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4-Way Commercial
Stormwater Management Plan (SWMP)
For El Paso County Improvements

September 2023

HR Green Project No: 2202654

Prepared For (Applicant):

KO1515 Developments, LLC.

PO Box 1385

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EPC's EDARP Filing Number: PPR2347

Table of Contents

Appendices

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Applicant Certification

The Stormwater Management Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. Said Plan has been prepared according to the criteria established by the County and State for Stormwater Management Plans.

_____ Date: _____

Engineer of Record and/or Qualified Stormwater Manager

Review Engineer Certification

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

_____ Date: _____

Review Engineer

I. Site Location & Description

Location

The site lies within a part of the Southwest Quarter of Section 28 and the Northwest Quarter of Section 33, Township 12 South, Range 64 West of the 6th P.M., El Paso County, Colorado. The site is bound to the north by undeveloped unplatted land, to the east by State Highway 24 and land zoned A-35, to the west by 2.5-acre single-family properties that are part of 4-Way Ranch Filing No. 1, and to the south by land zoned A-35. A vicinity map is presented in Appendix A.

Description of Property

The overall 4-Way 67.1-acre property contains two tracts that are bisected by Stapleton Drive, with approximately 15.5 acres located north of Stapleton Drive and 51.6 acres south of Stapleton Drive. All of the property to the north (15.5 acres) and about 16 acres of the southern property will be portioned off for overlot grading (approximately 31.5 acres total) and are included in this project, referred to as 'the site' herein. The remaining 35.6 acres of the south tract will remain undeveloped.

Both tracts are currently undeveloped and unplatted with Commercial zoning. Stapleton Drive has its own storm sewer and stormwater detention ponds that are located on the overall 4-way property. One detention pond is located partially within 'the site' in the southwest corner of Stapleton Drive and Highway 24. Part of the site also drains into this detention pond.

Neighboring Areas

The site is bound to the north by undeveloped unplatted land, to the east by State Highway 24 and land zoned A-35, to the west by 2.5-acre single-family properties that are part of 4-Way Ranch Filing No. 1, and to the south by land zoned A-35.

Construction Activity

All of the property to the north (15.5 acres) and about 16 acres of the southern property will be portioned off for overlot grading (approximately 31.5 acres total) with approximately 8 acres being developed with commercial uses including 2 warehouses, storage containers, and parking for trailers are included in this project, referred to as 'the site' herein. The remaining 35.6 acres of the south tract will remain undeveloped. A total of 31.5 acres are expected to be disturbed.

Construction activities associated with overlot grading include the initial roadway corridor earthwork and overlot grading with drainage swales and temporary sediment basins. Construction will begin with setting up perimeter controls, followed by grading activities. Construction will be completed with final stabilization including seeding.

Construction activities associated with the commercial development include conversion of the TSB to a full spectrum detention pond, intersection improvements with Stapleton Drive, concrete curb and pavement, concrete cross pans, building of the warehouses concrete sidewalk and ramping, and final stabilization. Construction in this area will have already had perimeter controls, VTC, drainage swales, and a TSB from overlot grading phase. Additional controls such as inlet protection, and other controls identified in the Interim and Final GEC plans

Temporary stabilization measures (silt fence and vehicular tracking control) will be installed prior to construction. During construction, temporary stabilization measures, including check dams and erosion control blanket, will be utilized to control stormwater runoff.

No off-site disturbance is anticipated. No control measures will be located outside the property line and limits of disturbance.

II. Construction Phasing

Phasing and Sequence Schedule

The proposed sequence of major construction activities and Construction Control Measures for the project as are follows for overlot grading:

1. Install VTC, SSA (Spring 2024)
2. Clear, grub and grade site for improvements. Install the initial phase control measures for perimeter control and temporary conditions stormwater diversion including silt fence, diversion ditches, check dams, and the required temporary sediment basins per Early Grading GEC and Drainage plans. (Spring 2024)
3. Landscaping, restoration and final stabilization. Ensure final stabilization achieved prior to site closure is to take place as a part of a future full construction phasing SWMP. (Spring2024).

Initial Development Phasing and Sequence Schedule

1. Install VTC, SSA (Summer 2024)
2. Clear, grub and grade site for improvements. Install the initial phase control measures for perimeter control and temporary conditions stormwater diversion including silt fence, diversion ditches, check dams, and the required temporary sediment basins per Phase 1 Grading GEC and Drainage plans. (Summer 2024)
3. Storm Sewer Installation, Permanent Detention Pond Construction, Roadway Paving. Install and maintain perimeter controls and interim/final phase CCM's. (Fall 2024)
4. Landscaping, restoration, and final stabilization. Ensure final stabilization is achieved prior to site closure. (Fall 2024)

Construction Documentation

Construction drawings are provided with this document showing the Grading and Erosion Control plan for this project and are intended to be a "living" document used by the SWMP Manager to document construction activities.

III. Pre-Development Conditions and Soils

Floodway

The westerly portion of the overall 4-Way property lies within a designated FEMA floodplain as determined by the flood insurance map panel '08041C0552G' effective date December 7, 2018. This part of the overall 4-Way property will remain undeveloped. The remainder of the overall 4-Way property including 'the site' for early grading is located outside of the floodplain, in Zone X, as shown on flood insurance map panels '08041C0552G' '08041C0556G' and '08041C0558G' effective date December 7, 2018. Zone X are areas determined to be outside the 0.2% annual chance flood. Refer to Appendix A for Firmette.

Existing Vegetation

Existing vegetation and soils were determined from in-person field site visits and existing aerial inspection from Google Earth and the United States Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey. The site currently contains vegetation consists primarily of native grasses and weeds. Existing vegetation is estimated at 25% density by visual inspection during the in-person field site visit.

Existing Drainage Patterns

The site lies within the Geick Ranch drainage basin and is tributary to Black Squirrel Creek.

An unnamed tributary runs north-south through the southern tract and forms the west boundary of 'the site'. The portion of the site located east of this tributary drains partially into this tributary, partially into a detention pond that provides treatment for Stapleton Drive, and partially into a swale that runs along the west side of Highway 24. The flows combine just south of the site where they flow easterly under Highway 24.

A second unnamed tributary traverses the northern boundary of the northern tract, and all initial grading will occur south of this tributary. Stormwater in this tract generally drains from west to east into the tributary or into the easterly adjacent property zoned A-35.

Existing Slopes

Existing topography within the site ranges from about 3% up to 10%.

Soils

Per a NRCS web soil survey, the site's soil is comprised of Type A soils: Blakeland loamy sand and Columbine gravelly sandy loam, Type B soil Stapleton sandy loam. A NRCS soil survey is presented in Appendix A.

The existing soil types have a slight potential for erosion which can be mitigated by employing appropriate downstream construction BMPs before/during/after construction to limit potential impacts to stormwater discharges. The potential impacts are sediment discharge into the existing stormwater conveyance system.

IV. Description of Potential Pollutants

Potential sources of sediment to stormwater runoff include earth moving activities associated with grading.

Potential pollutants and sources other than sediment to stormwater runoff include trash, debris, fueling and equipment failure. Materials of significance stored on the project site include: sediment, trash & debris, fuels and oils.

Construction activities can produce a variety of pollutants that can potentially cause stormwater contamination. Grading activities remove rocks, vegetation and other erosion controlling surfaces and can result in the exposure of underlying soil to the elements, which can then be displaced into water sources.

Wind and erosion and vehicular transport can produce sediment debris.

Allowable Non-Stormwater Discharge Management

Non-stormwater discharges (NSWDs) are flows that do not consist entirely of stormwater. Some allowable discharges that are not considered pollutants include irrigation, fire hydrant flushing, landscape watering,

emergency firefighting, and natural springs. There are no visible natural springs or irrigation sources anticipated to be encountered. Other discharges, such as those pollutants discussed below, are unauthorized and will need to be detected and addressed through a combination of efforts discussed in the following sections.

Potential Sources of Pollution and Best Management Strategies

The following sections highlight the potential sources of pollution at the Project Site and list the "Best Management" strategies that will be used to prevent migration of pollution offsite. This Project Site does not rely on control measures owned or operated by another entity. Chemical materials stored indoors or that have no reasonable chance of impacting storm water quality will not be discussed in this plan.

Materials of significance stored on the project site include:

- Sediment
- Trash & Debris
- Sanitary Wastes
- Fuels & Oils

Wind Erosion & Dust Control

Pollutant: Sediment
Best Management Strategies:

- Daily inspections will occur for areas experiencing excessive winds, vehicle traffic, or precipitation events.
- Water trucks will spray down dust on the project Site as needed to not impact adjacent properties.
- Attention will be given to prevent the over-use of water in dust control operations to minimize any muddying of the surface and possible sediment transportation.

Vehicular Transport

Pollutant: Sediment Tracking
Best Management Strategies:

- Construct a stabilized construction entrance to provide ingress and egress of the site.
- Restrict access to the stabilized construction entrance.
- Fencing will be erected if problems with access control are evident.
- Maintain track out pads by fluffing up the rock material or by adding additional rock as needed.
- Inspect, sweep and clean adjacent streets where track out is evident.

Stockpiles

Pollutant: Sediment
Best Management Strategies:

- Locate stockpiles clear of any water flow paths.
- Locate stockpiles within the property boundary.
- Stockpiles will have erosion control devices as needed installed around the base to prevent the migration of soil.
- Topsoil stock-piles and disturbed portions of the site where construction activity

temporarily ceases for at least 14 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in the area.

Grading/Trenching/Import/Export

Pollutant: Sediment Best management Strategies:

- Earth moving will be minimized by the engineering balancing of the site.
- Disturbed portions of the site where construction activity temporarily ceases for at least 14 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in the area.
- Seed bed preparation is not required if soil is in loose condition.
- Prior to seeding, fertilizer shall be applied to each acre to be stabilized in accordance with the manufacturer's specifications.
- If required seeding areas shall be mulched with straw to a uniformed cover. The straw mulch is to be tacked into place by a disk with blades set nearly straight.
- A site specific erosion control drawing has been developed showing the location of Best Management practices to be used during site construction.
- Where indicated on the erosion control plan, Best Management Practices will be installed.
- Material shall be in accordance with the plans and specifications and all construction shall be provided in accordance with the manufacturer's specifications.
- All BMP's will be inspected bi-weekly and cleaned/maintained as required.

Waste, Residual Concrete

Pollutant: Concrete, paint, and Phosphoric Acid Best Management Strategies:

- A cleanup and washout area will be designated and posted.
- Subcontractors will be instructed on the locations and importance of the washout and cleanup areas. No on-site disposal is allowed.
- Instruct subcontractors to remove waste for which proper onsite disposal facilities are not provided back to their own facilities for ultimate transport, storage & disposal.
- Subcontractors and subcontractor employees are held responsible for improper washout.

Sanitary Facilities, Trash Containers & Littering

Pollutant: Bacteria, Ammonia, Trash
Best Management Strategies:

- Portable facilities will be regularly serviced to prevent excessive waste containment and overflow.
- Portable facilities will be located a minimum of 50 feet from state waters. They shall be adequately staked and cleaned on a weekly basis. They will be inspected daily for spills.
- All waste materials will be collected and stored in a container which will meet all local and any state solid waste management regulations.
- Trash dumpsters will be emptied prior to becoming 90% full or when debris control becomes an issue.

- Employees will be instructed on the importance of recycling and waste management and will be held responsible for improper waste management.

Fueling, Hazardous Materials, Equipment Leakage, Fertilizer

Pollutant: Petroleum Hydrocarbons, Ethylene Glycol, Sediment
Best Management Strategies:

- MSDS sheets will be maintained in the project trailer for all onsite materials
- All dry materials such as cement will be covered and protected from rain.
- Secondary containment will be provided for stored fuel, oil, paint and any material classified as hazardous.
- Subcontractors are responsible for hazardous waste removal back to their own facilities for ultimate transportation, storage and disposal.
- Supplies will be kept onsite as necessary to control any potential spill.
- Employees will be held responsible for any illegal dumping.
- Seals will be checked by a qualified professional on all equipment and containers containing significant materials that could contribute potential pollutants and will be replaced as necessary.
- Equipment will be inspected by a qualified professional.
- Drip pans will be available for minor leaks and during fueling operations.
- Fueling nozzles, gauges, hoses, seals, and emergency shutoff valves will be inspected for leaks prior to use.
- Under no circumstances during fueling will the fueling hose/nozzle be left unattended.
- Fertilizers used will be applied only in the minimum amounts recommended by soil tests.
- Once applied, fertilizers will be worked into the soil to limit exposure to storm water.
- Stored fertilizer will be protected from exposure to precipitation and storm water runoff.

Dewatering – not needed.

This shown for information only Pollutant: Sediment, Oil and/or Grease and Phosphoric Acid

Best Management Strategies:

All dewatering will be filtered through rock and/or woven gemesh fabric. All dewatering will be tested for Pollutants per state guidelines weekly.

Concrete and Asphalt Batch Plant – not needed.

This shown for information only There are no existing batch plants located on this project site and there are no proposed batch plants in the future.

Drilling Slurry for Drilling Piers. – not needed.

This is shown for information only. No drilling slurry is allowed to be deposited onto the job site. All drilling slurry shall be collected and pumped into an on-site frac tank and shall be disposed of off-site.
There are no major potential pollutants anticipated to be used on the site.

