

STORMWATER MANAGEMENT PLAN (SWMP)

Trails at Aspen Ridge Filing No. 2
El Paso County, Colorado

COLA, LLC
555 Middle Creek Parkway, Suite 380
Colorado Springs, Colorado 80921

Add PCD File No. SF1927

November 2019



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Trails at Aspen Ridge Filing No. 2 El Paso County, Colorado

Applicant (Owner):

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555 Middle Creek Parkway, Suite 380
Colorado Springs, CO 80921

SWMP Prepared By:

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- SWMP Drawings
- SWMP Inspection and Maintenance Log
- Soil Survey of El Paso County Area Soils Map
- FEMA FIRM Floodplain Maps
- CDPHE General Permit

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1. GENERAL INFORMATION

This Stormwater Management Plan (SWMP) is being submitted on behalf of COLA, LLC. for a tract of land known as Trails at Aspen Ridge Filing No. 2 in El Paso County, Colorado. The purpose of this SWMP is to identify potential source areas that may contribute pollutants to stormwater and to identify Best Management Practices (BMP)s that will reduce or eliminate adverse water quality impacts. Development, implementation, and maintenance of this SWMP will provide the general contractor with the framework for reducing soil erosion and minimizing pollutants in stormwater during construction of the project site.

This SWMP has been prepared in accordance with engineering, hydrologic and pollution control practices and will cover this facility only (the extents of the Project construction site) using BMPs to reduce the pollutants in stormwater discharges as described in Section 2 of this SWMP. The SWMP will be administered by the Qualified Stormwater Manager identified in Section 1.3. The Qualified Stormwater Manager's duties include the following:

- Implement the SWMP
- Oversee installation and maintenance of BMPs as identified in the SWMP
- Implement and oversee employee training
- Conduct or provide for inspection and monitoring activities
- Identify potential pollutant sources and make sure they are included in the SWMP
- Identify any deficiencies in the SWMP and make sure they are corrected
- Ensure that any changes in construction plans, phasing, or use of BMP's are addressed in the SWMP

The provisions of this SWMP must be implemented as they are written and updated, from the initiation of construction until final stabilization is complete. The Water Quality Control Division reserves the right to review the SWMP, and to require the permittee to develop and implement additional measures to prevent and control pollution as is needed.

1.1 Site Description

The Trails at Aspen Ridge Filing No. 2, located in Fountain, Colorado, is a 24-acre site which will consist of 98 single-family detached homes. The site is located at Latitude: 38.756048 and Longitude: -104.676602 and is bounded to the north by existing Bradley Road. Powers Boulevard is west of the site, Fontane Boulevard is south of the site, and Marksheffel Road is east of the site.

1.2 Site Location



1.3 Project Contact Information

Contact Information/Responsible Parties			
Owner	Randy O’Leary COLA, LLC 555 Middle Creek Parkway Colorado Springs, CO 80921		roleary@desertviewhomes.com
Project Manager/Site Supervisor	Steven Schoonover COLA, LLC 555 Middle Creek Parkway, Suite 380 Colorado Springs, CO 80921		sschoonover@desertviewhomes.com
Qualified Stormwater Manager	Steven Schoonover COLA, LLC 555 Middle Creek Parkway, Suite 380 Colorado Springs, CO 80921		sschoonover@desertviewhomes.com
SWMP Preparer	Nicole Schanel, PE Matrix Design Group 2435 Research Pkwy Suite 300 Colorado Springs, CO 80920	719-575-0100	Nicole.Schanel@matrixdesigngroup.com

1.4 Disturbance Area and Import/Export Volume

The following is the total site area and the expected area of disturbance. Any changes to the area of disturbance (current disturbance) must be updated as changes occur.

Total Site Area	24 acres	Date: 09/10/2019
Initial Estimate of Disturbance Area	24 acres	Date: 09/10/2019
Import/Export Volume Estimate	209,705 CY	<input checked="" type="checkbox"/> Import <input type="checkbox"/> Export
Updated Disturbance Area		
Updated Disturbance Area		
Updated Disturbance Area		

Please update the date. Per your schedule it appears that there will still be construction after this date listed.

1.5 Construction Activities

[Include clearing and grubbing, temporary stabilization, road grading, utility/storm installation, final grading, final stabilization, and removal of temporary control measures] Initial stabilization methods (BMPs) will be installed prior to construction. Following initial BMPs, construction will consist initially of site clearing and grubbing, temporary stabilization BMPs, initial grading, utility installation, road paving, final grading, followed by home construction on each lot. Open spaces will be maintained with the vegetation placed prior to commencement of construction. There will be no concrete or asphalt batched onsite. All concrete and asphalt will be imported from off-site batch plants. Final stabilization and removal of temporary control measure will be completed following placement of permanent landscaping and hardscaping.

1.6 Construction Sequencing and Phasing

Construction Schedule	Estimated Start Date	Estimated Completion Date
Anticipated Project Start Date	March 2020	July 2021
1. Install Initial BMPs	March 2020	March 2020
2. Clearing and Grubbing	March 2020	April 2020
3. Temporary Stabilization BMPs	March 2020	June 2021
4. Road Grading	March 2020	March 2020
5. Site Grading	March 2020	April 2020
6. Utility Installation	April 2020	April 2020
7. Curb and Gutter	June 2020	June 2020
8. Street Paving	June 2020	July 2020
9. Vertical Construction	August 2020	July 2021
10. Final Stabilization	July 2021	July 2021
11. Removal of Temporary Control Measures		July 2021
Anticipated Project End Date		June 2020

Construction Phase	Description and Conservation Measures
Install Initial BMPs	Silt Fencing (perimeter BMP) will be installed at designated locations (see Plan) as outlined in Section 2. The VTC will be installed at the entrance/exit to any disturbed areas as work progresses as outlined in Section 2. All construction traffic must enter/exit the site at approved construction access points. Sediment basins shall be installed prior to any land-disturbing activities that will rely on the basin for stormwater control (Section 2).
Clearing and Grubbing	Clearing and Grubbing of the site will be the initial construction phase. BMPs outlined in Section 2 will be used to control erosion and sediment runoff.
Temporary Stabilization BMPs	Temporary stabilization measures to control erosion and sediment runoff will be implemented as outlined in Section 2.

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Site Grading	Erosion and sediment runoff during site grading will be controlled by BMPs outlined in Section 2.
Road Grading	Road grading will be completed using BMPs outlined in Section 2 to control erosion and sediment runoff.
Utility Installation	Following site grading, utility corridors will be constructed beginning with sewer and water and followed by storm sewer. Dry utilities will be constructed last. BMPs outlined in Section 2 will be used to control erosion and sediment runoff.
Curb and Gutter	Curb and Gutter will be installed following final road grading activities. BMPs outlined in Section 2 will be used to control erosion and sediment runoff.
Final Grading	Final grading will be completed following installation of curb and gutter at the site. BMPs outlined in Section 2 will be used to control erosion and sediment runoff.
Street Paving	Streets and roads will be paved following final site grading activities. BMPs outlined in Section 2 will be used to control erosion and sediment runoff.
Vertical Construction	<p>Vertical construction will be phased on a lot by lot basis as follows:</p> <p>BMPs outlined in Section 2 will be used to control erosion and sediment runoff prior to beginning vertical construction (Initial Phase).</p> <p>The Interim Phase of vertical construction includes foundation excavation and construction, construction of structural framing, exterior completion, and minor utility work. Inlet protection outlined in Section 2 should remain in place during the interim construction phase. Perimeter BMPs as outlined in Section 2 will remain in place. Temporary stabilization BMPs (Section 2) should be implemented on all disturbed areas that are not subject to active construction.</p> <p>The Interim to Final Phase of construction includes interior/exterior structure completion, concrete flatwork, and final lot grading activities. Inlet protection outlined in Section 2 should remain in place during this construction phase. Perimeter BMPs should be evaluated for effectiveness and maintained as needed. Temporary stabilization BMPs should be used on all disturbed areas not subject to active construction activities.</p> <p>Final site grading, cleanup, and landscaping is the Final Phase of vertical construction. In most cases, BMPs can be removed immediately prior to final grading, and landscaping activities. In areas where landscaping and hardscaping are not planned, BMPs should be maintained and temporary stabilization measures should remain in place. Sites should be monitored until stabilization requirements are met.</p>

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Final Stabilization and Removal of Temporary BMPs	Once construction activity ceases, the area shall be stabilized with permanent landscaping and/or seed and mulch as outlined in Section 2. Final stabilization is complete when all ground disturbing activities are complete and all disturbed areas have either a uniform vegetative cover with an individual plant density of 70% of pre-disturbance levels, permanent hardscaping or paving is in place, or an equivalent permanent alternative stabilization method is implemented. Once stabilization is complete, all temporary sediment and erosion control measures shall be removed.
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1.7 Soils

The United States Department of Agriculture, Natural Resources Conservation Service (NRCS); Web Soil Survey of El Paso County Area, Colorado, published by the United States Department of Agriculture, dated August 2017, was utilized to investigate the existing general soil types within and surrounding the Project area. A soil map for this area is provided in the Attachments. Per the information given within the Soil Conservation Survey, hydrologic soil group “B” characteristics are predominant across the study area (an estimated 89% coverage area) as described in the following table.

Soil ID Number	Soil Type	Soil Description	Estimated Coverage Area	Hydrologic Classification
52	Manzanst Clay Loam, 0% to 3% slopes	Surface runoff is moderate, partially-draining soil, the hazard of erosion and soil blowing are moderate to high	11.1 %	C
56	Nelson-Tassel Fine Sandy Loams, 3% to 18% slopes	Surface runoff is moderate, partially-draining soil, the hazard of erosion and soil blowing are moderate to high	87.4 %	B
108	Wiley Silt Loam, 3% to 9% slopes	Surface runoff is moderate, partially-draining soil, the hazard of erosion and soil blowing are moderate to high	1.6 %	B

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Runoff coefficients outlined in the City of Colorado Springs Design Criteria Manual and are provided below:

Land Use	5-year	100-year
Historic Analysis	0.09	0.36
Residential, ¼ Acre	0.30	0.50
Paved	0.90	0.96

Runoff Coefficients for Rational Method from the Urban Drainage and Flood Control District (UDFCD 2001) are listed below:

Land Use or Surface Characteristics	Percent Impervious	Runoff Coefficients											
		2-year		5-year		10-year		25-year		50-year		100-year	
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.87	0.88	0.88	0.89
Neighborhood Areas	70	0.45	0.49	0.49	0.53	0.53	0.57	0.58	0.62	0.60	0.65	0.62	0.68
Residential													
1/8 Acre or less	65	0.41	0.45	0.45	0.49	0.49	0.54	0.54	0.59	0.57	0.62	0.59	0.65
1/4 Acre	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
1/3 Acre	30	0.18	0.22	0.25	0.30	0.32	0.38	0.39	0.47	0.43	0.52	0.47	0.57
1/2 Acre	25	0.15	0.20	0.22	0.28	0.30	0.36	0.37	0.46	0.41	0.51	0.46	0.56
1 Acre	20	0.12	0.17	0.20	0.26	0.27	0.34	0.35	0.44	0.40	0.50	0.44	0.55
Industrial													
Light Areas	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Heavy Areas	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Parks and Cemeteries													
Parks and Cemeteries	7	0.05	0.09	0.12	0.19	0.20	0.29	0.30	0.40	0.34	0.46	0.39	0.52
Playgrounds	13	0.07	0.13	0.16	0.23	0.24	0.31	0.32	0.42	0.37	0.48	0.41	0.54
Railroad Yard Areas	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
Undeveloped Areas													
Historic Flow Analysis-- Greenbelts, Agriculture	2	0.03	0.05	0.09	0.16	0.17	0.26	0.26	0.38	0.31	0.45	0.36	0.51
Pasture/Meadow	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Forest	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Exposed Rock	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Offsite Flow Analysis (when landuse is undefined)	45	0.26	0.31	0.32	0.37	0.38	0.44	0.44	0.51	0.48	0.55	0.51	0.59
Streets													
Paved	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Gravel	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Drive and Walks													
Drive and Walks	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Roofs	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Lawns	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50

All exposed soil throughout the Project site will be landscaped and/or seeded with a locally approved seed mix as described in Section 2.2.

1.8 Vegetation

The existing vegetation consists of native grasses and scrub oak. Based on site visits and a review of aerial photography, the vegetative cover at Aspen Ridge Filing No. 2 is approximately 100%.

1.9 Allowable Non-Stormwater Discharges

Uncontaminated groundwater may be discharged onsite, but may not leave the site in the form of surface runoff. Concrete washout areas will be used as described in Section 2.3.

1.10 Receiving Waters

Ultimate Receiving Water(s): Fountain Creek

Stormwater Outfalls/Storm Sewer System Discharge:

East Pond:

- Discharge: 48" Reinforced Concrete Pipe (RCP)
- Location of Discharge: Southeast corner of site
- Receiving Conveyance: Existing swale drains to the West Fork of Jimmy Camp Creek

1.11 Stream Crossings within the Project Area

No stream crossings are located within the Project Area.

1.12 Pollution Sources

Pollutants that result from clearing, grading, maintenance, operations, and excavation have the potential to be present in stormwater runoff and are potential sources for stormwater contamination. The following is a description of potential source areas for pollutant that may be released during construction, maintenance, operation, and excavation activities:

Source Area:

1. Disturbed and stored soils, erosion.
2. Vehicle tracking of sediments.
3. Management of contaminated soils.
4. Loading and unloading operations.
5. Outdoor storage activities (erodible building materials, fertilizers, chemicals, etc.).
6. Vehicle and equipment maintenance, cleaning, and fueling operations.
7. Significant dust or particulate generation activities.
8. Routine maintenance activities involving fertilizers, pesticides, herbicides, detergents, fuels, solvents, etc.
9. Onsite waste management practices (waste piles, liquid wastes, dumpsters, chemical containers etc.).
10. Concrete truck/equipment washing
11. Dedicated asphalt, concrete batch plants and masonry mixing stations

The construction activities section indicated that there are no dedicated asphalt or concrete batch plants on site. Please revise accordingly.

