



**STORMWATER MANAGEMENT PLAN (SWMP)**  
FOR  
**MAYBERRY, COLORADO SPRINGS – FILING NO. 4**

PREPARED FOR:  
MAYBERRY COMMUNITIES, LLC  
3296 DEVINE HEIGHTS #208  
COLORADO SPRINGS, CO 80922

PREPARED BY:  
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R&R JOB #MC22249  
EPC PROJECT NO. SF2317

AUGUST 2023

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Peyton, CO 80831

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**MAYBERRY – FILING 2A**  
**SWMP REPORT**

## **1. APPLICANT/CONTACT INFORMATION**

- Developer:** Mayberry Communities, LLC  
3296 Devine Heights #208  
Colorado Springs, CO 80922
- Engineer:** R & R Engineers - Surveyors, Inc.  
1635 W. 13<sup>th</sup> Ave, Suite 310  
Denver, CO 80204
- Contractor:** Raw Land Detailing  
10475 Accipiter Dr.  
Peyton, CO 80831  
Attn: Larry Lee (719)-495-7770

## **2. SITE DESCRIPTION**

- a. Ellicott Town Center is a proposed subdivision located west of Ellicott, Colorado in El Paso County. The development is located on the south side of State Highway 94, approximately 1-1/2 miles west of Ellicott Highway. The approved Ellicott Town Center PUD includes a total of 1,048 single-family dwelling units and 32 acres of commercial space. Colorado Springs Mayberry, LLC is moving forward with development of Ellicott Town Center Filing No. 1, consisting of 98 single-family residential lots near the north boundary of the project. Filing 4 is located within the Ellicott Town Center.
- b. There are no stream crossings in the project area.
- c. The proposed development consists of eight commercial lots and a proposed street named Business Park with associated infrastructure which ends in a cul-de-sac. The site development activities will include site grading, utilities, pavement, curb and gutter, and related site improvements.
- d. Proposed sequence of major activities:
  - Mobilization/implementation of BMP's
  - Clearing and grubbing
  - Rough grading
  - Site Utilities
  - Roadway grading/paving
- e. Total site area = 9.78 acres (Filing No. 4); Proposed disturbed area = 10.38 acres (under same ownership)
- f. Historic runoff coefficient, C = 0.36  
Developed runoff coefficient, C = 0.88
- g. Existing vegetation on site: Native meadow grasses (approx. 70% coverage based on site inspection)

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- h. Potential pollution sources: vehicle emissions.
- i. Non-stormwater components of discharge: none anticipated.
- j. Receiving water: After treatment and controlled discharge, surface drainage from this site will flow southeasterly to existing natural drainage swales flowing to the West Fork of Black Squirrel Creek located east of this parcel between the site and Ellicott Highway. Black Squirrel Creek ultimately outfalls into the Arkansas River.
- k. Erosion potential and potential impacts upon discharge: According to the Web Soil Survey by the Natural Resources Conservation Service, on-site soils are comprised primarily of Truckton loamy sand and Blakeland loamy sand which are both classified as soil Group A. Group A soils have a high infiltration rate with a moderate rate of water transmission. The erosion factor K for these soils are 0.24 and 0.10 respectively. Uncontrolled soil erosion may adversely affect downstream drainageways; on-site BMP's will be provided and maintained to mitigate impacts. See soils map in appendices.

**3. SITE MAP**

See Site Map in appendices.

**4. POTENTIAL SOURCES OF POLLUTION**

Potential pollutant sources will be addressed as follows:

**POTENTIAL POLLUTION SOURCES**

Potential Pollution Sources	Possible Site Contributions of Pollutants to Stormwater Discharges	Location
All disturbed and stored soils	Stockpiles of fill from site excavations, topsoil stockpiles.	Stockpiles
Vehicle tracking of sediments	See GEC Plans for vehicle entrance and exits. Vehicle tracking control pads will be installed and maintained at all construction access points.	VTC (per GEC Plans)
Management of contaminated soils	No contaminated soils are expected to be encountered.	N/A
Loading and unloading operations	Loading and unloading of construction materials	TBD*
Outdoor storage activities (building material, fertilizers, chemicals, etc.)	Stockpiles and equipment storage areas (no fertilizers, petroleum or chemical products will be stored on-site).	TBD*
Vehicle and equipment maintenance and fueling	Fueling will occur on-site using mobile equipment (will not be stored on-site). Equipment maintenance will occur off-site	TBD*
Significant dust or particulate-generating processes	Vehicle tracking, soil removed from excavation, stockpiles.	TBD*



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Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.	All equipment maintenance will occur off-site. No fertilizers, pesticides, detergents, and/or solvents will be used or stored on-site.	TBD*
On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.)	All waste will be removed from site as soon as possible, and disposed of at a permitted off-site disposal site	TBD*
Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment	Properly contained concrete washout areas may be designated and maintained within the site, based on construction phasing.	CWA
Dedicated asphalt and concrete batch plants	No dedicated asphalt or concrete batch plants are planned on-site.	N/A
Non-industrial waste sources such as worker trash and portable toilets	Worker trash will be removed from the site as soon as possible. Portable toilets will be utilized and maintained as required based on construction phasing.	TBD*
Other areas or procedures where potential spills can occur	Petroleum releases from equipment are possible.	TBD*

\* Contractor to add locations of any items not specified at this time\*

## **5. BMP'S FOR STORMWATER POLLUTION PREVENTION**

### **Narrative Description of Appropriate Stormwater Controls and Measures**

#### **Construction Phasing**

##### ***Phase 1 – Mobilization, Clearing & Grubbing Operations***

Clearing and grubbing will be completed prior to initial overlot grading activities for this site. Perimeter control measures will be installed prior to the start of construction operations. These perimeter controls will include silt fencing and a vehicle tracking control pad.

##### ***Phase 2 – Earthwork, Road Grading, and Utility Installation***

Major earthwork activities will include overlot grading, foundation over-excavation, backfill, and compaction, utility construction, grading of the interim swale C7, and rough and final grading for site improvements.