Additional (non-Structural) Best Management Practices for Sediment:

1. Earth moving will be minimized by the engineering balancing of the site.
2. Disturbed portions of the site where construction activity temporarily ceases for at least 14 days will be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in the area.
3. Seed bed preparation is not required if soil is in loose condition.
4. Prior to seeding, fertilizer shall be applied to each acre to be stabilized in accordance with the manufacturer's specifications.
5. If required seeding areas shall be mulched with straw to a uniformed cover. The straw mulch is to be tacked into place by a disk with blades set nearly straight.
6. A site-specific erosion control drawing has been developed showing the location of Best Management practices to be used during site construction.
7. Where indicated on the erosion control plan, Best Management Practices will be installed.
8. Material shall be in accordance with the plans and specifications and all construction shall be provided in accordance with the manufacturer's specifications.
9. All BMP's will be inspected bi-weekly and cleaned/maintained as required.

V. Areas and Volumes

The site consists of 31.5 acres that are expected to be disturbed per the Grading and Erosion Control Plan. These numbers are adjusted using a fill factor of 1.1.

The Cut Quantity: 79,553 c.y.

The Fill Quantity: 79,023 c.y. (adjusted)

Net: 530 c.y. cut.

Note: The total disturbed area shall be updated on the SWMP and GEC Plan as changes occur.

VI. Inspection and Maintenance

Inspection and maintenance procedures were taken from the Urban Storm Drainage Criteria Manual, Volume 3. All measures are detailed in the SWMP plans with additional inspection and maintenance notes.

Minimize Disturbed Area and Protect Natural Features and Soil

All work will occur inside the limits of construction per the Erosion Control Site Plan.

Concrete Washout Area:

A key consideration for concrete washout areas is to ensure that adequate signage is in place identifying the location of the washout area. Part of inspecting and maintaining washout areas is ensuring that adequate signage is provided and in good repair and that the washout area is being used, as opposed to washout in non-designated areas of the site. Remove concrete waste in the washout area, as needed to maintain BMP function (typically when filled to about two-thirds of its capacity). Collect concrete waste

and deliver offsite to a designated disposal location. Upon termination of use of the washout site, accumulated solid waste, including concrete waste and any contaminated soils, must be removed from the site to prevent on-site disposal of solid waste. If the wash water is allowed to evaporate and the concrete hardens, it may be recycled.

Construction Fence:

- Inspect fences for damage; repair or replace as necessary.
- Fencing should be tight and any areas with slumping or fallen posts should be reinstalled.
- Fencing should be removed once construction is complete.

Inlet Protection:

Inspect inlet protection frequently. Inspection and maintenance guidance includes:

- Inspect for tears that can result in sediment directly entering the inlet, as well as result in the contents of the BMP (e.g., gravel) washing into the inlet.
- Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected downstream inlet. For example, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.
- Look for displaced BMPs that are no longer protecting the inlet. Displacement may occur following larger storm events that wash away or reposition the inlet protection. Traffic or equipment may also crush or displace the BMP.
- Monitor sediment accumulation up gradient of the inlet protection.
- Remove sediment accumulation from the area upstream of the inlet protection, as needed to maintain BMP effectiveness, typically when it reaches no more than half the storage capacity of the inlet protection. For silt fence, remove sediment when it accumulates to a depth of no more than 6 inches. Remove sediment accumulation from the area upstream of the inlet protection as needed to maintain the functionality of the BMP.
- Propriety inlet protection devices should be inspected and maintained in accordance with manufacturer specifications. If proprietary inlet insert devices are used, sediment should be removed in a timely manner to prevent devices from breaking and spilling sediment into the storm drain.

Inlet protection must be removed and properly disposed of when the drainage area for the inlet has reached final stabilization.

Rock Socks:

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

Temporary Seeding and Mulching:

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

Silt Fence:

Inspection of silt fence includes observing the material for tears or holes and checking for slumping fence and undercut areas bypassing flows. Repair of silt fence typically involves replacing the damaged section with a new section. Sediment accumulated behind silt fence should be removed, as needed to maintain BMP effectiveness, typically before it reaches a depth of 6 inches.

Silt fence may be removed when the upstream area has reached final stabilization.

Stabilized Staging Area:

Maintenance of stabilized staging areas includes maintaining a stable surface cover of gravel, repairing perimeter controls, and following good housekeeping practices.

When construction is complete, debris, unused stockpiles and materials should be recycled or properly disposed. In some cases, this will require disposal of contaminated soil from equipment leaks in an appropriate landfill. Staging areas should then be permanently stabilized with vegetation or other surface cover planned for the development.

Vehicle Tracking Control:

Inspect the area for degradation and replace aggregate or material used for a stabilized entrance/exit as needed. If the area becomes clogged and ponds water, remove and dispose of excess sediment or replace material with a fresh layer of aggregate as necessary.

With aggregate vehicle tracking controls, ensure rock and debris from this area do not enter the public right-of-way.

Remove sediment that is tracked onto the public right of way daily or more frequently as needed. Excess sediment in the roadway indicates that the stabilized construction entrance needs maintenance.

Ensure that drainage ditches at the entrance/exit area remain clear.

A stabilized entrance should be removed only when there is no longer the potential for vehicle tracking to occur. This is typically after the site has been stabilized.

When wheel wash equipment is used, be sure that the wash water is discharged to a sediment trap prior to discharge. Also inspect channels conveying the water from the wash area to the sediment trap and stabilize areas that may be eroding.

When a construction entrance/exit is removed, excess sediment from the aggregate should be removed and disposed of appropriately. The entrance should be promptly stabilized with a permanent surface following removal, typically by paving.

Portable Toilets

Portable toilets are brought in from a service contractor and will be maintained in accordance with standard waste disposal practices using vacuum trucks and place on stable ground to minimize risk of spillage. All portable toilets will be kept a minimum of 500’ from any waterway.

Waste Disposal

If needed Roll offs will be utilized for standard construction waste. A qualified contractor will remove waste weekly and take to an appropriate dump site off this project.

Temporary sediment basin:

Maintenance activities include the following:

- Dredge sediment from the basin, as needed to maintain BMP effectiveness, typically when the design storage volume is no more than one-third filled with sediment.
- Inspect the sediment basin embankments for stability and seepage.
- Inspect the inlet and outlet of the basin, repair damage, and remove debris. Remove, clean and replace the gravel around the outlet on a regular basis to remove the accumulated sediment within it and keep the outlet functioning.
- Be aware that removal of a sediment basin may require dewatering and associated permit requirements.
- Do not remove a sediment basin until the upstream area has been stabilized with vegetation.
- Once the upstream area has been stabilized, remove accumulated sediment and reconfigure the basin and outlet to meet the requirements of the final design for the detention facility.

PERMANENT BMP'S:

Re-vegetation

During construction any disturbed area not being currently worked left dormant longer than 14 days will be re-vegetated per specification with native seed and mulched and crimped with weed free straw.

All BMPs shall be installed and maintained in accordance with the most recent Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual.

Additional BMP's will be added to this SWMP as needed.

VII. Materials Handling

1. General Materials Handling Practices:
    a. Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should be located away from storm drain inlets and should be equipped with covers, roofs or secondary containment as required to prevent stormwater from contacting stored materials. Chemicals that are not compatible shall be stored in segregated areas so that spill materials cannot combine and react.
    b. Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
    c. Materials no longer required for construction shall be removed from the site as soon as possible.

   d. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and Control Measures clear and functional.
2. Specific Materials Handling Practices:
   a. All pollutants, including waste materials and demolition debris, that occur onsite during construction shall be handled in a way that does not contaminate stormwater.
   b. All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored onsite shall be covered and protected from vandalism.
   c. Maintenance, fueling, and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operation, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
   d. Wheel wash water shall be settled and discharged onsite by infiltration.
   e. Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturer's recommendations for application rates and procedures.
   f. pH-modifying sources shall be managed to prevent contamination of runoff and stormwater collected onsite. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

VIII. Spill Prevention & Response Plan

1. The primary objective in responding to a spill is to quickly contain the material and prevent or minimize their mitigation into stormwater runoff and conveyance systems. If the release has impacted onsite stormwater, it is critical to contain the released materials onsite and prevent their release into receiving waters.
2. Spill Response Procedures:
   a. Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.
   b. If spills represent an imminent threat of escaping onsite facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent once the situation has stabilized.
   c. The site superintendent shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
   d. Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
3. Spill kits shall be on-hand at all fueling sites. Spill kit locations shall be reported to the GEC administrator.
4. Absorbent materials shall be on-hand at all fueling areas for use in containing advertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
5. Recommended components of spill kits include the following:
   a. Oil absorbent pads

   b. Oil absorbent booms
   c. 55-gallon drums
   d. 9-mil plastic bags
   e. Personal protective equipment including gloves and goggles
6. Concrete wash water: unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site.
7. Notification procedures:
   a. In the event of an accident or spill, the GEC administrator shall be notified.
   b. Depending on the nature of the spill and material involved, the Colorado Department of Public Health and Environment, downstream water users, or other agencies may also need to be notified.
   c. Any spill of oil which 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800) 424-8802.

IX. Implementation of Control Measures

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

- Perimeter Silt Fence
- Vehicle Tracking Control
- Stabilized Staging Area
- Temporary Sediment Basins
- Rock Check Dams
- Erosion Control Blanket
- Seeding & Mulching
- Stockpile Protection
- Diversion Ditches and Swales
- Concrete Washout
- Inlet protection

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

X. Final Stabilization & Long-Term Stormwater Management Plan

1. Temporary seeding and mulching will be installed to provide interim stabilization prior to final landscaping installation (Refer to approved Landscape Plan). Final stabilization will be achieved at time of final landscaping. See approved landscaping plans for final stabilization details. Final stabilization is met when 70% of pre disturbance levels, not including noxious weeds, are stabilized. Final stabilization must be achieved prior to removal of temporary stormwater control measures. Anticipated date of final stabilization

SWMP Checklist Item 26. Add a note stating that this project does not rely on control measures owned or operated by another entity.

2024

is Spring 2023; however this is subject to change. Long term stormwater management will be provided in the onsite, private full spectrum detention ponds. See below for seeding and mulching details:

a. Prior to seeding, fill any eroded rills and gullies with topsoil.
b. Ensure all areas are seeded and mulched per the City Stormwater Construction Manual.
c. Continue monthly self-inspections of final stabilization methods and the stormwater management system to ensure proper function. If repairs are needed, reseed and re-mulch as needed.
d. Control noxious weeds in a manner acceptable to the GEC inspector.
e. Seed Mix: See Appendix C for approved seed mixes.
f. Seeding Requirements:
    i. Drill seed whenever possible, seed depth must be 1/3 to ½ inch when drill-seeding. Cross drilling should be used whenever possible with the seed divided between the two operations. The second drilling should be perpendicular to the first.
    ii. When drill seeding is not possible or on slopes greater than 3:1, hydro-seeding with tackifier may be substituted at the discretion of the GEC inspector. Hydro-seeding must be lightly raked into soil. Seeding rates are presented in Appendix D.
    iii. All seeded areas must be mulched.
g. Mulching Requirements:
    i. Mulching shall be completed as soon as practical after seeding but no more than fourteen (14) days after planting. Erosion control blanket can be used in place of the below mulching methods.
    ii. Hay or straw mulch:
        1. Only certified weed-free and certified-seed free mulch may be used. Must be applied at 2 tons/acre and adequately secured.
        2. Crimping shall not be used no slopes greater than 3:1, tackifier must be used in place.
    iii. Hydraulic mulching:
        1. Allowable on steep slopes or areas with limited access
        2. If hydro-seeding is used, mulching must be applied secondly.
        3. Wood cellulose fibers mixed with water must be applied at a rate of 2,000-2,500 lbs/acre, and tackifier applied at a rate of 100 lbs/acre.

XI. Inspection and Record Keeping

The SWMP is a "living document" that is continuously reviewed and modified and is to be kept on-site. The GEC Administrator shall make changes to the SWMP, including but not limited to: additions, deletions, changing locations of BMP's shall be marked in the plans, dated and initialed at time of occurrence.

Self-inspections of the Construction Control Measures must be completed by the certified SWMP Administrator who is sufficiently qualified for the required duties per the El Paso County ECM Appendix 1.5. The below provides the minimum to satisfy the self-inspection requirements. A more frequent self-inspection schedule may be required to ensure Control Measures are operating in compliance with the approved GEC plan.

