 - j. Dedicated asphalt, concrete batch plants and masonry mixing stations
 - k. Non-industrial waste (worker trash and portable toilets)

VIII. Implementation of Control Measures

Stormwater control measures must be installed according to El Paso County design specifications, presented in Appendix D, and the approved Grading and Erosion Control plan this report supports. Within the context of this SWMP's construction activities the following control measures, at a minimum, are required:

- Perimeter Silt Fence & Construction Fence
- Vehicle Tracking Control
- Concrete Washout Area
- Stabilized Staging Area
- Inlet Protection
- Erosion Control Blanket
- Check Dams
- Temporary Sediment Basin
- Seeding & Mulching

Additional control measures may be required at the discretion of the City Stormwater Inspector.

IX. Final Stabilization & Long Term Stormwater Management Plan

1. Seeding and mulching will be installed to provide interim and final stabilization after site improvements are completed. For vegetated areas, final stabilization will be achieved at time of final landscaping. Paved areas will be final stabilized after paving activities. See landscaping plans for final stabilization details of vegetated areas. Final stabilization is met when 70% of pre disturbance levels, not including noxious weeds, are stabilized. Final stabilization must be achieved prior to removal of temporary stormwater control measures. Anticipated date of final stabilization is Spring 2027; however this is subject to change. Permanent stormwater management will be provided in Ponds 1 & 2, located lot 2 F1 and lot 2 F2 respectively. See the Permanent Control Measure Plans for construction details of the permanent full spectrum detention pond. See below for seeding and mulching details:

- a. Prior to seeding, fill any eroded rills and gullies with topsoil.
- b. Ensure all areas are seeded and mulched per the City Stormwater Construction Manual.
- c. Continue monthly self-inspections of final stabilization methods and the stormwater management system to ensure proper function. If repairs are needed, reseed and re-mulch as needed.
- d. Control noxious weeds in a manner acceptable to the GEC inspector.
- e. Seed Mix: See Appendix D for approved seed mixes.
- f. Seeding Requirements:
 - i. Drill seed whenever possible, seed depth must be 1/3 to 1/2 inch when drill-seeding. Cross drilling should be used whenever possible with the seed divided between the two operations. The second drilling should be perpendicular to the first.
 - ii. When drill seeding is not possible or on slopes greater than 3:1, hydro-seeding with tackifier may be substituted at the discretion of the GEC inspector. Hydro-seeding must be lightly raked into soil. Seeding rates are presented in Appendix D.

- iii. All seeded areas must be mulched.
- g. Mulching Requirements:
 - i. Mulching shall be completed as soon as practical after seeding but no more than fourteen (14) days after planting. Erosion control blanket can be used in place of the below mulching methods.
 - ii. Hay or straw mulch:
 - 1. Only certified weed-free and certified-seed free mulch may be used. Must be applied at 2 tons/acre and adequately secured.
 - 2. Crimping shall not be used on slopes greater than 3:1, tackifier must be used in place.
 - iii. Hydraulic mulching
 - 1. Allowable on steep slopes or areas with limited access
 - 2. If hydro-seeding is used, mulching must be applied secondly.
 - 3. Wood cellulose fibers mixed with water must be applied at a rate of 2,000-2,500 lbs/acre, and tackifier applied at a rate of 100 lbs/acre.

X. References

- I. El Paso County – Drainage Criteria Manual, as amended.
- II. Urban Storm Drainage Criteria Manual, Urban Drainage Flood Control District, January 2018.
- III. Federal Emergency Management Agency, Flood Map Service Center - <https://msc.fema.gov/portal/home>
- IV. Web Soil Survey, Natural Resources Conservation Service, September 2024.



APPENDIX A – VICINITY MAP, FEMA & NRCS WEB SOIL SURVEY

[illegible]

1000 500 0 1000 2000

ORIGINAL SCALE: 1" = 1000'

IRON RIDGE SUB.
JOB NO. 25009
LOCATION: EPC
09/17/2025
SHEET: 1

SHEET



1004 WEST VAN BUREN STREET
COLORADO SPRINGS, CO 80907

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodway Data** have been determined, users are encouraged to consult the **Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations** tables contained within the **Flood Insurance Study (FIS)** report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.0' North American Vertical Datum of 1988 (NAVD83). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of the map was Universal Transverse Mercator (UTM) zone 13. The horizontal datum was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zone zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the **North American Vertical Datum of 1988 (NAVD83)**. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NAD83
National Geodetic Survey
SSM-C-3, W022
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (202) 713-3242 or visit its website at <http://www.ngs.noaa.gov>.

Base Map information shown on this FIRM was provided in digital format by El Paso County, Colorado Springs Utilities, City of Fountain, Bureau of Land Management, National Oceanic and Atmospheric Administration, United States Geological Survey, and Anderson Consulting Engineers, Inc. These data are current as of 2008.

This map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. The profile baselines depicted on the map represent the hydraulic modeling baselines that match the flood profile and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations. Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program data for each community as well as a listing of the panels on which each community is located.

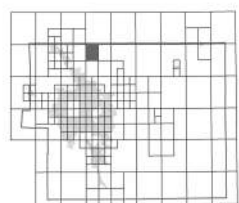
Contact **FEMA Map Service Center (MSC)** via the FEMA Map Information eXchange (FMIX) 1-877-336-2627 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The MSC may also be reached by Fax at 1-800-368-6620 and by website at <http://www.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.

El Paso County Vertical Datum Offset Table

Flooding Source	Vertical Datum Offset (ft)
REFER TO SECTION 3.3 OF THE EL PASO COUNTY FLOOD INSURANCE STUDY FOR STREAM BY STREAM VERTICAL DATUM CONVERSION INFORMATION.	

Panel Location Map



This Digital Flood Insurance Rate Map (DFIRM) was produced through a Cooperative Technical Partner (CTP) agreement between the State of Colorado Water Conservation Board (CWC) and the Federal Emergency Management Agency (FEMA).



Additional Flood Hazard information and resources are available from local communities and the Colorado Water Conservation Board.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the **base flood**, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, X, and VE. The **base flood elevation** is the water surface elevation of the 1% annual chance flood.

ZONE A: No base flood elevation determined.

ZONE AE: Base flood elevations determined.

ZONE AH: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of actual lot flooding, velocities also determined.

ZONE AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of actual lot flooding, velocities also determined.

ZONE AR: Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system in which substantial improvements have been made.

ZONE AW: Areas to be protected from 1% annual chance flood by a Federal flood protection system under construction; no base flood elevations determined.

ZONE V: Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

ZONE VE: Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

FLOODWAY AREAS IN ZONE AE:

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or less than 1 square mile; and areas protected by levees from 1% annual chance flood.

UTHER AREAS:

ZONE X: Areas determined to be outside the 0.2% annual chance floodplains.

ZONE D: Areas in which flood heights are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

— Floodplain boundary

— Floodway boundary

— Zone D boundary

— CBRS and OPA boundary

— Boundary dividing Special Flood Hazard Areas of different base flood elevations, flood depths or flood velocities

— Base Flood Elevation line and value; elevation in feet

— Base Flood Elevation value where uniform within zone; elevation in feet

* Referenced to the North American Vertical Datum of 1988 (NAVD83)

— Cross section line

— Transect line

— Geographic coordinates referenced to the North American Vertical Datum of 1988 (NAVD83)

— 1983-1984 Universal Transverse Mercator grid lines, zone 13

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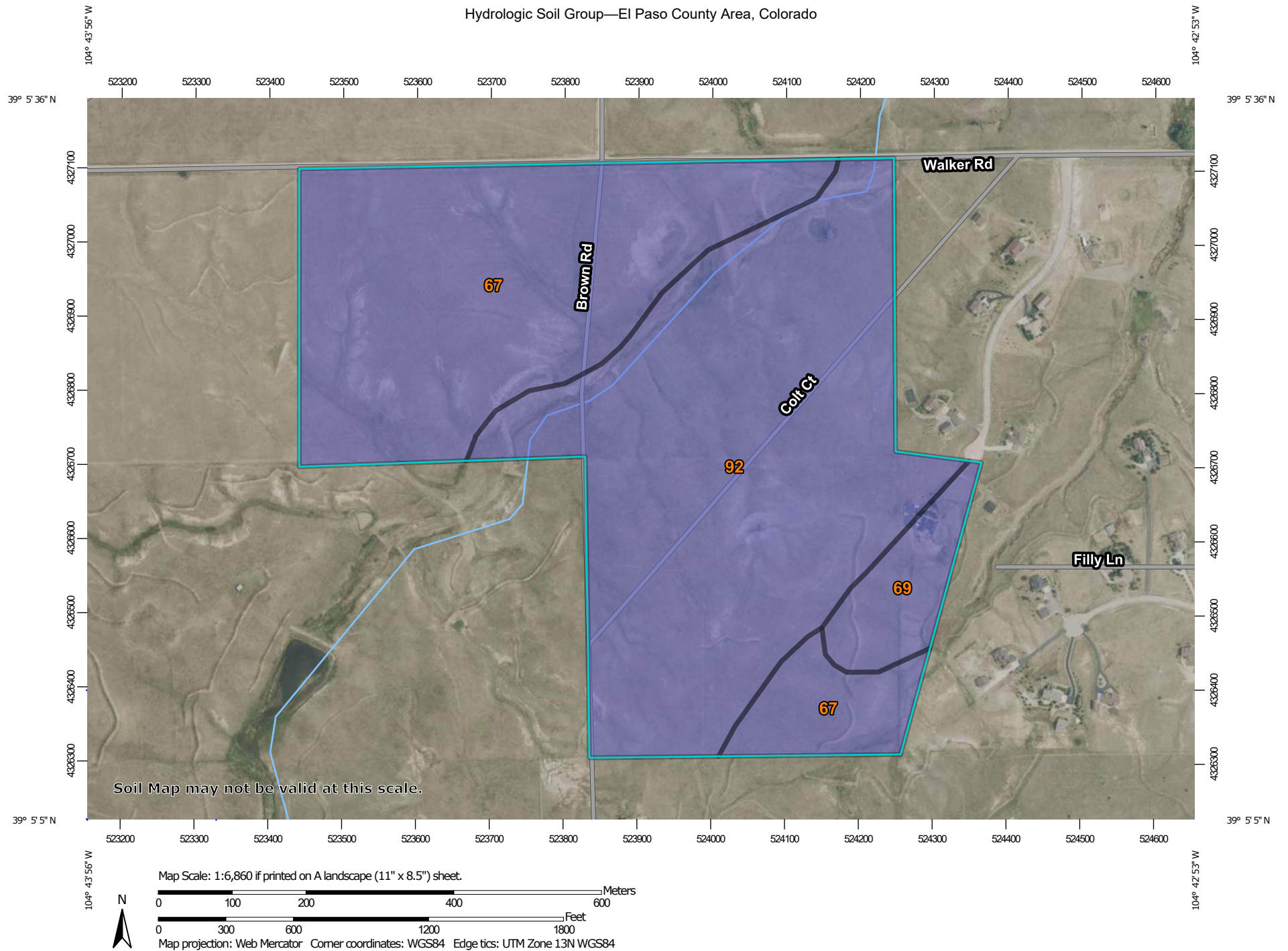
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Hydrologic Soil Group—El Paso County Area, Colorado



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 22, Sep 3, 2024

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

Date(s) aerial images were photographed: Jul 23, 2024—Aug 4, 2024

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
67	Peyton sandy loam, 5 to 9 percent slopes	B	54.2	42.4%
69	Peyton-Pring complex, 8 to 15 percent slopes	B	6.8	5.3%
92	Tomah-Crowfoot loamy sands, 3 to 8 percent slopes	B	67.0	52.3%
Totals for Area of Interest			127.9	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.

Conservation Planning

This report provides those soil attributes for the conservation plan for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. It provides the soil description along with the slope, runoff, T Factor, WEI, WEG, Erosion class, Drainage class, Land Capability Classification, and the engineering Hydrologic Group and the erosion factors Kf, the representative percentage of fragments, sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. Further information on these factors can be found in the National Soil Survey Handbook section 618 found at the url http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/ref/?cid=nrcs142p2_054223#00 .

Report---Conservation Planning

Soil properties and interpretations for conservation planning. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

Conservation Planning—El Paso County Area, Colorado																	
Map symbol and soil name	Pct. of map unit	Slope RV	USLE Slope Length ft.	Runoff	T Factor	WEI	WEG	Erosion	Drainage	NIRR LCC	Hydrologic Group	Surface					
												Depths in.	Kf Factor	Frag-ments RV	Sand RV	Silt RV	Clay RV
67—Peyton sandy loam, 5 to 9 percent slopes																	
Peyton	85	7.0	—	Medium	5	86	3	—	Well drained	4e	B	0 - 11	.20	11	65	19	15
69—Peyton-Pring complex, 8 to 15 percent slopes																	
Peyton	45	9.0	—	Medium	5	86	3	—	Well drained	4e	B	0 - 11	.20	11	65	19	15
Pring	35	12.0	—	Low	5	86	3	—	Well drained	6e	B	0 - 14	.17	14	66	18	15
92—Tomah-Crowfoot loamy sands, 3 to 8 percent slopes																	
Tomah	50	6.0	—	Medium	4	134	2	—	Well drained	4e	B	0 - 9	.17	—	84	9	6
Crowfoot	30	6.0	—	Medium	3	134	2	—	Well drained	4e	B	0 - 11	.15	14	85	4	10

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 23, Aug 29, 2025



APPENDIX B – GEC PLANS

GRADING & EROSION CONTROL PLAN NOTES:

1. THE VERTICAL PHASE OF CONSTRUCTION IS NOT INCLUDED IN THESE PLANS. WHEN VERTICAL CONSTRUCTION COMMENCES, BUILDER AND/OR DEVELOPER SHALL SUBMIT BESQCP APPLICATION & AMEND THIS PLAN ACCORDINGLY.
2. THE LIMITS OF DISTURBANCE BOUNDARY REPRESENTS THE FILING 1 & 2 LIMITS. IT IS ANTICIPATED THAT ADDITIONAL AREA OUTSIDE THE PROPOSED GRADING LIMITS WILL BE DISTURBED RESULTING FROM TYPICAL CONSTRUCTION ACTIVITIES. HOWEVER, LOTS WILL NOT BE OVERLOT GRADED AT THIS TIME.
3. EXISTING VEGETATION: SITE IS VEGETATED CONSISTENTLY (APPROX. 70% COVERAGE) WITH GRASSES & SHRUBBERY. EXTENTS OF VEGETATION NOT SHOWN ON PLAN.
4. EROSION CONTROL BLANKET IS REQUIRED ON SLOPES STEEPER THAN 3:1. SLOPES FLATTER THAN 3:1 CAN BE BLANKETED AT THE EROSION CONTROL ADMINISTRATORS DISCRETION.
5. SEE STORM PLANS CULVERT/STORM PIPES DESIGN INCLUDING STABILIZATIONS/RIPRAP/OUTFALL PROTECTION REQUIREMENTS.
6. CHECK DAMS SHALL BE PER EPC FIGURE CD-1, ROCK TYPE, WITH AN H OF 1'. ALL CD'S TO REMAIN PERMANENTLY.