##### ***Phase 3 – Building Construction and Final Grading Activities***

This phase will include final grading of building sites and landscape areas. The interim swale C7 will be the responsibility of the lot developer to infill and replace with 24" RCP storm pipe. The swale is sized to provide appropriate slope and cover for the future storm infrastructure.

Appropriate temporary SCM's will be maintained until vegetation is re-established throughout the site.

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***Phase 4 – Stabilization***

All disturbed areas within the project will be revegetated. The specific revegetation requirements will include the following:

- Landscape plantings – per approved landscape plans
- Native seeding – all other disturbed areas

***Phase 5 – Removal of Temporary Control Measures***

Temporary sediment control measures shall remain in place until vegetation has been adequately established to prevent erosion from storm runoff. Once adequate vegetation has been established, the temporary erosion control measures will be removed and disposed of off-site.

**SCM's for Stormwater Pollution Prevention (See GEC Plans):**

<u>Phase</u>	<u>BMP</u>
Clearing and grubbing necessary for perimeter controls	VTC's
Initiation of perimeter controls	SCL
Remaining clearing and grubbing	
Site grading	RS/SCL
Stabilization	SM
Removal of erosion control measures	

**Proposed Sequence of Major Activities / Timing Schedule**

The anticipated start and completion time period of the construction activities is from December 2023 through August 2024. The estimated schedule for erosion control activities is as follows:

Install Initial SCM's:	December, 2023
Site Grading:	January, 2024
Seeding & Mulching:	July, 2024
Final Stabilization:	August, 2024

**Erosion and Sediment Controls**

1) Structural Practices:

- Vehicle Tracking Control (VTC) pad at construction entry. This will be used from Filing 3's construction entrance.
- Inlet protection (IP) in Filing 3, downstream of Filing 4, shall remain in place until the completion of Filing 4.
- Culvert Protection (RRC) in Filing 3, downstream of Filing 4, shall remain in place until the completion of Filing 4.

2) Non-Structural Practices:

- Preserve existing vegetation beyond limits of work

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- Temporary seeding of areas to remain disturbed for significant periods of time.
- Permanent seeding/mulching (SM) upon completion of rough grading.

**Materials Handling and Spill Prevention**

- General Materials Handling Practices:
  - Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as required to prevent storm water from contacting stored materials. Chemicals that are not compatible shall be stored and segregated areas so that spilled materials cannot combine and react.
  - Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
  - Materials no longer required for construction shall be removed from the site as soon as possible.
- Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and BMPs clear and functional.
- Specific Materials Handling Practices:
  - All pollutants, including waste materials and demolition debris, that occur on-site during construction shall be handled in a way that does not contaminate storm water.
  - All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site shall be covered and contained and protected from vandalism.
  - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
  - Wheel wash water shall be settled and discharged on site by infiltration. Wheel wash water shall not be discharged to the storm water system.
  - Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. Follow manufacturer's recommendations for application rates and procedures.

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- pH-modifying sources shall be managed to prevent contamination of runoff and storm water collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.
- Equipment maintenance and fueling: Contractor shall implement appropriate spill prevention and response procedures
- Spill Prevention and Response Procedures:
  - The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on site and prevent their release into receiving waters.
  - Spill Response Procedures:
    - 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.
    - If spills represent an imminent threat of escaping on-site facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent after the situation has stabilized.
    - The site superintendent, or his designee, shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
    - Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
  - Spill kits shall be on-hand at all fueling sites. Spill kit location(s) shall be reported to the SWMP Administrator.
  - Absorbent materials shall be on-hand at all fueling areas for use in containing inadvertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
  - Recommended components of spill kits include the following:
    - Oil absorbent pads (one bale)
    - Oil absorbent booms (40 feet)
    - 55-gallon drums (2)
    - 9-mil plastic bags (10)
    - Personal protective equipment including gloves and goggles
- 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. The discharge of water containing waste cement to the storm drainage system is prohibited.
- Concrete Batch Plant: This project will not have an on-site dedicated batch plant.

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- Notification Procedures:
  - In the event of an accident or spill, the SWMP Administrator shall be notified as a minimum.
  - Depending on the nature of the spill material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line: 877-518-5608), downstream water users, or other agencies may also need to be notified.
  - 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.

**6. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT**

- Permanent seeding will be provided to achieve long-term stabilization of the site.
- Seed Mix: “Foothills Mix” or approved equal:
- Seeding Application Rate: Drill seed 0.25” to 0.5” into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25” to 0.5” into the soil. Apply seed at the following rates:
  - Dryland: 20-25 lbs/acre
  - Irrigated: 40 lbs/acre
- Soil Stabilization Practices:
  - Mulching Application: Apply 1-1/2 tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier. On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of much and mulch tackifier.
- Soil Conditioning and Fertilizer Requirements:
  - Soil conditioner, organic amendment shall be applied to all seeded areas at 3 CY / 1000 SF.
  - Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% potassium-magnesia with a grade of 6-1-3 or approved equal. Fertilizer shall be applied as recommended by seed supplier.
- Final stabilization is reached when all soil-disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

**7. OTHER CONTROLS**

- Contractor shall dispose of all waste materials at a permitted off-site disposal site.

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- Vehicle tracking pads from Mayberry Filing No. 3 BMP's will remain in place to limit off-site soil tracking.
- No non-stormwater components of discharge, such as springs, landscape irrigation return flows, construction dewatering, or other discharges will be encountered during the project.
- This project does not rely on control measures owned or operated by another entity.
- This SWMP report should be viewed as a “living document” that is continuously being reviewed and modified as a part of the overall process of evaluating and managing stormwater quality issues at the site. The QSM shall amend the SWMP when there is a change in design, construction, operation, and maintenance of the site which would require the implementation of new or revised BMPs of if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity or when BMPs are no longer necessary and are removed.

## **8. INSPECTION AND MAINTENANCE**

### **A. Inspection Schedules:**

- QSM shall inspect BMPs every 14 days as a minimum, and immediately (within 24 hours) after any precipitation or snowmelt event that causes surface erosion (i.e. that results in stormwater running across the ground), to ensure that BMPs are maintained in effective operating condition.