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12. Non-industrial waste sources (trash, portable toilets)

The following pollutants may impact stormwater runoff for each of the source areas listed above.

Potential Pollutant	Chemical/Physical Description	Stormwater Impacts	Potential Source Area (listed above)
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	3, 4, 5, 8, 9
Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	3, 4, 5, 8, 9
Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	3, 4, 5, 6, 8, 9, 10, 11, 12
Concrete	White solid	Limestone, sand	3, 5, 9, 10, 11
Paints	Various colored liquid	Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic	3, 5, 6, 9
Wood preservatives	Clear amber or dark brown liquid	Stoddard solvent, petroleum distillates, arsenic, copper, chromium	3, 5, 8
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil	3, 4, 5, 6, 8, 9, 11
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	2, 3, 4, 5, 6, 8, 9, 10
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes	2, 3, 4, 5, 6, 8, 9, 10
Kerosene	Pale yellow liquid petroleum hydrocarbon	Coal oil, petroleum distillates	5, 6, 8, 9
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	2, 3, 4, 5, 6, 8, 9, 10
Particulates	Dust, airborne particulates	Sediment	1, 2, 4, 5, 6, 10, 11
Biological	Human/animal waste	Bacterial	12

The largest possible sources of non-stormwater pollution will be from trucks during equipment maintenance and refueling operations. The contractor shall be responsible for any spill cleanup during

refueling operations in accordance with applicable city, county and state regulations. The contractor will also be responsible for cleanup of any off-site vehicle tracking on paved roads. Other sources of pollution such as vehicle washing, chemical storage or waste disposal are not anticipated. No recognized environmental conditions (REC) have been identified within Project site.

1.13 Spill Prevention and Response Plan

The Spill Prevention and Response Plan (SPRP) is designed to outline requirements for the handling and management of hazardous substances (pesticides, herbicides, fuels, cleaners, etc.) stored or used at the Project area.

Materials Management and Handling

- Chemicals that have the potential to be released in stormwater are to be used only where necessary and, in a manner, consistent with industry-standard uses and handling procedures.
- Ensure all hazardous materials are properly labeled.
- Store, dispense, and/or use hazardous substances in a way that prevents releases.
- Provide secondary containment when storing hazardous substances in bulk quantities (greater than 55-gallons).
- Maintain good housekeeping practices for chemicals stored onsite.
- Complete routine checks of hazardous substance storage areas.
- Provide monthly inspections of hazardous substance storage areas, secondary containment, and above ground and/or underground storage tanks.

Spill Containment and Reporting

A release of any chemical, oil, petroleum product, sewage, etc. that has the potential to enter surface water, groundwater, dry gullies, or storm sewers leading to surface water must be reported to the CDPHE immediately (25-8-601 CRS). When a spill is identified, the proper spill response should be implemented:

1. Assess the area for any immediate dangers or health and safety concerns. If any immediate dangers are present, call 911.
2. Contain any spilled materials. Assess the size of the leak and immediate threat of the spill reaching storm drains or permeable surfaces. If there is an immediate threat and no safety concerns, attempt to block the spill from reaching storm drains or other impermeable surfaces.
3. Stop the source of the spill if possible.
4. Cleanup spill in a timely manner. Use adsorbent materials (cat litter) and/or sock booms or rags to clean up the spill. Dispose of used materials appropriately.
5. Report and record spills to Qualified Stormwater Manager. Once the spill has been contained and any immediate threat to storm drains or permeable surfaces has been minimized, contact the Qualified Stormwater Manager. If necessary, a specialized cleanup contractor should be used to clean up the remaining contamination.

6. Follow applicable Colorado Discharge Permit System (CDPS) terms and conditions regarding spill reporting and response.
7. Report spills to the Colorado Department of Public Health and Environment (CDPHE). For non-permitted activities or in the case of an activity where a permit does not address reporting of or response to a spill which may cause pollution of surface or subsurface waters of the State, notify the Environmental Release and Incident Reporting Line within 24 hours at **(877) 518-5608**. Reporting should include:
 - a. Name of responsible person or name of Qualified Stormwater Manager
 - b. An estimate of the date and time of the release
 - c. The location of the spill and its source (saddle tank, manhole, storage container, etc.),
 - d. The type of material spilled (untreated wastewater, petroleum products, etc.)
 - e. The estimated volume of the spill
 - f. The time and date the spill was controlled or stopped
 - g. If the spill is ongoing, the estimated rate of flow and when the spill is expected to be controlled/contained
 - h. Measures being taken to contain, reduce, and/or clean the spill
 - i. A list of potentially impacted areas and known downstream water uses that will be or have been notified
 - j. The phone number and email of the Qualified Stormwater Manager.
8. Any accidental discharge to the sanitary sewer system must be reported immediately to the local sewer authority and the affected wastewater treatment plant.
9. Written notification following a reportable spill shall be submitted to the CDPHE within five days (5 CCR 1002-31, Section 61.8(5)(d)).

2. BEST MANAGEMENT PRACTICES

Best Management Practices (BMP's) encompass a wide range of erosion and sediment control practices, both structural and non-structural in nature, that are intended to reduce or eliminate any possible water quality impacts from stormwater leaving a construction site. The individual BMP's appropriate for a particular construction site are largely dependent on the types of potential pollutant sources present, the nature of the construction activity, and specific-site conditions.

Most of the BMP's referenced herein are widely used in the construction industry. They generally involve a simple and low-cost approach and can be very effective *when properly installed and maintained*. To prevent soil from washing into the public right-of-way or the undisturbed areas of the site, the following is a discussion of BMPs and an indication of which BMPs are expected to be implemented as part of this Project.

BMPs for all slopes, channels, ditches, or any disturbed land area shall be completed immediately after grading or earth disturbance has occurred. All temporary soil erosion control measures and BMP's shall be maintained until site reaches final stabilization and permanent soil erosion control measures are implemented.

The Stormwater Manager may modify the planned BMPs based on construction sequencing, site conditions, and/or other factors. The SWMP should be modified by field notes including dates of modifications and the purpose of the modification. The Grading and Erosion Control Plan should reflect what has been constructed or modified onsite. The Stormwater Manager will be responsible for documenting BMP's (including phasing of BMP implementation).

2.1 Structural BMPs

Structural BMPs are used to minimize erosion and sediment transport and include but are not limited to: silt fencing, erosion control blankets, turf reinforcement mat, wattles/sediment control logs, earth dikes, drainage swales, sediment traps, gravel inlet protection, inlet/outlet protection, straw bales, concrete washout areas, and temporary or permanent sediment basins. Structural BMPs shall be coordinated with construction activities so the BMP is in place before construction begins. The structural BMPs outlined below are general definitions and guidelines. Project-specific specifications for selected BMPs are detailed in the SWMP Drawings included in the Attachments.

- Silt Fencing: A silt fence is a structural sediment control device that typically consists of a geotextile fabric attached to wooden stakes inserted into a ground trench and rising to a vertical height of approximately 18-inches. The silt fence is generally used as perimeter sediment control and as a primary containment around storage areas, staging areas, stockpiles, etc.

Used for this project? Yes No

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Application notes: Temporary perimeter controls (e.g. silt fences) will be installed *before* any clearing and grading begins. The use of rebar, steel stakes, or steel fence posts to anchor silt fencing is prohibited. Once the site is cleaned and the surrounding disturbed areas are 70% established with vegetation, the silt fences around the Project site can be removed.

- **Erosion Control Blanket:** An erosion control blanket (ECB) is a rolled-fiber product typically made up of straw, coconut, or synthetic fibers that are used to prevent scour erosion, stabilize slopes, and to aid revegetation by providing a protective layer over seeded areas. Turf reinforcement mats are similar to ECBs and are made to withstand greater stress such as traffic, extended life, or continuous and frequent water flow. ECBs are available in both biodegradable and photodegradable varieties.

Used for this project? Yes No

Application Notes: Exposed slopes greater than 3:1 will be covered by an erosion control blanket. The use of rebar, steel stakes, or steel fence posts to anchor ECB is prohibited.

- **Sediment Control Logs:** SCLs are log-shaped, rolled straw products encased in a polypropylene monofilament filter fabric. SCLs are used for sediment control usually at the perimeter of a disturbance or as a channel check in low flow areas. Wattle can also be used for slope length reduction.

Used for this project? Yes No

Application Notes: SCLs that act as perimeter control shall be installed prior to any upgradient land-disturbing activities. SCLs may be used as small check dams in ditches and swales, however they should not be used in perennial streams or high velocity drainage ways.

- **Inlet Protection (gravel):** Storm sewer inlet protection is typically comprised of 1.5-inch angular rock (gravel) wrapped in a chicken wire mesh to form an approximate 6-inch diameter roll in varying lengths. The gravel roll should be firmly secured in front of the inlet opening with a spacing device to prevent the roll from entering the inlet. A sufficiently-sized overflow opening should be left to prevent flooding during high surface water flow volumes. The basic design applies to curb and drop-style inlets.

Used for this project? Yes No

Application Notes: Inlet protection measures for existing inlets shall be installed *before* clearing and grading is initiated.

- **Inlet/Outlet Protection:** Inlet/outlet protection can be composed of 4- to 6-inch rock (rip-rap) underlain with geotextile fabric placed at the outlet or inlet of a drainage pipe, culvert, or other areas where high surface water flow may be encountered. Geotextile socks filled with gravel may also be used as a temporary BMP. This BMP is used to reduce erosion sediment transport by reducing flow velocity.

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Used for this project? Yes No

Application Notes: Temporary rip rap outlet protection specified in the SWMP specification drawings is for outlets intended to be utilized less than 2 years. Rough cut street control measures (geotextile socks filled with gravel or compacted earthen berms) shall be installed after a road has been cut and will not be paved for more than 14 days, or for temporary construction roads that have not received road base.

- Straw Bale Barriers: Bound straw bale barriers (SBB) are typically used for inlet protection or as drainage swale check dams. Installation of the bales is critical to avoid erosion at the ends of the bales.

Used for this project? Yes No

Application Notes: Straw bales shall consist of certified weed-free straw or hay and shall consist of approximately 5 cubic feet of straw or hay. Straw bales must weigh at least 35 pounds.

- Earthen Berms: Earthen Berms can be used as temporary or permanent solutions for sediment and erosion control. The berms are typically designed to control the flow path of runoff by diverting surface water around areas prone to erosion such as steep slopes or other preferential flow pathways.

Used for this project? Yes No

Application Notes: Earthen berms from earlier construction areas will remain in place.

- Drainage Swales: Swales can be permanent or temporary and are typically designed to control storm water runoff in a non-erosive manner to a destination such as a detention pond or other stormwater collection facility. Swales can also be designed with velocity control devices and can be made of concrete or lined with materials such as rock or grass.

Used for this project? Yes No

Application Notes:

- Sediment/Detention Basins: Sediment/Detention basins are designed according to project size and runoff volume and are used for flood control and to aid in temporary retention of runoff to aid in sediment deposition. A release point for runoff water is typically present and consists of an emergency overflow or regulating structure.

Used for this project? Yes No

Application Notes: Sediment basins will be installed prior to any other land disturbing activities that rely on basins for stormwater control. Embankment materials shall consist of soil free of debris. Organic material, and rocks or concrete greater than 3-inches diameter and shall have a minimum of 15% by weight passing a No. 200 sieve. Embankment materials must be compacted to at least 95% of maximum density.

- Vehicle Tracking Control: VTC is used to limit off-site tracking of sediment from disturbed or unpaved areas to paved areas. VTC can include: TRM or mud mats installed at the point of access from unpaved areas (used when traffic is limited or light), a 1.5-inch diameter rock gravel access pad combined with pavement sweeping (used when traffic is limited or light), or a 3+-inch rock with geotextile underlayment combined with street sweeping (used for heavy construction traffic or at the main access point to a development site).

Used for this project? Yes No

Application Notes: VTC Entrances to disturbed areas will be constructed *before* clearing and grading begins.

2.2 Non-Structural BMPs

Non-structural BMPs are implemented at the site to minimize erosion and sediment transport and may include temporary or permanent vegetation, mulching, landscaping, geotextiles, sod stabilization, surface roughening, vegetative buffer strips (VBS), and protection/preservation of trees and other mature vegetation. The non-structural BMPs outlined below are general definitions and guidelines. Project-specific specifications for selected BMPs are detailed in the SWMP Drawings included in the Attachments.

- Temporary and permanent seeding: Seeding of disturbed areas provides soil stabilization and helps prevent erosion and sediment transport. Seeding is usually performed by ripping the area, spreading the appropriate seed mix, and applying straw mulch at a rate of two tons per acre over the seeded area. In some cases, a tackifier may be used to anchor the straw mulch. Managing and applying the proper seed mix and following the specified maintenance procedures are very important in promoting timely growth of grasses while minimizing weed growth. This BMP is effective on slopes up to 3:1 and where soil conditions are adequate.

Used for this project? Yes No

Application Notes: A mixture developed for elevations 3,000 feet to 8,000 feet will provide natural cover under dryland conditions. Seed for this project will be broadcast spread at a rate of 20 to 25 pounds per acre or drilled at a rate of 15 to 20 pounds per acre. Overseeding will be broadcast spread at a rate of 10 to 15 pounds per acre or drilled at a rate of 5 to 10 pounds per acre. Seed mixture specifications are included in the attached SWMP Drawings. Seed will be mulched with weed-free straw mulch. Temporary seeding may be used on disturbed areas not planned for activity within 30 days. Top soil stock piles will be stabilized with temporary seed and mulch no later than fourteen days from the last construction activities in that area. Once construction activity ceases permanently in an area, the area will be stabilized with permanent seed and mulch. Permanent seeding will be used in designated Open Space areas. Soils that are stockpiled for more than 30 days shall be mulched and seeded with a temporary or permanent grass cover within 21 days of stockpile construction.