INITIAL PHASE TCM:

- INSTALL VEHICLE TRACKING CONTROL
- ESTABLISH STABILIZED STAGING AREA
- INSTALL PERIMETER CONTROLS I.E. SILT FENCE, CONSTRUCTION FENCING
- INSTALL TEMPORARY SEDIMENT BASIN

INTERIM PHASE TCM:

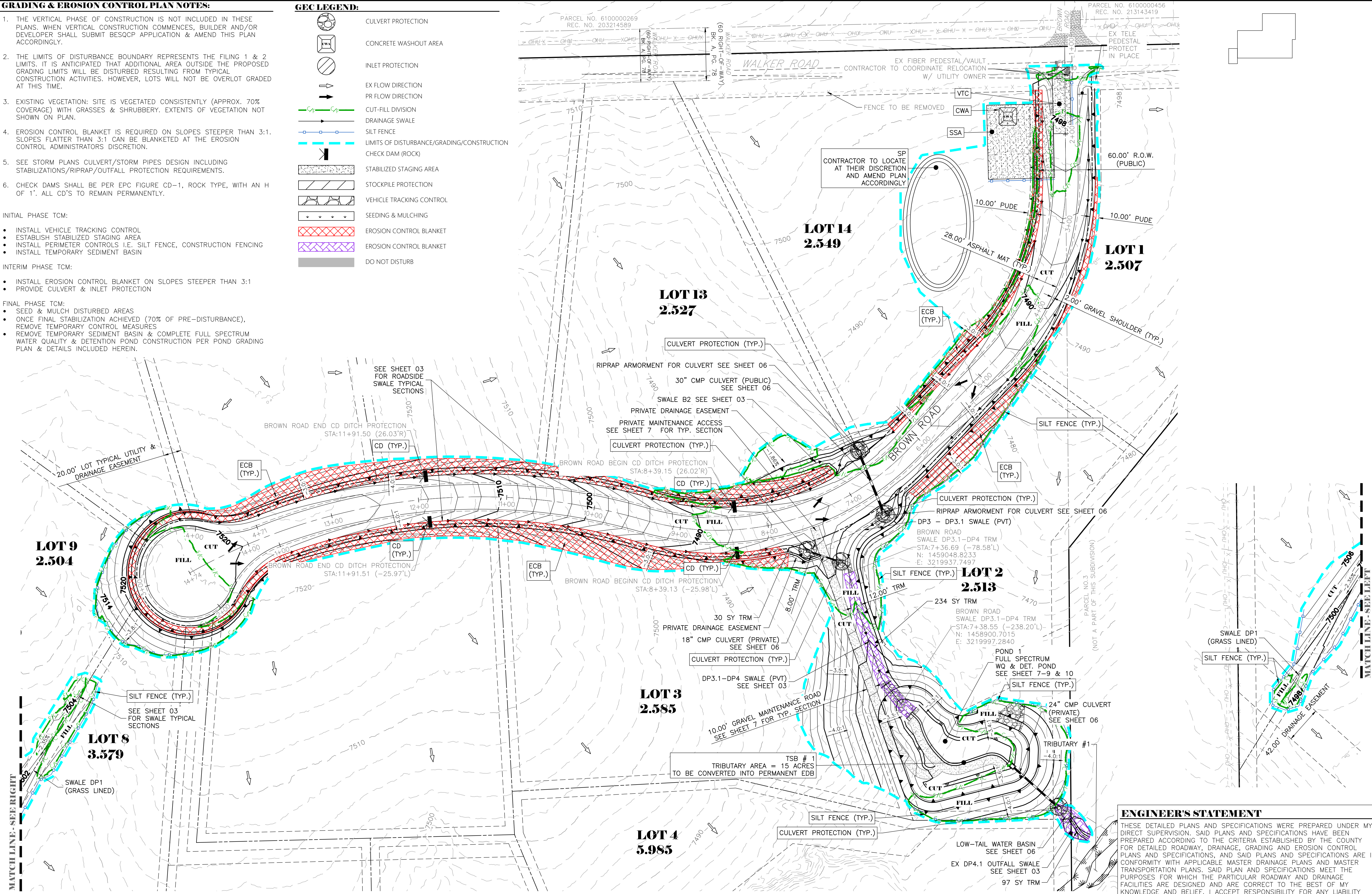
- INSTALL EROSION CONTROL BLANKET ON SLOPES STEEPER THAN 3:1
- PROVIDE CULVERT & INLET PROTECTION

FINAL PHASE TCM:

- SEED & MULCH DISTURBED AREAS
- ONCE FINAL STABILIZATION ACHIEVED (70% OF PRE-DISTURBANCE), REMOVE TEMPORARY CONTROL MEASURES
- REMOVE TEMPORARY SEDIMENT BASIN & COMPLETE FULL SPECTRUM WATER QUALITY & DETENTION POND CONSTRUCTION PER POND GRADING PLAN & DETAILS INCLUDED HEREIN.

GEC LEGEND:

- CULVERT PROTECTION
- CONCRETE WASHOUT AREA
- INLET PROTECTION
- EX FLOW DIRECTION
- PR FLOW DIRECTION
- CUT-FILL DIVISION
- DRAINAGE SWALE
- SILT FENCE
- LIMITS OF DISTURBANCE/GRADING/CONSTRUCTION
- CHECK DAM (ROCK)
- STABILIZED STAGING AREA
- STOCKPILE PROTECTION
- VEHICLE TRACKING CONTROL
- SEEDING & MULCHING
- EROSION CONTROL BLANKET
- EROSION CONTROL BLANKET
- DO NOT DISTURB



NOTES:

1. SEE SHEET 1 FOR ABBREVIATIONS AND GENERAL NOTES.
2. SEE SHEET 2 FOR LINE TYPE LEGEND AND STANDARD NOTES.
3. SEE SHEET 3 FOR TYPICAL SECTIONS OF ROADWAYS AND SWALES.
4. CONTRACTOR TO FAMILIARIZE SELF WITH SITE, PLANS, EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY QUESTIONS, DISCREPANCIES, CONFLICTS, OR REQUIRED CHANGES PRIOR TO COMMENCING CONSTRUCTION.
5. PLEASE NOTE, EXISTING UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO CONSTRUCTION AND MAY DIFFER THAN WHAT IS SHOWN IN THESE PLANS.

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.



ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

RYAN E. BURNS, P.E.
COLORADO P.E. 54412
FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC

PREPARED FOR:
ATTICUS LAND, LLC
PO BOX 88010
COLORADO SPRINGS, CO 80908
ATTN: JAKE DECOTO
206.419.4533
DECOTO@GMAIL.COM

UNTIL SUCH TIME AS THESE
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APPROPRIATE REVIEWING
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ENGINEERING APPROVES THEIR
USE ONLY FOR THE PURPOSES
DESIGNATED BY WRITTEN
AUTHORIZATION.

REV	DESCRIPTION	DATE

JOB NO: 25009 LOCATION: EPC

IRON RIDGE FIGING NO. 1

GEC PLAN

DESIGN: NJJ
REVIEW: REB
DATE: 5/22/26
H-SCALE: 1" = 50'
V-SCALE: 1" = 5'
SHEET
11 OF 15

GRADING & EROSION CONTROL PLAN NOTES:

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- INSTALL TEMPORARY SEDIMENT BASIN

INTERIM PHASE TCM:

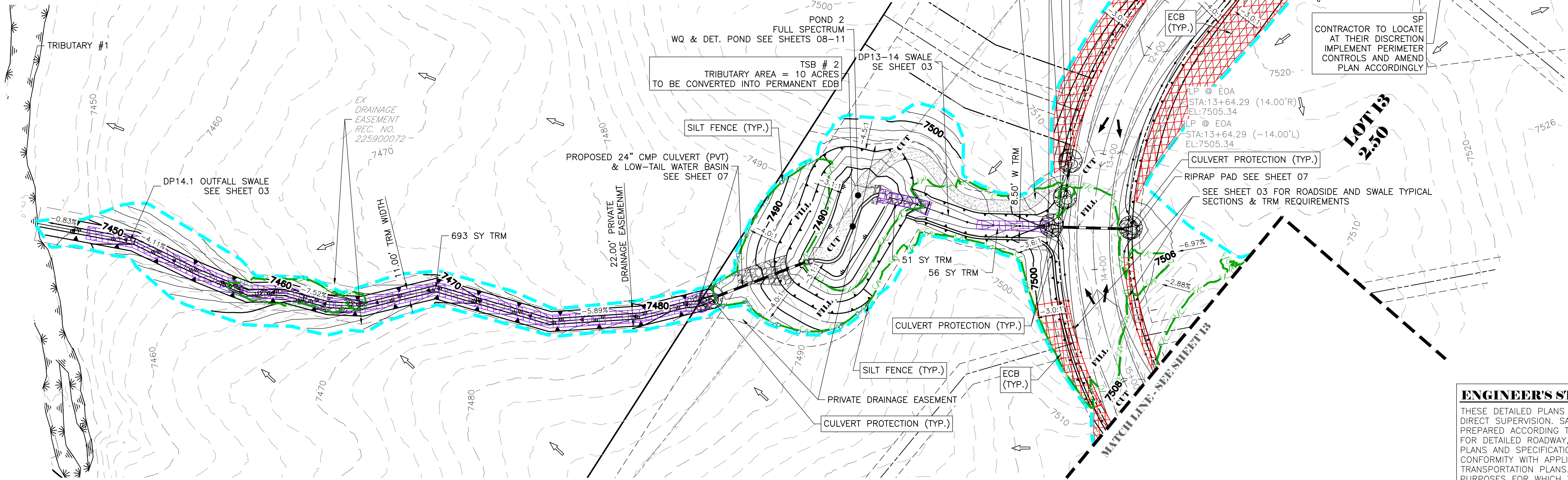
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GEC LEGEND:

- | | |
|--|--|
| | CULVERT PROTECTION |
| | CONCRETE WASHOUT AREA |
| | INLET PROTECTION |
| | EX FLOW DIRECTION |
| | PR FLOW DIRECTION |
| | CUT-FILL DIVISION |
| | DRAINAGE SWALE |
| | SILT FENCE |
| | LIMITS OF DISTURBANCE/GRADING/CONSTRUCTION |
| | CHECK DAM (ROCK) |
| | STABILIZED STAGING AREA |
| | STOCKPILE PROTECTION |
| | VEHICLE TRACKING CONTROL |
| | SEEDING & MULCHING |
| | EROSION CONTROL BLANKET |
| | EROSION CONTROL BLANKET |
| | DO NOT DISTURB |



NOTES:

1. SEE SHEET 1 FOR ABBREVIATIONS AND GENERAL NOTES.
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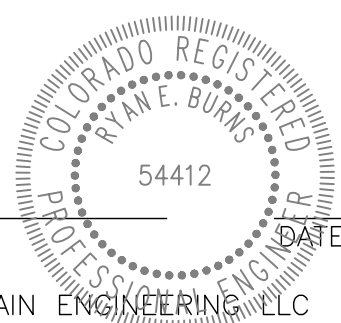
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FOR AND ON BEHALF OF ALL TERRAIN ENGINEERING, LLC



PREPARED FOR:

ATTICUS LAND, LLC
PO BOX 88010
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DESIGNATED BY WRITTEN
AUTHORIZATION.

REV	DESCRIPTION	DATE

IRON RIDGE FILING NO. 2

GEC PLANS

DESIGN: NQJ
REVIEW: REB
DATE: 9/2/26

H-SCALE: 1" = 50'

V-SCALE: 1" = 5'

SHEET

12 OF 17

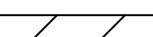
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- ESTABLISH STABILIZED STAGING AREA
- INSTALL PERIMETER CONTROLS I.E. SILT FENCE, CONSTRUCTION FENCING
- INSTALL TEMPORARY SEDIMENT BASIN

- INSTALL EROSION CONTROL BLANKET ON SLOPES STEEPER THAN 3:1
- PROVIDE CULVERT & INLET PROTECTION

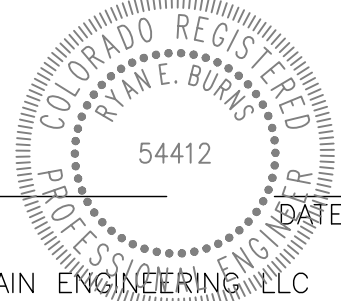
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- | | |
|---|--|
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|  | INLET PROTECTION |
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|  | CUT-FILL DIVISION |
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|  | CHECK DAM (ROCK) |
|  | STABILIZED STAGING AREA |
|  | STOCKPILE PROTECTION |
|  | VEHICLE TRACKING CONTROL |
|  | SEEDING & MULCHING |
|  | EROSION CONTROL BLANKET |
|  | EROSION CONTROL BLANKET |
|  | DO NOT DISTURB |

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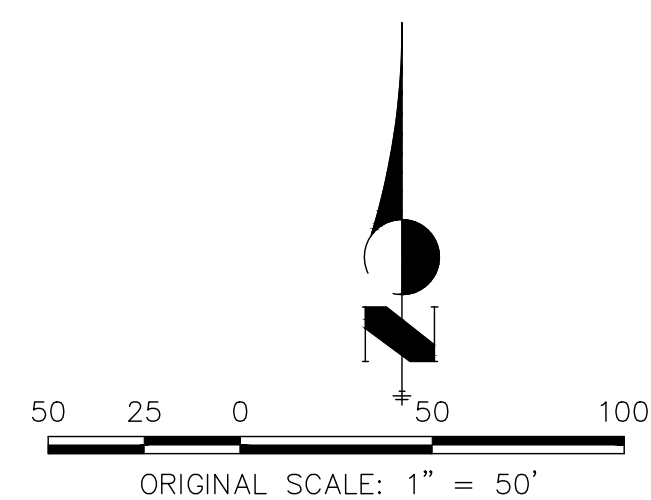


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Know what's **below**.
Call before you dig.

1. SEE SHEET 1 FOR ABBREVIATIONS AND GENERAL NOTES.
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[illegible]

IRON RIDGE FILING NO. 2

GEC PLANS

DESIGN: NQJ
REVIEW: REB
DATE: 9/2/26

-SCALE: 1" = 50'

-SCALE: 1" = 5'

HEET

3 OF 17

202.577.6656 - RBURNS@ALLTERRAINING.COM
 KATH E. BURNS, PE

KYAN E. BURNS, PT
203.577.6656 - RBURNS@ALTERRAINENQ.COM



APPENDIX C – GEC ADMINISTRATOR CERTIFICATION



APPENDIX D – CONSTRUCTION CONTROL MEASURE DETAILS

CHECK DAM

CD



1.0 DESCRIPTION

- Check dams are small temporary rock dams constructed across a swale or drainage ditch.

2.0 PURPOSE

- Used to slow down the velocity of concentrated flow to limit erosion and to promote sedimentation.
- Placed in areas of concentrated flow, such as a ditch or swale.

3.0 IMPLEMENTATION

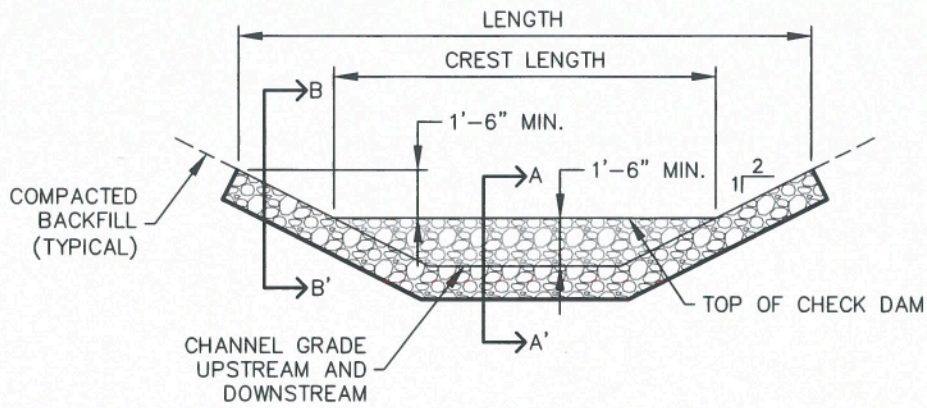
- Place check dams at regular intervals perpendicular to the direction of flow.
- Use check dams on mild or moderately steep slopes.
- Install wide enough check dams to reach from bank to bank of the ditch or swale.
- In general, the maximum spacing between check dams should be such that the toe of the upstream check dam is at the same elevation as the top of the downstream check dam.
- During installation, place rock mechanically or by hand.