### **B. Inspection Procedures:**

#### **1. Site Inspection / Observation Items:**

- Construction site perimeter and discharge points (including discharges into a storm sewer system)
- All disturbed areas
- Areas used for material / waste storage that are exposed to precipitation
- Other areas having a significant potential for stormwater pollution, such as demolition areas or concrete washout locations, or locations where vehicles enter or leave the site
- Erosion and sediment control measures identified in the SWMP
- Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks, or the condition of spill response kits.

#### **2. Inspection requirements:**

- Determine if there is any evidence of, or potential for, pollutants entering the drainage system.

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- Review BMPs to determine if they still meet design and operational criteria in the SWMP, and if they continue to adequately control pollutants at the site.
- Upgrade and/or revise any BMPs not operating in accordance with the SWMP and update the SWMP to reflect any revisions.

C. BMP Maintenance / Replacement and Failed BMPs:

- Contractor shall remove sediment that has been collected by perimeter controls, such as silt fence and inlet protection, on a regular basis to prevent failure of BMPs, and remove potential of sediment from being discharged from the site in the event of BMP failure.
- Removed sediment must be moved to an appropriate location where it will not become an additional pollutant source, and should never be placed in ditches or streams.
- Contractor shall update Erosion Control Plans as required with any new BMPs added during the construction period.
- Contractor shall address BMPs that have failed or have the potential to fail without maintenance or modifications, as soon as possible, immediately in most cases, to prevent discharge of pollutants.

D. Record Keeping and Documenting Inspections:

- Contractor shall maintain records of all inspection reports, including signed inspection logs, at the project site.
- Permittee shall document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage.
- Site inspection records shall include the following:
  - Inspection date
  - Name and title of personnel making the inspection
  - Location of discharges of sediment or other pollutants from the site
  - Location(s) of BMPs that need to be maintained
  - Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
  - Location(s) where additional BMPs are needed that were not in place at the time of inspection
  - Deviations from the minimum inspection schedule

Qualified Inspector:

Company

Attn:

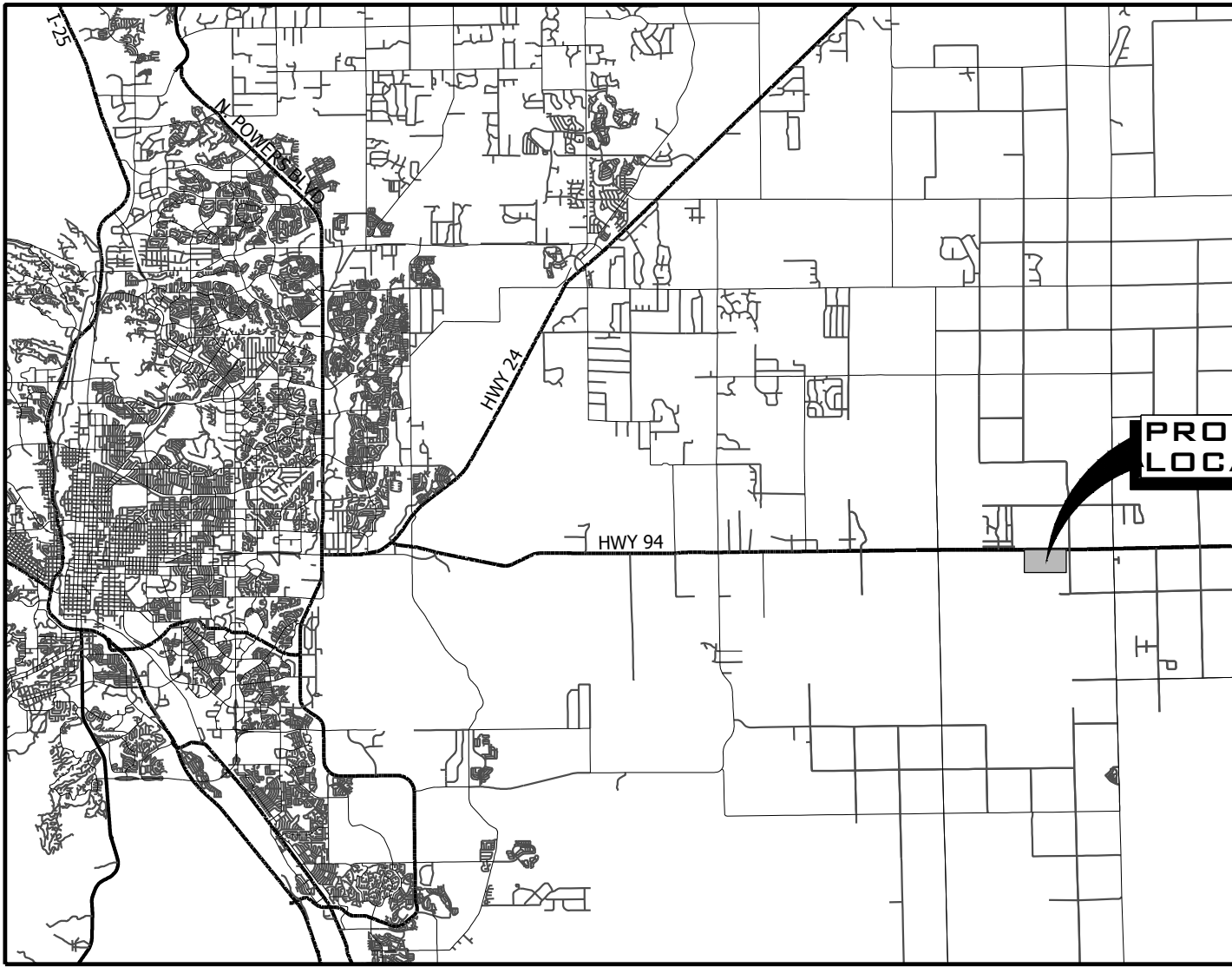
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Address 2