Trails at Aspen Ridge Filing No. 2
Stormwater Management Plan

- **Mulching:** A layer of suitable mulch is typically applied at a rate of two tons per acre and can be tacked or fastened by an approved method suitable for the type of mulch used. Rough cut streets can be mulched in lieu of a layer of aggregate road base or asphalt paving. Seeding shall be placed in areas designated as being in an interim state.

Used for this project? Yes No

Application Notes: A layer of suitable mulch shall be applied at a rate of two tons per acre to all disturbed portions of the site within 21 days of the completion of grading. If the area is to remain in an interim state for more than 60 days, seeding BMPs shall be used. Mulch can be used in areas of rough cut streets unless a layer of road base or asphalt paving is planned within 21 days.

- **Landscaping:** Landscaping includes rock, mulch, sod, trees, bushes, geofabrics, hardscaping, etc. as identified in the final stabilization specifications. Landscaping may be done by the developer or by the property owner.

Used for this project? Yes No

Application Notes: Landscaping is planned for all disturbed areas that are not paved, hardscaped, or covered with permanent seeding.

- **Surface Roughening:** Surface roughening is the mechanical breaking up of soils as a short-term method of temporary stabilization in areas where temporary seeding is not practical or in areas where active construction is ongoing. Surface roughening is achieved through ripping or tilling the surface to increase surface area and infiltration.

Used for this project? Yes No

Application Notes: Surface roughening using scarifying methods such as disking or dragging bucket teeth over areas of disturbed soils parallel to slope contours will be completed in areas of active construction.

- **Vegetative Buffer Strips:** VBS are areas of original vegetation kept in place during construction that are preserved and maintained to filter sediment deposited from sheet flow. Maintenance includes cleanup of sediment and re-vegetation of VBS as necessary. Maintaining vegetative buffers is important around sensitive areas such as wetlands, waterways, etc.

Used for this project? Yes No

Application Notes: Pre-existing vegetation shall be protected and maintained within 50 horizontal feet of waters of the State unless unfeasible.

2.3 Housekeeping BMPs

Housekeeping BMPs are maintenance practices implemented to keep the site clean, reduce potential chemical or biological exposures, and to minimize the tracking of soils to hard surfaces and airborne particles. Maintenance BMPs include street sweeping, dust suppression techniques, spill prevention and response (Section 1.13), waste management and disposal, and materials handling and management (Section 1.14). Project-specific specifications for selected BMPs are detailed in the SWMP Drawings included in the Attachments.

- **Street Sweeping:** Street sweeping is the practice of removing soil clumps, scraping packed dirt/mud, and sweeping loose soils tracked onto paved surfaces to prevent sediment transport in runoff water. Materials removed as part of this BMP should be deposited in an area contained by perimeter BMPs or disposed offsite.

Used for this project? Yes No

Application Notes: Street sweeping methods will be employed in areas of ingress/egress from paved areas to the construction site. Vehicle tracking of soils and construction debris off-site shall be minimized. Materials tracked offsite shall be cleaned up and properly disposed immediately. The owner, site developer, contractor, and their agents shall be responsible for the removal of dirt, rock, construction debris, trash, sediment, and sand that accumulates in public right of ways, storm sewers, or other drainage conveyance system and stormwater appurtenances.

- **Dust Suppression:** Dust suppression BMPs are typically used to minimize the transport of fine particles through the air. Dust suppression techniques may include keeping the site wet using water trucks or other wetting methods or covering of loose soils in disturbance areas. During periods of high wind, the following activities should be monitored: limited street sweeping, restriction of major grading activities, restriction of soil stockpiling, controlling vehicular speed.

Used for this project? Yes No

Application Notes: A water source shall be available onsite during earthwork operations and utilized as required to minimize dust from earth working operations and wind.

- **Load Covering:** Trucks or other vehicles carrying cut or fill materials to or from the site should be covered to prevent accidental loss of material during transport onto public right of ways

Used for this project? Yes No

Application Notes: Loads of cut and fill must be properly covered.

- **Site Waste Management and Disposal:** Construction waste disposal and trash generated by onsite personnel should be collected in dumpsters or similar trash containers and emptied on a regular basis. Construction waste and trash should be kept in a secure area and lidded if required

Trails at Aspen Ridge Filing No. 2
Stormwater Management Plan

to avoid accidental spreading of waste. Trash containers should be kept on permeable surfaces within perimeter BMPs. Loose trash should be collected daily and disposal services should be on a regular schedule to avoid overfilling of containers. Hazardous materials may not be disposed in trash containers and no waste materials should be buried onsite.

Used for this project? Yes No

Application Notes: Trash at the site will be cleared daily and kept in secured and/or covered receptacles. Waste disposal will be managed through a licensed contractor.

- **Portable Toilet Facilities:** A proper amount of portable toilets should be located at the Project Site and should be kept within the perimeter BMPs on permeable surfaces. Portable toilets should be anchored to prevent tipping and should be at least five feet behind curbs and at least 50 feet from any storm sewer inlets. Toilets should also be kept away from preferential flow pathways and from all water bodies. Regularly scheduled maintenance should be in place to empty and clean the receptacles to prevent overflow and waste collecting.

Used for this project? Yes No

Application Notes: Portable toilets will be provided and maintained through a private contractor.

- **Concrete Washout:** Concrete washout areas typically consist of an unlined pit in the ground with a vehicle tracking control (VTC) entrance and are designed to capture and contain concrete washout water. In areas with a high groundwater table, poly-lined pits or a portable waste bin may be used. Pits should be placed to minimize the potential for pollutant discharge. Washout basin deposits (hardened concrete waste) should be removed and properly disposed offsite as solid waste on a regular basis after liquids have evaporated.

Used for this project? Yes No

Application Notes: Concrete wash water shall be contained and disposed in accordance with the SWMP. No concrete wash water shall be discharged to or allowed to runoff to State waters. Concrete washout areas shall not be located in an area where shallow groundwater may be present or within 50 feet of a surface water body. Unless confined to a predefined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the Project area.

3. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

Once construction activity ceases permanently in an area, the area shall be stabilized with permanent landscaping and/or seed and mulch as designated below. Final stabilization is complete when all ground disturbing activities are complete and all disturbed areas have either a uniform vegetative cover with an individual plant density of 70% of pre-disturbance levels, permanent hardscaping or paving is in place, or an equivalent permanent alternative stabilization method is implemented. Once stabilization is complete, all temporary sediment and erosion control measures shall be removed.

Final Stabilization for this site will consist of a combination of landscaping and permanent seeding including the following:

- *Landscaping.* Disturbed areas around finished units that are not paved or otherwise hardscaped should be landscaped on completion of the vertical structure. Weather may delay landscaping which may be offset by temporary measures such as erosion control blankets, wattles, inlet protection, or other BMPs outlined in Section 2.
- *Paving/Hardscaping.* Areas not planned for landscaping should be paved or hardscaped including roadways, sidewalks, driveways, parking areas, etc.
- *Temporary controls.* Temporary erosion and sediment control measures should be maintained on un-stabilized areas until landscaping or hardscaping activities are complete. Disturbed areas should be surface-roughened and slopes steeper than 3:1 should be covered with erosion control blankets. Temporary controls may be removed once stabilization is complete.
- *Permanent BMPs.* Permanent post-construction BMPs should remain onsite after construction activities have been completed and the site is stabilized. These BMPs may include detention facilities, storm drain systems, swales, and natural depressions.

3.1 Inspection and Maintenance

Visual inspections of all cleared and graded areas of the construction site will be performed on a minimum occurrence of once per week and/or within 24 hours of the end of any precipitation or snowmelt event that causes surface erosion. The inspection will be the responsibility of the Qualified Stormwater Manager. An inspection report form has been provided in the Attachments. The inspection will verify that the structural BMPs described in Section 2.1 of this SWMP are functioning properly, in good condition, up to date and continue to minimize erosion. The inspection will also verify that the procedures used to prevent stormwater contamination from construction materials and petroleum products are effective. The following inspection and maintenance practices will be used to maintain erosion and sediment controls:

- Accumulated sediment and debris shall be removed from a BMP when the sediment/debris level reaches one half the height of the BMP or at any time that sediment or debris adversely impacts the functioning BMP.
- Built up sediment will be removed from silt fencing when it has reached one-third the height of the fence.
- Silt fences will be inspected for depth of sediment, for tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Sediment basins will be inspected for depth of sediment and built up sediment will be removed when it reaches 1 foot in depth.
- Temporary and permanent seeding will be inspected AND noted for bare spots, washouts, and healthy growth.
- The stabilized construction entrances will be inspected for sediment tracked on the road, for clean gravel, and to make sure that all traffic uses the stabilized entrance when leaving the site.
- The maintenance inspection report will be made after each inspection. A copy of the report form to be completed by the Qualified Stormwater Manager is provided in the Attachments. Completed forms will be maintained on-site during the entire construction project. Following construction and the expiration or inactivation of the permit, the completed forms will be retained at the general contractor's office, for a minimum of 3 years.
- If construction activities or design modifications are made to the site plan which could impact stormwater, this SWMP will be amended appropriately. The amended SWMP will have a description of the new activities that contribute to the increased pollutant loading and the planned source control activities.

3.2 BMP Replacement and Failed BMPs

At a minimum, the contractor shall inspect and keep a log of all BMPs on a weekly basis and after a significant precipitation event. BMPs should be assessed by a qualified inspector to determine if new or replacement BMPs are necessary. Where BMPs have failed, the failure must be addressed as soon as possible to minimize discharge of additional pollutants. As new BMPs are installed and/or replaced, this SWMP should be updated to reflect the change(s).

3.3 Qualified Inspectors

Qualified inspectors should be knowledgeable in the principals and practices of erosion and sediment control and should have a good working knowledge of the regulation and BMPs included in this SWMP. Inspectors should also be able to anticipate site conditions and assess BMP functionality that could impact stormwater runoff.

3.4 Additional SWMP and BMP Practices

An employee training program should be developed and implemented to educate employees about the requirements of the SWMP. This education program will include background on the components and goals of the SWMP and hands-on training in erosion controls, spill prevention and response, good housekeeping, proper material handling, disposal and control of waste, equipment fueling, and proper storage, washing, and inspection procedures.

This plan was prepared in accordance with the CDPS General Permit. A copy of this permit is provided in the Attachments.

Attachments

SWMP Drawings



Know what's below.
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INDEX OF SHEETS		SHEET No.
TS01	TITLE SHEET	1
GN01	GENERAL NOTES	2
GEN01	LEGEND & ABBREVIATION NOTES	3
GEC01-GEC03	GRADING & EROSION CONTROL PLAN	4 - 6
ECN01-ECN02	EROSION CONTROL DETAILS	7 - 8

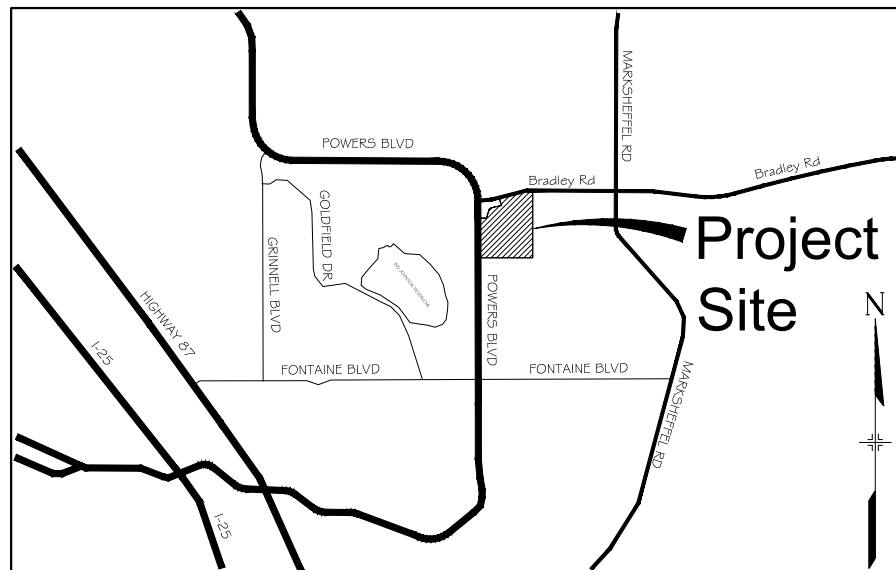
TRAILS AT ASPEN RIDGE FILING NO. 2

COLORADO SPRINGS, COLORADO

FINAL GRADING & EROSION CONTROL PLANS

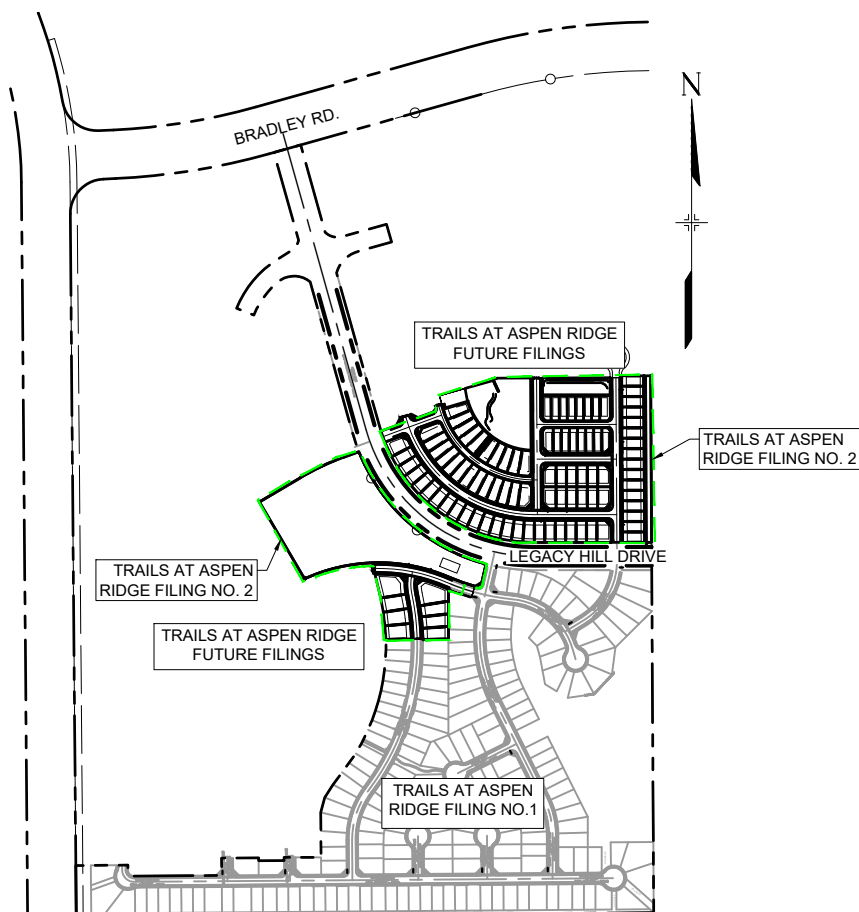
NOVEMBER, 2019

THIS IS AN OVERLOT GRADING AND EROSION CONTROL PLAN ONLY. THIS PLAN DOES NOT REFLECT DETAILED/FINE GRADING ELEMENTS THAT WILL BE PART OF FINAL CONSTRUCTION DOCUMENTS FOR SITE DEVELOPMENT, PAVING OPERATIONS, PLACEMENT OF CURB & GUTTER, AND LANDSCAPING. BUILDING AND PARKING LOT LOCATIONS ARE PROVIDED FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.