4.0 TIMING

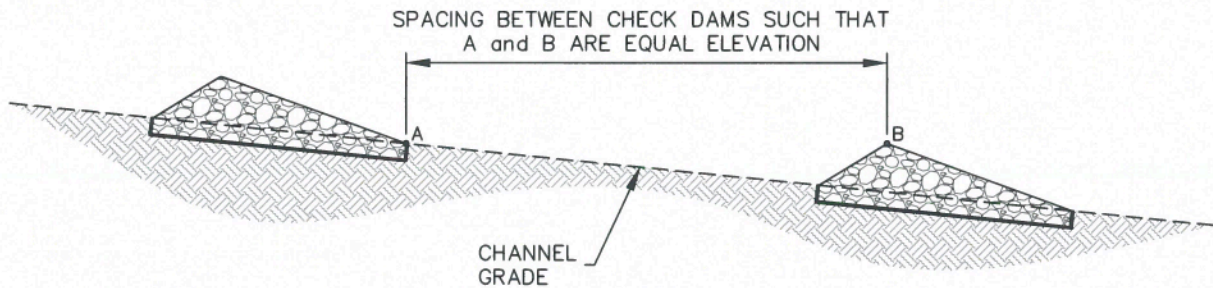
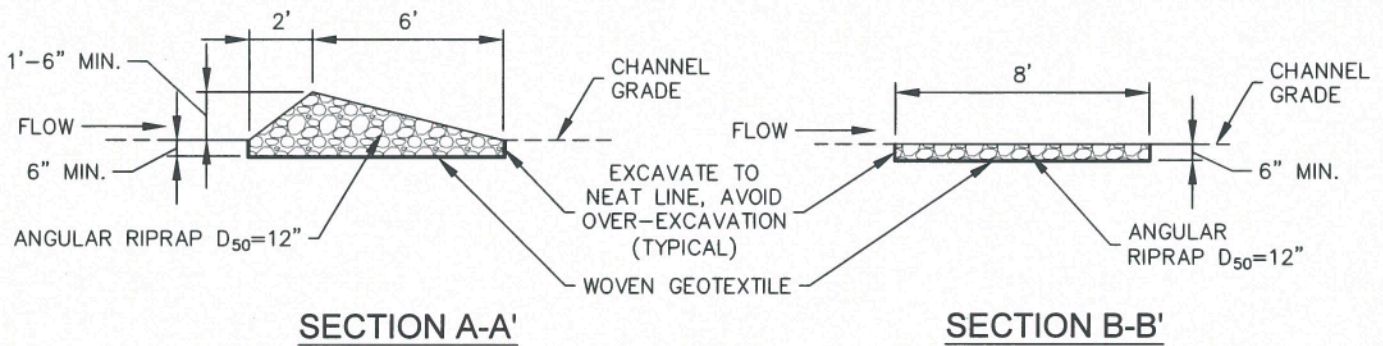
- Install prior to land disturbing activities.
- Remove after surrounding area has been permanently stabilized, or immediately prior to installation of a non-erodible lining. Permanently stabilize bare areas caused by check dams after removal.

5.0 MAINTENANCE

- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the check dam crest.
- Replace missing rocks causing voids in the check dam.
- Inspect for erosion along the ends of check dams and repair when necessary.



CHECK DAM ELEVATION VIEW



PROFILE

INSTALLATION NOTES

1. CHECK DAMS SHOULD BE INSTALLED BEFORE UPSTREAM LAND DISTURBING ACTIVITIES.
2. RIPRAP PAD SHOULD BE TRENCHED INTO GROUND BY A MINIMUM OF 6".

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. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ THE HEIGHT OF THE CHECK DAM CREST.
3. CHECK DAMS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER CHECK DAMS ARE REMOVED IF REMOVAL IS REQUIRED.



CHECK DAM

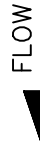
APPROVED:

SWENT MANAGER

ISSUED:
10/7/19

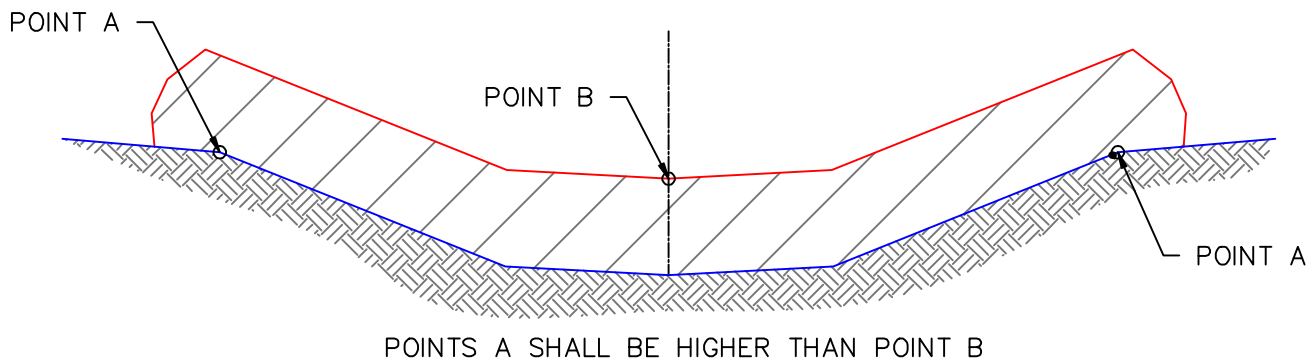
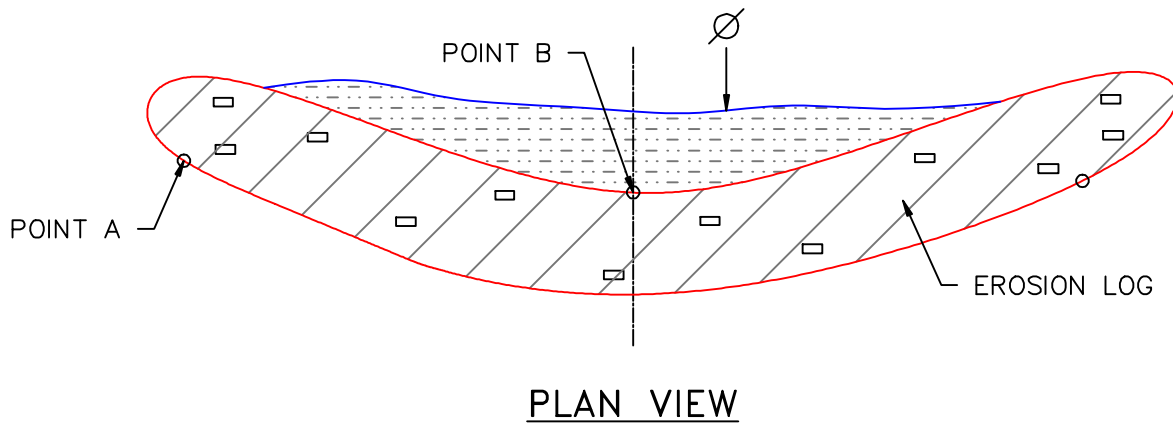
REVISED:
8/19/2020

DRAWING NO.
900-CD



Ø REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE HALF OF EXPOSED LOG HEIGHT. INSPECTIONS SHALL BE PERFORMED FREQUENTLY FOR PROPER FUNCTION.

EROSION LOGS SHOULD BE KEYED IN TO PREVENT UNDER-CUTTING



ELEVATION
EROSION LOG DETAIL DITCH INSTALLATION

NOTE: EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.

1/1/08

DATE APPROVED:

John A. McCarty

DEPARTMENT OF TRANSPORTATION

Erosion Log Check Dams

Standard Drawing

REVISION DATE:

7/17/07

FILE NAME:

SD_3-85



CULVERT INLET PROTECTION

CIP



1.0 DESCRIPTION

- Culvert inlet protection consists of a permeable sediment barrier installed upstream of a flared end section entrance to a culvert or storm sewer.

2.0 PURPOSE

- Used to prevent sediment and debris from entering a culvert or storm drainage system prior to permanent stabilization of the contributing disturbed area.
- Culvert inlet protection slows down runoff velocity to filter runoff and to promote sedimentation prior to entry into a culvert or storm drainage system.

3.0 IMPLEMENTATION

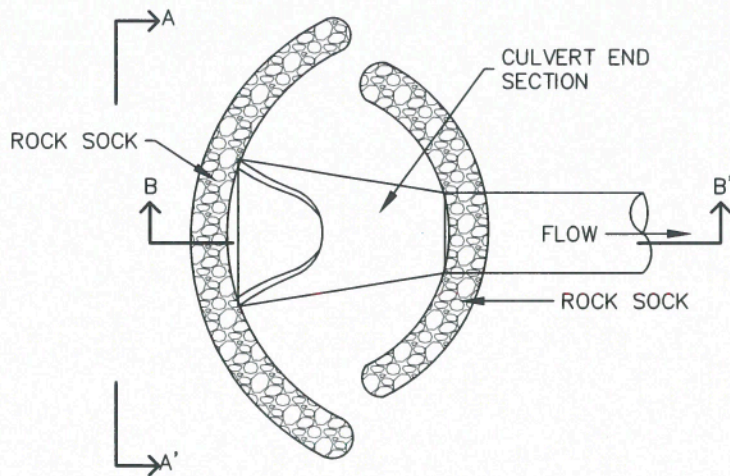
- Install culvert inlet protection at flared end section inlets to culverts and storm sewers that are operable and receiving runoff from disturbed areas during construction.
- Culvert inlet protection is not a stand-alone control measure and should be used in conjunction with other upgradient control measures. Culvert inlet protection with a contributing drainage area including of one acre or more of disturbed area must be part of a treatment train.

4.0 TIMING

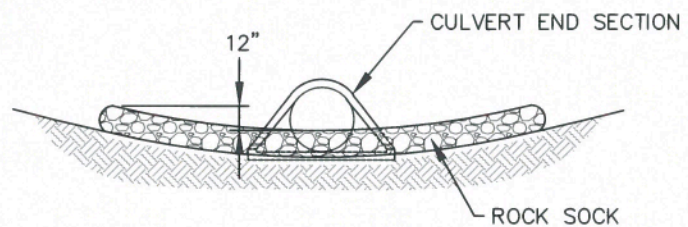
- Install prior to land disturbing activities, or immediately after pipe installation.
- Remove and properly dispose of culvert inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

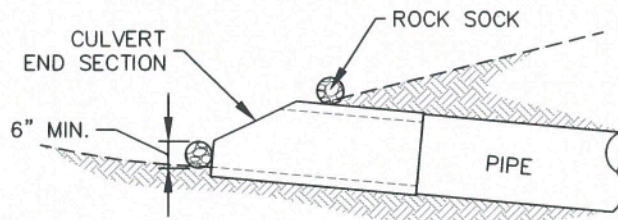
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.
- Inspect for displaced rock socks that are no longer protecting the inlet.



CULVERT INLET PROTECTION PLAN



SECTION A-A'



SECTION B-B'

INSTALLATION NOTES

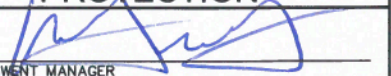
1. SEE ROCK SOCK DETAIL.

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. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS $\frac{1}{2}$ HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.



**CULVERT INLET
PROTECTION**

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CIP

CONCRETE WASHOUT AREA

CWA



1.0 DESCRIPTION

- Concrete washout areas consist of either an excavated pit or a prefabricated haul-away container designed to contain concrete and concrete waste water.

2.0 PURPOSE

- Used to contain concrete and concrete waste water when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery.
- Concrete washout areas consolidate solids for easier disposal and prevent runoff of concrete waste water, which is alkaline and contains high levels of chromium.

3.0 IMPLEMENTATION

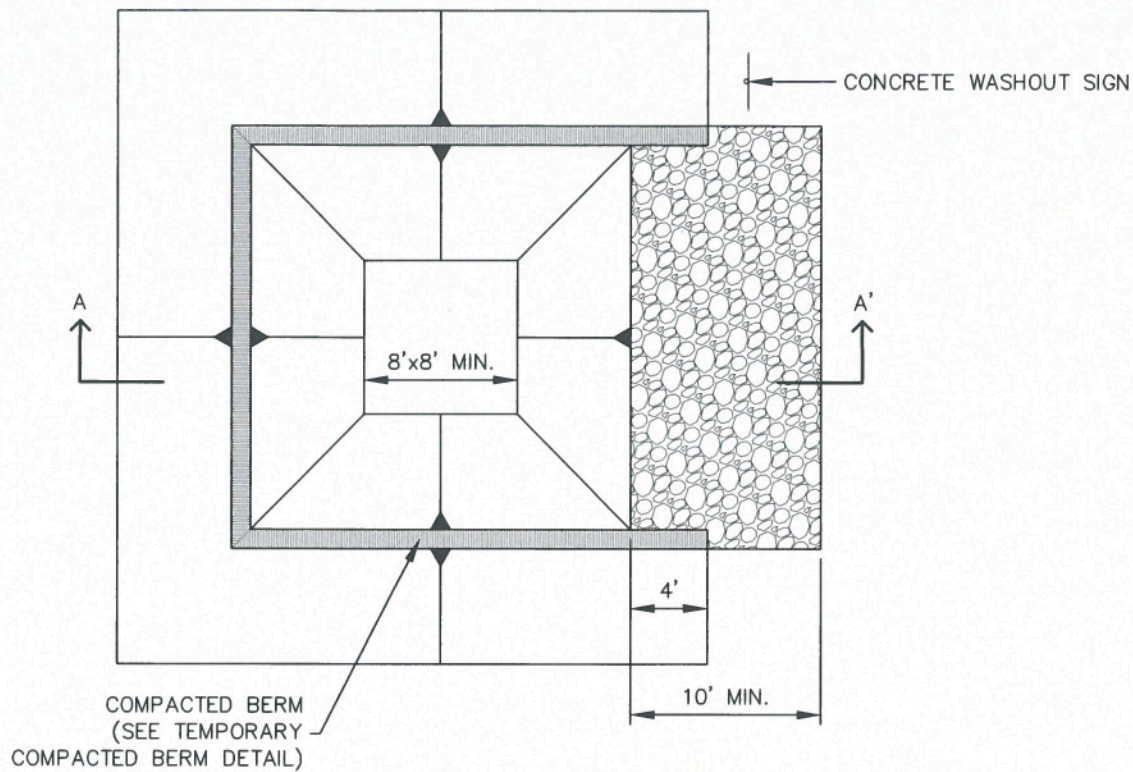
- Locate at least 50 feet away from State Waters, measured horizontally. Unlined concrete washout areas must be located at least 400 feet away from State Waters, and at least 1000 feet away from wells or drinking water sources.
- Do not locate in areas where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.
- Do not place in areas subject to run-on.
- Label areas with appropriate signage.
- The addition of solvents, flocculents, or acid to wash water is prohibited.