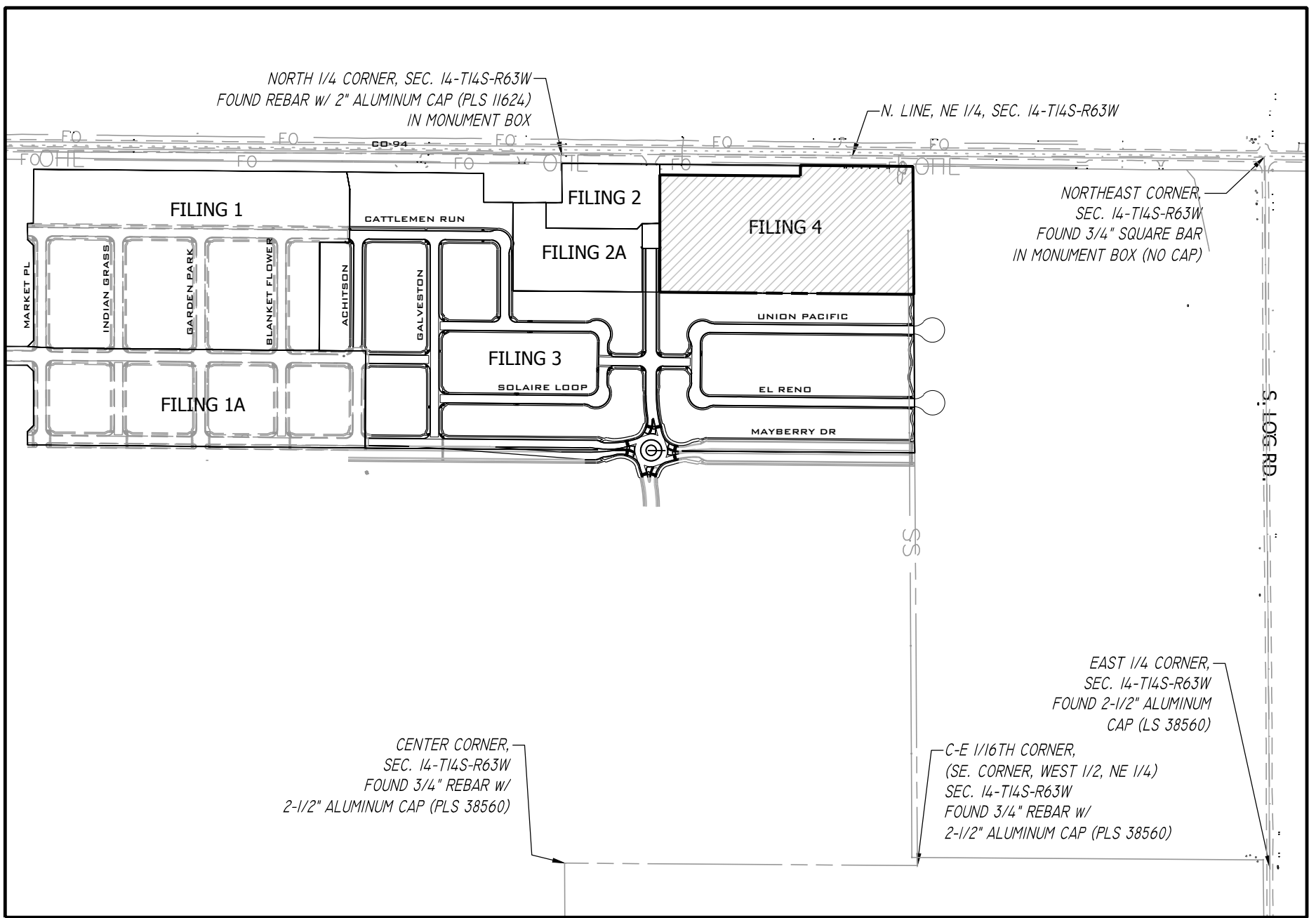
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## **APPENDIX A – SITE MAP**