VICINITY MAP

N.T.S.



SITE MAP

N.T.S.

OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

RANDY O'LEARY, PRESIDENT _____ DATE _____

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.

NICOLE SCHANEL, PE #52434 _____ DATE _____

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

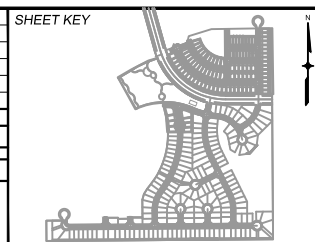
FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JENNIFER IRVINE, P.E. _____ DATE _____
COUNTY ENGINEER / ECM ADMINISTRATOR

OWNER/DEVELOPER	COLA, LLC 555 MIDDLE CREEK PARKWAY, SUITE 380 COLORADO SPRINGS, CO 80921 RANDY O'LEARY, (719) 382-9433
CIVIL ENGINEER	MATRIX DESIGN GROUP 2435 RESEARCH PARKWAY, SUITE 300 COLORADO SPRINGS, CO 80920 NICOLE SCHANEL, (719) 659 6141
WATER & SANITARY SEWER	WIDEFIELD WATER AND SANITATION DISTRICT 8495 FONTAINE BOULEVARD COLORADO SPRINGS, CO 80925 ROBERT BANNISTER, (719) 390-7111
ELECTRIC	MOUNTAINVIEW ELECTRIC ASSOCIATION (719) 495-2283
GAS	COLORADO SPRINGS UTILITIES 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, CO MARY HOAGLUND (719) 668-4083
STREET	EL PASO COUNTY PUBLIC SERVICES DEPARTMENT (719) 520-6460
DRAINAGE	EL PASO COUNTY PUBLIC SERVICES DEPARTMENT (719) 520-6460
FIRE DEPARTMENT	SECURITY FIRE DEPARTMENT 400 SECURITY BOULEVARD SECURITY, CO 80911 (719) 392-7121

REFERENCE DRAWINGS	DESCRIPTION	BY
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No.	DATE	DESCRIPTION
REVISIONS		
COMPUTER FILE MANAGEMENT		
FILE NAME: S:\19.886.014 (Trails at Aspen Ridge - F2)\100 Dwg\104 Plan Sets\Construction Plans\GEC Plan\TS01.dwg		
CTB FILE: ---		
PLOT DATE: November 5, 2019 7:34:02 AM		
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.		



BENCHMARK
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
A BERTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD, ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/4 CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)

PREPARED BY:

SEAL

PRELIMINARY
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

TRAILS AT ASPEN RIDGE			
FILING NO. 2			
FINAL GRADING & EROSION CONTROL PLANS			
TITLE SHEET			
DESIGNED BY: NMS	SCALE	DATE ISSUED: NOVEMBER 2019	DRAWING No.
DRAWN BY: CRD	HORIZ. N/A	1 OF 8	TS01
CHECKED BY: NMS	VERT. N/A	SHEET	



Know what's below.
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GENERAL CONSTRUCTION NOTES:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFFSITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR AND SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT MAY CONTRIBUTE POLLUTANTS TO STORMWATER. TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES IS NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN PRIOR TO IMPLEMENTATION.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE STABILIZED.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLAN DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE HYDROLOGY OR HYDRAULICS OF A PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE, UNLESS INFEASIBLE.

- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUT SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY.
- DEWATERING OPERATIONS: UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT MAY NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF.
- EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF PETROLEUM PRODUCTS OR OTHER LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL HAVE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCH FLOW LINE.
- INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. DATED APRIL, 2019 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNI

NRCS SOIL SURVEY FOR EL PASO COUNTY

SOIL ID NO.	SOIL TYPE	HYDROLOGIC CLASSIFICATION
52	MANZANST CLAY LOAM (0%-3% SLOPES)	C
56	NELSON-TASSEL FINE SANDY LOAM (3%-18% SLOPES)	B
108	WILEY SILT LOAM (3%-9% SLOPES)	B

TIMING

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:
MARCH 2020 THRU JULY 2020

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:
JULY 2021

AREAS

TOTAL AREA: 23.87 ACRES

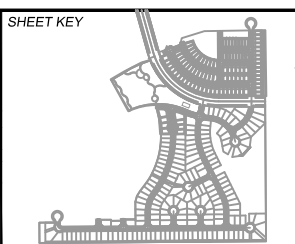
RECEIVING WATERS

NAME OF RECEIVING WATERS
FOUNTAIN CREEK (ULTIMATE)

NPDES NOTES:

- THE CONTRACTOR SHALL REMOVE ALL SEDIMENT, MUD, AND CONSTRUCTION DEBRIS THAT MAY ACCUMULATE IN THE FLOWLINES AND PUBLIC RIGHTS OF WAYS AS A RESULT OF THIS CONSTRUCTION PROJECT. SAID REMOVAL SHALL BE CONDUCTED IN A TIMELY MANNER, OR AS DIRECTED BY THE ENGINEER.
- THIS CONSTRUCTION ACTIVITIES STORMWATER MANAGEMENT PLAN (SWMP) HAS BEEN SUBMITTED AS PART OF AN APPLICATION FOR AN EROSION AND SEDIMENT CONTROL PERMIT FILED WITH THE CITY OF COLORADO SPRINGS AND AS INCLUSION BY REFERENCE TO THE CDPHE CONSTRUCTION ACTIVITY PERMIT. THE SWMP IS A LIVING DOCUMENT AND ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED OF THE CONTRACTOR DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL BE THE OBLIGATION OF THE LAND OWNER AND/OR HIS SUCCESSORS OR HEIRS; UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED, OR VOIDED.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, ETC., RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
- THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, BORING, GRADING OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT.
- A LAYER OF SUITABLE MULCH SHALL BE APPLIED TO ALL DISTURBED PORTIONS OF THE SITE WITHIN 21 DAYS OF THE COMPLETION OF GRADING. SAID MULCH SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE AND SHALL BE TACKED OR FASTENED BY AN APPROVED METHOD SUITABLE FOR THE TYPE OF MULCH USED. ROUGH-CUT STREETS SHALL BE MULCHED UNLESS A LAYER OF AGGREGATE ROAD BASE OR ASPHALT PAVING IS TO BE APPLIED TO SAID ROUGH-CUT STREETS WITHIN THE 21 DAY PERIOD AFTER COMPLETION OF OVERLOT GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THEN SIXTY (60) DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
- THE CONTRACTOR SHALL LOCATE, INSTALL, AND MAINTAIN ALL EROSION CONTROL AND WATER QUALITY "BEST MANAGEMENT PRACTICES" AS INDICATED IN THE APPROVED CONSTRUCTION ACTIVITIES STORMWATER MANAGEMENT PLAN. BMP'S SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT.
- AT A MINIMUM, THE CONTRACTOR SHALL INSPECT, AND KEEP A LOG OF, ALL BMP'S WEEKLY AND AFTER SIGNIFICANT PRECIPITATION EVENTS. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED IN A TIMELY MANNER. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM A BMP WHEN THE SEDIMENT LEVEL REACHES ONE-HALF THE HEIGHT OF THE BMP, OR, AT ANY TIME THAT SEDIMENT OR DEBRIS ADVERSELY IMPACTS THE FUNCTIONING OF THE BMP.
- THE CONTRACTOR SHALL PROPERLY COVER ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT WITHIN PUBLIC RIGHTS OF WAY.
- THE USE OF REBAR, STEEL STAKES, OR STEEL FENCE POSTS TO STAKE DOWN STRAW OR HAY BALES; OR TO SUPPORT SILT FENCING USED AS AN EROSION CONTROL MEASURE; IS PROHIBITED. THE USE OF OSHA APPROVED COLORED WARNING CAPS ON REBAR OR FENCE POSTS USED WITH EROSION CONTROL MEASURES IS NOT ACCEPTABLE.
- SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE MULCHED AND SEEDED WITH A TEMPORARY OR PERMANENT GRASS COVER WITHIN 21 DAYS OF STOCKPILE CONSTRUCTION. IF STOCKPILES ARE LOCATED WITHIN 100 FEET OF A DRAINAGEWAY, ADDITIONAL SEDIMENT CONTROLS SUCH AS TEMPORARY DIKES OR SILT FENCE SHALL BE REQUIRED.
- MODIFICATION OF AN ACTIVE EROSION AND SEDIMENT CONTROL PERMIT BY THE CONTRACTOR SHALL REQUIRE TIMELY NOTIFICATION OF AND APPROVAL BY THE CITY OF COLORADO SPRINGS. TERMINATION OF AN ACTIVE EROSION AND SEDIMENT CONTROL PERMIT UPON COMPLETION OF THE PROJECT REQUIRES NOTIFICATION OF AND APPROVAL BY THE CITY OF COLORADO SPRINGS.
- UNLESS CONFINED IN A PREDEFINED, 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 SEWER SYSTEM IS PROHIBITED.
- THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS.
- LOCATION OF STAGING, STORAGE, EQUIPMENT MAINTENANCE, TEMPORARY DISPOSAL, VEHICLE TRACKING CONTROL AND CONCRETE TRUCK WASHOUT AREAS WILL BE DETERMINED IN THE FIELD AT THE START OF CONSTRUCTION ACTIVITY AND DELINEATED ON THIS PLAN.

REFERENCE DRAWINGS	###	###	###	###	SHEET KEY
GEC Titleblock	###	###	###	###	
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BENCHMARK
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
A BERNTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD,
ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2' AULM. CAP PLS 17664) TO THE N 1/4 CORNER OF SAID SECTION 9 (3 1/2' AULM. CAP PLS 10377)

PREPARED BY:

SEAL

PRELIMINARY
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TRAILS AT ASPEN RIDGE			
FILING NO. 2			
FINAL GRADING & EROSION CONTROL PLANS			
GENERAL NOTES			
DESIGNED BY: NMS	SCALE	DATE ISSUED: NOVEMBER 2019	DRAWING No.
DRAWN BY: CRD	HORIZ. N/A		
CHECKED BY: NMS	VERT. N/A	SHEET 2 OF 8	GN01



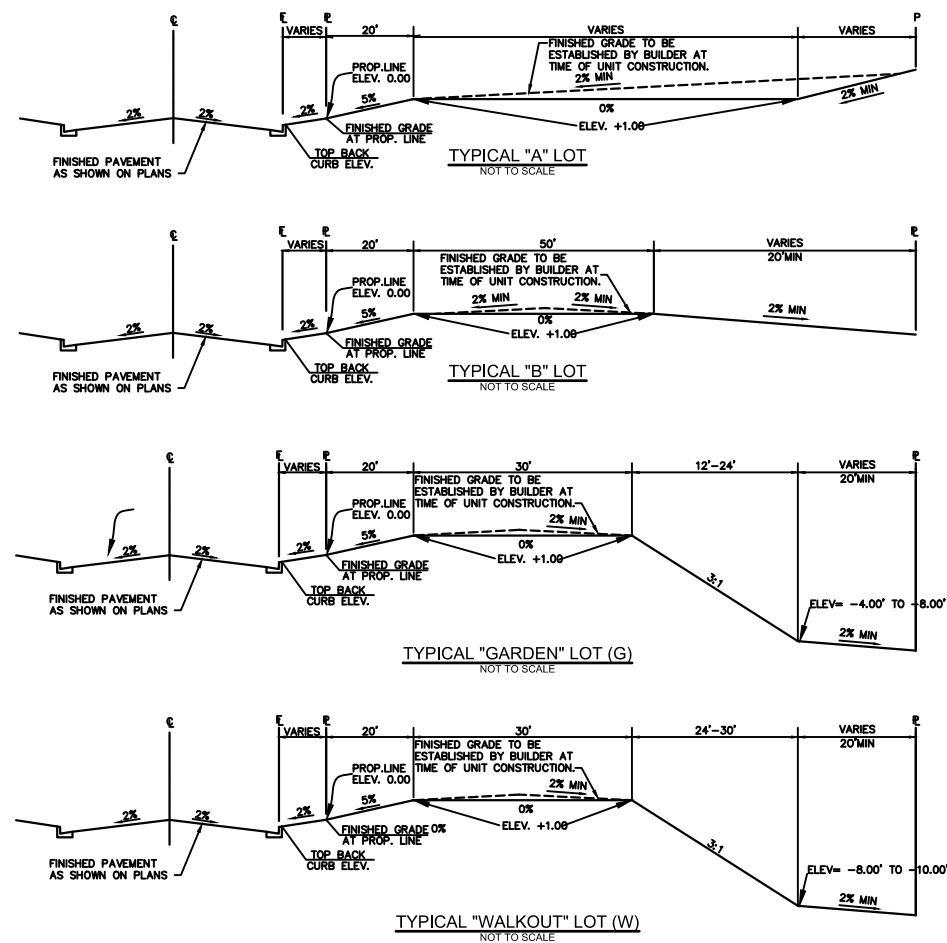
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SYMBOLS