4.0 TIMING

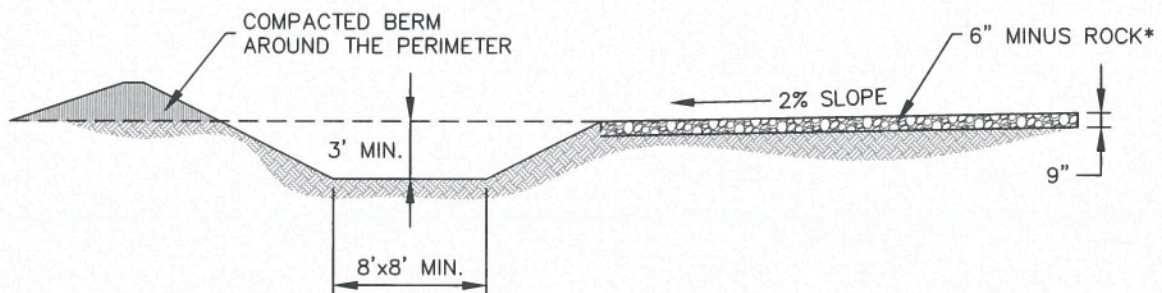
- Install prior to concrete activities.
- Remove after concrete activities have concluded.

5.0 MAINTENANCE

- Clean out facilities once they are 2/3 full, or construct new facilities for additional capacity.
- Concrete waste must be permanently disposed of off-site in an appropriate manner.



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

*ROCK REQUIRED BASED ON
SITE CONDITIONS AT THE
DISCRETION OF THE GEC
INSPECTOR



**CONCRETE
WASHOUT AREA**

APPROVED:		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-CWA-1

INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-LOCATION OF CONCRETE WASHOUT AREA
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL. MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF $\frac{2}{3}$ THE HEIGHT OF THE CONCRETE WASH AREA.
3. 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.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.



CONCRETE WASHOUT AREA

APPROVED:

SWENT MANAGER

ISSUED:

10/7/19

REVISED:

8/19/2020

DRAWING NO.

900-CWA-2

EROSION CONTROL BLANKET

ECB



1.0 DESCRIPTION

- Woven blankets made of natural and biodegradable materials placed on disturbed areas and secured to the ground with staples or stakes.

2.0 PURPOSE

- Used to control erosion, retain sediment resulting from sheet flow, and protect newly seeded areas.

3.0 IMPLEMENTATION

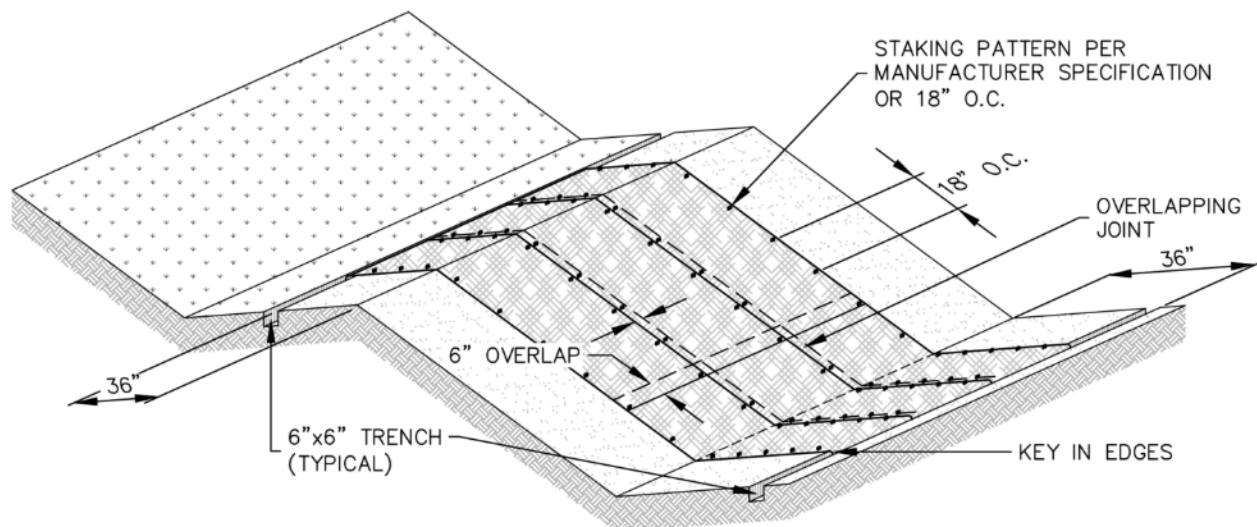
- Install erosion control blankets over uniform surfaces, with no large rocks, vegetation, or rills.
- Properly prepare topsoil and apply seed prior to blanket installation.
- Erosion control blankets must be made from 100% natural and biodegradable materials.
- Turf reinforcement mats may be used in place of erosion control blankets when specified by engineer.

4.0 TIMING

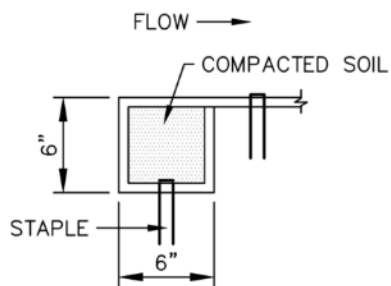
- Install in disturbed areas after final grading and seeding has been completed.
- Leave erosion control blankets in place to biodegrade, or remove if required by the GEC Inspector.

5.0 MAINTENANCE

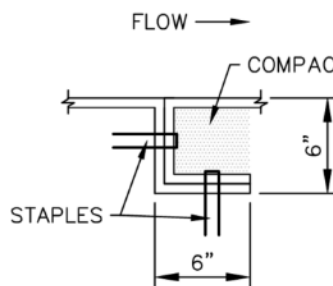
- Any erosion control blanket pulled out, torn, or otherwise damaged shall be repaired or reinstalled.
- Any subgrade areas below the geotextile that have eroded to create a void under the blanket, or that remain devoid of grass shall be repaired, reseeded and mulched and the erosion control blanket reinstalled.
- Broken or damaged staking must be repaired immediately when identified.



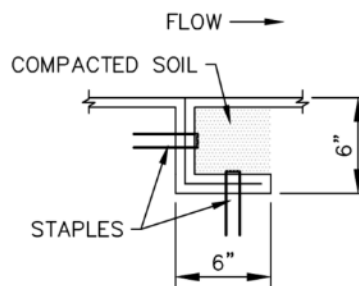
EROSION CONTROL BLANKET



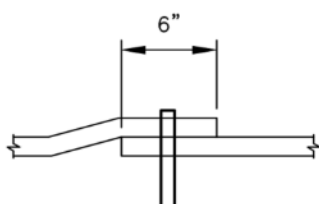
PERIMETER
ANCHOR TRENCH



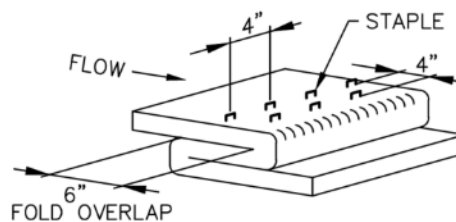
JOINT
ANCHOR TRENCH



INTERMEDIATE
CHECK SLOT



OVERLAPPING
JOINT



STAPLE CHECK
TO BE USED ON SLOPE EVERY 15 FEET



EROSION CONTROL BLANKET

APPROVED:
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-ECB-1
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INSTALLATION NOTES

1. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY BE USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
2. IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
3. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
4. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
5. INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
6. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
7. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
8. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEED AND MULCHED.
9. STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
10. COMPACT ALL TRENCHES.

MAINTENANCE NOTES

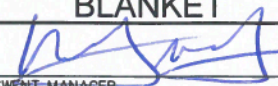
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TABLE ECB-1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	—	100%	—	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	—	DOUBLE/NATURAL
COCONUT	100%	—	—	DOUBLE/NATURAL
EXCELSIOR	—	—	100%	DOUBLE/NATURAL



EROSION CONTROL BLANKET

APPROVED: 
SWENT MANAGER

ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-ECB-2
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INLET PROTECTION

IP



1.0 DESCRIPTION

- Inlet protection consists of a permeable sediment barrier installed around a storm inlet.

2.0 PURPOSE

- Used to minimize the amount of sediment and debris entering a storm drainage system prior to permanent stabilization of the contributing disturbed area.
- Inlet protection slows down runoff velocity to filter runoff and to promote sedimentation prior to entry into a storm drainage system.

3.0 IMPLEMENTATION

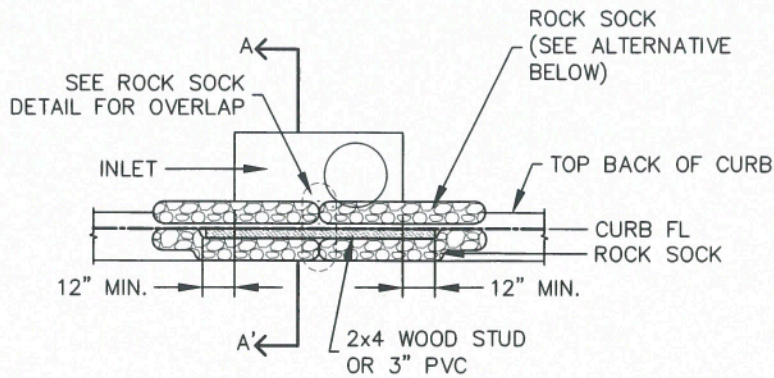
- Install inlet protection at storm sewer inlets that are operable and receiving runoff from disturbed areas during construction.
- Place inlet protection to allow the inlet to function without completely blocking flows into the inlet in a manner than causes localized flooding.
- Inlet protection is not a stand-alone control measure and should be used in conjunction with other upgradient control measures. Inlet protection in areas with a contributing drainage area of one acre or larger must be part of a treatment train.
- When selecting the type of inlet protection, consider factors such as type of inlet, traffic, anticipated flows, ability to secure the inlet protection, safety, and other site-specific conditions.

4.0 TIMING

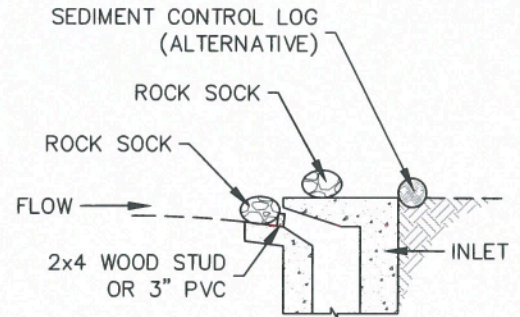
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

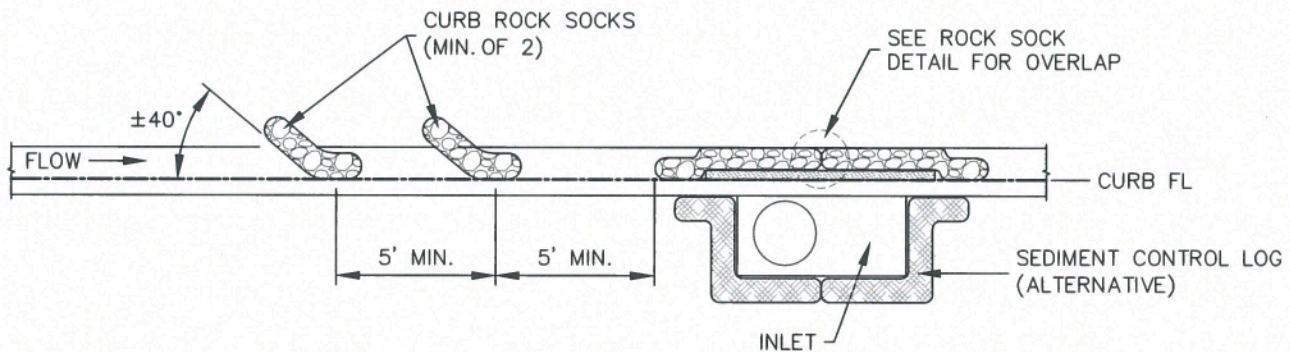
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the design depth of the inlet barrier.
- Inspect for holes or tears that can result in sediment directly entering the inlet.
- Inspect for displaced inlet protection that is no longer protecting the inlet.



CURB INLET PROTECTION PLAN



SECTION A-A'



CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
3. ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
4. AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.
5. ADDITIONAL ROCK SOCKS MAY BE REQUIRED AT GEC INSPECTOR'S DISCRETION.

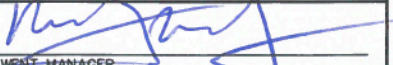
MAINTENANCE NOTES

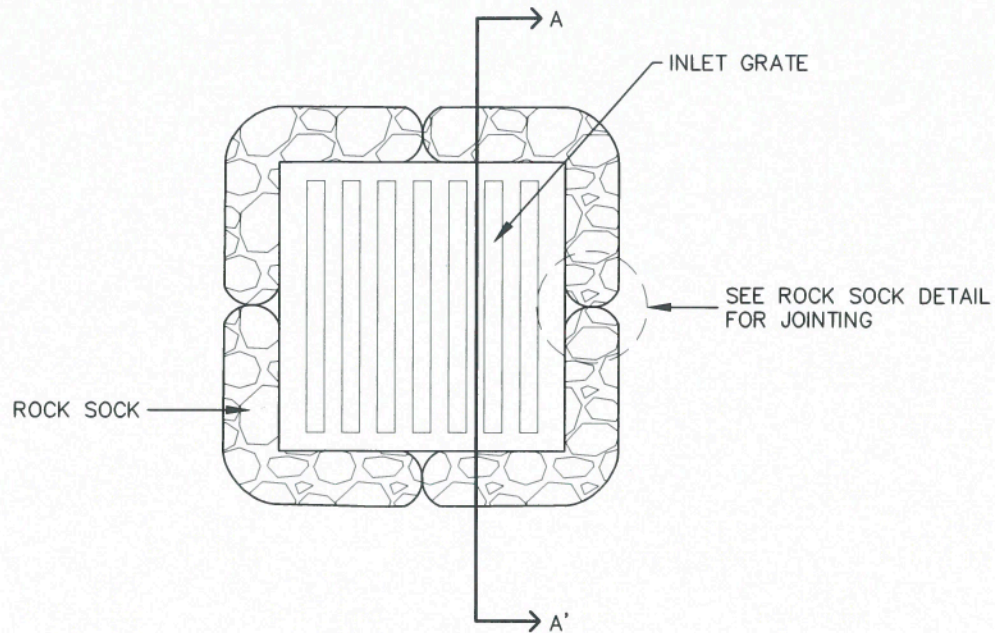
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-1

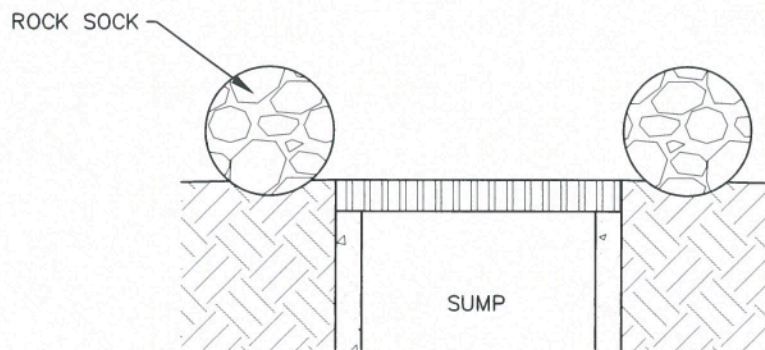


**ON-GRADE INLET
PROTECTION**

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-IP-1



ROCK SOCK SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS IN PVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL
3. CONTROL MEASURES MUST BE WRAPPED AROUND INLET AS TIGHTLY AS POSSIBLE.