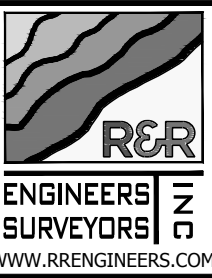


**VICINITY MAP**  
SCALE 1" = 20,000'



**SITE MAP**  
SCALE 1" = 500'

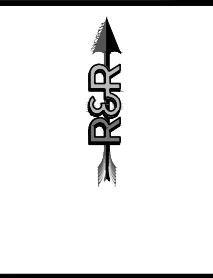
REVISIONS			



**SITE MAP**

**MAYBERRY FILING NO. 4**

3296 DEVINE HEIGHTS #208  
COLORADO SPRINGS, CO 80922



JOB NO.	MC22249
DATE	12-20-2022
DRN	GWH
CHK	CD
EXHIBIT NAME	SITE MAP
SHEET NO.	1 OF 1

## **APPENDIX B – SOILS MAP**

# Custom Soil Resource Report for El Paso County Area, Colorado



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and



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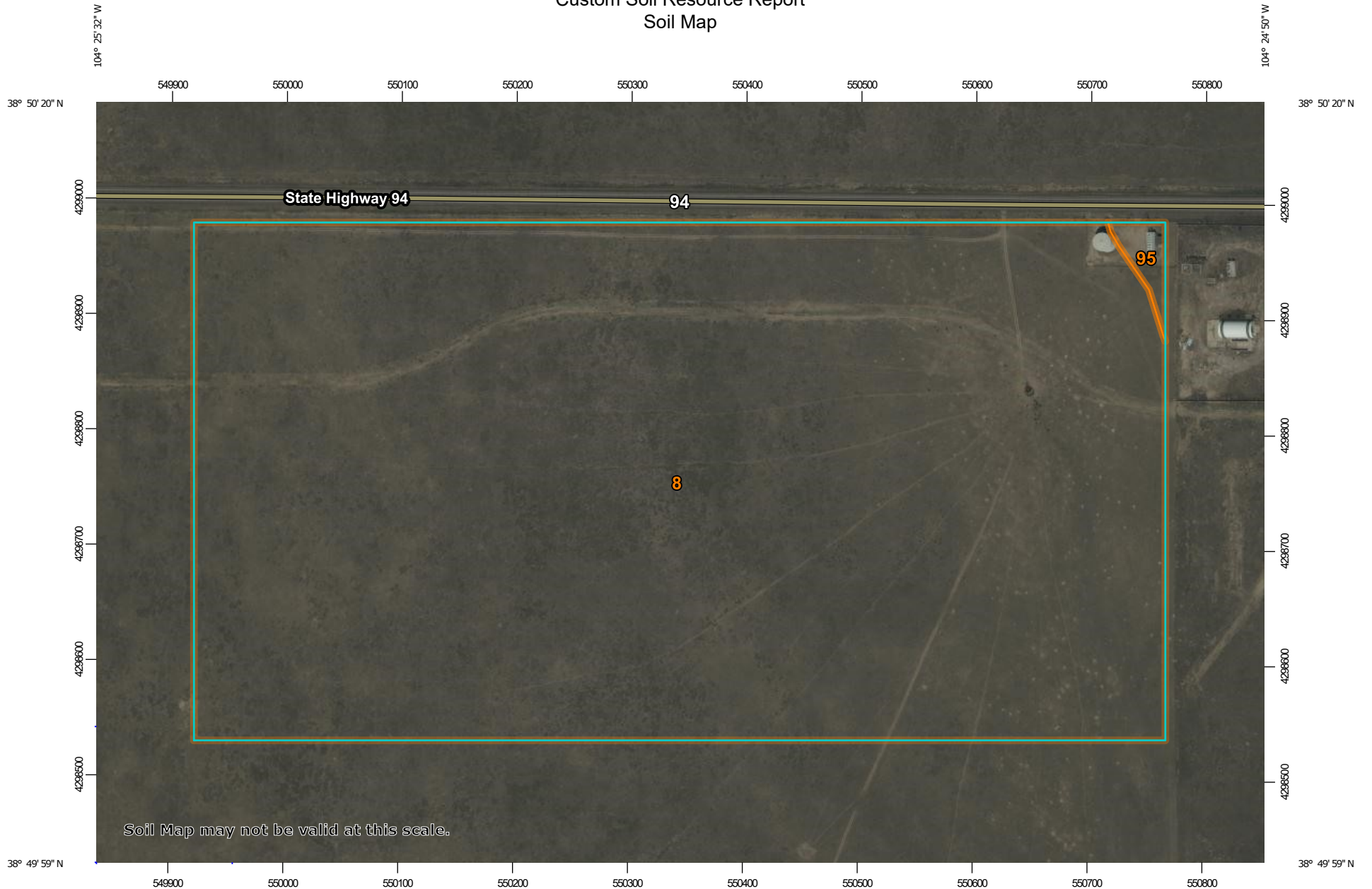
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

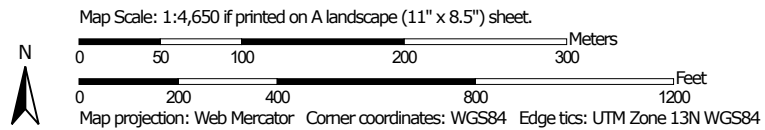
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.



### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)


**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

**Special Point Features**

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole


 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

**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 20, Sep 2, 2022

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

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 2018

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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	93.6	99.4%
95	Truckton loamy sand, 1 to 9 percent slopes	0.6	0.6%
<b>Totals for Area of Interest</b>		<b>94.2</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

## Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## El Paso County Area, Colorado

### 8—Blakeland loamy sand, 1 to 9 percent slopes

#### Map Unit Setting

*National map unit symbol:* 369v  
*Elevation:* 4,600 to 5,800 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 46 to 48 degrees F  
*Frost-free period:* 125 to 145 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Blakeland and similar soils:* 98 percent  
*Minor components:* 2 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Blakeland

##### Setting

*Landform:* Flats, hills  
*Landform position (three-dimensional):* Side slope, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from sedimentary rock and/or eolian deposits derived from sedimentary rock

##### Typical profile

*A - 0 to 11 inches:* loamy sand  
*AC - 11 to 27 inches:* loamy sand  
*C - 27 to 60 inches:* sand

##### Properties and qualities

*Slope:* 1 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat excessively drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* High to very high (5.95 to 19.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Available water supply, 0 to 60 inches:* Low (about 4.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* A  
*Ecological site:* R049XB210CO - Sandy Foothill  
*Hydric soil rating:* No

#### Minor Components

##### Other soils

*Percent of map unit:* 1 percent

Custom Soil Resource Report

*Hydric soil rating:* No

**Pleasant**

*Percent of map unit:* 1 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

**95—Truckton loamy sand, 1 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 2yvrn

*Elevation:* 5,800 to 7,100 feet

*Mean annual precipitation:* 12 to 19 inches

*Mean annual air temperature:* 46 to 50 degrees F

*Frost-free period:* 90 to 155 days

*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Truckton and similar soils:* 87 percent

*Minor components:* 13 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Truckton**

**Setting**

*Landform:* Interfluves, fan remnants

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Wind re-worked alluvium derived from arkose

**Typical profile**

*A - 0 to 4 inches:* loamy sand

*Bt1 - 4 to 12 inches:* sandy loam

*Bt2 - 12 to 19 inches:* sandy loam

*C - 19 to 80 inches:* sandy loam

**Properties and qualities**

*Slope:* 1 to 9 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 1 percent

*Maximum salinity:* Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)

*Available water supply, 0 to 60 inches:* Moderate (about 6.5 inches)



## Custom Soil Resource Report

### Interpretive groups

*Land capability classification (irrigated):* 6e  
*Land capability classification (nonirrigated):* 6e  
*Hydrologic Soil Group:* A  
*Ecological site:* R049XB210CO - Sandy Foothill  
*Hydric soil rating:* No

### Minor Components

#### Blakeland

*Percent of map unit:* 5 percent  
*Landform:* Interfluves, hills  
*Landform position (two-dimensional):* Summit, shoulder, backslope  
*Landform position (three-dimensional):* Crest, side slope  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear, convex  
*Ecological site:* R049XB210CO - Sandy Foothill  
*Hydric soil rating:* No

#### Bresser

*Percent of map unit:* 5 percent  
*Landform:* Interfluves, terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* R049XB210CO - Sandy Foothill  
*Hydric soil rating:* No