	PROPOSED CENTERLINE		PROPOSED MANHOLE
	EXISTING PAVED ROAD		EXISTING POWER POLE
	EXISTING UNDERGROUND UTILITY		THRUST BLOCK
	PROPOSED UNDERGROUND UTILITY		FIRE HYDRANT
	RIGHT OF WAY		EXISTING WATER VALVE
	EASEMENT		PROPOSED WATER VALVE
	EXISTING CURB & GUTTER		WATER FITTINGS
	PROPOSED CURB & GUTTER		EXISTING STORM INLET
	EXISTING CONTOUR		PROPOSED STORM DRAIN/INLET
	PROPOSED CONTOUR		PLUG PIPE
	LIMITS OF CONSTRUCTION		PROPOSED SIGN
			EXISTING SIGN

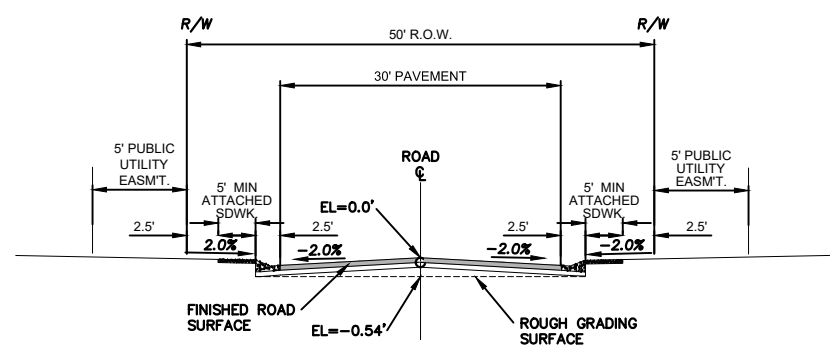
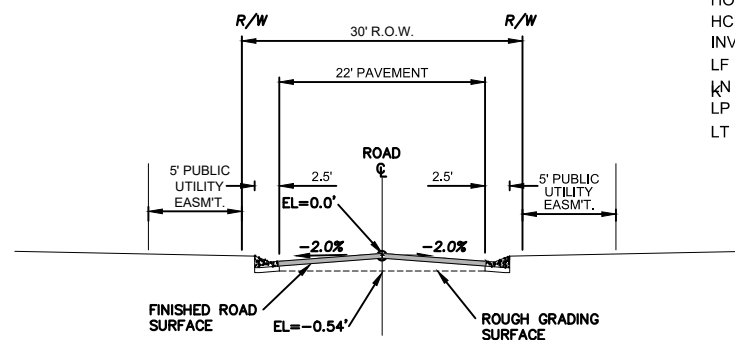
LOT TYPES

- (A) "A" LOT
- (B) "B" LOT
- (G) "GARDEN LEVEL" LOT
- (W) "WALKOUT" LOT
- (T) "TRANSITION" LOT

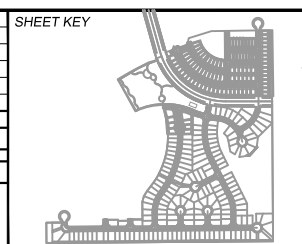


ABBREVIATIONS

ASSY	ASSEMBLY	MAX	MAXIMUM
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	MH	MANHOLE
APPROX	APPROXIMATE or APPROXIMATELY	MIN	MINIMUM
AVE	AVENUE	MJ	MECHANICAL JOINT
AVG	AVERAGE	NTS	NOT TO SCALE
BLVD	BOULEVARD	O/S	OFFSET
BTM	BOTTOM	PR	PROPOSED
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	PC	POINT OF CURVATURE
CEN	CENTER	PCC	POINT OF COMPOUND CURVE
C or CL	CENTERLINE	PCR	POINT OF CURB RETURN
CFS	CUBIC FEET PER SECOND	P _c or P/L	PROPERTY LINE
CONC	CONCRETE	PRC	POINT OF REVERSE CURVE
CONST	CONSTRUCTION	PT	POINT OF TANGENCY
CONT	CONTINUOUS	PVC	POINT OF VERTICAL CURVE or POLYVINYL CHLORIDE
DIA	DIAMETER	PVT	POINT OF VERTICAL INTERSECTION
DWG	DRAWING	PVMT	PAVEMENT
EA	EACH	RCP	POINT OF VERTICAL TANGENT
EGL	ENERGY GRADE LINE	RED	REDUCER
ELEV or EL	ELEVATION	REF	REFERENCE
ESMT	EASEMENT	REQ	REQUIRED
EX or EXIST	EXISTING	REV	REVISION
FES	FLARED END SECTION	ROW	RIGHT-OF-WAY
F or FL	FLOWLINE	RT	RIGHT
FLG	FLANGE	SD	STORM SEWER
FT	FOOT/FEET	ST	STREET
HGL	HYDRAULIC GRADE LINE	STA	STATION
HP	HIGH POINT	STD	STANDARD
HORIZ	HORIZONTAL	SS	SANITARY SEWER
HCL	HORIZONTAL CONTROL LINE	SW or S/W	SIDEWALK
INV	INVERT	TAN	TANGENT
LF	LINEAR FEET	TBC	TOP BACK OF CURB
LN	LANE	TYP	TYPICAL
LP	LOW POINT	UG	UNDERGROUND
LT	LEFT	UTIL	UTILITY
		VERT	VERTICAL
		W	WIDTH
		w/	WITH



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BENCHMARK
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
A BERTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD, ELEVATION - 5897.89' U.S. SURVEY FT

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BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/4 CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)

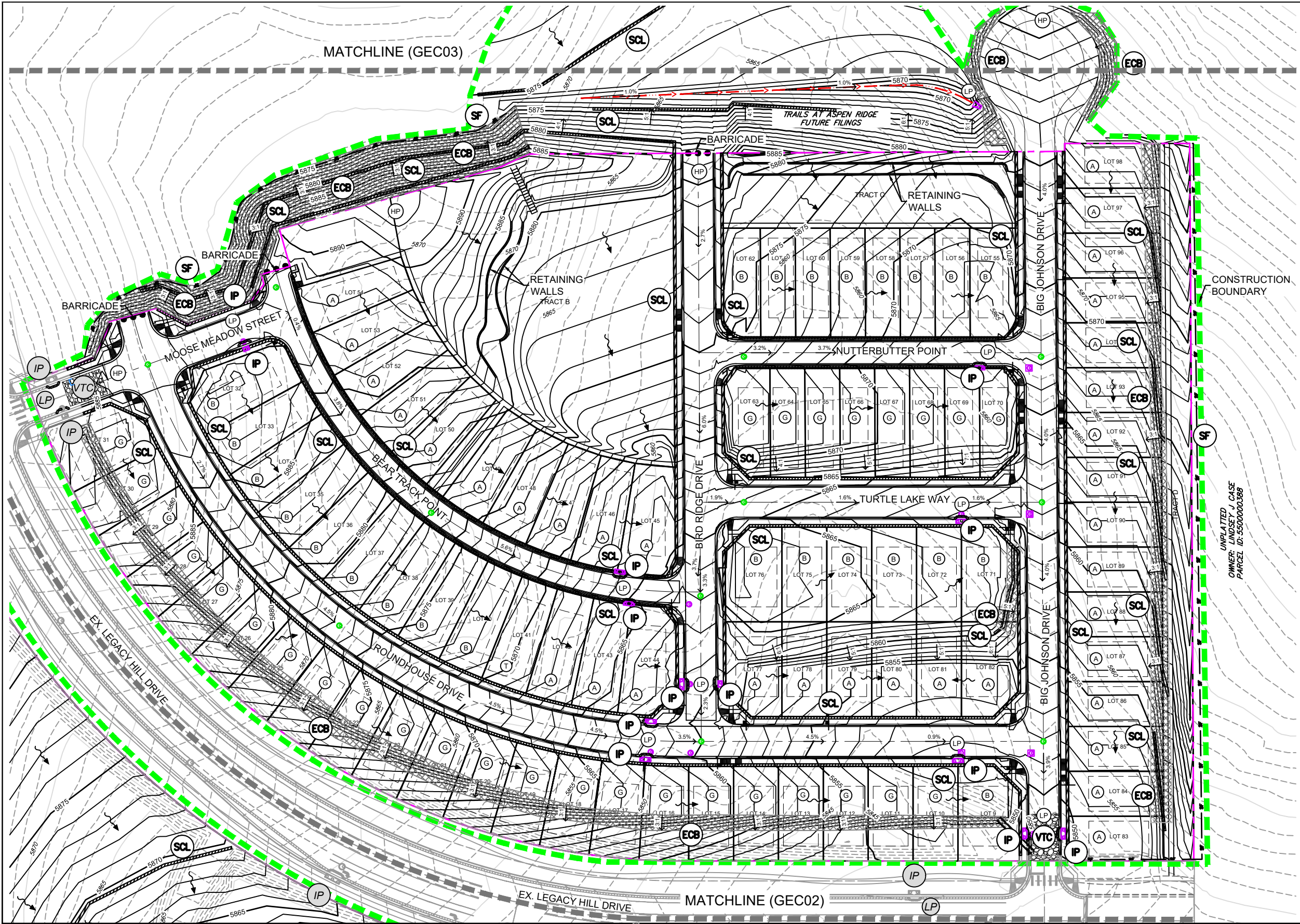
PREPARED BY:

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TRAILS AT ASPEN RIDGE			
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FINAL GRADING & EROSION CONTROL PLANS			
LEGEND & ABBREVIATION NOTES			
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DRAWN BY: CRD	HORIZ. N/A	3 OF 8	GEN01
CHECKED BY: NMS	VERT. N/A		

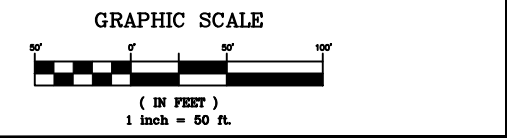


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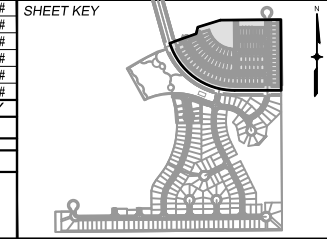
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- INLET PROTECTION
- HIGH POINT/LOW POINT
- HIGH POINT/LOW POINT
- EROSION CONTROL BLANKET
- TEMPORARY MULCHING AND SEEDING
- SEDIMENT CONTROL LOG
- STRAW BALE BARRIER
- VEHICLE TRACKING CONTROL
- SEDIMENT BASIN
- CONTRACTOR TO COORDINATE LOCATIONS OF CONCRETE WASHOUTS, STOCKPILES, AND STAGING AREAS WITH ADJACENT FILINGS
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- INLET PROTECTION
- OUTLET PROTECTION
- DRAINAGE SWALE
- SILT FENCE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- SLOPE DIRECTION
- CUT/FILL LINE
- PROPERTY BOUNDARY
- CONSTRUCTION BOUNDARY LINE
- LOT DRAINS TO STREET
- LOT DRAINS TO STREET/REAR OF LOT
- LOT DRAINAGE VARIES
- GARDEN LEVEL BASEMENT
- WALK OUT BASEMENT

BMP SEQUENCING	
INITIAL	SILT FENCE, CONSTRUCTION FENCE, VEHICLE TRACKING
INTERIM	SEDIMENT CONTROL LOGS, CHECK DAMS, TEMP SEDIMENT BASINS, INLET PROTECTION, STOCKPILES, STAGING
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING



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BENCHMARK
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
A BERTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD,
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TRAILS AT ASPEN RIDGE