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. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-2



SUMP INLET PROTECTION

APPROVED:

SWENT MANAGER

ISSUED:

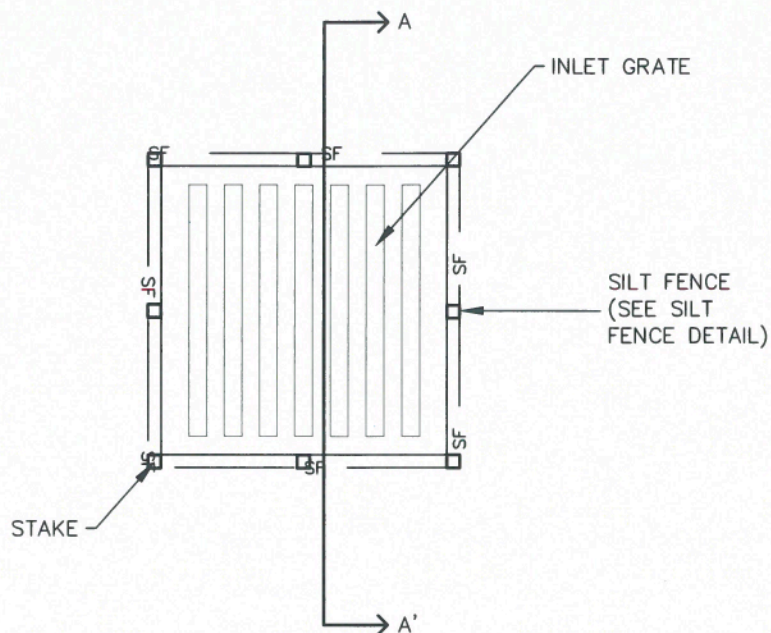
10/7/19

REVISED:

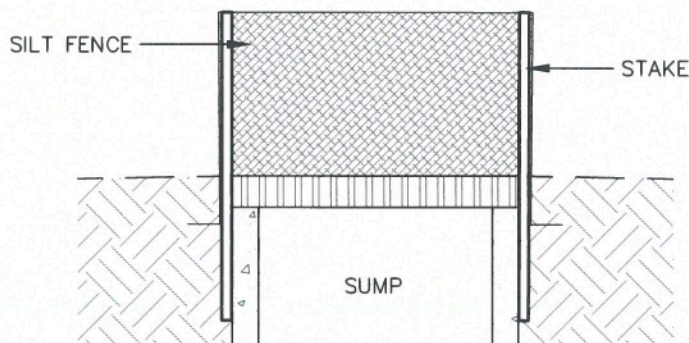
8/19/2020

DRAWING NO.

900-IP-2



SILT FENCE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. SEE SILT FENCE DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF THREE FEET.
3. SILT FENCE FABRIC SHOULD HAVE A FLOW RATE IN EXCESS OF 30 GALLONS PER MINUTE PER SQUARE YARD SO AS TO ALLOW SOME WATER FLOW AND NOT DAM THE WATER. STANDARD, LOW-FLOW SILT FENCE FABRIC WILL NOT BE ALLOWED.

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. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER SILT FENCE IS REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-3



SUMP INLET PROTECTION

APPROVED:

SWENT MANAGER

ISSUED:

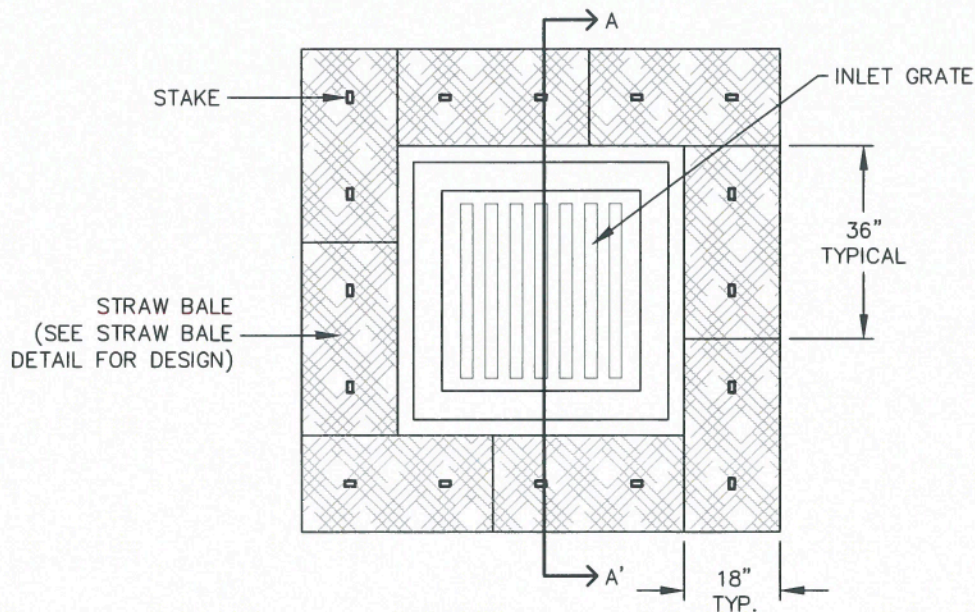
10/7/19

REVISED:

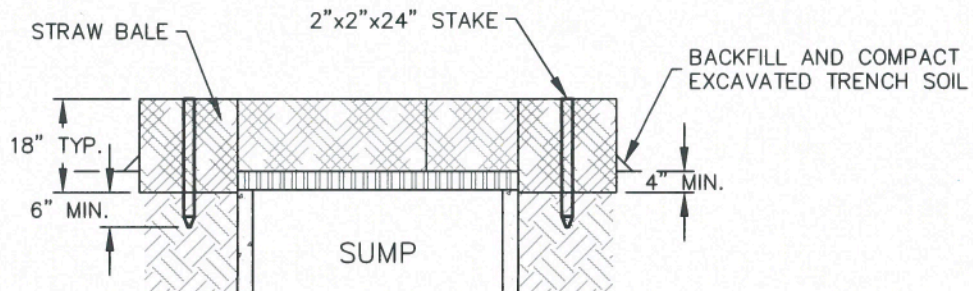
8/19/2020

DRAWING NO.

900-IP-3



STRAW BALE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

1. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH THE ENDS OF THE BALES TIGHTLY ABUTTING ONE ANOTHER.
2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.
4. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
5. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PACED SO THAT THE BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALE(S).
6. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"x2"x24 (MIN.)". WOODEN STAKES SHALL BE DRIVEN A MINIMUM OF 6" INTO THE GROUND.

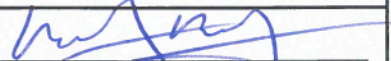
MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. STRAW BALES MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER STRAW BALES ARE REMOVED WHEN REMOVAL IS APPROPRIATE.
5. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN OR DAMAGED BEYOND REPAIR.

IP-4

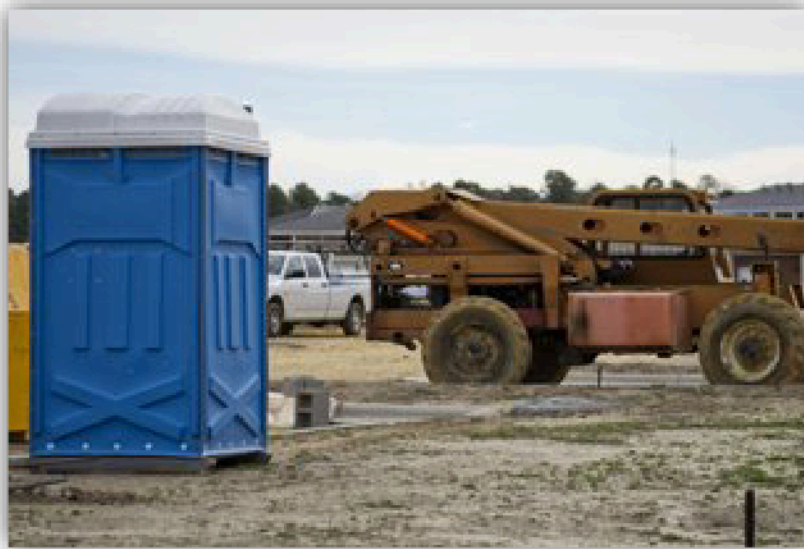


SUMP INLET PROTECTION

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-IP-4

PORTABLE TOILET

PT



1.0 DESCRIPTION

- The portable toilet detail provides requirements for portable toilet use on construction sites.

2.0 PURPOSE

- Used to minimize the risk of pollutant migration to State Waters.

3.0 IMPLEMENTATION

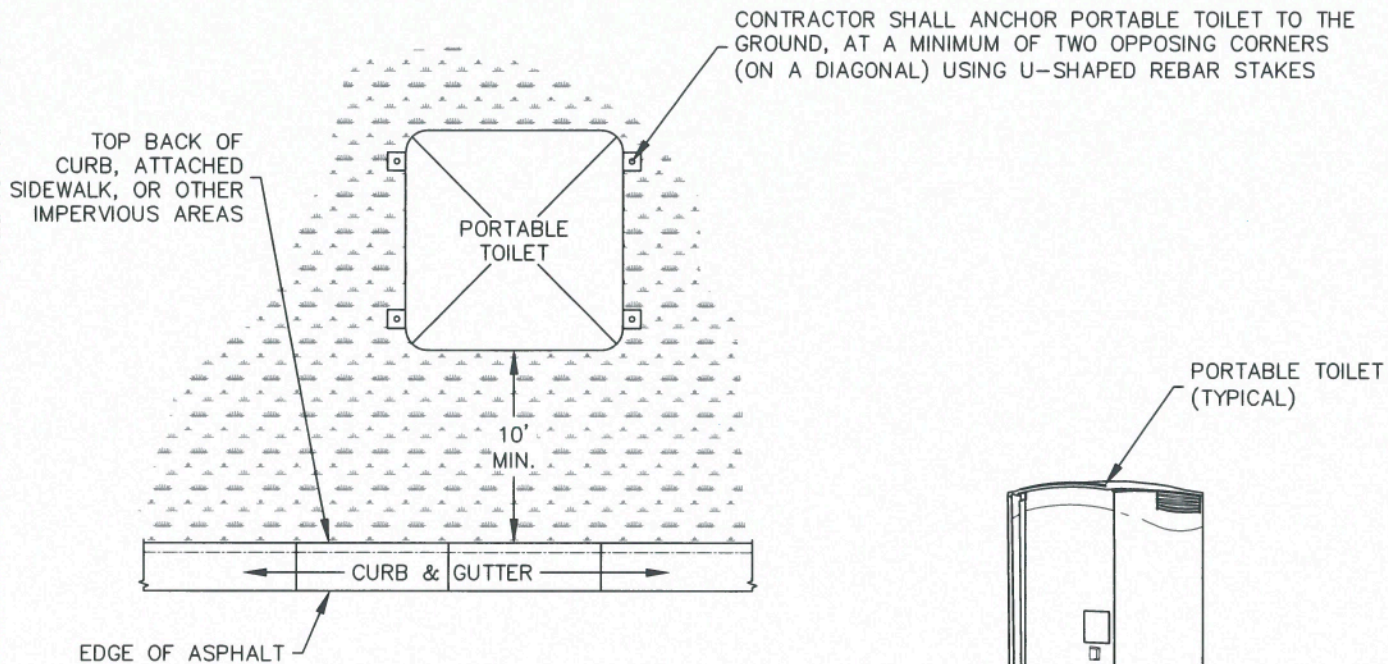
- Place portable toilet a minimum of 10 feet from the back of curb or on a trailer for road projects or sites that are mostly paved.
- Anchor portable toilet to the ground, at a minimum of two opposing corners (on a diagonal) using U-shaped rebar stakes.

4.0 TIMING

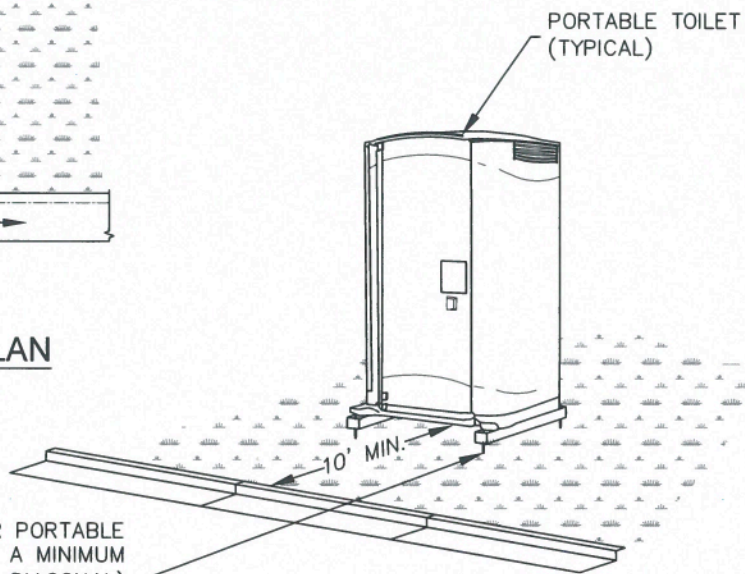
- Install as needed.
- Remove prior to the end of construction. Permanently stabilize any disturbed areas associated with the installation, maintenance, and/or removal of the toilets.

5.0 MAINTENANCE

- Portable toilets shall be serviced at the necessary intervals to eliminate the possibility of overflow.



PORTABLE TOILET PLAN



ISOMETRIC

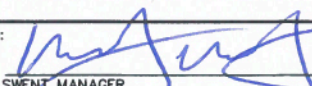
INSTALLATION NOTES

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 GEC 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	
			APPROVED:  SWENT MANAGER	
ISSUED:	2/19/19	REVISED:	8/19/2020	DRAWING NO.
				900-PTM

ROCK SOCK

RS



1.0 DESCRIPTION

- A rock sock consists of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter.

2.0 PURPOSE

- Used to slow down the velocity of runoff to filter runoff and to promote sedimentation.
- Rock socks are typically used as either perimeter control or as a part of inlet protection.

3.0 IMPLEMENTATION

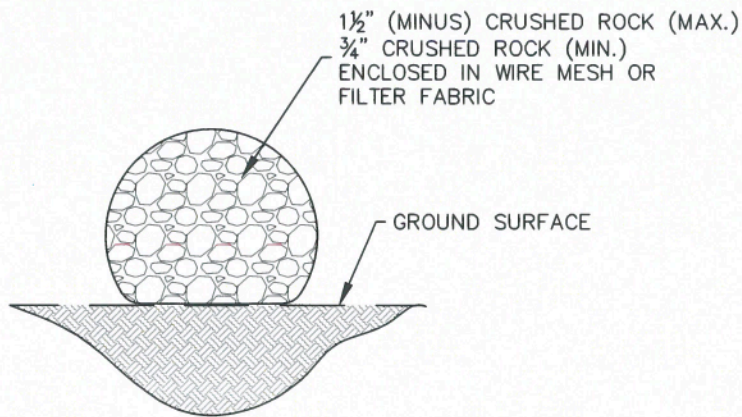
- Rock socks do not require trenching or staking, and are able to be placed on hard surfaces where trenching or staking would be impossible.
- The maximum tributary drainage area per 100 liner feet of rock socks is 1/4 acre.
- When placed in a gutter adjacent to a curb, rock socks should protrude no more than two feet from the curb in order for traffic to pass safely.
- Proprietary rock socks can be used in place of wire mesh rock socks.