1. Inspection Schedules:
    a. The GEC Administrator shall make a thorough inspection of the Control Measures:
        i. At least once every fourteen (14) calendar days.

ii. Within 24 hours following any precipitation event (i.e. rain, snow, hail etc.) that causes surface erosion.
    - Alternatively, the GEC Administrator can perform a thorough inspection of the Control Measures once every seven (7) days and forego post-precipitation inspections.

b. For sites where construction activities have completed and final stabilization measures installed but final stabilization has not yet been achieved, the GEC Administrator shall make a thorough inspection of the Control Measures:
    i. At least once every month
    ii. Within 72 hours following any precipitation event that causes surface erosion

2. Inspection Procedures:
    a. Site Inspection & Observation Items:
        i. Limits of disturbance perimeter and stormwater discharge points
        ii. All disturbed areas to ensure necessary Construction Control Measures are in place to control potential stormwater runoff.
        iii. Areas used for material/waste storage.
        iv. Any areas having a signification potential for storm water pollution (i.e site entrances, concrete washout areas etc.)
        v. All Construction Control Measures identified on the GEC plans.
    b. Inspection Requirements:
        i. Determine any locations, or potential locations, where pollutants and stormwater may be exiting the site/entering the receiving waters.
        ii. Evaluate Construction Control measures and determine if they are constructed in accordance with the latest struion of the approved GEC plan and operating effectively.
        iii. Provide recommendations for the need of additional Construction Control measures and the maintenance of existing measures in disrepair to ensure complication with the City of Colorado Springs Stormwater Construction Manual.
    c. Construction Control Measure Maintenance/Replacement:
        i. The GEC administrator shall ensure sediment has been removed from perimeter controls and relocated to an area without the potential for sediment to discharge from the site
        ii. The GEC administrator shall ensure diversion ditches and temporary sediment ponds have not accumulated excess sediment that impedes their functionality.
        iii. The GEC administrator shall ensure that failed Control Measures are repaired/reinstalled within three (3) calendar days, according to the City of Colorado Springs Stormwater Control Measure details, to ensure pollutants and/or sediment do not discharge from the site. GEC details are provided in Appendix B.
    d. Documentation:
        i. Update the GEC plan to document the installation/revision of Control Measures
        ii. Identify Control Measure deficiencies and that noncompliance is resolved within three (3) calendar days.
        iii. Identify Self-Inspection schedule in most recent inspection form
        iv. Complete and submit Self-Inspection forms to the City of Colorado Springs within five (5) business days of the completed inspection
        v. Ensure Self-Inspections are available, either physically or electronically, throughout the duration of the project

and signature (SWMP Checklist Item 26)

vi. Self-Inspection Repost shall contain at least the following:
    - Inspection Date
    - Name and title of the GEC Administrator performing inspection
    - Location(s) of illicit discharges of stormwater, sediment or pollutants from the site
    - Location(s) of Construction Control Measures in need of maintenance/repair
    - Location(s) of Construction Control Measures that failed to operate as designed or proved inadequate
    - Location(s) of additional Construction Control Measures not shown on the latest, approved revision of the GEC plan
    - Any deviations from the minimum inspection schedule

SWMP Administrator Name:

Jordan Montoya

Jordan.montoya@ogcos.com

719-493-2318

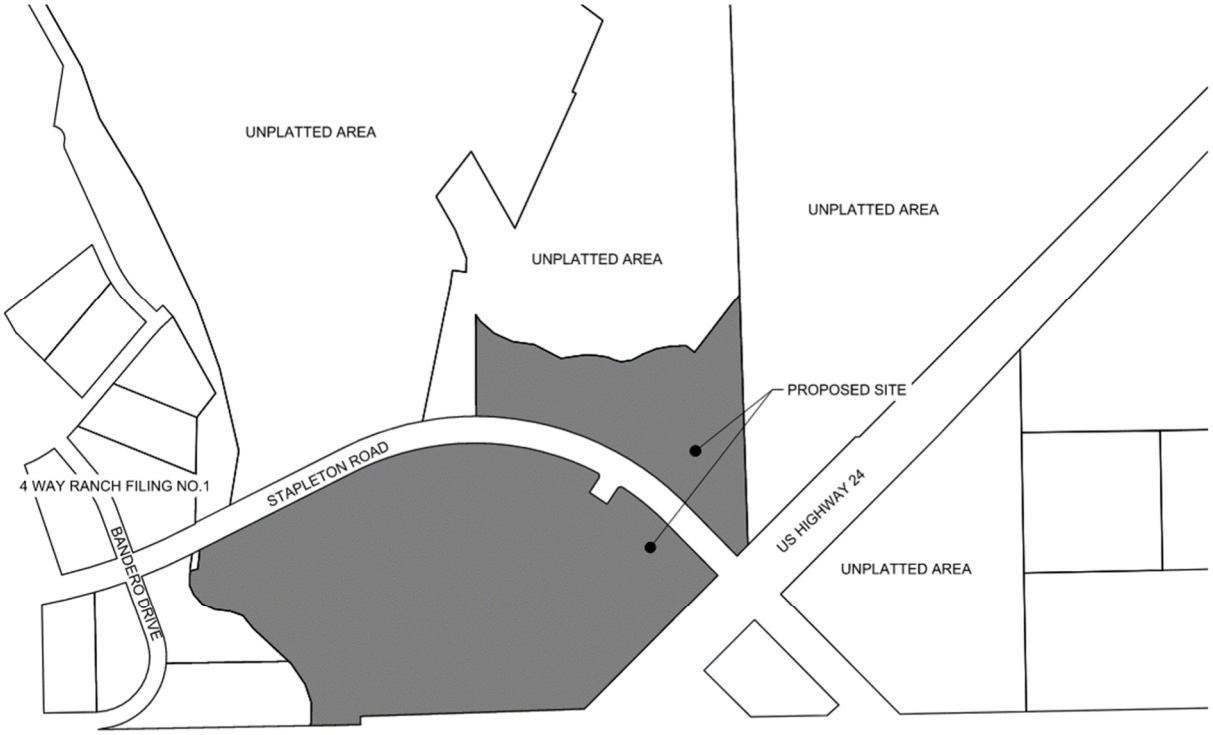
XII. References

Engineering Criteria Manual (ECM), County of EL PASO, COLORADO

The City of Colorado Springs/El Paso County Drainage Criteria Manual

City of Colorado Springs – Stormwater Construction Manual, December 2020

APPENDIX A – VICINITY MAP & NRCS SOIL SURVEY



VICINITY MAP

National Flood Hazard Layer FIRMette

FEMA

104°34'13"W 38°58'17"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

104°33'35"W 38°57'49"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

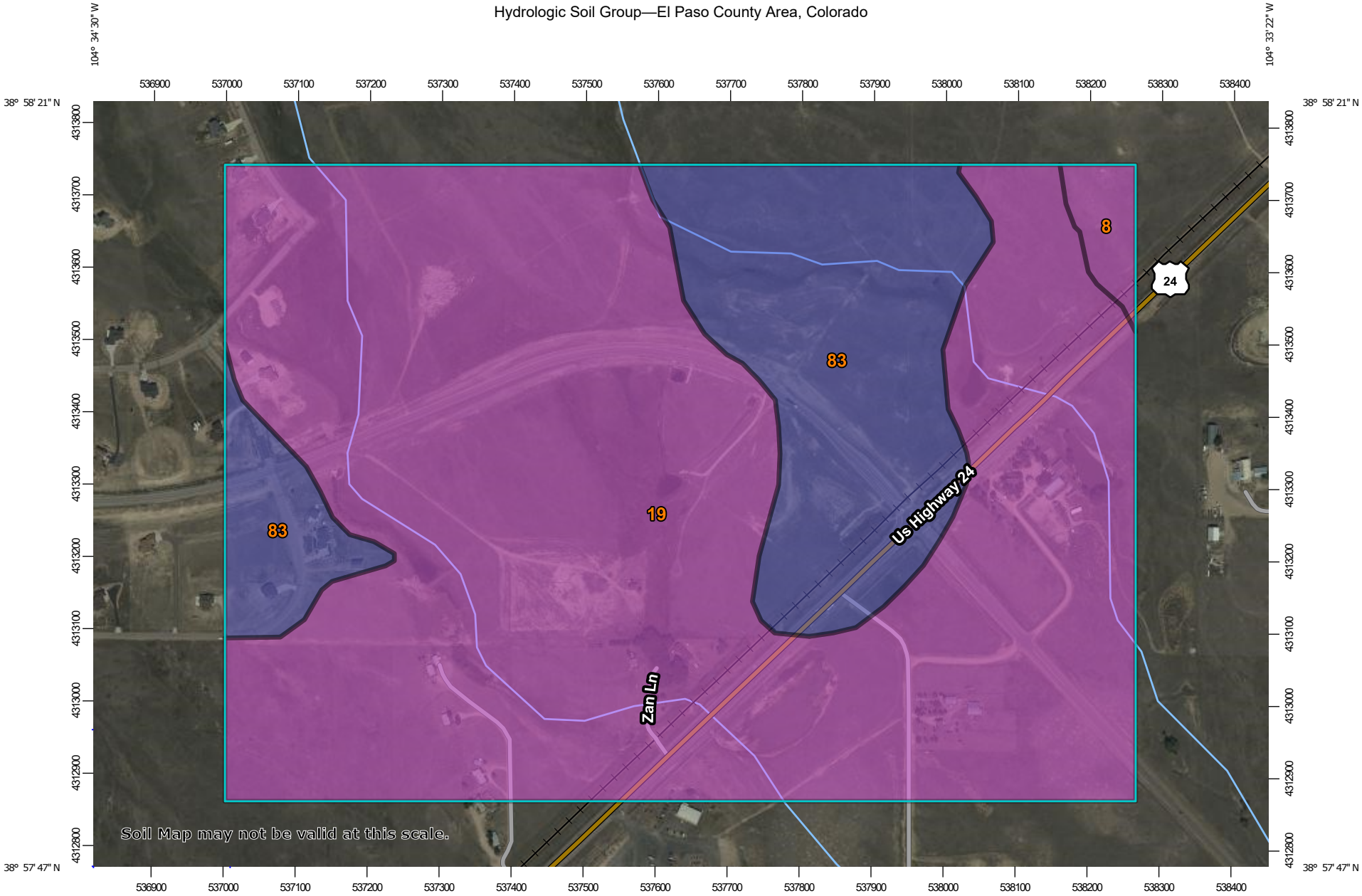
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/7/2022 at 6:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Map Scale: 1:7,460 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

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

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 20, Sep 2, 2022

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

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

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

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	3.8	1.4%
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	A	212.8	77.0%
83	Stapleton sandy loam, 3 to 8 percent slopes	B	59.8	21.6%
Totals for Area of Interest			**276.4**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

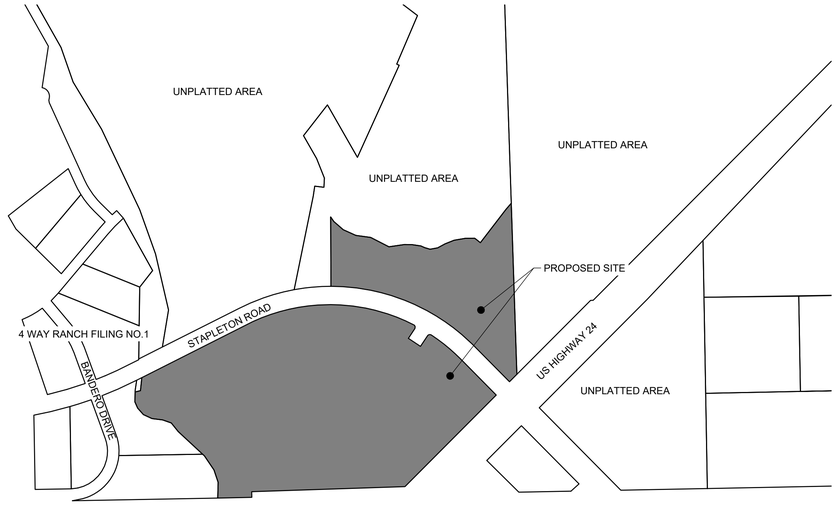
Tie-break Rule: Higher

APPENDIX B – EARLY AND INTERIM/FINAL GRADING GEC

4-WAY COMMERCIAL
INITIAL/INTERIM/FINAL GRADING AND EROSION CONTROL PLAN

A PART OF THE SOUTHWEST QUARTER OF SECTION 28 AND THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 12 SOUTH, RANGE 64 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

OCTOBER 2023



VICINITY MAP

SHEET INDEX

PROJECT CONTACTS

OWNER
KO1515, LLC
PO BOX 1385
COLORADO SPRINGS, CO 80901
ATTN: KEVIN O'NEIL, MANAGING MEMBER

DEVELOPER
KO1515, LLC
PO BOX 1385
COLORADO SPRINGS, CO 80901
ATTN: KEVIN O'NEIL, MANAGING MEMBER

APPLICANT
VERTEX CONSULTING
455 PIKES PEAK AVE SUITE 101
COLORADO SPRINGS, CO 80903
TELE: (719) 733-8605
ATTN: NINA RUIZ
EMAIL: NINA.RUIZ@VERTEXCOS.COM

CIVIL ENGINEER
HR GREEN
1975 RESEARCH PKWY SUITE 230
COLORADO SPRINGS, CO 80921
TELE: (719) 300-4140
ATTN: COLLEEN MONAHAN, P.E., LEED AP
EMAIL: CMONAHAN@HRGREEN.COM

AGENCY
EL PASO COUNTY PCD ENGINEERING DIVSION
2880 INTERNATIONAL CIRCLE SUITE 110
COLORADO SPRINGS, CO 80910
TELE:(719) 634-3751

SURVEYOR
SMH CONSULTANTS
411 S TEJON ST #1
COLORADO SPRINGS, CO 80903
TELE: (719) 465-2145
ATTN: BRETT LOUK
EMAIL: BLOUK@SMHCONSULTANTS.COM

BASIS OF BEARINGS:

BASIS OF BEARINGS: NAD 83 COLORADO STATE PLANE, CENTRAL ZONE, GROUND COORDINATES

BENCHMARK:

BENCH MARK DISK SET IN TOP OF CONCRETE MONUMENT
N:1421501.198
E: 3274674.529
ELEV: 6866.331

GRADING AND EROSION CONTROL NOTES:

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
2. 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 CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCITNG CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OF CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
4. 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 THE 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.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATION 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 ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS
8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
9. ALL PERMANENT STORMWATER FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OF FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES HALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OF WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL ARES DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S)
12. 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.
13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
15. EROSION BLANKET OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
16. 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 THIS SITE.
17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP PROPERLY AND PROPERLY DISPOSED OF IMMEDIATELY.
19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION, DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF THE SITE DEVELOPMENT.
20. 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 AN EAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABEL.
21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S) SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRED ADEQUATE SECONDARY PROTECTION TO CONTAIN AL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS RULES OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
28. THE SOILS REPORT FOR THE SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. DATED AUGUST 2022 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. AT LEAST (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

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

EL PASO COUNTY STANDARD CONSTRUCTION NOTES:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FILED NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
   A. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   B. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   C. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   D. CDOT M & S STANDARDS
4. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE 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 PCD INSPECTIONS STAFF.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
7. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
8. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
9. ANY TEMPORARY SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY AND MUTCD CRITERIA.
10. CONTRATOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
11. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

QUALIFIED STORMWATER MANAGER'S INSPECTIONS AND MAINTENANCE BMP'S:

1. MAKE THOROUGH INSPECTION OF THE STORMWATER MANAGEMENT SYSTEM AFTER EACH PRECIPITATION EVENT THAT CAUSES RUNOFF.
2. IF ANY DEFICIENCIES ARE NOTED, THEY MUST BE CORRECTED IMMEDIATELY AFTER BEING NOTED.
3. RECORDS OF THE SIGNED SITE INSPECTIONS OR MODIFICATIONS MUST BE KEPT AT THE SITE UNLESS AN ALTERNATE PLACE IS APPROVED BY THE EL PASO COUNTY INSPECTOR AND MUST BE MADE AVAILABLE UPON REQUEST.
4. INSPECTIONS MUST TAKE PLACE WHERE CONSTRUCTION ACTIVITY IS COMPLETE.
5. MONTHLY INSPECTIONS MUST TAKE PLACE ON SITE WHERE CONSTRUCTION ACTIVITY IS COMPLETE, BUT VEGETATIVE COVER IS STILL BEING ESTABLISHED.