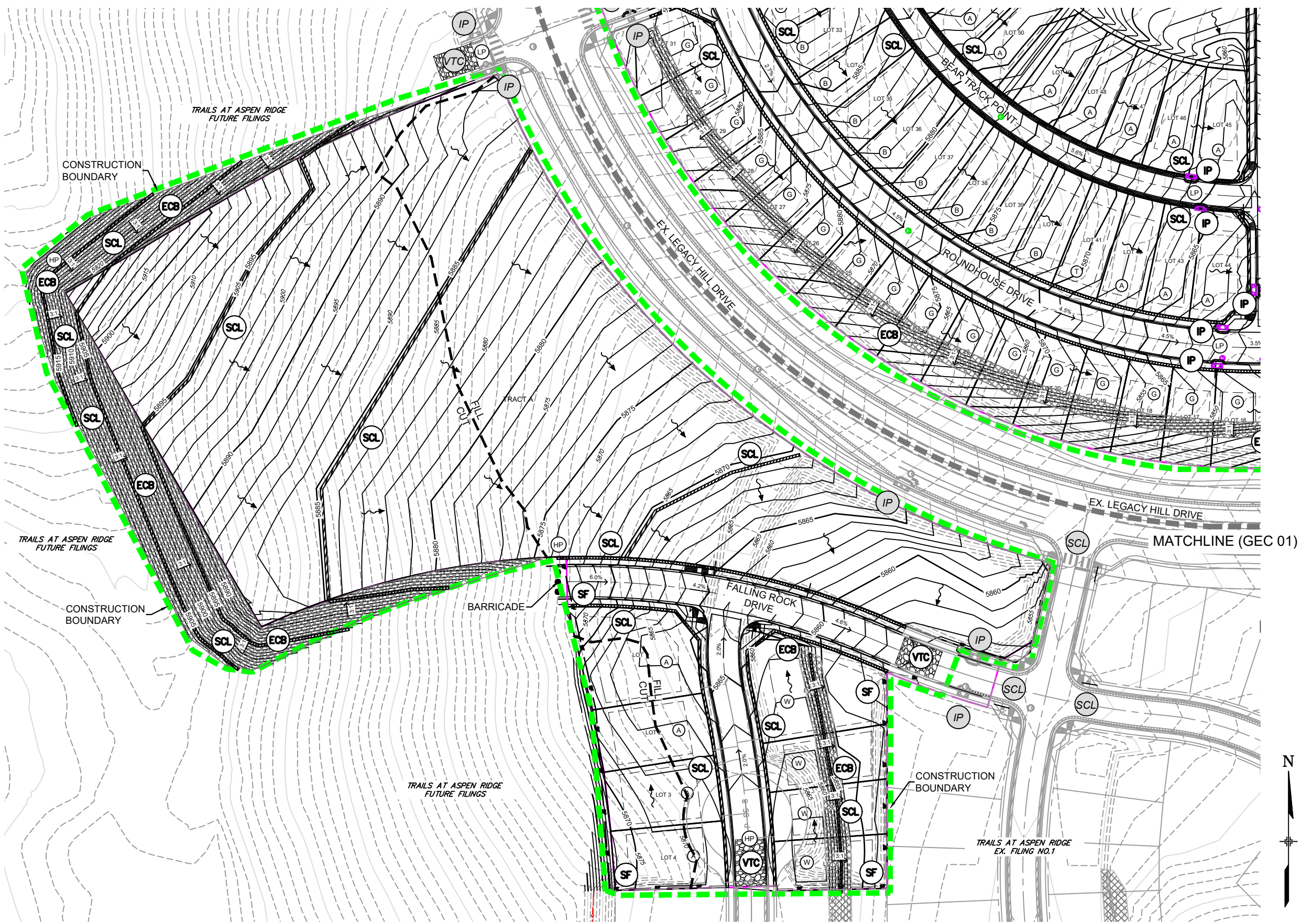
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FINAL GRADING & EROSION CONTROL PLANS

GRADING & EROSION CONTROL PLAN

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CHECKED BY:	NMS	VERT:	N/A	SHEET	4 OF 8
FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC. PROJECT No. 19.886.014					GC01

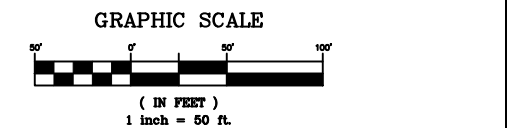


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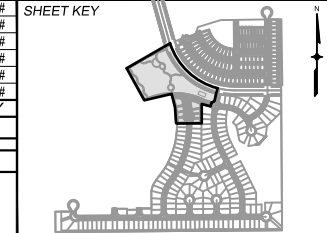
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- EROSION CONTROL BLANKET
- TEMPORARY MULCHING AND SEEDING
- TEMPORARY MULCHING AND SEEDING
- SEDIMENT CONTROL LOG
- SEDIMENT CONTROL LOG
- STRAW BALE BARRIER
- VEHICLE TRACKING CONTROL
- VEHICLE TRACKING CONTROL
- SEDIMENT BASIN
- SEDIMENT BASIN
- CONTRACTOR TO COORDINATE LOCATIONS OF CONCRETE WASHOUTS, STOCKPILES, AND STAGING AREAS WITH ADJACENT FILINGS
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- INLET PROTECTION
- INLET PROTECTION
- OUTLET PROTECTION
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- DRAINAGE SWALE
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- SILT FENCE
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BMP SEQUENCING	
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FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING



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BENCHMARK
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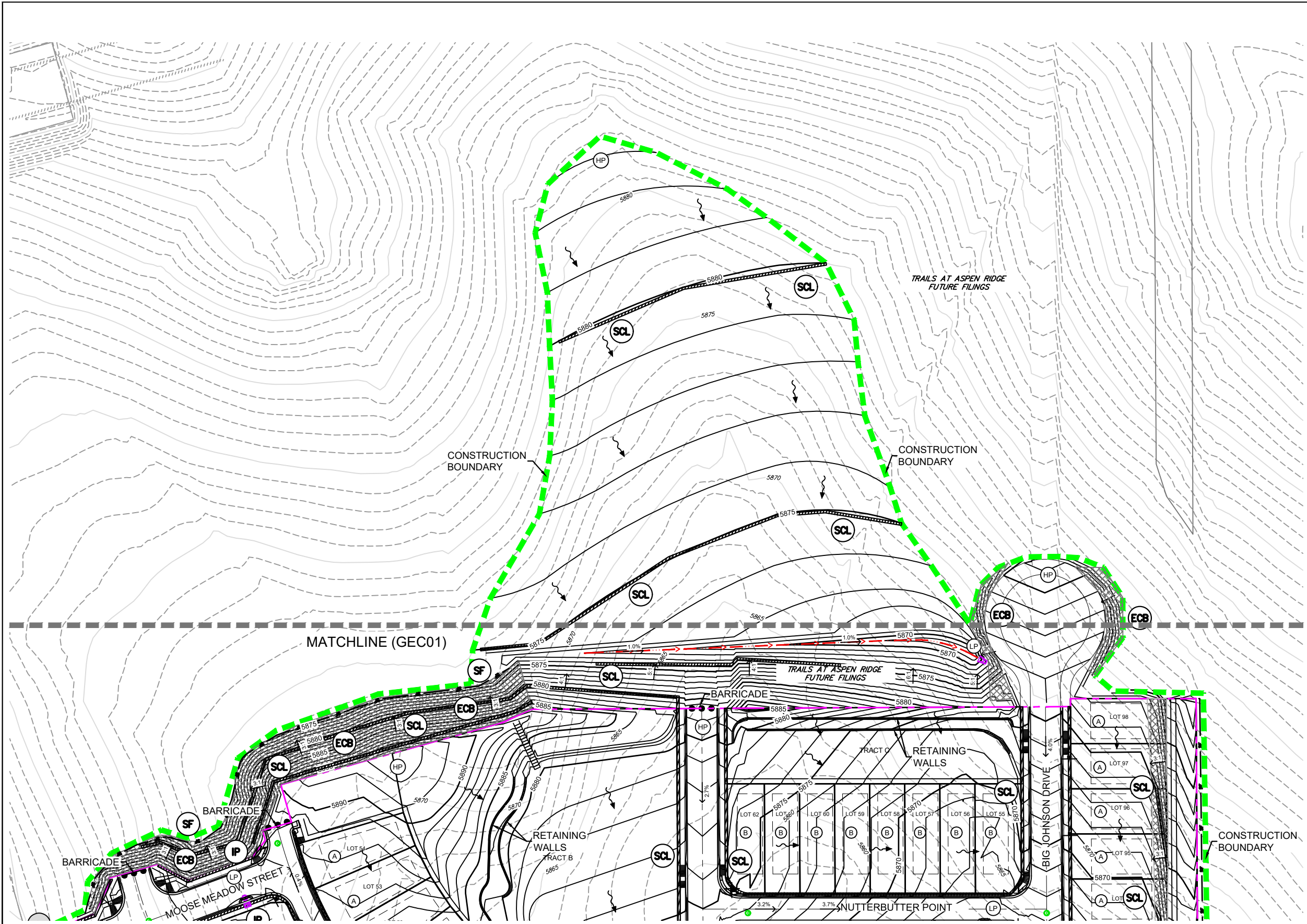
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TRAILS AT ASPEN RIDGE			
FILING NO. 2			
FINAL GRADING & EROSION CONTROL PLANS			
GRADING & EROSION CONTROL PLAN			
DESIGNED BY:	NMS	SCALE:	DATE ISSUED:
DRAWN BY:	CRD	HORIZ:	NOVEMBER 2019
CHECKED BY:	NMS	VERT:	5 OF 8
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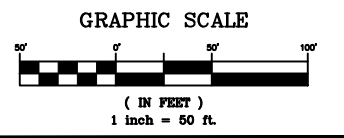


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- IP
- HP
- LP
- HIGH POINT/LOW POINT
- EROSION CONTROL BLANKET
- TEMPORARY MULCHING AND SEEDING
- SEDIMENT CONTROL LOG
- STRAW BALE BARRIER
- VEHICLE TRACKING CONTROL
- SEDIMENT BASIN
- CONTRACTOR TO COORDINATE LOCATIONS OF CONCRETE WASHOUTS, STOCKPILES, AND STAGING AREAS WITH ADJACENT FILINGS
- CWA
- INLET PROTECTION
- OUTLET PROTECTION
- DRAINAGE SWALE
- SILT FENCE
- PROPOSED CONTOURS
- EXISTING CONTOURS
- SLOPE DIRECTION
- CUT/FILL LINE
- PROPERTY BOUNDARY
- CONSTRUCTION BOUNDARY LINE
- LOT DRAINS TO STREET
- LOT DRAINS TO STREET/REAR OF LOT
- LOT DRAINAGE VARIES
- GARDEN LEVEL BASEMENT
- WALK OUT BASEMENT

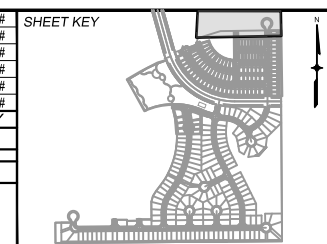
BMP SEQUENCING	
INITIAL	SILT FENCE, CONSTRUCTION FENCE, VEHICLE TRACKING
INTERIM	SEDIMENT CONTROL LOGS, CHECK DAMS, TEMP SEDIMENT BASINS, INLET PROTECTION, STOCKPILES, STAGING
FINAL	EROSION CONTROL BLANKETS, SEEDING & MULCHING



REFERENCE DRAWINGS	DESCRIPTION	BY
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X-886-PR UTIL		
X-886-PR SITE-F2		
886-PR Legacy Drive		
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X-886-PR UTIL_F2		

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BENCHMARK
 COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
 A BERTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD, ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING
 BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/4 CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)

PREPARED BY:

PRELIMINARY
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TRAILS AT ASPEN RIDGE

FILING NO. 2
 FINAL GRADING & EROSION CONTROL PLANS

GRADING & EROSION CONTROL PLAN

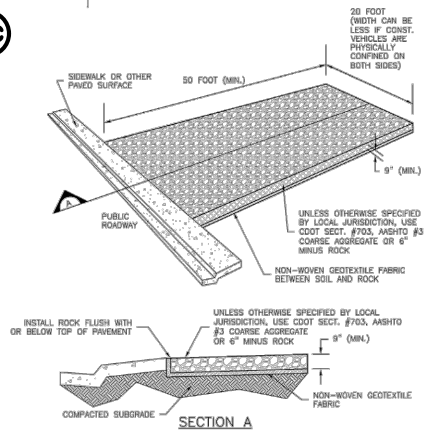
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CHECKED BY:	NMS	VERT:	N/A	SHEET	6 OF 8

PROJECT No. 19.886.014 **GEC03**



Know what's below.
Call before you dig.

VTC



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

STABILIZED CONSTRUCTION ENTRANCE/EXIT

INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
 - LOCATION OF CONSTRUCTION ENTRANCE/EXIT.
 - TYPE OF CONSTRUCTION ENTRANCE/EXIT WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRIM.
- CONSTRUCTION MAT OR TRIM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECTION # 703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

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 REPLACED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN THE STORM SEWER DRAINS.

Figure SM-4
Vehicle Tracking Control
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

Table 14-10. Recommended Seed Mix for Transition Areas¹

Common Name (Variety)	Scientific Name	Growth Season	Growth Form	Seeds/Lb	Lbs PLS/Acre Drilled	Lbs Broadcast or Hydrosseeded
Sheep fescue (Duras)	<i>Festuca ovina</i>	Cool	Bunch	680,000	1.3	2.6
Western wheatgrass (Arriba)	<i>Pascopyrum smithii</i>	Cool	Sod	110,000	7.9	15.8
Alkali sacaton	<i>Spolobolus atrovirens</i>	Warm	Bunch	1,758,000	0.5	1.0
Slender wheatgrass	<i>Elymus trachycalyx</i>	Cool	Bunch	159,000	5.5	11.0
Canadian bluegrass (Ruebens)	<i>Poa compressa</i>	Cool	Sod	2,500,000	0.3	0.6
Switchgrass (Pathfinder)	<i>Panicum virgatum</i>	Warm	Sod/Bunch	389,000	1.3	2.6
Annual rye	<i>Lolium multiflorum</i>	Cool	Cover crop	227,000	10.0	20.0
				TOTAL	26.8	53.6
Wildflowers						
Blanket flower	<i>Faillardia aristata</i>	---	---	132,000	0.25	0.50
Prairie coneflower	<i>Ratibida columnaris</i>	---	---	1,230,000	0.20	0.40
Purple prairie clover	<i>Petalostemum purpurea</i>	---	---	210,000	0.20	0.40
Gayfeather	<i>Liatris punctata</i>	---	---	138,000	0.06	0.12
Flax	<i>Linum lewisii</i>	---	---	293,000	0.20	0.40
Penstemon	<i>Penstemon strictus</i>	---	---	592,000	0.20	0.40
Yarrow	<i>Achillea millefolium</i>	---	---	2,770,000	0.03	0.06
				TOTAL	1.14	2.28

¹For side slopes or between wet and dry areas.
²Substitute 1.7 lbs PLS/acre of inland saltgrass (*Dactyloctenium aegyptium*) in salty soils.