4.0 TIMING

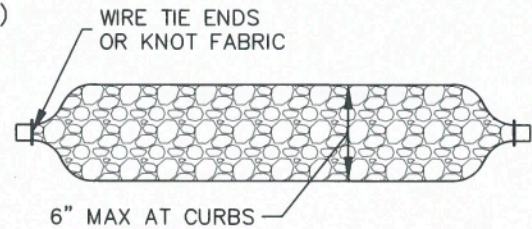
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

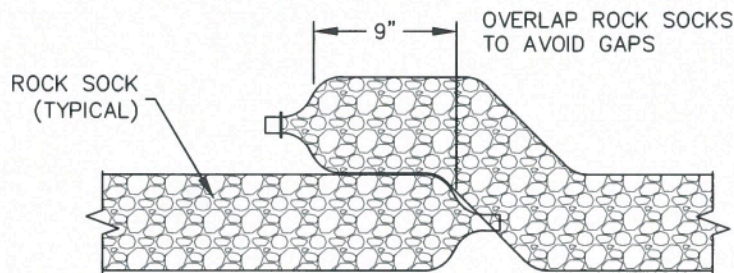
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.
- Inspect for and replace damaged or displaced rock socks.



ROCK SOCK SECTION



ROCK SOCK PLAN



ROCK SOCK OVERLAP

GRADATION TABLE

	MASS PERCENT PASSING SQUARE MESH SIEVES
	No. 4
2"	100
1 1/2"	90-100
1"	20-55
3/4"	0-15
3/8"	0-5

MATCHES SPECIFICATIONS FOR
No. 4 COARSE AGGREGATE FOR
CONCRETE PER AASHTO M-43.
ALL ROCK SHALL BE FRACTURED
FACE, ALL SIDES

INSTALLATION NOTES

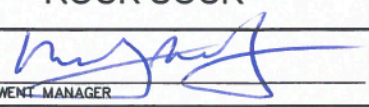
1. CRUSHED ROCK SHALL BE BETWEEN MAX. 1 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. 3/4" CRUSHED ROCK.
2. WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
3. WIRE MESH SHALL BE SECURED USING 'HOG RINGS' OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

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. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES 1/2 OF THE HEIGHT OF THE ROCK SOCK.
4. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
5. PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.



ROCK SOCK

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-RS

SEDIMENT CONTROL LOG

SCL



1.0 DESCRIPTION

- A sediment control log is a temporary sediment barrier consisting of a linear roll of natural materials such as straw, compost, excelsior or coconut fiber.

2.0 PURPOSE

- Used to intercept sheet flow prior to leaving a construction site.
- May be used around the perimeter of a construction site.
- Placed on long slopes to slow down flows.

3.0 IMPLEMENTATION

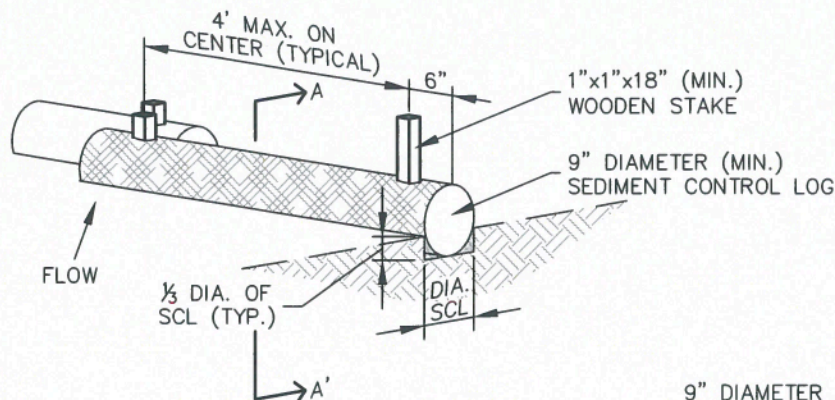
- Install sediment control logs to intercept sheet flow runoff from disturbed areas.
- Install sediment control logs along the contour of slopes or in a manner to avoid creating concentrated flow.
- Place sediment control logs against sidewalk or back of curb when adjacent to these features.
- The maximum tributary drainage area per 100 linear feet of sediment control logs is 1/4 acre.
- Sediment control logs shall consist of straw, compost, excelsior or coconut fiber, and shall be free from any noxious weed seeds or defects.

4.0 TIMING

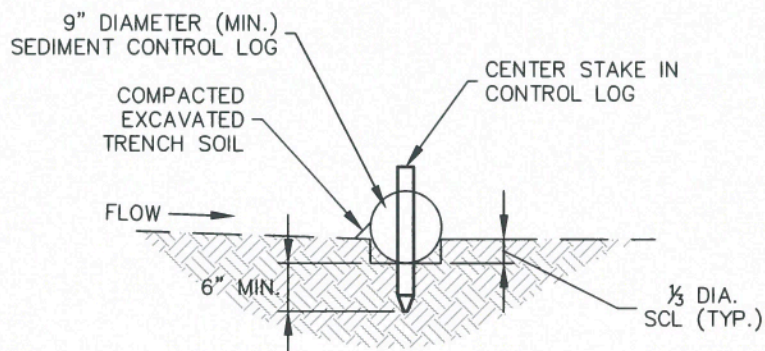
- Install prior to land disturbing activities.
- Remove sediment control logs after the upstream area has been permanently stabilized.

5.0 MAINTENANCE

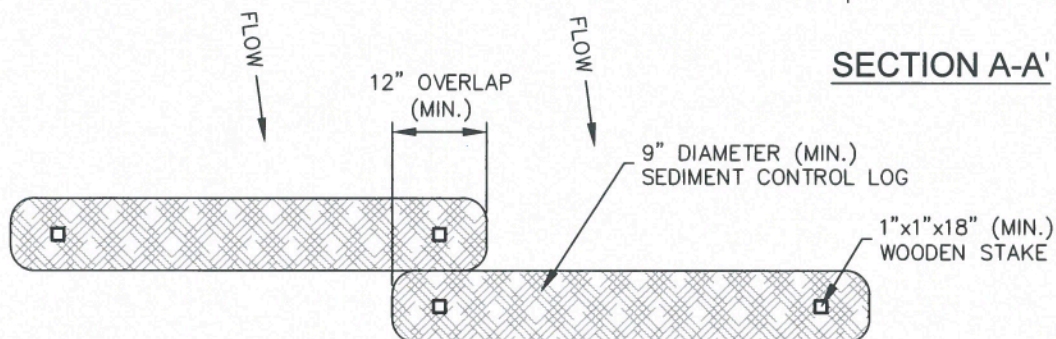
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed sediment control log.
- Inspect for and repair or replace damaged sediment control logs.



SEDIMENT CONTROL LOG



SECTION A-A'



SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

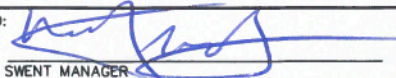
1. ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO $\frac{1}{3}$ OF THE HEIGHT OF THE LOG
2. LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
3. PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
4. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE FROM ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
5. IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

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. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
3. PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.



SEDIMENT CONTROL LOGS

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-SCL

SILT FENCE

SF



1.0 DESCRIPTION

- Silt fence is a temporary sediment barrier consisting of woven geotextile fabric attached to supporting posts and trenched into the soil.

2.0 PURPOSE

- Used to intercept sheet flow prior to leaving a construction site.
- May be used around the perimeter of a construction site.

3.0 IMPLEMENTATION

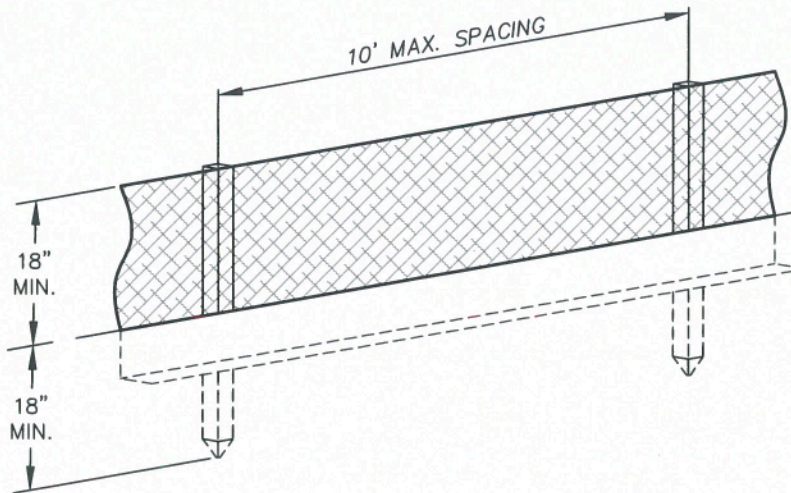
- Install silt fence to intercept sheet flow runoff from disturbed areas.
- Silt fence is not designed to be used as a filter fabric.
- Do not install silt fence across streams, channels, swales, ditches, or other drainageways.
- Install silt fence along the contour of slopes or in a manner to avoid creating concentrated flow (i.e. "J-hook" installation).
- The maximum tributary drainage area per 100 liner feet of silt fence is 1/4 acre.
- Properly installed silt fence should not be easily pulled out by hand and there should be no gaps between the ground and fabric.

4.0 TIMING

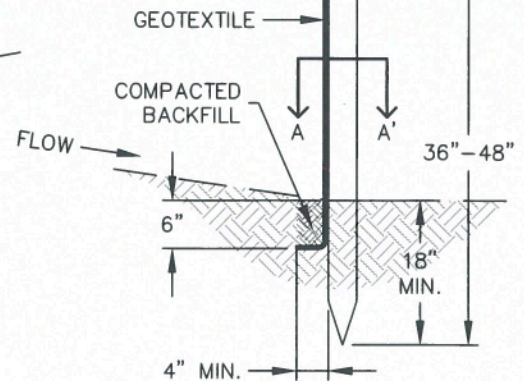
- Install prior to land disturbing activities.
- Remove silt fence after the upstream area has been permanently stabilized.

5.0 MAINTENANCE

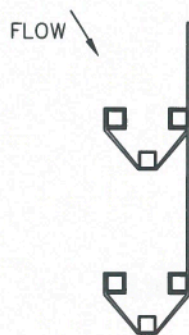
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed silt fence.
- Inspect for and repair or replace damaged silt fence.



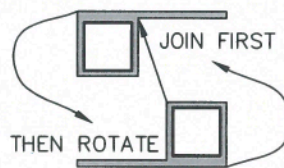
1½"x1½" (RECOMMENDED)
WOODEN FENCE POST
WITH 10' MAX. SPACING



SILT FENCE



J-HOOK INSTALLATION



SECTION A-A'

INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'-5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).

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. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.



SILT FENCE

APPROVED:

SWENT MANAGER

ISSUED:

10/7/19

REVISED:

8/19/2020

DRAWING NO.

900-SF

SEEDING AND MULCHING

SM



1.0 DESCRIPTION

- The preparation of soil, application of much, and application of seed to disturbed areas.

2.0 PURPOSE

- Used to control runoff and erosion on disturbed areas by establishing vegetative cover.
- Reduces erosion and sediment loss.
- Provides permanent stabilization in disturbed areas.

3.0 IMPLEMENTATION

- All soil testing, soil amendment and fertilizer documentation, and seed load and bag tickets must be added to the CSWMP.
- Properly prepare soil prior to seeding and mulching.
- Apply seed mixes as specified in the City of Colorado Springs Stormwater Construction Manual. Alternative seed mixes are acceptable if included in an approved Landscaping Plan.
- Mulch seeded areas using hay or straw mulch, hydraulic mulching, or install erosion control blanket.

4.0 TIMING

- Seed and mulch disturbed areas after final grading.
- Seeding and mulching may also be used as a temporary erosion control measure during construction.

5.0 MAINTENANCE

- Repair and reseed bare areas as necessary.
- Restrict vehicle access to seeded areas.

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 SEEDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRIABLE 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-SEEDED WHENEVER POSSIBLE
 - SEED DEPTH MUST BE $\frac{1}{2}$ TO $\frac{1}{2}$ INCHES WHEN DRILL-SEEDED IS USED
3. BROADCAST SEEDING OR HYDRO-SEEDED 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-SEEDED
 - 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-SEEDED 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.



SEEDING & MULCHING

APPROVED:

SWENT MANAGER

ISSUED:

10/7/19

REVISED:

8/19/2020

DRAWING NO.

900-SM

STOCKPILE PROTECTION

SP



1.0 DESCRIPTION

- Perimeter control placed around stockpiles of soil and other erodible materials.

2.0 PURPOSE

- Used to avoid the migration of sediment and other materials from stockpiles.

3.0 IMPLEMENTATION

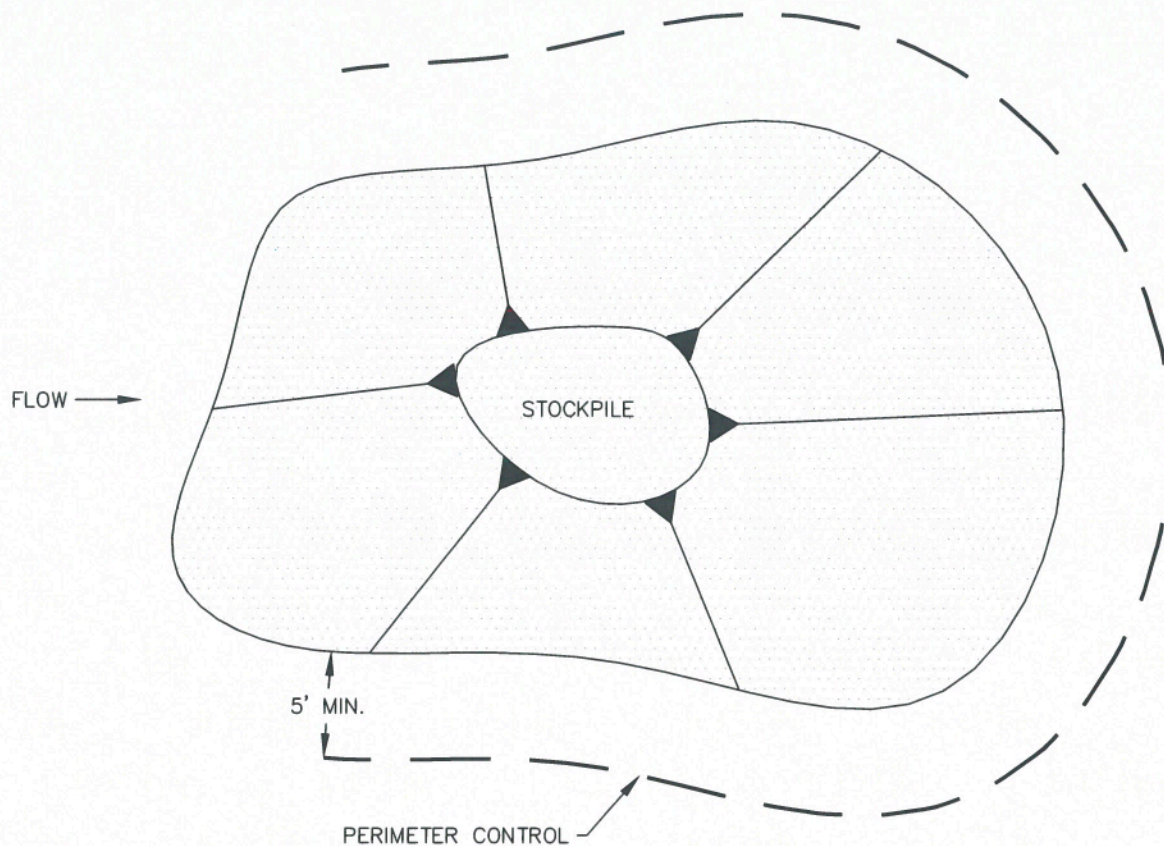
- Install perimeter control around stockpile on downgradient side.
- Stockpile perimeter controls may not be required for stockpiles on the interior portion of a construction site where other downgradient controls including perimeter control are in place.