NORTH
0 500
250

ADDITIONAL NOTES:

1. STAGING, PORTABLE TOILETS, AND STOCKPILE AREAS TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.
2. THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.
3. EXISTING SITE TERRAIN GENERALLY SLOPES TO THE CHANNELS THAT RUN THROUGH THE SITE AT GRADES RATES THAT VARY BETWEEN 2% TO 6%.
4. THERE ARE NO BATCH PLANTS ON SITE.
5. NO PORTION OF THIS PROPERTY THAT IS PART OF THE EARLY GRADING IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN IN ACCORDANCE WITH FLOOD INSURANCE RATE MAP (FIRM) 08041C0552G, 08041C0556G AND 08041C0556G DATED DECEMBER 7, 2018. THERE IS A PORTION OF THE SITE THAT IS WILL REMAIN UNDISTURBED AND UNDEVELOPED IN THE WESTERLY PART OF THE SITE THAT IS WITHIN ZONE A PER FLOOD INSURANCE RATE MAP (FIRM) 08041C0552G.

EXISTING VEGETATION:

1. EXISTING, ON-SITE VEGETATION CONSISTS OF SPARSE NATIVE GRASSES (APPROX. 25% COVER). THIS WAS IDENTIFIED IN A SITE VISIT AND AERIAL PHOTOGRAPHY ON GOOGLE EARTH.

TIMING:

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: SPRING 2024-SUMMER 2023

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED: FALL 2024

AREAS:

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED: 31.5 ACRES

RECEIVING WATERS:

THE SITE LIES WITHIN THE GEICK RANCH DRAINAGE BASIN AND IS TRIBUTARY TO BLACK SQUIRREL CREEK.

SOIL TYPES:

83 - STAPLETON SANDY LOAM - B
19 - COLUMBINE GRAVELLY SANDY LOAM - A

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.

JOSHUA PALMER P.E. — DATE
COUNTY ENGINEER

OWNER/DEVELOPER'S STATEMENT:

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

KEVIN O'NEIL — DATE
KO1515, LLC

ENGINEER'S STATEMENT

THIS GRADING AN 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 NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARING THIS PLAN

COLLEEN MONAHAN, P.E. — DATE
CMONAHAN@HRGREEN.COM
COLORADO P.E. 0056067

DRAWN BY: AXB — JOB DATE: 10/13/2023
APPROVED: CM — JOB NUMBER: 2202654
CAD DATE: 10/13/2023
CAD FILE: J:\2022\2202654\CAD\Dwgs\C\GEC\GEC_Cover

BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HRGreen
HR GREEN - COLORADO SPRINGS
1975 RESEARCH PARKWAY SUITE 230
COLORADO SPRINGS, CO 80920
PHONE: 719.394.2440
FAX: 713.965.0044

4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
COVER

SHEET CV

1

LEGEND

	EXISTING	PROPOSED
MATCH LINE		
PHASE LINE		
SECTION LINE		
PROPERTY BOUNDARY		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
CENTERLINE		
CHAIN LINK FENCE		
WOODEN FENCE		
SPLIT RAIL-SAFETY FENCE		
GUARDRAIL		
CABLE TV	TV	TV
U.G. ELECTRIC	UE	UE
OVERHEAD ELECTRIC	OE	OE
FIBER OPTIC	FO	FO
GAS MAIN		
SANITARY SEWER	SS	
STORM DRAIN		
TELEPHONE	UT	UT
WATER MAIN	W	W
SWALE		
TRAIL		
CURB & GUTTER		
DRAINAGE BASIN		
INDEX CONTOUR		
INTER. CONTOUR		
100-YR FLOODPLAIN		
FLOODWAY		
EDGE OF WETLANDS		

DRAINAGE

	EXISTING	PROPOSED
DRAINAGE BASIN		
BASIN TAG		I.D. AREA
DESIGN POINT		

STORM SEWER

	EXISTING	PROPOSED
MANHOLE	ST	D
STORM INLET		
FLARED END SECTION		
RIPRAP		

SANITARY SEWER

	EXISTING	PROPOSED
CLEAN OUT		
MANHOLE		S
PLUG		

WATER

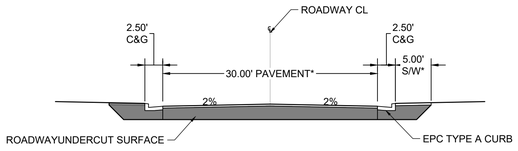
	EXISTING	PROPOSED
FIRE HYDRANT		
FIRE DEPT. CONNECTION	FDC	FDC
GATE VALVE		
MANHOLE	W	W
METER	WM	WM
TEE		
REDUCER		

DRY UTILITIES

ELECTRIC METER	EM
ELECTRIC PEDESTAL	E
ELECTRICAL CABINET	E
ELECTRIC VAULT	EV
FIBER OPTIC PULL BOX	F
FIBER OPTIC MANHOLE	FO
FIBER OPTIC PEDESTAL	F
FIBER OPTIC SIGN	FO
FIBER OPTIC VAULT	FV
GAS METER	GM
GAS SIGN	G
GAS VAULT	G
TELEPHONE CABINET	T
TELEPHONE MANHOLE	TH
TELEPHONE SIGNAL/MAST	T
TELEPHONE SIGN	T
TELEPHONE PEDESTAL	T
TRANSFORMER	
LIGHT POLE	
FIBER OPTIC VAULT	FV

MISCELLANEOUS

SIGN	
BOLLLARD	
ACCESSIBLE PARKING	



URBAN, LOCAL (PRIVATE)

SCALE: 1"=10'
DESIGN SPEED: 30MPH
SPEED LIMIT: 25MPH

DRAWN BY: AXB JOB DATE: 10/13/2023
APPROVED: CM JOB NUMBER: 2202654
CAD DATE: 10/13/2023
CAD FILE: J:\2022\2202654\CAD\Dwgs\C\GEC\GEC_Cover

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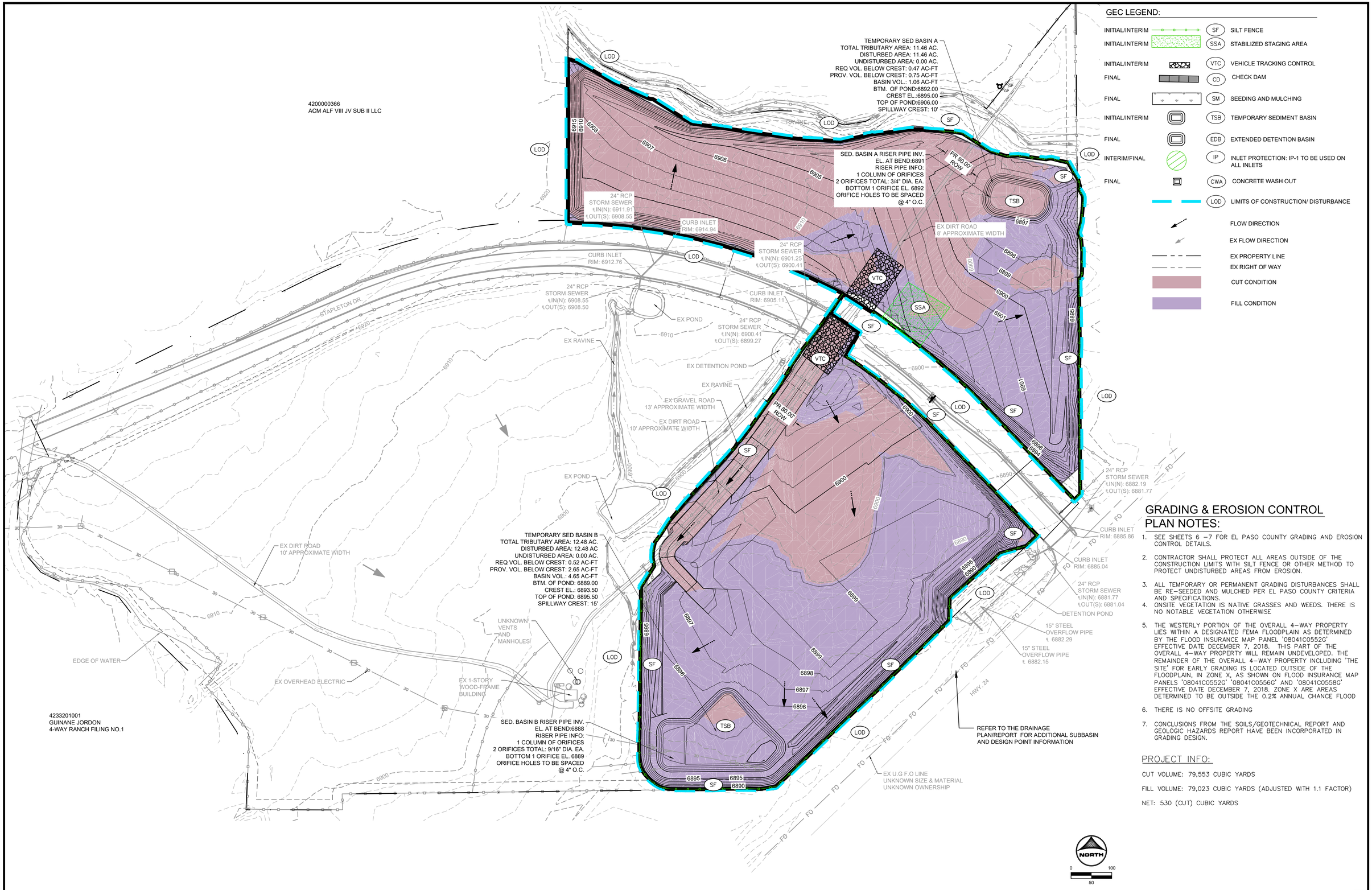
4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
LEGEND & TYP. SECTIONS

SHEET
LE

2



GEC LEGEND:

INITIAL/INTERIM	SF	SILT FENCE
INITIAL/INTERIM	SSA	STABILIZED STAGING AREA
INITIAL/INTERIM	VTC	VEHICLE TRACKING CONTROL
FINAL	CD	CHECK DAM
FINAL	SM	SEEDING AND MULCHING
INITIAL/INTERIM	TSB	TEMPORARY SEDIMENT BASIN
FINAL	EDB	EXTENDED DETENTION BASIN
INTERIM/FINAL	IP	INLET PROTECTION: IP-1 TO BE USED ON ALL INLETS
FINAL	CWA	CONCRETE WASH OUT
	LOD	LIMITS OF CONSTRUCTION/ DISTURBANCE
		FLOW DIRECTION
		EX FLOW DIRECTION
		EX PROPERTY LINE
		EX RIGHT OF WAY
		CUT CONDITION
		FILL CONDITION

GRADING & EROSION CONTROL PLAN NOTES:

1. SEE SHEETS 6 –7 FOR EL PASO COUNTY GRADING AND EROSION CONTROL DETAILS.
2. CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION.
3. ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL BE RE–SEEDED AND MULCHED PER EL PASO COUNTY CRITERIA AND SPECIFICATIONS.
4. ONSITE VEGETATION IS NATIVE GRASSES AND WEEDS. THERE IS NO NOTABLE VEGETATION OTHERWISE
5. THE WESTERLY PORTION OF THE OVERALL 4–WAY PROPERTY LIES WITHIN A DESIGNATED FEMA FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE MAP PANEL '08041C0552G' EFFECTIVE DATE DECEMBER 7, 2018. THIS PART OF THE OVERALL 4–WAY PROPERTY WILL REMAIN UNDEVELOPED. THE REMAINDER OF THE OVERALL 4–WAY PROPERTY INCLUDING 'THE SITE' FOR EARLY GRADING IS LOCATED OUTSIDE OF THE FLOODPLAIN, IN ZONE X, AS SHOWN ON FLOOD INSURANCE MAP PANELS '08041C0552G' '08041C0556G' AND '08041C0558G' EFFECTIVE DATE DECEMBER 7, 2018. ZONE X ARE AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD
6. THERE IS NO OFFSITE GRADING
7. CONCLUSIONS FROM THE SOILS/GEOTECHNICAL REPORT AND GEOLOGIC HAZARDS REPORT HAVE BEEN INCORPORATED IN GRADING DESIGN.