SCL

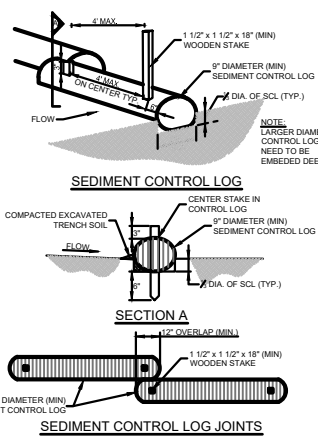


Figure SC-2
Sediment Control Log
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

INSTALLATION NOTES:

- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
- SEDIMENT CONTROL LOGS THAT ACT AS PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADED LAND-DISTURBING ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELISOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING.
- THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.
- FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

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.
- SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

SF

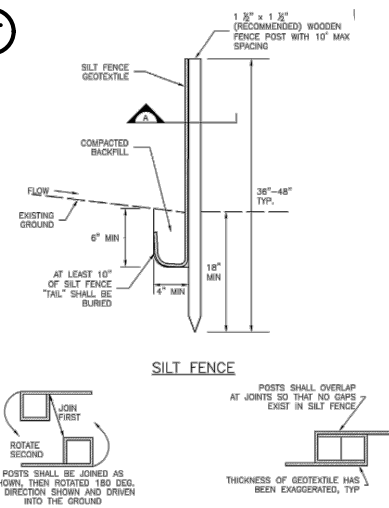


Figure SC-1
Silt Fence
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

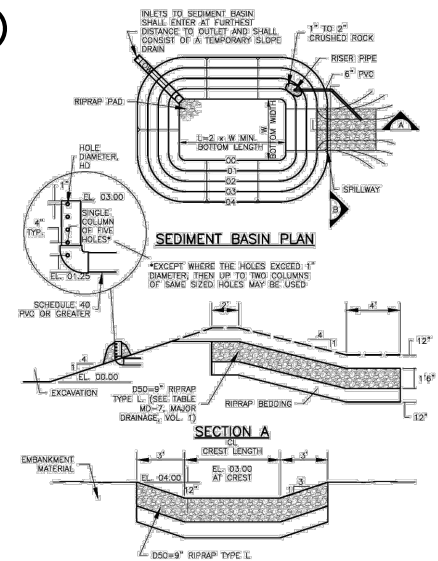
SILT FENCE INSTALLATION NOTES:

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT TOP OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND OR WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK". THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT 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.
- SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGN OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

SB



Upstream Drainage Area (rounded to nearest acre), (Ac)	Basin Bottom Width (w), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	1/2
2	21	3	1 1/8
3	28	4	1 1/4
4	33 1/2	5	1 1/2
5	38 1/2	6	1 3/4
6	43	7	1 7/8
7	47 1/2	8	2
8	51	9	2 1/8
9	55	10	2 1/4
10	59 1/2	11	2 3/8
11	64	12	2 1/2
12	68	13	2 7/8
13	72 1/2	14	3
14	77	15	3 1/8
15	81 1/2	16	3 1/4

SEDIMENT BASIN

SEDIMENT BASIN INSTALLATION NOTES:

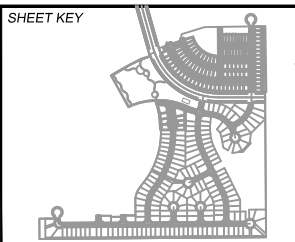
- SEE PLAN VIEW FOR:
 - LOCATION OF SEDIMENT BASIN.
 - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
 - FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
 - FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.
- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- SEDIMENT BASINS INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON BASINS AS A STORMWATER CONTROL.
- 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.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- PIPE SCH 40 OR GREATER SHALL BE USED.
- THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASINS FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASINS THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS.

Figure SC-7
Sediment Basin
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

REFERENCE DRAWINGS	DESCRIPTION	REVISIONS
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BENCHMARK
 COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
 A BERTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD,
 ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING
 BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2" AULM. CAP PLS 17664) TO THE N 1/4 CORNER OF SAID SECTION 9 (3 1/2" AULM. CAP PLS 10377)

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 FINAL GRADING & EROSION CONTROL PLANS
EROSION CONTROL DETAILS

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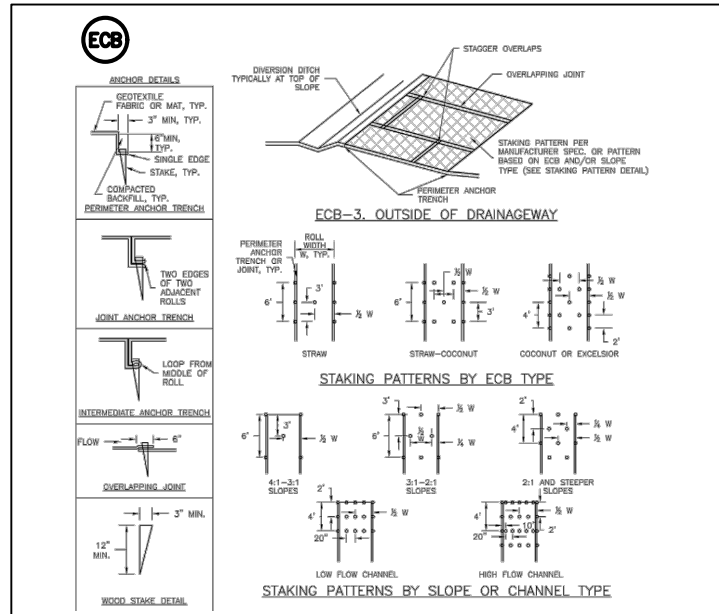


TABLE ECB-1. ECB MATERIAL SPECIFICATIONS

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

* STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNELS.
** ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

EROSION CONTROL BLANKET

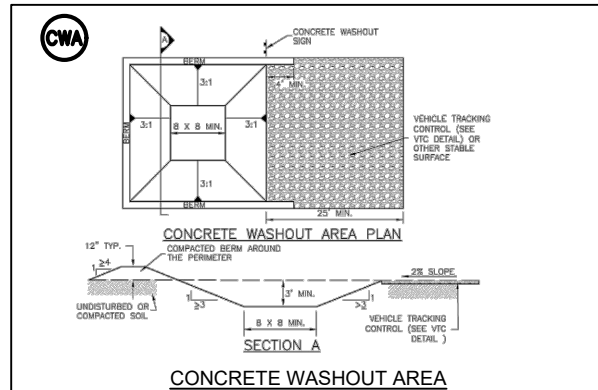
INSTALLATION NOTES:

- SEE PLAN VIEW FOR:
 - LOCATION OF ECB
 - TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, EXCELSIOR)
 - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs. ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
- IN AREAS WHERE ECBs 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 ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
- MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.
- DETAILS ON DESIGN PLAND FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

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.
- ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
- ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

Figure EC-6
Rolled Erosion Control Product
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3



- CONCRETE WASHOUT AREA**
- CWA INSTALLATION NOTES:**
- SEE PLAN VIEW FOR:
 - CWA INSTALLATION LOCATION
 - DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATER BODY. DO NOT LOCATE WITHIN 1000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
 - THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
 - THE CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'. SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
 - BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE A MINIMUM HEIGHT OF 1'.
 - VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
 - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
 - USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Figure CWA-3
Concrete Washout Area
Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

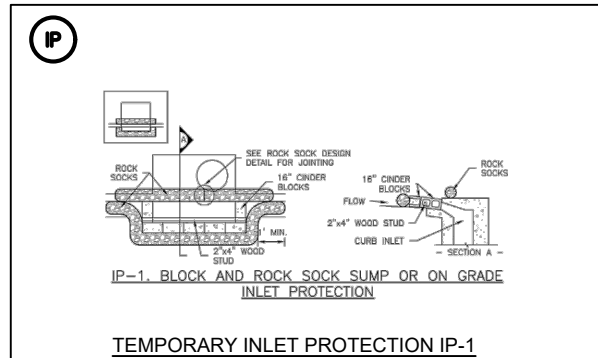
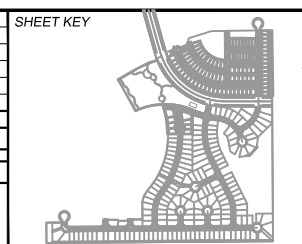


Figure IP-1
Temporary Inlet Protection
Urban Drainage and Flood Control District

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THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.					



BENCHMARK
COLORADO SPRINGS UTILITIES (FIMS) MONUMENT F206
A BERTSEN TOP SECURITY MONUMENT SYSTEM WITH A 3.5-INCH DIAMETER ALUMINUM CAP IN A ROAD BOX, LOCATED ON THE NORTHWEST CORNER OF FONTAINE BOULEVARD AND POWERS BOULEVARD, ELEVATION - 5897.89' U.S. SURVEY FT

BASIS OF BEARING
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH P.M. SAID LINE BEARS S89°51'23"E FROM THE NORTHWEST CORNER OF SAID SECTION 9 (2 1/2' AULM. CAP PLS 17664) TO THE N 1/4 CORNER OF SAID SECTION 9 (3 1/2' AULM. CAP PLS 10377)

PREPARED BY:

SEAL
PRELIMINARY
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF
MATRIX DESIGN GROUP, INC.
PROJECT No. 19.886.014

TRAILS AT ASPEN RIDGE

FILING NO. 2
FINAL GRADING & EROSION CONTROL PLANS

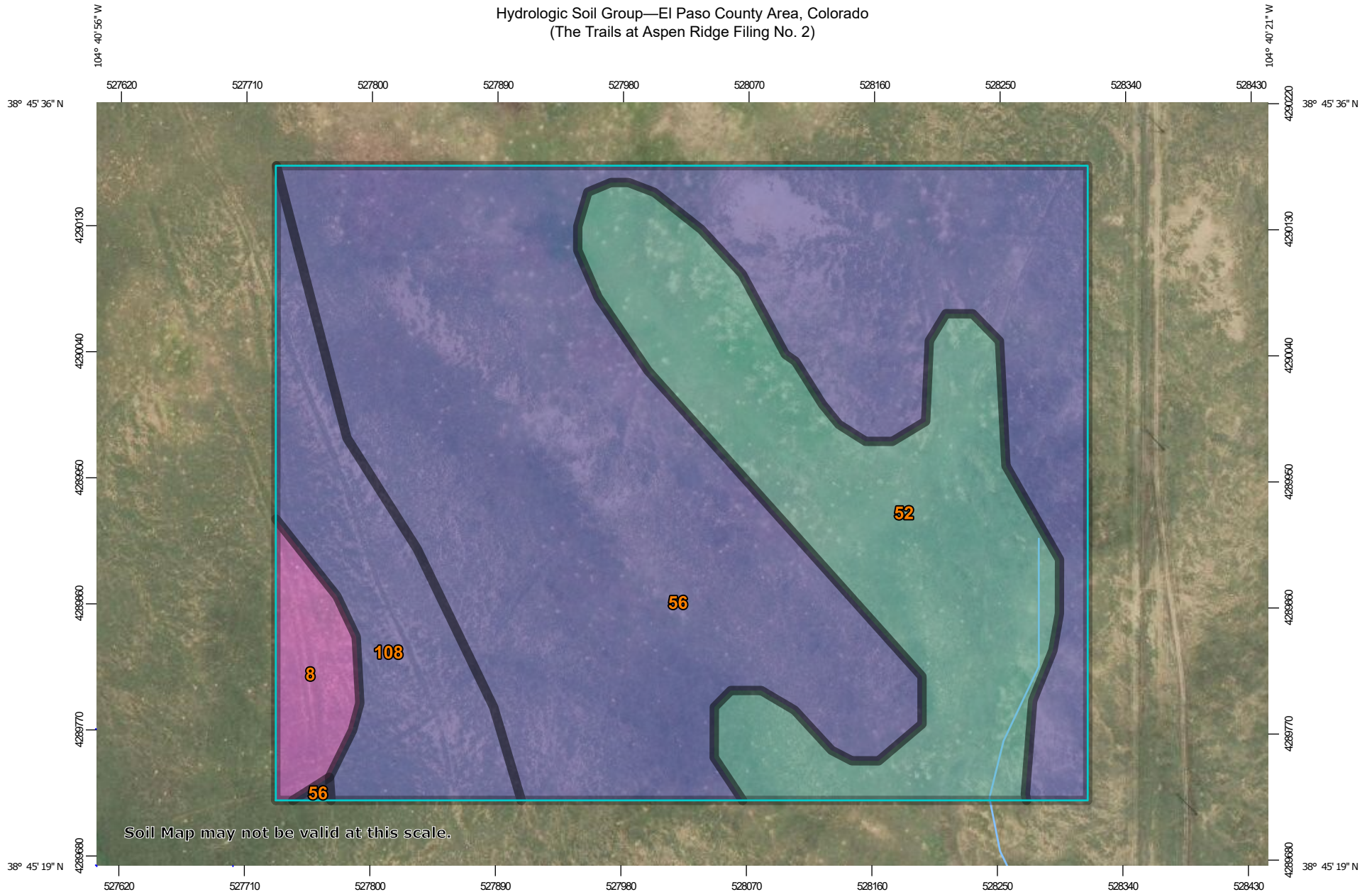
EROSION CONTROL DETAILS

DESIGNED BY: NMS	SCALE	DATE ISSUED: NOVEMBER 2019	DRAWING No.
DRAWN BY: CRD	HORIZ. N/A	8 OF 8	ECN02
CHECKED BY: NMS	VERT. N/A		

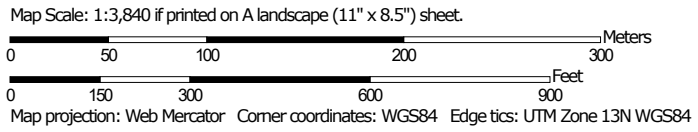
SWMP Inspection & Maintenance Log

Soil Survey of El Paso County Area Soils Map

Hydrologic Soil Group—El Paso County Area, Colorado
(The Trails at Aspen Ridge Filing No. 2)




Soil Map may not be valid at this scale.