#### Urban land

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

#### Ellicott, occasionally flooded

*Percent of map unit:* 1 percent  
*Landform:* Flood plains, drainageways  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear, concave  
*Ecological site:* R067BY031CO - Sandy Bottomland  
*Hydric soil rating:* No

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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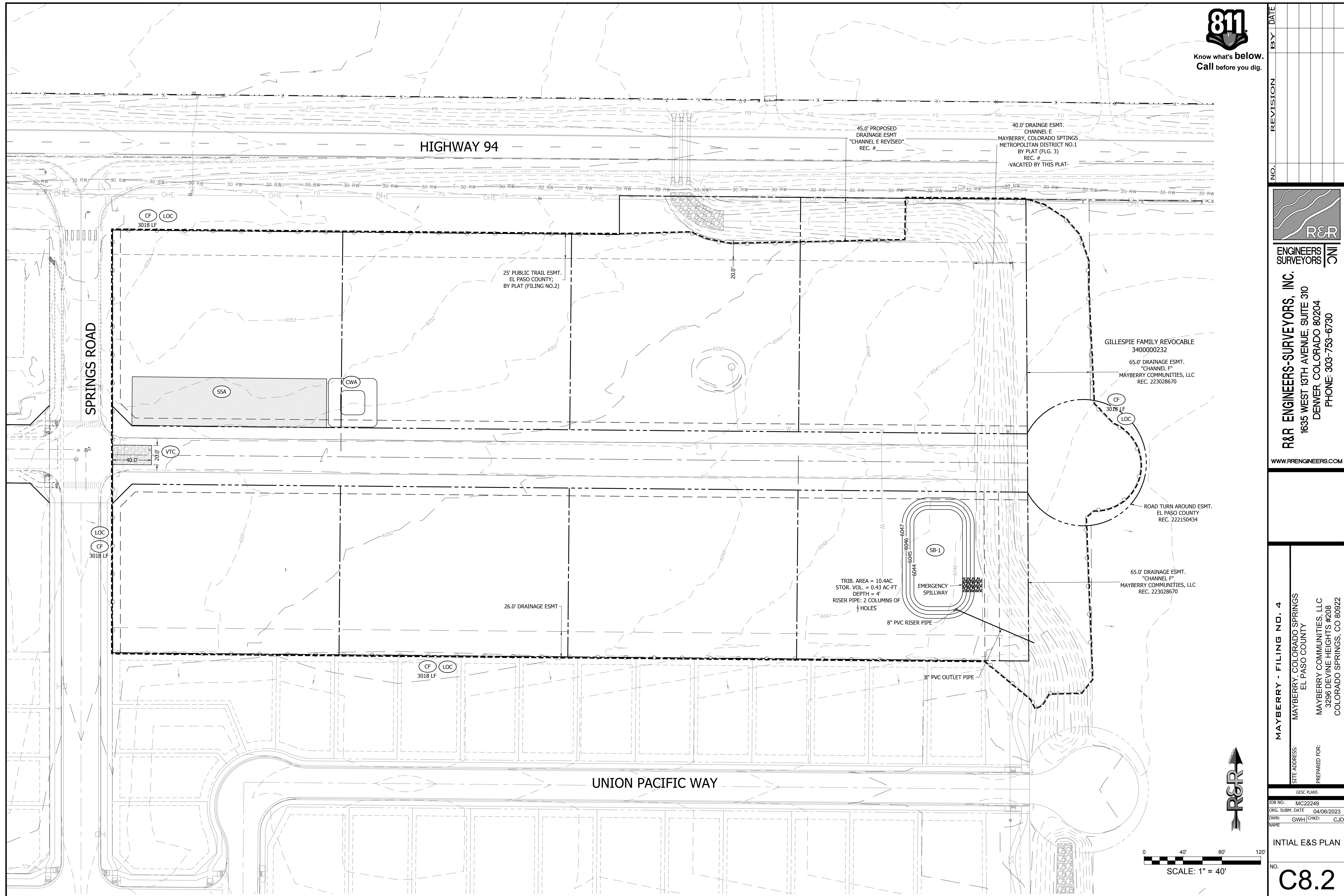
United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

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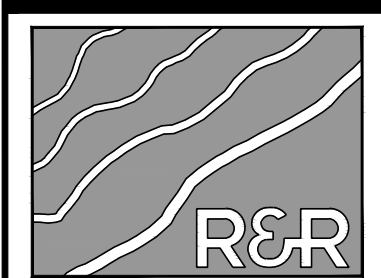
## **APPENDIX C – EROSION CONTROL PLAN**



Know what's below.  
Call before you dig.



NO.	REVISION	BY	DATE



ENGINEERS  
SURVEYORS

**R&R ENGINEERS-SURVEYORS, INC.**  
1635 WEST 13TH AVENUE, SUITE 310  
DENVER, COLORADO 80204  
PHONE: 303-753-6730

WWW.RRENGINEERS.COM

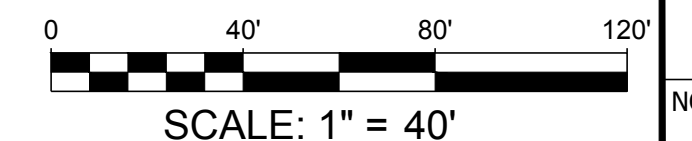
**MAYBERRY - FILING NO. 4**  
MAYBERRY, COLORADO SPRINGS  
EL PASO COUNTY  
MAYBERRY COMMUNITIES, LLC  
3296 DEVINE HEIGHTS #208  
COLORADO SPRINGS, CO 80922

SITE ADDRESS:  
PREPARED FOR:

GESC PLANS  
JOB NO. MC22249  
ORG. SUBM. DATE 04/06/2023  
DWN: GWH | CHKD: CJD  
NAME

INITIAL E&S PLAN

NO. **C8.2**

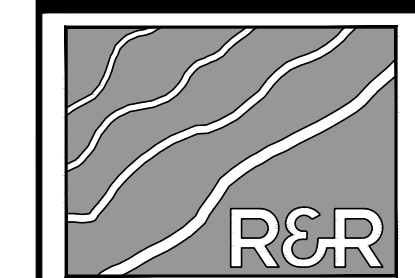






Know what's below.  
Call before you dig.