PROJECT INFO:

CUT VOLUME: 79,553 CUBIC YARDS

FILL VOLUME: 79,023 CUBIC YARDS (ADJUSTED WITH 1.1 FACTOR)

NET: 530 (CUT) CUBIC YARDS

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CAD DATE: 10/13/2023		IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.	
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HRGreen
HR GREEN - COLORADO SPRINGS
1975 RESEARCH PARKWAY SUITE 230
COLORADO SPRINGS, CO 80920
PHONE: 719.394.2440
FAX: 713.965.0044

4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
INITIAL GRADING & EROSION CONTROL

SHEET GEC 3

4200000366
ACM ALF VIII JV SUB II LLC

4233201001
GUINANE JORDON
4-WAY RANCH FILING NO.1

TEMPORARY SED BASIN A
TOTAL TRIBUTARY AREA: 11.46 AC.
DISTURBED AREA: 11.46 AC.
UNDISTURBED AREA: 0.00 AC.
REQ VOL. BELOW CREST: 0.47 AC-FT
PROV. VOL. BELOW CREST: 0.75 AC-FT
BASIN VOL.: 1.06 AC-FT
BTM. OF POND:6892.00
CREST EL.:6895.00
TOP OF POND:6906.00
SPILLWAY CREST: 10'

SED. BASIN A RISER PIPE INV.
EL. AT BEND:6891
RISER PIPE INFO:
1 COLUMN OF ORIFICES
2 ORIFICES TOTAL: 3/4" DIA. EA.
BOTTOM 1 ORIFICE EL. 6892
ORIFICE HOLES TO BE SPACED
@ 4" O.C.

TEMPORARY SED BASIN B
TOTAL TRIBUTARY AREA: 12.48 AC.
DISTURBED AREA: 12.48 AC
UNDISTURBED AREA: 0.00 AC.
REQ VOL. BELOW CREST: 0.52 AC-FT
PROV. VOL. BELOW CREST: 2.65 AC-FT
BASIN VOL.: 4.65 AC-FT
BTM. OF POND: 6889.00
CREST EL.: 6893.50
TOP OF POND: 6895.50
SPILLWAY CREST: 15'

SED. BASIN B RISER PIPE INV.
EL. AT BEND:6888
RISER PIPE INFO:
1 COLUMN OF ORIFICES
2 ORIFICES TOTAL: 9/16" DIA. EA.
BOTTOM 1 ORIFICE EL. 6889
ORIFICE HOLES TO BE SPACED
@ 4" O.C.

24" RCP STORM SEWER
℄IN(N): 6911.91
℄OUT(S): 6908.55

CURB INLET
RIM: 6914.94

24" RCP STORM SEWER
℄IN(N): 6901.25
℄OUT(S): 6900.41

CURB INLET
RIM: 6912.76

24" RCP STORM SEWER
℄IN(N): 6908.55
℄OUT(S): 6908.50

CURB INLET
RIM: 6905.11

24" RCP STORM SEWER
℄IN(N): 6900.41
℄OUT(S): 6899.27

24" RCP STORM SEWER
℄IN(N): 6882.19
℄OUT(S): 6881.77

CURB INLET
RIM: 6885.86

CURB INLET
RIM: 6885.04

24" RCP STORM SEWER
℄IN(N): 6881.77
℄OUT(S): 6881.04

DETENTION POND

15" STEEL OVERFLOW PIPE
℄ 6882.29

15" STEEL OVERFLOW PIPE
℄ 6882.15

EX RAVINE
EX POND
EX DETENTION POND
EX GRAVEL ROAD
13' APPROXIMATE WIDTH
EX DIRT ROAD
10' APPROXIMATE WIDTH
EX 1-STORY WOOD-FRAME BUILDING
UNKNOWN VENTS AND MANHOLES
EDGE OF WATER
EX OVERHEAD ELECTRIC
STAPLETON DR.
HWY 24
EX U.G F.O LINE
UNKNOWN SIZE & MATERIAL
UNKNOWN OWNERSHIP
EX PROPERTY LINE
EX RIGHT OF WAY
13' APPROXIMATE WIDTH

REFER TO THE DRAINAGE PLAN/REPORT FOR ADDITIONAL SUBBASIN AND DESIGN POINT INFORMATION

GEC LEGEND:

INITIAL/INTERIM	SF	SILT FENCE
INITIAL/INTERIM	SSA	STABILIZED STAGING AREA
INITIAL/INTERIM	VTC	VEHICLE TRACKING CONTROL
FINAL	CD	CHECK DAM
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FINAL	CWA	CONCRETE WASH OUT
	LOD	LIMITS OF CONSTRUCTION/ DISTURBANCE
		FLOW DIRECTION
		EX FLOW DIRECTION
		EX PROPERTY LINE
		EX RIGHT OF WAY
		CUT CONDITION
		FILL CONDITION

GRADING & EROSION CONTROL PLAN NOTES:

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NET: 530 (CUT) CUBIC YARDS

NORTH
0 100
50

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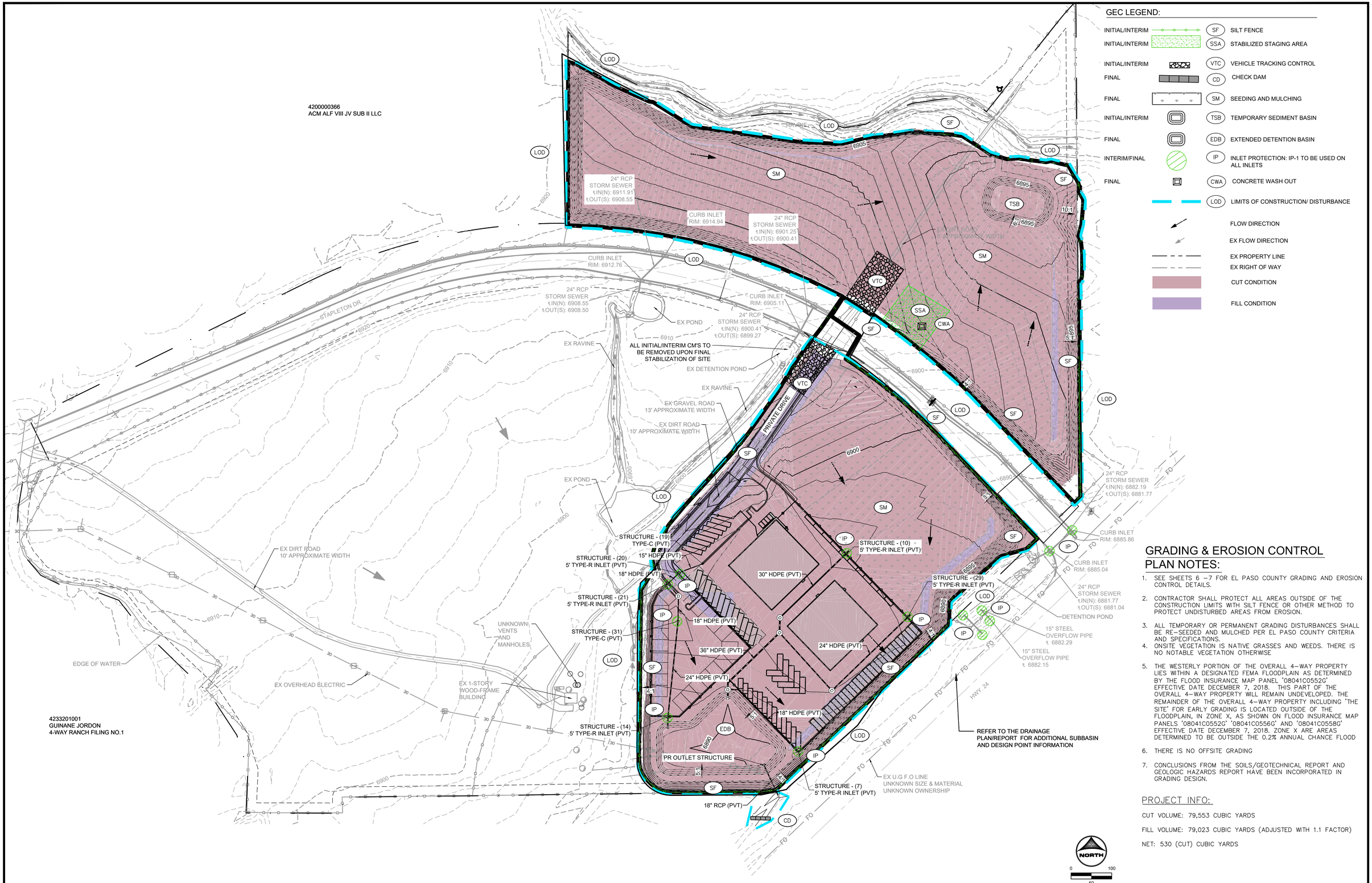
NO.	DATE	BY	REVISION DESCRIPTION

HR GREEN - COLORADO SPRINGS
1975 RESEARCH PARKWAY SUITE 230
COLORADO SPRINGS, CO 80920
PHONE: 719.394.2440
FAX: 713.965.0044

4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
INTERIM GRADING & EROSION CONTROL

SHEET GEC 4



GEC LEGEND:

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INITIAL/INTERIM	TSB	TEMPORARY SEDIMENT BASIN
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GRADING & EROSION CONTROL PLAN NOTES:

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PROJECT INFO:

CUT VOLUME: 79,553 CUBIC YARDS

FILL VOLUME: 79,023 CUBIC YARDS (ADJUSTED WITH 1.1 FACTOR)

NET: 530 (CUT) CUBIC YARDS

NORTH

0 100

50

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COLORADO SPRINGS, CO 80920
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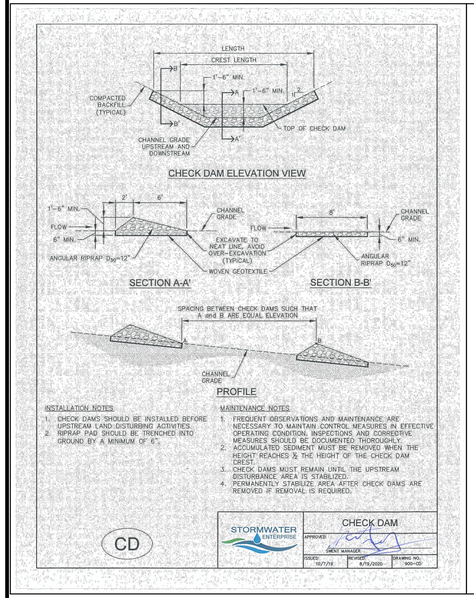
FAX: 713.965.0044

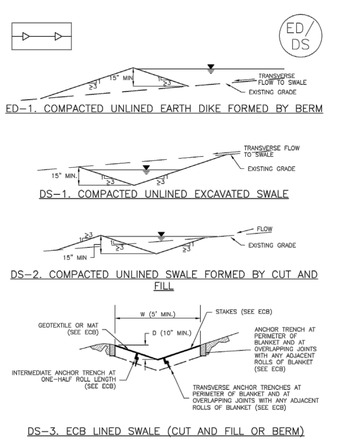
4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
FINAL GRADING & EROSION CONTROL

SHEET GEC 5

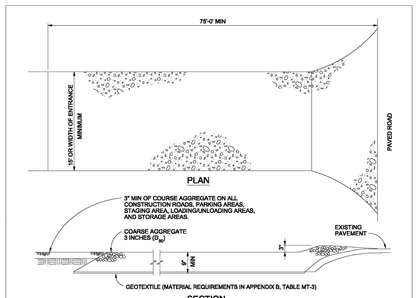


Earth Dikes and Drainage Swales (ED/DS) EC-10



November 2010 | Urban Drainage and Flood Control District | ED/DS-3
Urban Storm Drainage Criteria Manual Volume 3

6/2/23, 11:02 AM FigVT-2.png (1521×2006)



VEHICLE TRACKING
NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

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

MAINTENANCE REQUIREMENTS

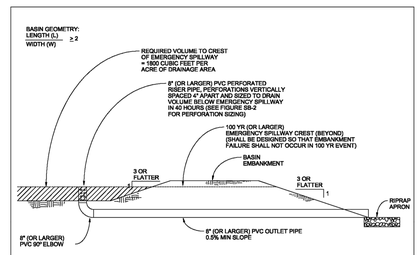
1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

https://mcclibrary.blob.core.usgovcloudapi.net/codecontent/15645/316684/FigVT-2.png 1/1

8/17/23, 10:19 AM FigSB-1.png (1519×2009)



SEDIMENT BASIN
NTS

SEDMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SB-1
Sediment Basin
Construction Detail and Maintenance Requirements

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8/17/23, 10:20 AM FigSB-2.png (1524×2013)

Required Area per Row (in²)

Design Volume (acre-ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.60	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

TABLE SB-1

Circular Perforation Sizing

Hole Diameter	Hole Diameter	Area per Row (in²)		
(in)	(in)	n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42
		n = Number of columns of perforations		
Minimum steel plate thickness		1/4"	5/16"	3/8"

TABLE SB-2

City of Colorado Springs
Stormwater Quality

Figure SB-2
Outlet Sizing
Application Techniques and Maintenance Requirements

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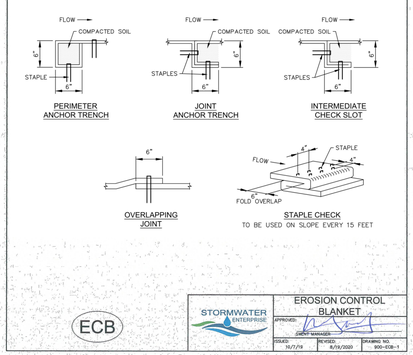


ECB

STORMWATER ENTERPRISE | EROSION CONTROL BLANKET | APPROVED: | CHIEF MANAGER | ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-ECB-1

INSTALLATION NOTES

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

MAINTENANCE NOTES

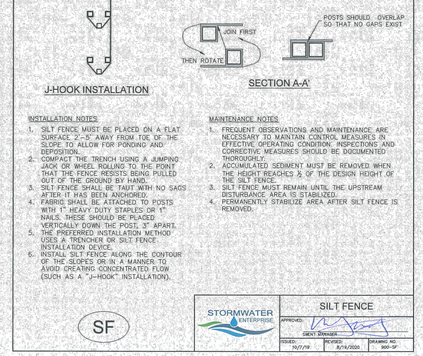
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION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

TABLE ECB-1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

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

ECB

STORMWATER ENTERPRISE | EROSION CONTROL BLANKET | APPROVED: | CHIEF MANAGER | ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-ECB-2



SF

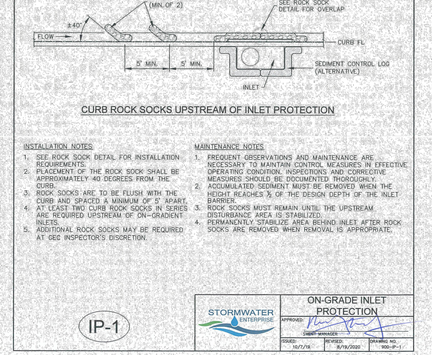
STORMWATER ENTERPRISE | SILT FENCE | APPROVED: | CHIEF MANAGER | ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-SF

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.