4.0 TIMING

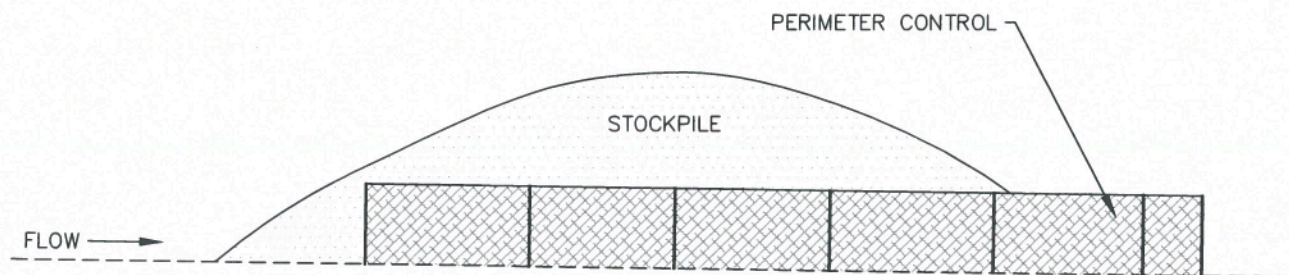
- Install immediately after stockpile has formed or limits are known, whichever occurs first.
- Remove stockpile protection after the stockpile has been removed.

5.0 MAINTENANCE

- Remove and properly dispose of sediment according to the perimeter control detail.
- If perimeter controls must be moved to access stockpile, replace perimeter controls by the end of the work day.
- Inspect for and repair and/or replace perimeter controls as needed to maintain functionality.



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

INSTALLATION NOTES

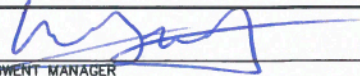
1. INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRAIDENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
2. FOR STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRAIDENT CONTROLS INCLUDING PERIMETER CONTROL ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

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. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.



STOCKPILE PROTECTION

APPROVED: 		
SWENT MANAGER		
ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SP

SURFACE ROUGHENING

SR



1.0 DESCRIPTION

- Surface roughening is a practice where the soil surface is roughened by the creation of grooves and depressions that run parallel to the contour of the land.

2.0 PURPOSE

- Used to create variations in the soil surface that slow down the velocity of runoff, increase infiltration, reduce erosion, and trap soil.
- May be used to help establish vegetative cover by reducing runoff velocity and giving seed an opportunity to take hold.

3.0 IMPLEMENTATION

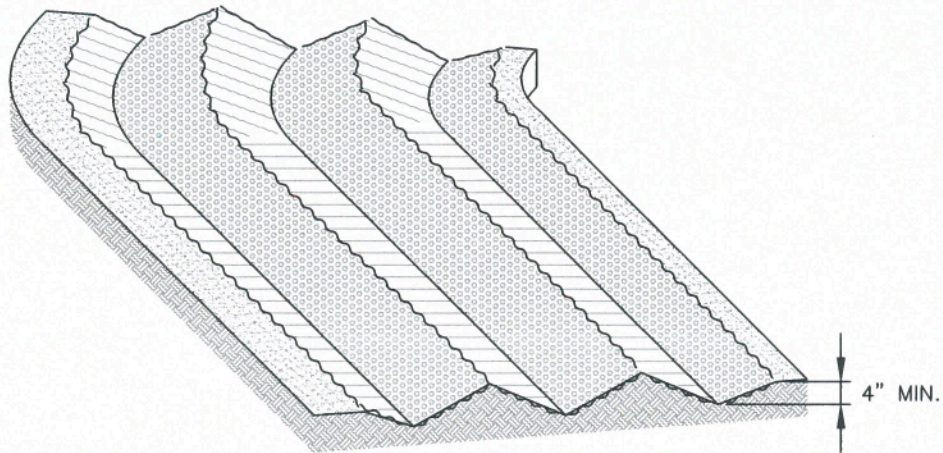
- Roughen soil in areas flatter than 3:1.
- Surface roughening may be completed by furrowing, scarifying, ripping, or disking soil.
- Grooves must be installed along contours to avoid concentrating flow.
- Do not use in areas with extremely sandy or rocky soils.

4.0 TIMING

- Install after overlot grading activities when area is in an interim condition or at final grade.
- Remove prior to permanent stabilization during soil preparation.

5.0 MAINTENANCE

- Inspect roughened areas for signs of erosion. Repeat surface roughening as needed.
- Do not allow vehicles to drive over surface roughened areas.



SURFACE ROUGHENING

INSTALLATION NOTES

1. SURFACE ROUGHENING MAY BE USED IN AREAS FLATTER THAN 3:1. INSTALL FURROWS ALONG CONTOUR TO INTERCEPT SHEET FLOW.
2. SURFACE ROUGHENING MAY BE ACCOMPLISHED BY FURROWING, SCARIFYING, RIPPING OR DISKING THE SOIL.
3. FURROWS MUST BE A MINIMUM OF 4" IN DEPTH.
4. SURFACE ROUGHENING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

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. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

SR



SURFACE ROUGHENING

APPROVED:

SWENT MANAGER

ISSUED:
10/7/19

REVISED:
8/19/2020

DRAWING NO.
900-SR

SLOPE TRACKING

ST



1.0 DESCRIPTION

- Slope tracking is a practice where construction equipment is used to create grooves and depressions that run parallel to the contour of the land on slopes.

2.0 PURPOSE

- Used to create variations in the soil surface that slow down the velocity of runoff, increase infiltration, reduce erosion, and trap soil.

3.0 IMPLEMENTATION

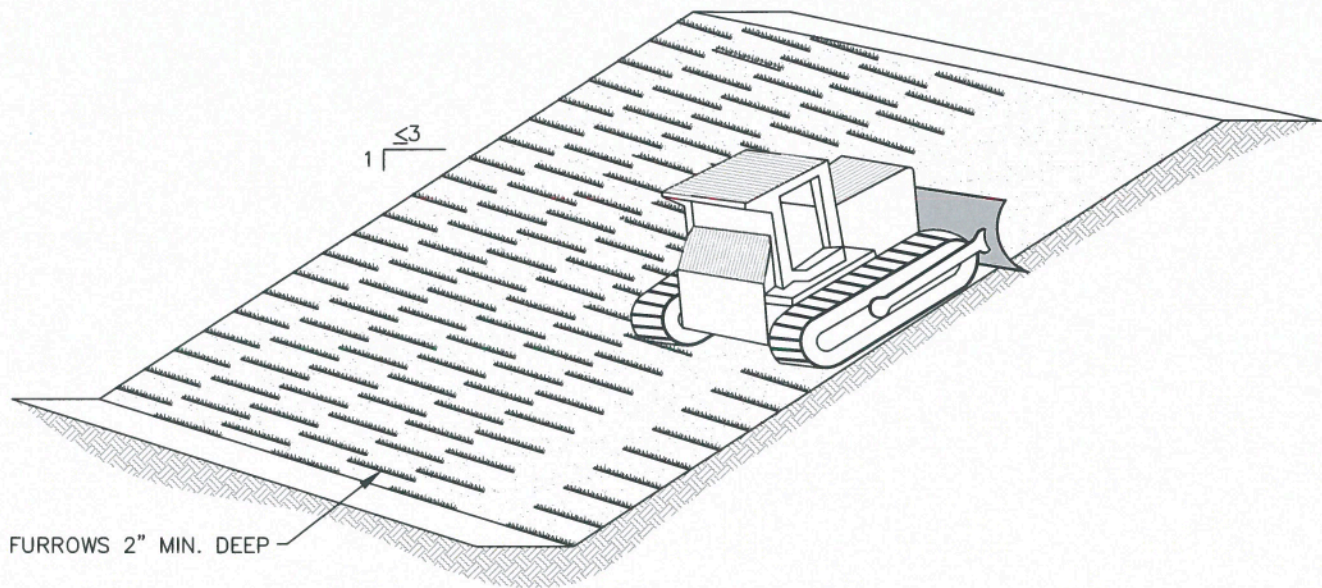
- Use slope tracking on slopes 3:1 or steeper.
- Grooves must be installed along contours to avoid concentrating flow.
- Do not use in areas with extremely sandy or rocky soils.

4.0 TIMING

- Install after land disturbing activities when area is in an interim condition or at final grade.
- Remove prior to permanent stabilization during soil preparation.

5.0 MAINTENANCE

- Inspect areas with tracking for signs of erosion. Repeat slope tracking as needed.
- Do not allow vehicles to drive over tracked areas.



SLOPE TRACKING

INSTALLATION NOTES

1. SLOPE TRACKING MAY BE USED ON SLOPES 3:1 OR STEEPER.
2. TRACKING GROOVES SHALL BE PERPENDICULAR TO THE SLOPE.
3. SLOPE TRACKING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

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. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SLOPE TRACKED.

ST



SLOPE TRACKING

APPROVED:

SWENT MANAGER

ISSUED:
10/7/19

REVISED:
8/19/2020

DRAWING NO.
900-ST

TEMPORARY COMPACTED BERM

TCB



1.0 DESCRIPTION

- A temporary compacted berm is a compacted ridge that slows and diverts stormwater from disturbed areas.

2.0 PURPOSE

- Used to intercept sheet flow prior to leaving a construction site.
- May be used around the perimeter of a construction site.
- Placed on long slopes to slow down flows.

3.0 IMPLEMENTATION

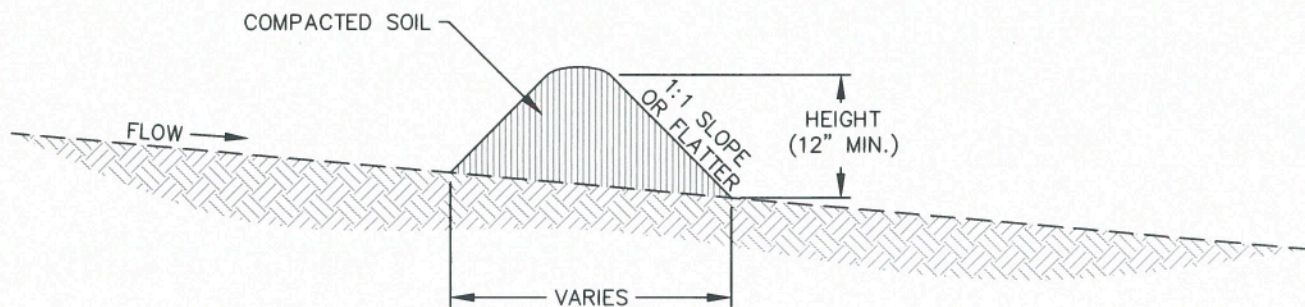
- Compacted berms must be a minimum height of one foot.
- Adequately compact berms. Not all soils are suitable for compacted berms. Soils may need to be adequately watered down to facilitate compaction.
- Install compacted berms along the contour of slopes or in a manner to avoid creating concentrated flow.
- The maximum tributary drainage area per 100 linear feet of an installed compacted berm is 1/4 acre.

4.0 TIMING

- Install prior to land disturbing activities.
- Remove compacted berms after the upstream area has been permanently stabilized. Permanently stabilize area after compacted berms have been removed.

5.0 MAINTENANCE

- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the compacted berm.
- Inspect for and repair damaged compacted berms.
- Do not allow vehicles to drive over berms.



TEMPORARY COMPACTED BERM

INSTALLATION NOTES

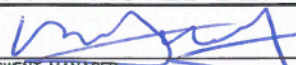
1. COMPACTED BERM MUST BE A MINIMUM HEIGHT OF ONE FOOT. BASE WIDTH IS DETERMINED BY HEIGHT.
2. COMPACTED BERMS MUST BE ADEQUATELY COMPACTED. NOT ALL SOILS ARE SUITABLE FOR COMPACTED BERMS.
3. INSTALL COMPACTED BERMS ALONG CONTOUR; DO NOT INSTALL PERPENDICULAR TO SLOPE.
4. THE MAXIMUM TRIBUTARY DRAINAGE AREA PER 100 LINEAR FEET OF COMPACTED BERMS SHALL BE $\frac{1}{4}$ ACRE.

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. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES $\frac{1}{2}$ OF THE DESIGN DEPTH OF THE BERM.



TEMPORARY COMPACTED BERM

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TCB

TEMPORARY SEDIMENT BASIN

TSB



1.0 DESCRIPTION

- Temporary sediment basins are small impoundments of water with a small outlet structure built on a construction site.

2.0 PURPOSE

- Used to capture and slowly release runoff prior to discharge from a construction site to allow sediment to settle out.

3.0 IMPLEMENTATION

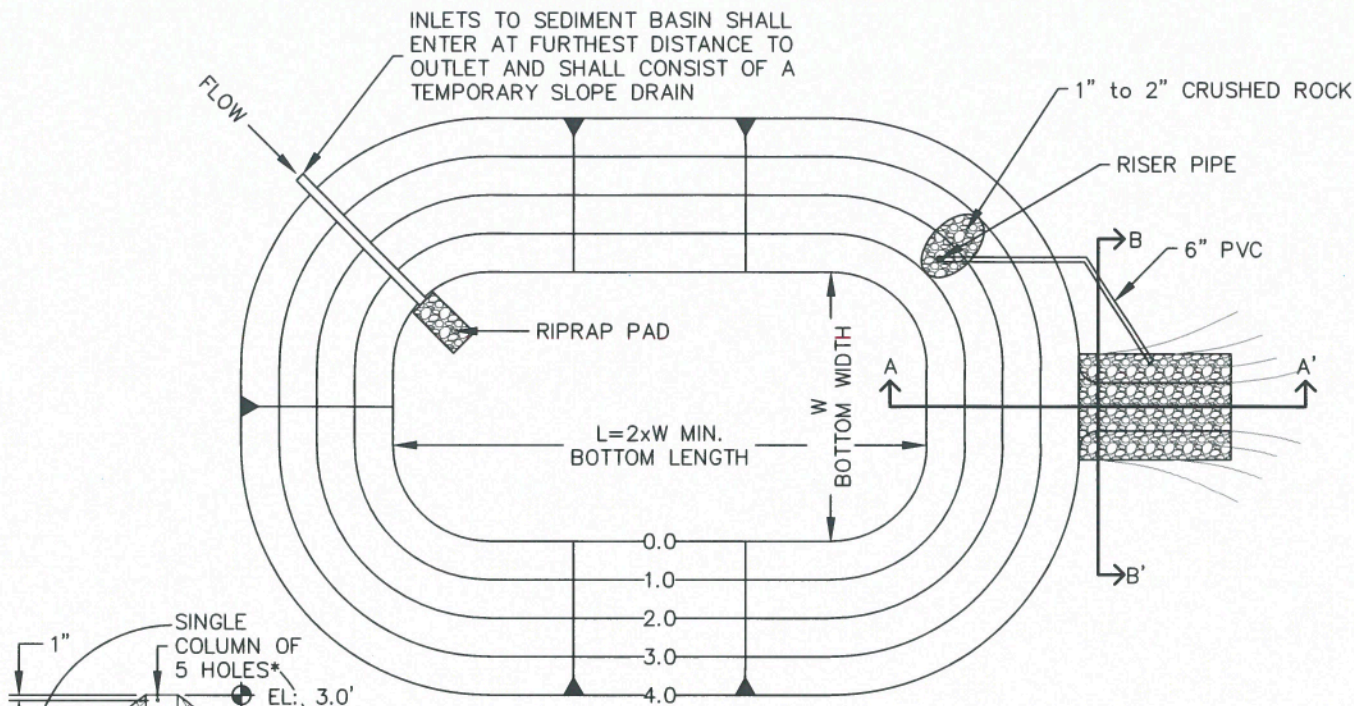
- Temporary sediment basins for drainage areas larger than 15 acres must be individually designed by engineer.
- Erosion and other sediment controls should be implemented upstream of temporary sediment basins.