NO.	REVISION	BY	DATE



ENGINEERS  
SURVEYORS

**R&R ENGINEERS-SURVEYORS, INC.**  
 1635 WEST 13TH AVENUE, SUITE 310  
 DENVER, COLORADO 80204  
 PHONE: 303-753-6730

WWW.RRENGINEERS.COM

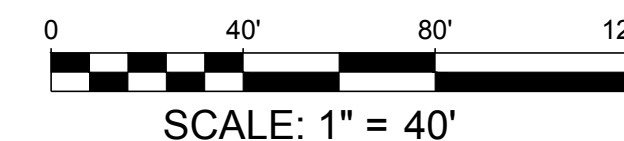
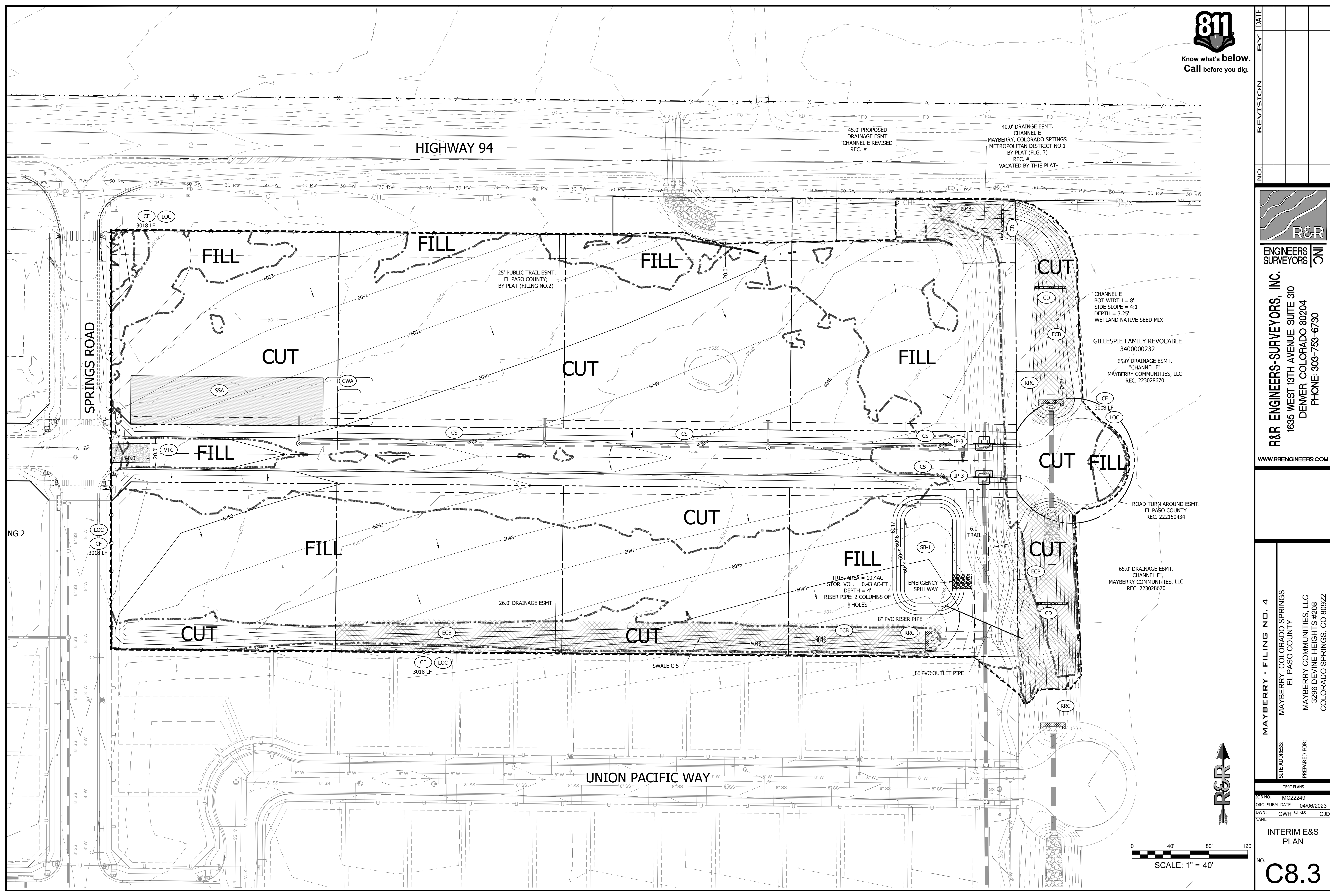
MAYBERRY - FILING NO. 4  
 MAYBERRY, COLORADO SPRINGS  
 EL PASO COUNTY  
 MAYBERRY COMMUNITIES, LLC  
 3296 DEVINE HEIGHTS #208  
 COLORADO SPRINGS, CO 80922

SITE ADDRESS:  
 PREPARED FOR:

JOB NO. MC22249  
 ORG. SUBM. DATE 04/06/2023  
 DWN: GWH CHD: CJD

INTERIM E&S  
PLAN

NO. **C8.3**







## **APPENDIX D – BMP DETAILS**



NO.	REVISION	BY	DATE



ENGINEERS SURVEYORS

**R&R ENGINEERS-SURVEYORS, INC.**  
1635 WEST 13TH AVENUE, SUITE 310  
DENVER, COLORADO 80204  
PHONE: 303-753-6730

WWW.RRENGINEERS.COM

**MAYBERRY - FILING NO. 4**  
MAYBERRY, COLORADO SPRINGS  
EL PASO COUNTY  
MAYBERRY COMMUNITIES, LLC  
3296 DEVINE HEIGHTS #208  
COLORADO SPRINGS, CO 80922

PREPARED FOR:  
GESC PLANS

JOB NO. MC22249  
ORG. SUBM. DATE 04/06/2023  
DWN: GWH CHKD: CJD  
NAME

E&S DETAILS

NO. **C8.3**

### SM-3 Construction Fence (CF)

**CF-1. PLASTIC MESH CONSTRUCTION FENCE**

**CONSTRUCTION FENCE INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF CONSTRUCTION FENCE.
- CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
- STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
- CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

### Construction Fence (CF) SM-3

**CONSTRUCTION FENCE MAINTENANCE NOTES**

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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

### FigVT-1 (1425+1996)

	Case 1	Case 2
Gravel Thickness	6"	3"
Filter Fabric	YES	NO

City of Colorado Springs Storm Water Quality

### FigVT-2 (1521+2006)

**VEHICLE TRACKING NOTES**

**INSTALLATION REQUIREMENTS**

- ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
- CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
- AREAS TO BE STABILIZED ARE TO BE PROPERLY GRAZED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
- CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STAGING AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
- CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADERS BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADERS THAT ARE EXCESSIVELY STEEP.