IP-1

STORMWATER ENTERPRISE | ON-GRADE INLET PROTECTION | APPROVED: | CHIEF MANAGER | ISSUED: 10/7/19 | REVISED: 8/19/2020 | DRAWING NO. 900-IP-1

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ⅓ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

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APPROVED: CM	JOB NUMBER: 2202654	0 1"	
CAD DATE: 10/13/2023		IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.	
CAD FILE: J:\2022\2202654\CAD\Dwgs\C\GEC\GEC_Details			

NO.	DATE	BY	REVISION DESCRIPTION

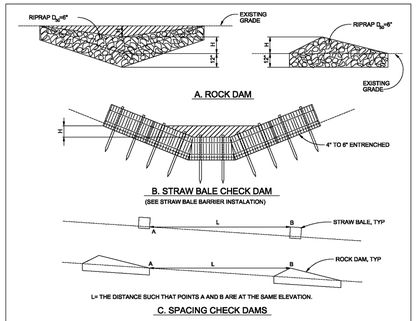
HRGreen
HR GREEN - COLORADO SPRINGS
1975 RESEARCH PARKWAY SUITE 230
COLORADO SPRINGS, CO 80920
PHONE: 719.394.2440
FAX: 713.965.0044

4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
DETAILS I

SHEET DT

6



CHECK DAM
NTS

CHECK DAM NOTES

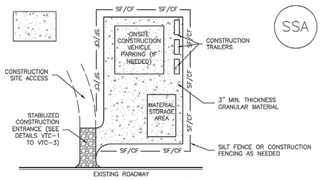
INSTALLATION REQUIREMENTS

1. STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE SBB-2.
2. THE "H" DIMENSION SHALL BE SELECTED TO PROVIDE WEIR FLOW CONVEYANCE FOR 2-YEAR FLOW OR GREATER.

MAINTENANCE REQUIREMENTS

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

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



SSA-1, STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

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

STABILIZED STAGING AREA MAINTENANCE NOTES

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

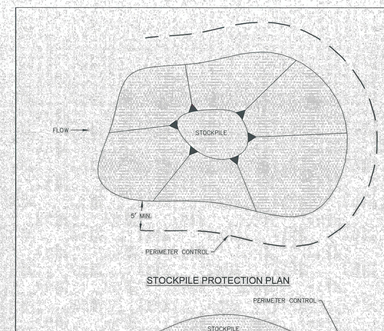
STABILIZED STAGING AREA MAINTENANCE NOTES

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

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

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

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

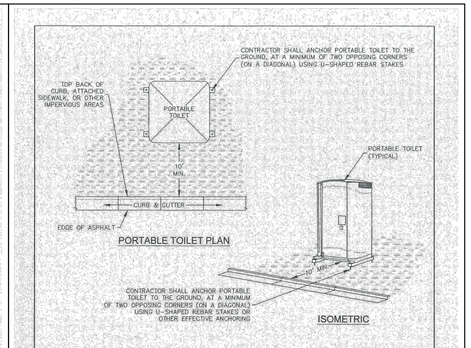


INSTALLATION NOTES
1. INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRADIENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
2. FOR STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS INCLUDING PERIMETER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

MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.

SP

STORMWATER ENTERPRISE — STOCKPILE PROTECTION
APPROVED: DIRECT MANAGER
ISSUED: 10/7/19 REVISED: 6/15/2020 DRAWING NO.: 900-SP



INSTALLATION NOTES
1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS, 50 FEET FROM STORM INLETS, AND 100 FEET FROM WATERWAYS.
2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/SWMPs.
3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE GEC INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.

MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.

PT

PORTABLE TOILET
APPROVED: DIRECT MANAGER
ISSUED: 2/19/19 REVISED: 6/15/2020 DRAWING NO.: 900-PTM

MULCHING NOTES

INSTALLATION REQUIREMENTS

1. ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDED AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
2. MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
3. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED.
4. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
5. MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES), OR WITH A TACKIFIER.
6. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
2. MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEEDED.

City of Colorado Springs Stormwater Quality	Figure MU-1 Mulching — Construction Detail and Maintenance Requirements

RECOMMENDED ANNUAL GRASSES

SPECIES (COMMON NAME)	GROWTH SEASON	SEEDING DATE	POUNDS OF PURE LIVE SEED (PLS) (PLS/ACRE)	PLANTING DEPTH (INCHES)
1. OATS	COOL	MARCH 16 - APRIL 30	35-50	1-2
2. SPRING WHEAT	COOL	MARCH 16 - APRIL 30	20-35	1-2
3. SPRING BARLEY	COOL	MARCH 16 - APRIL 30	25-35	1-2
4. ANNUAL RYEGRASS	COOL	MARCH 16 - JUNE 30	10-15	1/2
5. MILLET	WARM	MAY 16 - JULY 15	3-15	1/2-3/4
6. SUDANGRASS	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
7. SORGHUM	WARM	MAY 16 - JULY 15	5-10	1/2-3/4
8. WINTER WHEAT	COOL	SEPTEMBER 1 - 30	20-35	1-2
9. WINTER BARLEY	COOL	SEPTEMBER 1 - 30	20-35	1-2
10. WINTER RYE	COOL	SEPTEMBER 1 - 30	20-35	1-2
11. TRITICALE	COOL	SEPTEMBER 1 - 30	25-40	1-2

THIS TABLE WAS TAKEN FROM USFCO FOR RECOMMENDED ANNUAL GRASSES FOR THE DENVER METROPOLITAN AREA. THIS TABLE MAY BE USED UNLESS A SITE-SPECIFIC SEED MIX IS REQUESTED AND APPROVED.

TABLE TS-1

TEMPORARY SEEDING NOTES

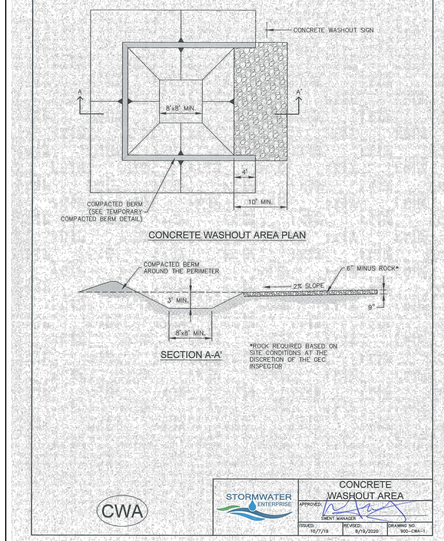
INSTALLATION REQUIREMENTS

1. DISTURBED AREAS ARE TO BE SEEDED WITHIN 21 DAYS AFTER CONSTRUCTION ACTIVITY OR GRADING ENDS IF SEASON ALLOWS.
2. IF NECESSARY, SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER, OR LIME.
3. SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENED.
4. SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1, AND 1 INCH FOR SLOPES STEEPER THAN 2:1.
5. ANNUAL GRASSES LISTED IN TABLE TS-1 ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIFE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.
6. TABLE TS-1 ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.
7. SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.
8. ALL SEEDED AREAS ARE TO BE MULCHED (SEE FACTSHEET ON MULCHING).
9. IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL SEEDED AREAS TO ENSURE GROWTH.
2. AREAS WHERE GROWTH IS NOT OCCURRING QUICKLY OR THE MULCH HAS BEEN REMOVED SHALL BE RE-SEEDED AS SOON AS POSSIBLE AND RE-MULCHED IF NEEDED.
3. SEEDED AREAS ARE NOT TO BE DRIVEN OVER WITH CONSTRUCTION EQUIPMENT OR VEHICLES.

City of Colorado Springs Stormwater Quality	Figure TS-1 Temporary Seeding — Construction Detail and Maintenance Requirements



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

MAINTENANCE NOTES
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 5" THE HEIGHT OF THE CONCRETE WASH AREA.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

CWA

STORMWATER ENTERPRISE — CONCRETE WASHOUT AREA
APPROVED: DIRECT MANAGER
ISSUED: 10/7/19 REVISED: 6/15/2020 DRAWING NO.: 900-CWA-2

DRAWN BY: AXB	JOB DATE: 10/10/2023	BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1"
APPROVED: CM	JOB NUMBER: 2202654	
CAD DATE: 10/13/2023		IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.
CAD FILE: J:\2022\2202654\CAD\Dwgs\C\GEC\GEC_Details		

NO.	DATE	BY	REVISION DESCRIPTION

HRGreen
HR GREEN - COLORADO SPRINGS
1975 RESEARCH PARKWAY SUITE 230
COLORADO SPRINGS, CO 80920
PHONE: 719.394.2440
FAX: 713.965.0044

4-WAY COMMERCIAL
KO1515, LLC
EL PASO COUNTY, CO

GEC PLANS
DETAILS II

SHEET DT

7

CHECK DAM

CD

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

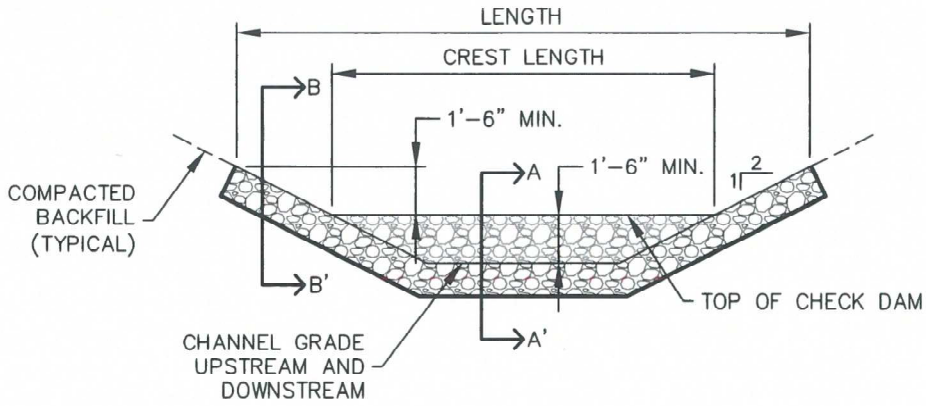
- Place check dams at regular intervals perpendicular to the direction of flow.
- Use check dams on mild or moderately steep slopes.
- Install wide enough check dams to reach from bank to bank of the ditch or swale.
- In general, the maximum spacing between check dams should be such that the toe of the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

4.0 TIMING

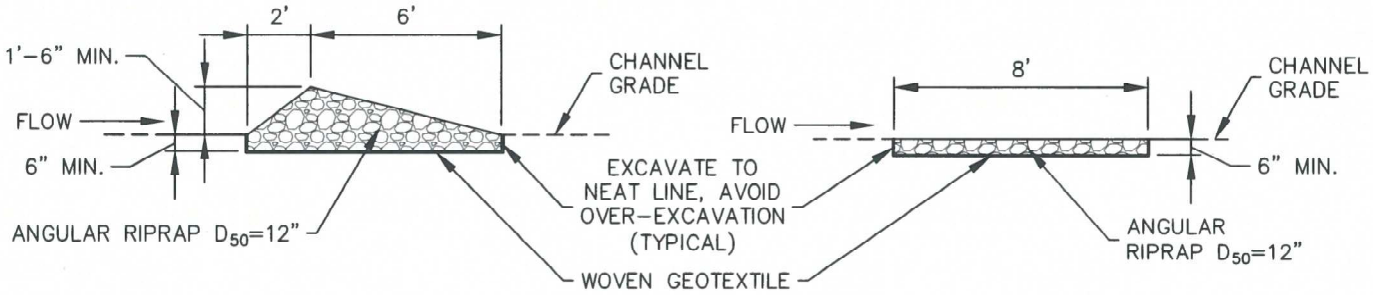
- Install prior to land disturbing activities.
- Remove after surrounding area has been permanently stabilized, or immediately prior to installation of a non-erodible lining. Permanently stabilize bare areas caused by check dams after removal.