4.0 TIMING

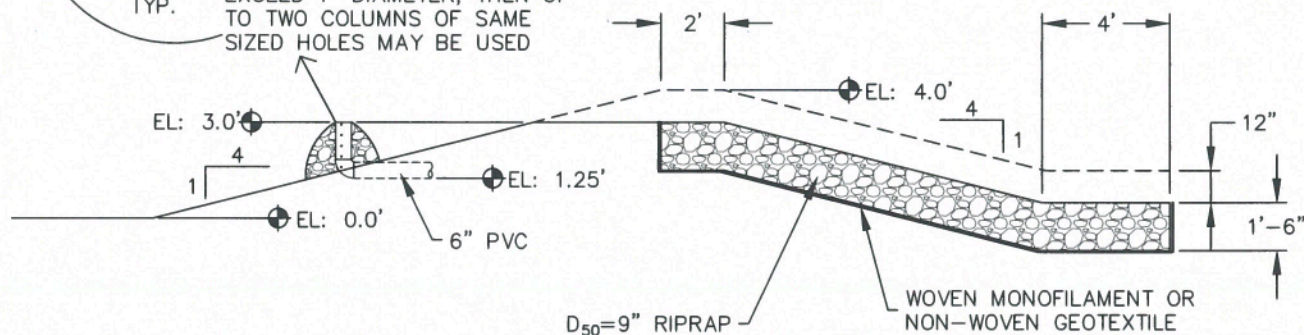
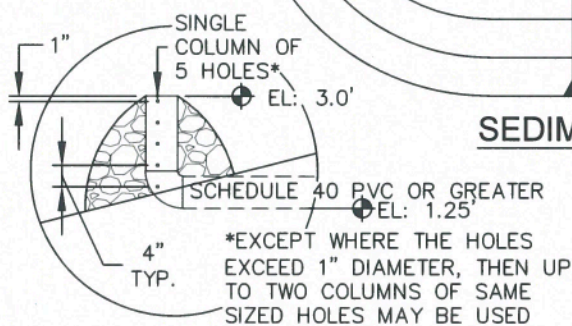
- Install prior to upstream land disturbance.
- Remove temporary sediment basin after upstream area has been stabilized. Permanently stabilize area after basin has been removed.

5.0 MAINTENANCE

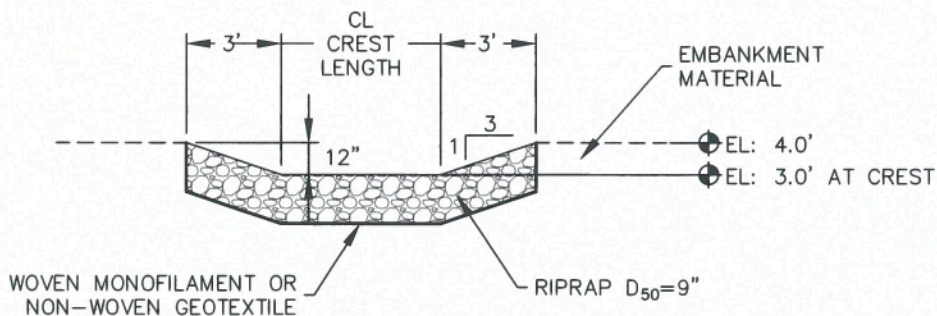
- Remove sediment from basin as needed to maintain the effectiveness of the temporary sediment basin. This is typically when sediment depth reaches one foot.
- Inspect sediment basin embankments for stability and seepage.
- Inspect the inlet and outlet of the basin, repair damage, and remove debris.



SEDIMENT BASIN PLAN



SECTION A-A'



SECTION B-B'



**TEMPORARY
SEDIMENT BASIN**

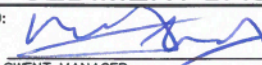
APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TSB-1

TABLE SB-1, SIZING INFORMATION FOR
STANDARD SEDIMENT BASIN

UPSTREAM DRAINAGE AREA (ROUNDED TO NEAREST ACRE), (AC)	BASIN BOTTOM WIDTH (W), (FT)	SPILLWAY CREST LENGTH (CL), (FT)	HOLE DIAMETER (HD), (IN)
1	12½"	2	9/32
2	21	3	13/16
3	28	5	½
4	33½	6	9/16
5	38½	8	21/32
6	43	9	21/32
7	47¼	11	25/32
8	51	12	27/32
9	55	13	7/8
10	58¼	15	15/16
11	61	16	31/32
12	64	18	1
13	67½	19	1 1/16
14	70½	21	1 1/8
15	73¼	22	1 3/16

INSTALLATION NOTES

1. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
2. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES, AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE No. 200 SIEVE
3. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-698.
4. PIPE SCHEDULE 40 OR GREATER SHALL BE USED.
5. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES. DESIGN CALCULATIONS MUST BE APPROVED PRIOR TO IMPLEMENTATION.

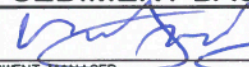
MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN CONTROL MEASURE EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E. TWO FEET BELOW SPILLWAY CREST).
3. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SEDIMENT BASIN REMOVAL.

TSB



TEMPORARY SEDIMENT BASIN

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TSB-2

TEMPORARY SLOPE DRAIN

TSD



1.0 DESCRIPTION

- A temporary slope drain is a flexible conduit for stormwater that extends down the length of a disturbed slope to divert stormwater and serve as a temporary outlet.

2.0 PURPOSE

- Used to convey runoff during construction without causing erosion on or at the bottom of a slope.

3.0 IMPLEMENTATION

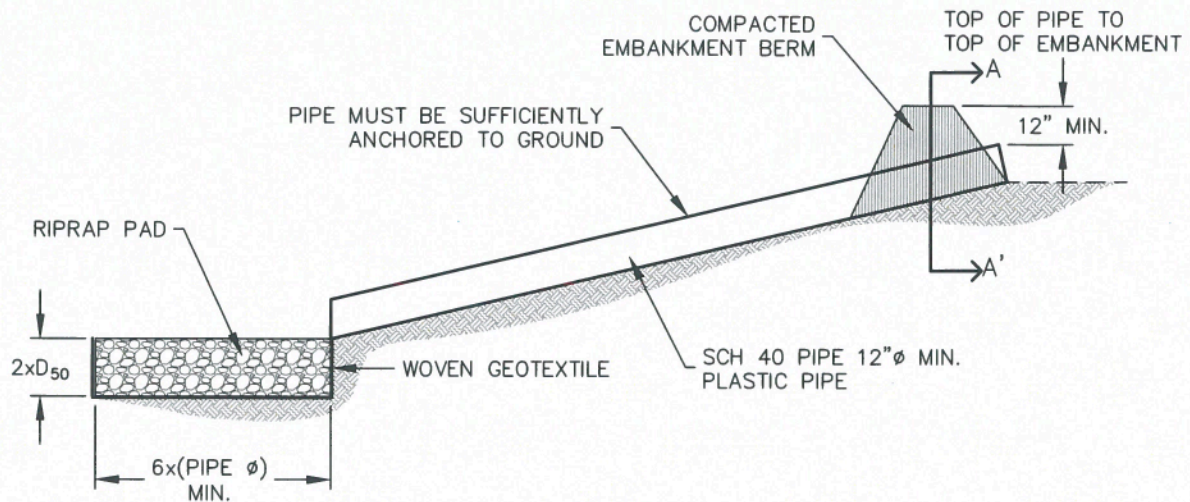
- Direct runoff into flexible pipe using a temporary compacted embankment berm.
- Anchor pipe to slope.
- Install riprap pad at pipe outlet.

4.0 TIMING

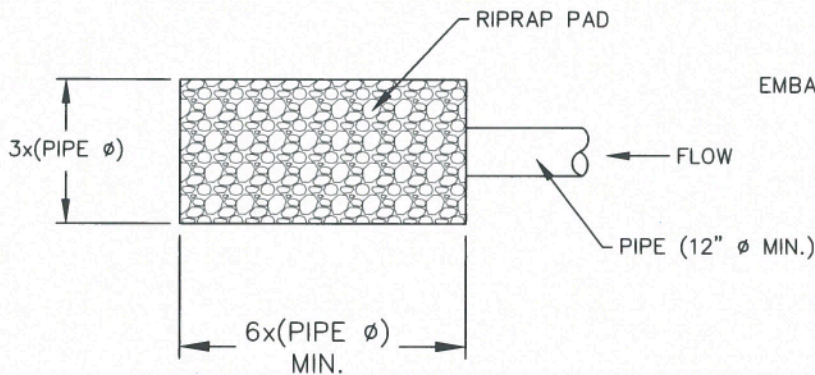
- Install prior to upstream land disturbing activities.
- Remove temporary slope drain prior to the end of construction after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

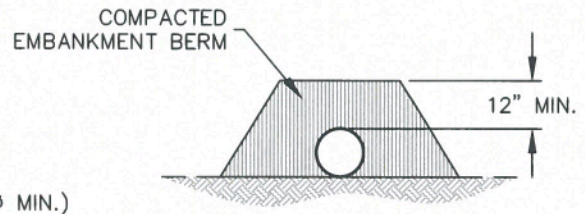
- Inspect for erosion and accumulated debris at the inlet and outlet.
- Breaches in pipes should be repaired as soon as feasibly possible.



TEMPORARY SLOPE DRAIN



RIPRAP PAD PLAN



SECTION A-A'

INSTALLATION NOTES

1. THE LISTED DIMENSIONS ARE CONSIDERED A MINIMUM; LARGER DRAINS CAN BE IMPLEMENTED BY THE CONTRACTOR.
2. DETAILS SHOW MINIMUM COVER; INCREASE COVER AS NECESSARY.

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. INSPECT INLETS AND OUTLETS AFTER STORMS TO PREVENT EXCESS CLOGGING. BREACHES IN PIPES SHOULD BE REPAIRED AS SOON AS FEASIBLY POSSIBLE.
3. INSPECT RIPRAP PAD AT OUTLET FOR SIGNS OF EROSION. IF SIGNS OF EROSION EXIST, ADDITIONAL ARMORING MAY BE INSTALLED.
4. TEMPORARY SLOPE DRAINS SHOULD REMAIN UNTIL THEY ARE NOT NEEDED, BUT SHOULD BE REMOVED BEFORE THE END OF CONSTRUCTION.
5. PERMANENTLY STABILIZE AREA AFTER TEMPORARY SLOPE DRAINS ARE REMOVED.



TEMPORARY SLOPE DRAIN

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-TSD

VEHICLE TRACKING CONTROL

VTC



1.0 DESCRIPTION

- Vehicle tracking control consists of a pad of coarse stone aggregate placed on a geotextile filter fabric.

2.0 PURPOSE

- Used to reduce the tracking of sediment onto roadways by construction vehicles.
- As vehicles drive over the VTC device, mud and sediment is removed from the tires.

3.0 IMPLEMENTATION

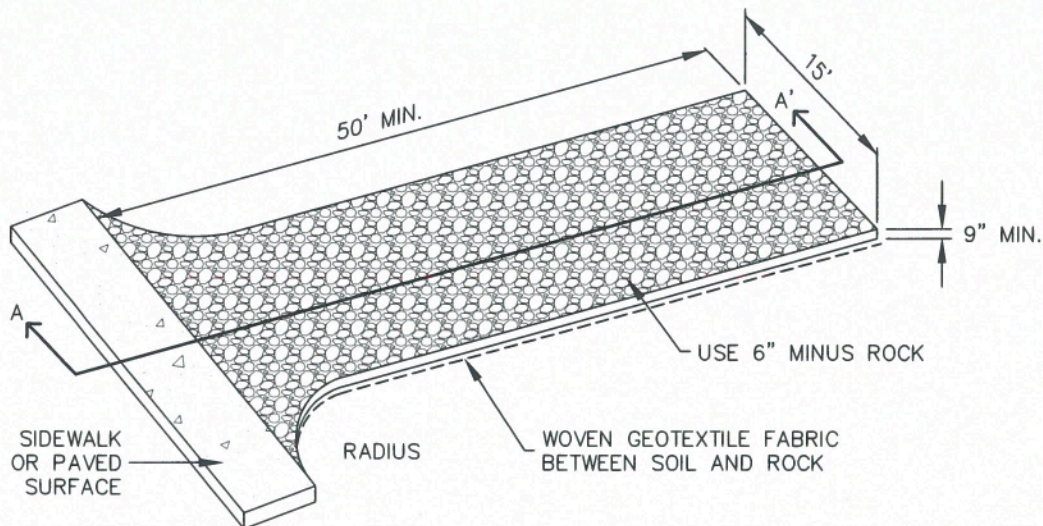
- Locate at construction entrance/exit.
- Organize site to ensure that all vehicles use the vehicle tracking control device.
- Where possible, grade VTC device to drain to construction site rather than to street.
- Proprietary VTC devices may be used if approved as an alternative Construction Control Measure.

4.0 TIMING

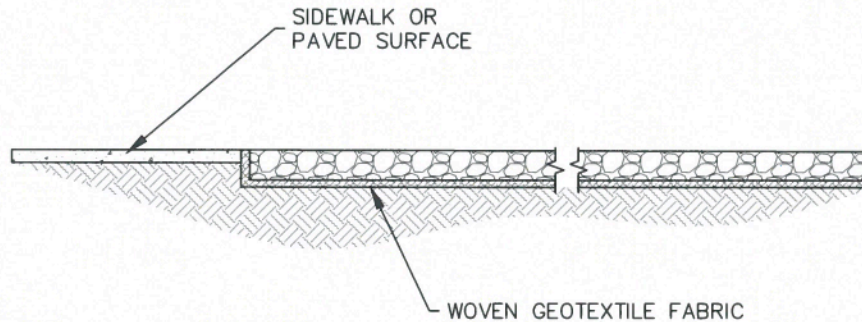
- Install prior to land disturbing activities.
- Remove when the potential for sediment migration onto adjacent roadways no longer exists (typically after site has been stabilized). Permanently stabilized area after vehicle tracking control is removed.

5.0 MAINTENANCE

- Roughen, replace, and/or add rock as needed to maintain a consistent depth and to prevent sediment tracking onto adjacent street.
- Sediment tracked onto the adjacent road shall be removed daily, by sweeping or shoveling, and never washed down storm drains.



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

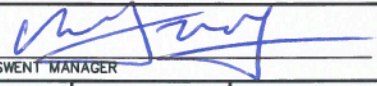
1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

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. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.



VEHICLE TRACKING CONTROL

APPROVED: 		
SWENT MANAGER		
ISSUED: 10/7/19	REVISED: 8/19/2020	DRAWING NO. 900-VTC