**MAINTENANCE REQUIREMENTS**

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
- STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED IMMEDIATELY BY SHOULDER OR BERMING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER GRABES.
- STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED AND CLEANED IF NECESSARY.
- OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs Stormwater Quality

### CONCRETE WASHOUT AREA PLAN

**SECTION A-A'**

**CONCRETE WASHOUT AREA**

APPROVED: [Signature]

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

### CONCRETE WASHOUT AREA

**INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF CONCRETE WASHOUT AREA.
  - LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
  - 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.
  - DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
  - THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PAVEMENT ON SITE.
  - CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 6'.
  - BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
  - CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
  - SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
  - USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

**MAINTENANCE NOTES**

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- 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 3/4 THE HEIGHT OF THE CONCRETE WASH AREA.
- 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.
- THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

**CONCRETE WASHOUT AREA**

APPROVED: [Signature]

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

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

**SSA-1. STABILIZED STAGING AREA**

**STABILIZED STAGING AREA INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF STAGING AREA(S).
  - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

**STABILIZED STAGING AREA MAINTENANCE NOTES**

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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

**STABILIZED STAGING AREA MAINTENANCE NOTES**

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
- THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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**BLOCK AND GRAVEL BAG CURB INLET PROTECTION**

**BLOCK AND GRAVEL BAG CURB INLET PROTECTION NOTES**

**INSTALLATION REQUIREMENTS**

- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
- CONCRETE BLOCKS ARE TO BE LAD AROUND THE INLET AND SET IN PLACE WITH THE BLOCKS SETTING ONE ANOTHER WITH THE OPEN ENDS OF THE BLOCK FACING OUTWARD.
- GRAVEL BAGS ARE TO BE PLACED AROUND THE CONCRETE BLOCKS TO FORM A BAND OR ANOTHER SO THERE ARE NO GAPS.
- GRAVEL BAGS ARE TO CONTAIN WIRE MESH BAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER.
- BAGS ARE TO BE MADE OF 1/2 INCH WIRE MESH CUBED WITH GRAVEL ONLY OR GEOTEXTILE.

**MAINTENANCE REQUIREMENTS**

- CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS NO RAINFALL.
- DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.
- SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY TO THE CURB DEPTH OF THE TRAP.
- INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS OBTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

\* AN ALTERNATE 3/4" TO 1" GRAVEL FILTER OVER A WIRE SCREEN MAY BE USED IN PLACE OF GRAVEL BAGS. THE WIRE SCREEN SHALL EXTEND ABOVE THE TOP OF THE CONCRETE BLOCKS AND THE GRAVEL PLACED OVER THE WIRE SCREEN TO THE TOP OF THE CONCRETE BLOCKS.

City of Colorado Springs Stormwater Quality  
Figure IP-3 Block & Gravel Bag Curb Inlet Protection Construction Detail and Maintenance Requirements

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**CURB SOCK INLET PROTECTION**

**CURB SOCK INLET PROTECTION NOTES**

**INSTALLATION REQUIREMENTS**

- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
- SOCK IS TO BE MADE OF 1/4 INCH WIRE MESH CUBED WITH GRAVEL ONLY OR GEOTEXTILE.
- GRAVEL BAGS OR GRAVEL 3/4 INCH TO 1 INCH IN DIAMETER IS PLACED INSIDE THE SOCK.
- PLACEMENT OF THE SOCK IS TO BE 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED AT A MINIMUM 6 FEET APART.
- AT LEAST 2 CURB SOCKS IN SERIES IS REQUIRED.

**MAINTENANCE REQUIREMENTS**

- CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS NO RAINFALL.
- DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SOCK WHEN OUTER WIDTH IS FILLED.
- INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS OBTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality  
Figure IP-4 Curb Sock Inlet Protection Construction Detail and Maintenance Requirements

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**CHECK DAM**

**CHECK DAM NOTES**

**INSTALLATION REQUIREMENTS**

- STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE EMB-2.
- THE 1/4" DIMENSION SHALL BE SELECTED TO PROVIDE THE FLOW CONVEYANCE FOR STREAM FLOW OR GREATER.

**MAINTENANCE REQUIREMENTS**

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.
- REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.
- ACCUMULATED SEDIMENT AND DEBRIS IS TO BE REMOVED FROM BEHIND THE DAMS AFTER EACH STORM OR WHEN 1/2 OF THE ORIGINAL HEIGHT OF THE DAM IS REACHED.
- CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.
- WHEN CHECK DAMS ARE REMOVED THE CHANNEL BANKS OR EROSION TO BE RESTORED.

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

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**SEEDING & MULCHING**

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

**SOIL PREPARATION**

- IN AREAS TO BE SEED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRAGILE 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.
- AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
- 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.
- 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**

- 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.
- SEED SHOULD BE DRILL-SEED WHENEVER POSSIBLE.
- SEED DEPTH MUST BE 1/2 TO 3/4 INCHES WHEN DRILL-SEEDING IS USED.
- BROADCAST SEEDING OR HYDRO-SEEDING WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
- SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDING.
- BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.

**MULCHING**

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

City of Colorado Springs Storm Water Quality  
Figure ECB-1 Erosion Control Blanket Application Examples

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**Figure ECB-2 Erosion Control Blanket Installation Requirements**

City of Colorado Springs Storm Water Quality  
Figure ECB-2 Erosion Control Blanket Installation Requirements

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