5.0 MAINTENANCE

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

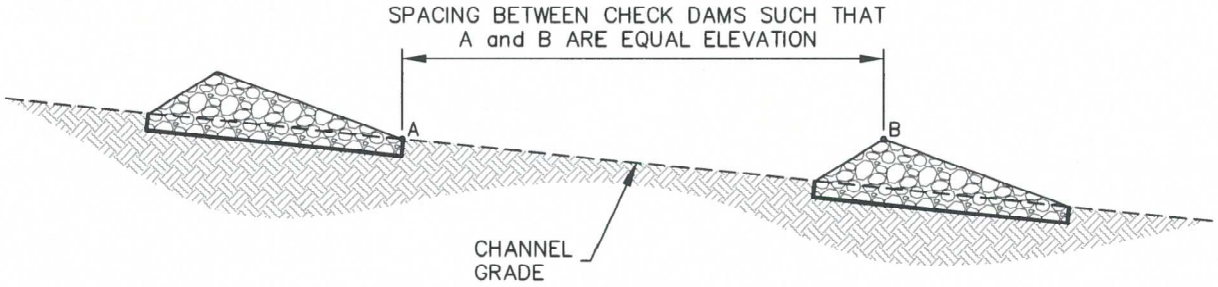


CHECK DAM ELEVATION VIEW



SECTION A-A'

SECTION B-B'



PROFILE

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ THE HEIGHT OF THE CHECK DAM CREST.
3. CHECK DAMS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER CHECK DAMS ARE REMOVED IF REMOVAL IS REQUIRED.

CD

STORMWATER ENTERPRISE

CHECK DAM

APPROVED:

SWENT MANAGER

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

CONCRETE WASHOUT AREA

CWA

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

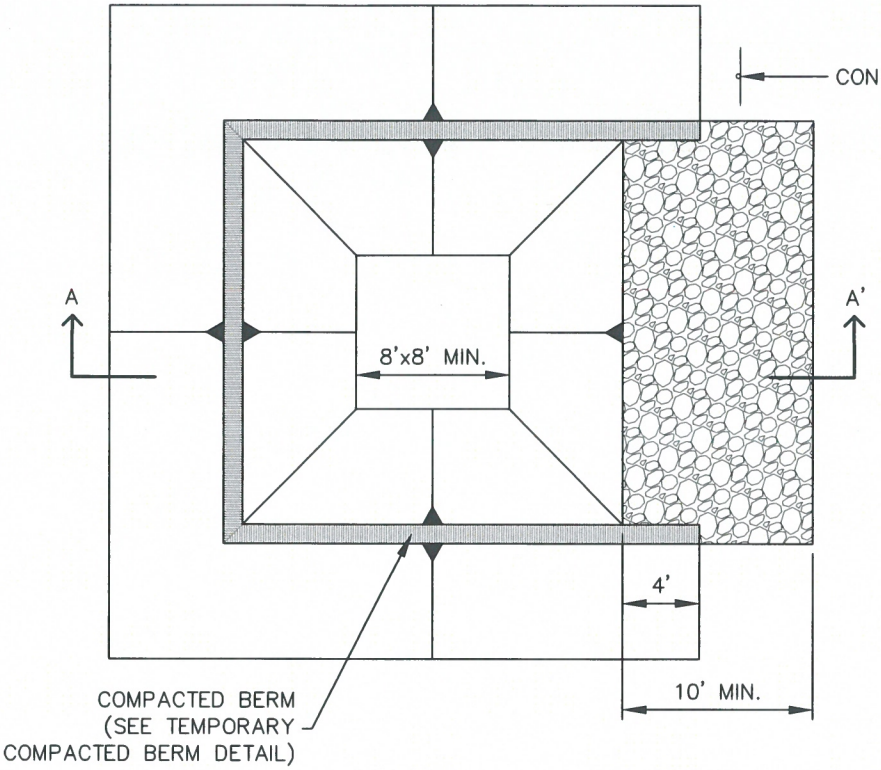
- Locate at least 50 feet away from State Waters, measured horizontally. Unlined concrete washout areas must be located at least 400 feet away from State Waters, and at least 1000 feet away from wells or drinking water sources.
- Do not locate in areas where shallow groundwater may be present, such as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

4.0 TIMING

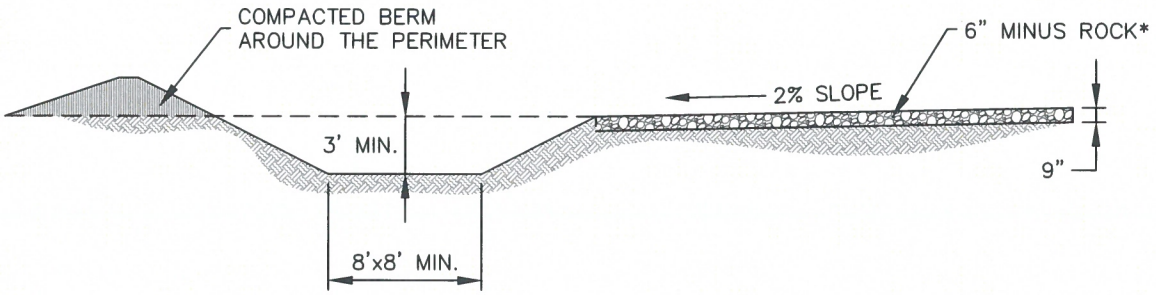
- Install prior to concrete activities.
- Remove after concrete activities have concluded.

5.0 MAINTENANCE

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



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

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

CWA

STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED:

SWENT MANAGER

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

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF ⅔ THE HEIGHT OF THE CONCRETE WASH AREA.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

CWA

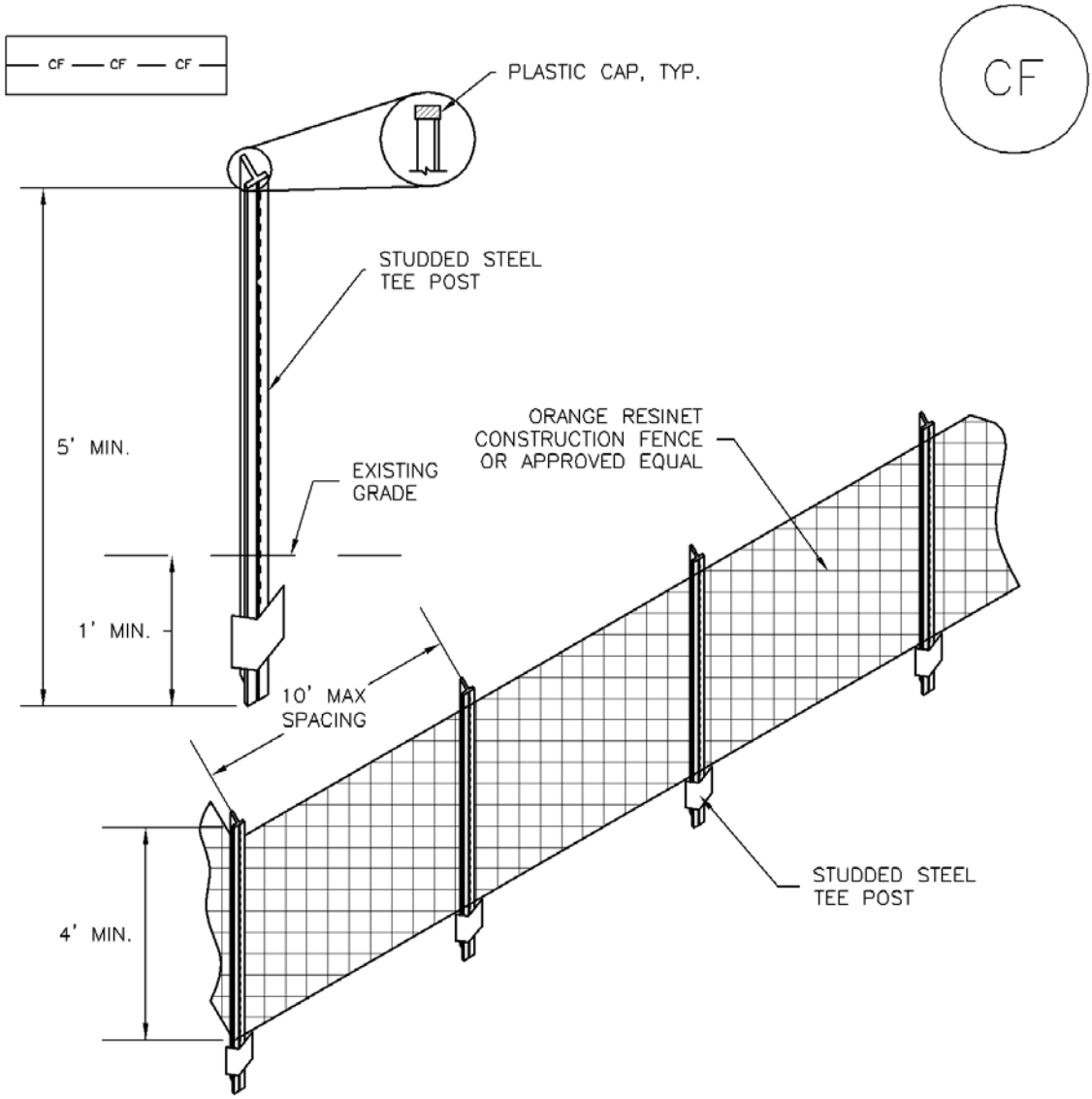
STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900–CWA–2



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

INLET PROTECTION

IP

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

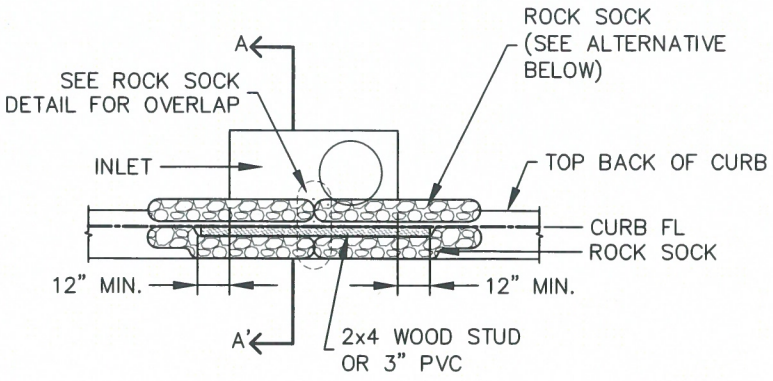
- Install inlet protection at storm sewer inlets that are operable and receiving runoff from disturbed areas during construction.
- Place inlet protection to allow the inlet to function without completely blocking flows into the inlet in a manner than causes localized flooding.
- Inlet protection is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

4.0 TIMING

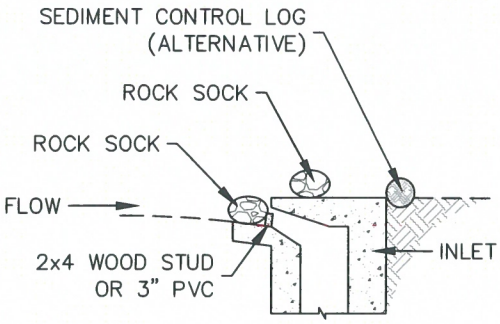
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

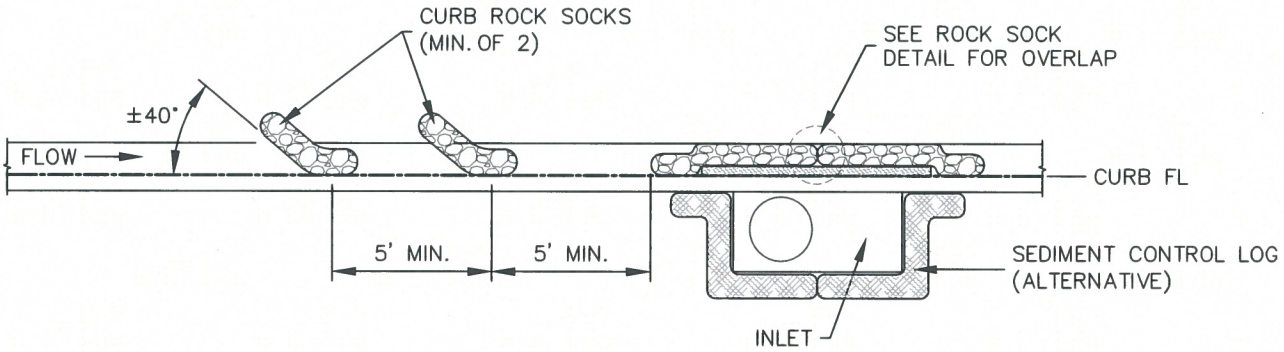
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the design depth of the inlet barrier.
- Inspect for holes or tears that can result in sediment directly entering the inlet.
- Inspect for displaced inlet protection that is no longer protecting the inlet.