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 17, Sep 13, 2019

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

Date(s) aerial images were photographed: Apr 12, 2017—Nov 17, 2017

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
8	Blakeland loamy sand, 1 to 9 percent slopes	A	2.1	3.3%
52	Manzanst clay loam, 0 to 3 percent slopes	C	16.0	24.4%
56	Nelson-Tassel fine sandy loams, 3 to 18 percent slopes	B	40.5	61.8%
108	Wiley silt loam, 3 to 9 percent slopes	B	6.9	10.6%
Totals for Area of Interest			65.5	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

FEMA FIRM Floodplain Maps

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 **floodways** 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 landward of 0.0' North American Vertical Datum of 1988 (NAVD88). 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 for this jurisdiction. 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 this map was Universal Transverse Mercator (UTM) zone 13. The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones 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 (NAVD88)**. 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, NINGS12
 National Geodetic Survey
 SSMC-3, #9202
 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 (301) 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, 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 this map represent the hydraulic modeling baselines that match the flood profiles 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 dates for each community as well as a listing of the panels on which each community is located.

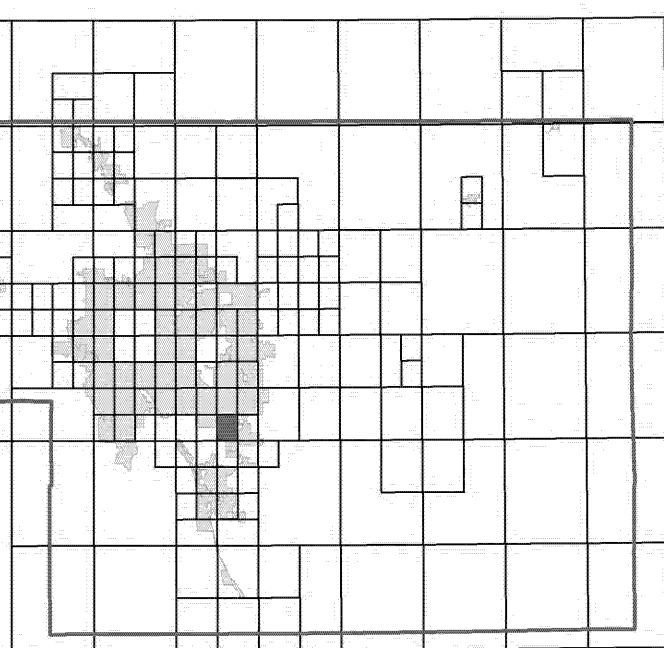
Contact **FEMA Map Service Center (MSC)** via the FEMA Map Information eXchange (FIMX) 1-877-336-2627 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The MSC may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.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/business/nfp>.

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	

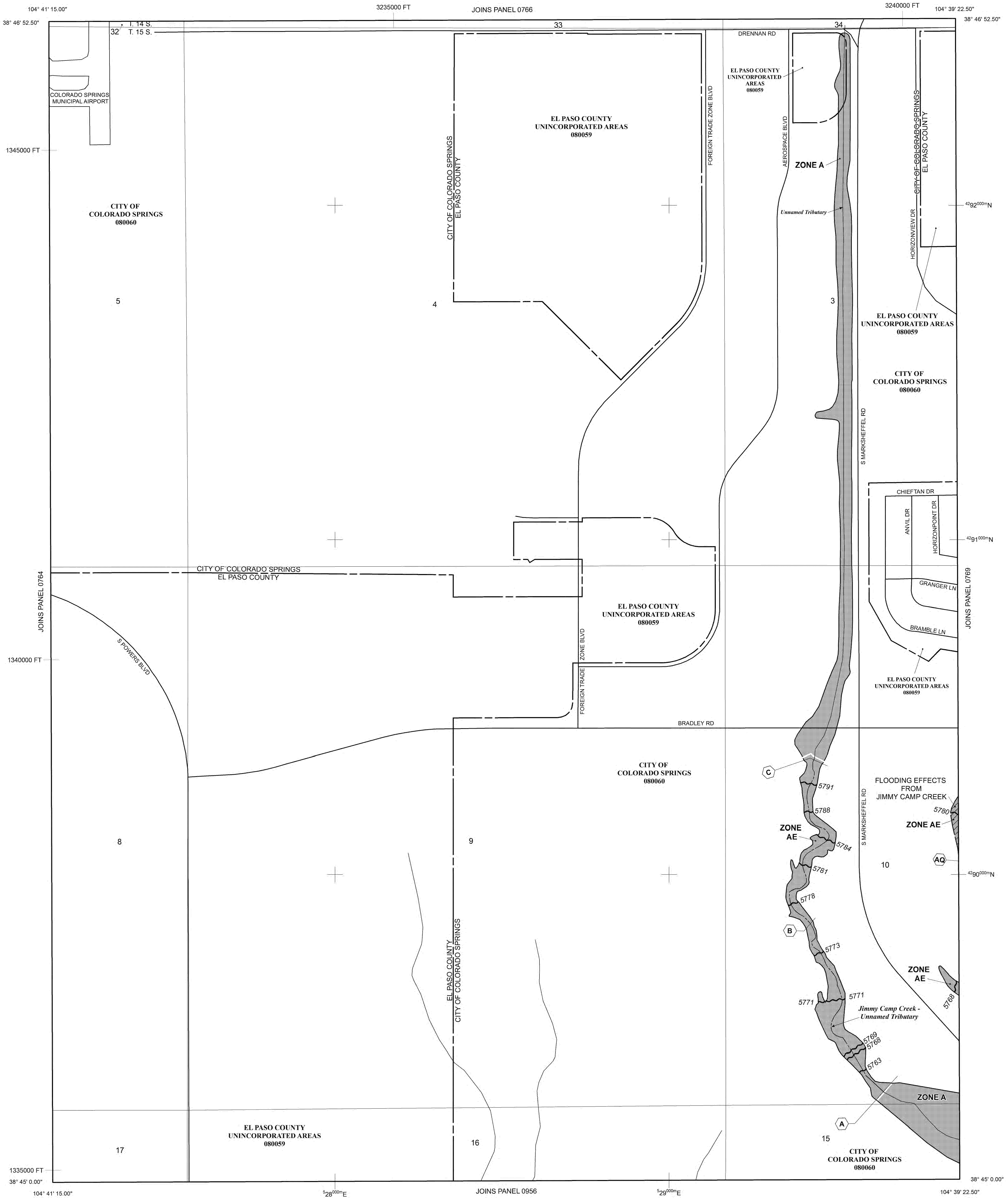
Panel Location Map



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



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



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 14 SOUTH, RANGE 65 WEST, AND TOWNSHIP 15 SOUTH, RANGE 65 WEST.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION 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 equalled 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, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area Formerly protected from the 1% annual chance flood by a flood control system that was subsequently decreed. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area 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); 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 with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards 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.
 (EL 987)
 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 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transsect line

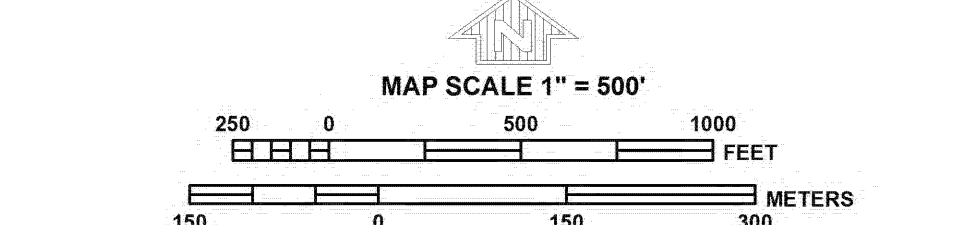
97° 07' 30.00" 32° 22' 30.00" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
 47°52'00"N 1000-meter Universal Transverse Mercator grid ticks, zone 13
 6000000 FT 5000-foot grid ticks; Colorado State Plane coordinate system, central zone (FIPSZONE 0902), Lambert Conformal Conic Projection
 DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
 M1.5 River Mile

MAP REPOSITORIES
 Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
 DECEMBER 7, 2018 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History Table located in the Flood Insurance Study report for this jurisdiction.
 To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NFP

PANEL 0768G

FIRM
FLOOD INSURANCE RATE MAP
EL PASO COUNTY, COLORADO
AND INCORPORATED AREAS

PANEL 768 OF 1300
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS	COMMUNITY	NUMBER	PANEL	SUFFIX
	COLORADO SPRINGS, CITY OF	080060	0768	G
	EL PASO COUNTY	080059	0768	G

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
08041C0768G

MAP REVISED
DECEMBER 7, 2018
 Federal Emergency Management Agency

CDPHE General Permit

STATE OF COLORADO

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado
<http://www.cdph.state.co.us>



Colorado Department
of Public Health
and Environment

For Agency Use Only

Permit Number Assigned

COR03- _____

Date Received ____/____/____
Month Day Year

COLORADO DISCHARGE PERMIT SYSTEM (CDPS) STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES APPLICATION **PHOTO COPIES, FAXED COPIES, PDF COPIES OR EMAILS WILL NOT BE ACCEPTED.**

Please print or type. Original signatures are required. All items must be completed accurately and in their entirety for the application to be deemed complete. Incomplete applications will not be processed until all information is received which will ultimately delay the issuance of a permit. If more space is required to answer any question, please attach additional sheets to the application form. Applications must be submitted by mail or hand delivered to:

**Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive South
WQCD-P-B2
Denver, Colorado 80246-1530**

Any additional information that you would like the Division to consider in developing the permit should be provided with the application. Examples include effluent data and/or modeling and planned pollutant removal strategies.

PERMIT INFORMATION

Reason for Application: NEW CERT
 RENEW CERT EXISTING CERT # _____

Applicant is: Property Owner Contractor/Operator

A. CONTACT INFORMATION - NOT ALL CONTACT TYPES MAY APPLY * indicates required

***PERMITTEE (If more than one please add additional pages)**

***ORGANIZATION FORMAL NAME:** _____

1) ***PERMITTEE** the person **authorized to sign and certify** the permit application. This person receives all permit correspondences and is **legally responsible** for compliance with the permit.

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

email address _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

This form must be signed by the Permittee (listed in item 1) to be considered complete.

Per Regulation 61 In all cases, it shall be signed as follows:

- In the case of corporations, by a responsible corporate officer. For the purposes of this section, the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the application originates.
- In the case of a partnership, by a general partner.
- In the case of a sole proprietorship, by the proprietor.
- In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official

- 2) **DMR COGNIZANT OFFICIAL (i.e. authorized agent)** the person or position authorized to **sign and certify reports required by the Division** including Discharge Monitoring Reports *DMR's, Annual Reports, Compliance Schedule submittals, and other information requested by the Division. The Division will transmit pre-printed reports (ie. DMR's) to this person. If more than one, please add additional pages. Same As 1) Permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

email address _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Per Regulation 61 : All reports required by permits, and other information requested by the Division shall be signed by the permittee or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(i) The authorization is made in writing by the permittee

(ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a **named individual** or any individual occupying a **named position**); and

(iii) The written authorization is submitted to the Division

- 3) ***SITE CONTACT** local contact for questions relating to the facility & discharge authorized by this permit for the facility.

Same As 1) Permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

email address _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

- 4) *** BILLING CONTACT** if different than the permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

email address _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

5) OTHER CONTACT TYPES (check below) Add pages if necessary:

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

email address _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

- Pretreatment Coordinator
- Environmental Contact
- Biosolids Responsible Party
- Property Owner
- Inspection Facility Contact
- Consultant
- Compliance Contact
- Stormwater MS4 Responsible Person
- Stormwater Authorized Representative
- Other _____

B. Permitted Project/Facility Information

Project/Facility Name _____

Street Address or cross streets _____

(e.g., "S. of Park St. between 5th Ave. and 10th Ave.", or "W. side of C.R. 21, 3.25 miles N. of Hwy 10"; A street name without an address, intersection, mile marker, or other identifying information describing the location of the project is not adequate. For **linear projects**, the route of the project should be described as best as possible with the location more accurately indicated by a map.)

City, _____ Zip Code _____ County _____

Facility Latitude/Longitude— (approximate center of site to nearest 15 seconds using one of following formats

001A Latitude _____ . _____ Longitude _____ . _____ (e.g., 39.703°, 104.933°)
degrees (to 3 decimal places) degrees (to 3 decimal places)

or

001A Latitude _____ ° _____ ' _____ " Longitude _____ ° _____ ' _____ " (e.g., 39°46'11"N, 104°53'11"W)
degrees minutes seconds degrees minutes seconds

For the approximate center point of the property, to the nearest 15 seconds. The latitude and longitude must be provided as either degrees, minutes, and seconds, or in decimal degrees with three decimal places. This information may be obtained from a variety of sources, including:

- Surveyors or engineers for the project should have, or be able to calculate, this information.
- EPA maintains a **web-based siting tool** as part of their Toxic Release Inventory program that uses interactive maps and aerial photography to help users get latitude and longitude. The siting tool can be accessed at www.epa.gov/tri/report/siting_tool/index.htm
- U.S. Geological Survey **topographical map(s)**, available at area map stores.
- Using a **Global Positioning System (GPS) unit** to obtain a direct reading.

Note: the latitude/longitude required above is not the directional degrees, minutes, and seconds provided on a site legal description to define property boundaries.

C. MAP (Attachment) If no map is submitted, the permit will not be issued.

Map: Attach a map that indicates the site location and that CLEARLY shows the boundaries of the area that will be disturbed. Maps must be **no larger** than 11x17 inches.

D. LEGAL DESCRIPTION

Legal description: If subdivided, provide the legal description below, or indicate that it is not applicable (**do not** supply Township/Range/Section or metes and bounds description of site)

Subdivision(s): _____ Lot(s): _____ Block(s): _____

OR

- Not applicable (site has not been subdivided)