CURB INLET PROTECTION PLAN



SECTION A-A'



CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA BEHIND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-1

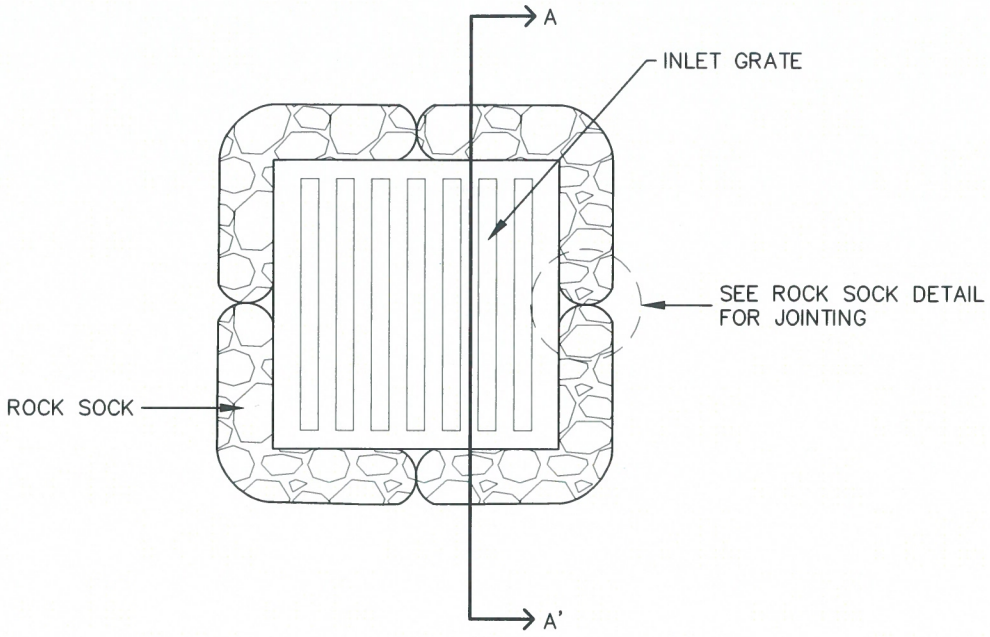
STORMWATER ENTERPRISE

ON-GRADE INLET PROTECTION

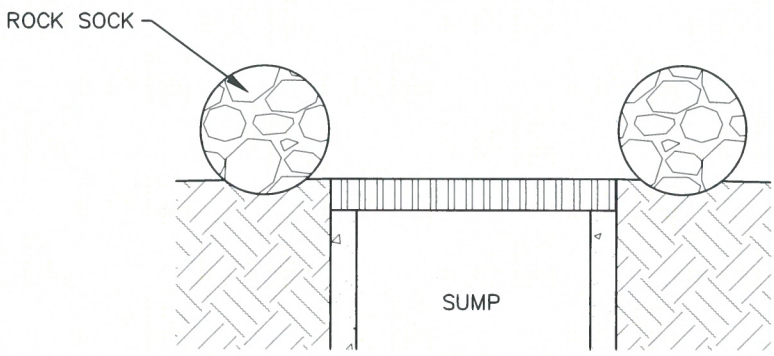
APPROVED:

SWENT MANAGER

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



ROCK SOCK SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK SOCKS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER ROCK SOCKS ARE REMOVED WHEN REMOVAL IS APPROPRIATE.

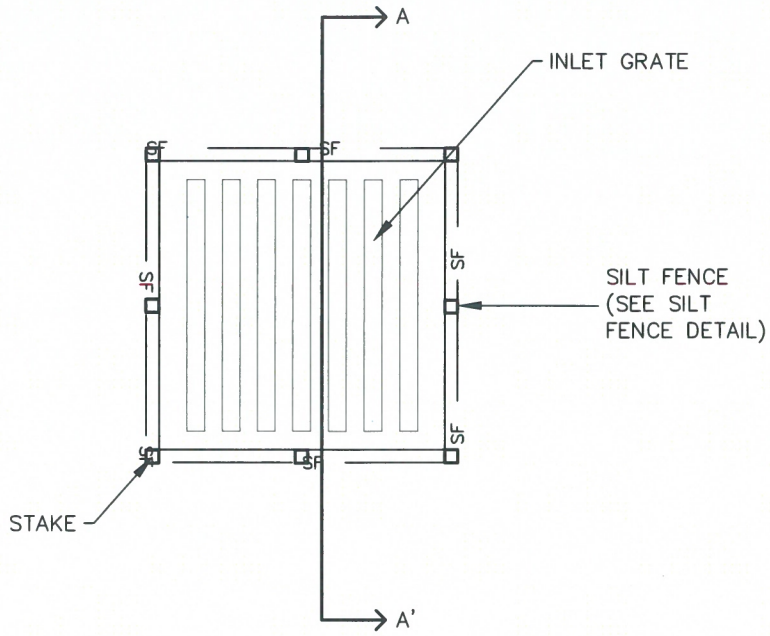
IP-2

STORMWATER ENTERPRISE

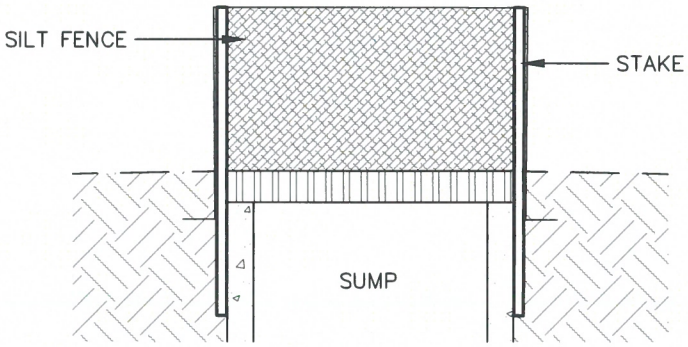
SUMP INLET PROTECTION

APPROVED: SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-2



SILT FENCE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER SILT FENCE IS REMOVED WHEN REMOVAL IS APPROPRIATE.

IP-3

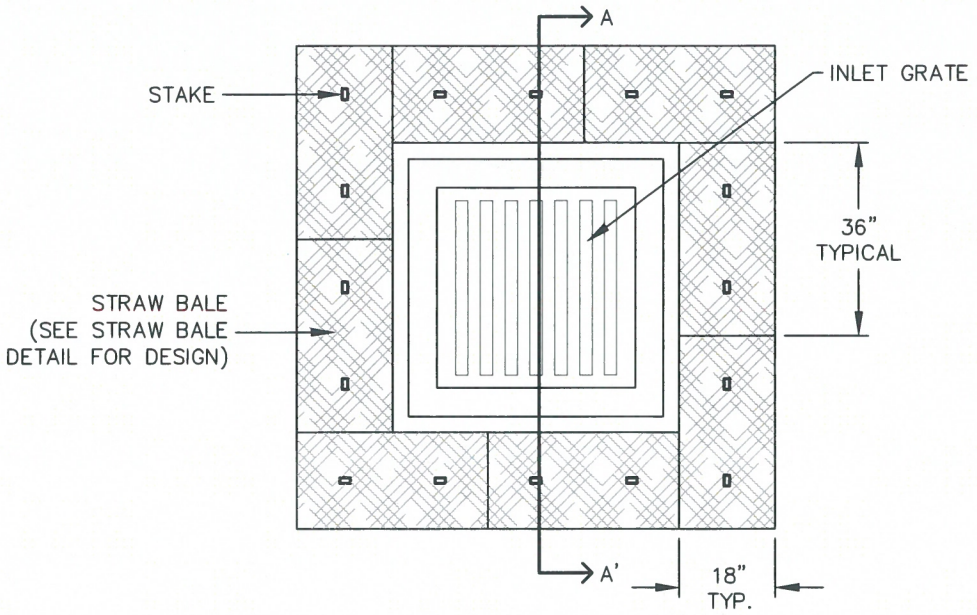
STORMWATER ENTERPRISE

SUMP INLET PROTECTION

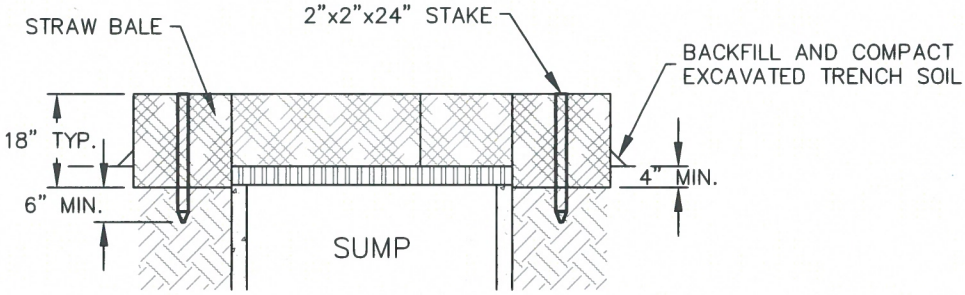
APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-IP-3



STRAW BALE SUMP INLET PROTECTION PLAN



SECTION A-A'

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. STRAW BALES MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AROUND INLET AFTER STRAW BALES ARE REMOVED WHEN REMOVAL IS APPROPRIATE.
5. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN OR DAMAGED BEYOND REPAIR.

IP-4

STORMWATER ENTERPRISE

SUMP INLET PROTECTION

APPROVED:

SWENT MANAGER

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

PORTABLE TOILET

PT

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

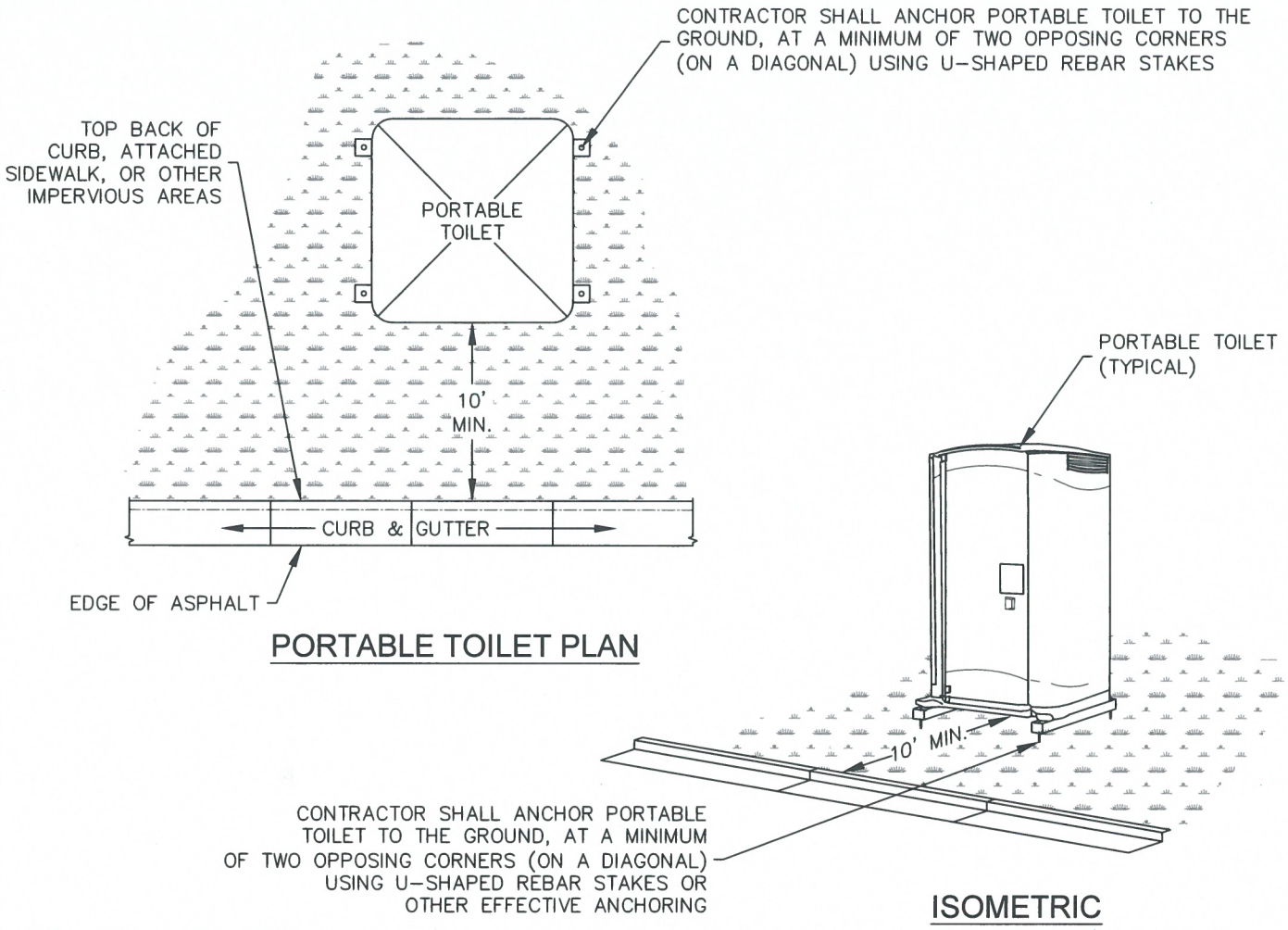
- Place portable toilet a minimum of 10 feet from the back of curb or on a trailer for road projects or sites that are mostly paved.
- Anchor portable toilet to the ground, at a minimum of two opposing corners (on a diagonal) using U-shaped rebar stakes.

4.0 TIMING

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

5.0 MAINTENANCE

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



PORTABLE TOILET PLAN

ISOMETRIC

INSTALLATION NOTES

1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS; 50 FEET FROM STORM INLETS, AND 100 FEET FROM WATERWAYS.
2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/YARDS.
3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE GEC INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.

PT

PORTABLE TOILET

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
2/19/19	8/19/2020	900-PTM

SEEDING AND MULCHING

SM

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

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

4.0 TIMING

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

5.0 MAINTENANCE

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

SEEDING & MULCHING

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

SOIL PREPARATION

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

SEEDING

1. ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
2. SEED SHOULD BE DRILL–SEEDED WHENEVER POSSIBLE
   - SEED DEPTH MUST BE ⅓ TO ½ INCHES WHEN DRILL–SEEDING IS USED
3. BROADCAST SEEDING OR HYDRO–SEEDING WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
   - SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO–SEEDING
   - BROADCAST SEEDING MUST BE LIGHTLY HAND–RAKED INTO THE SOIL

MULCHING

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

SM

STORMWATER ENTERPRISE

SEEDING & MULCHING

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900–SM

SILT FENCE

SF

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

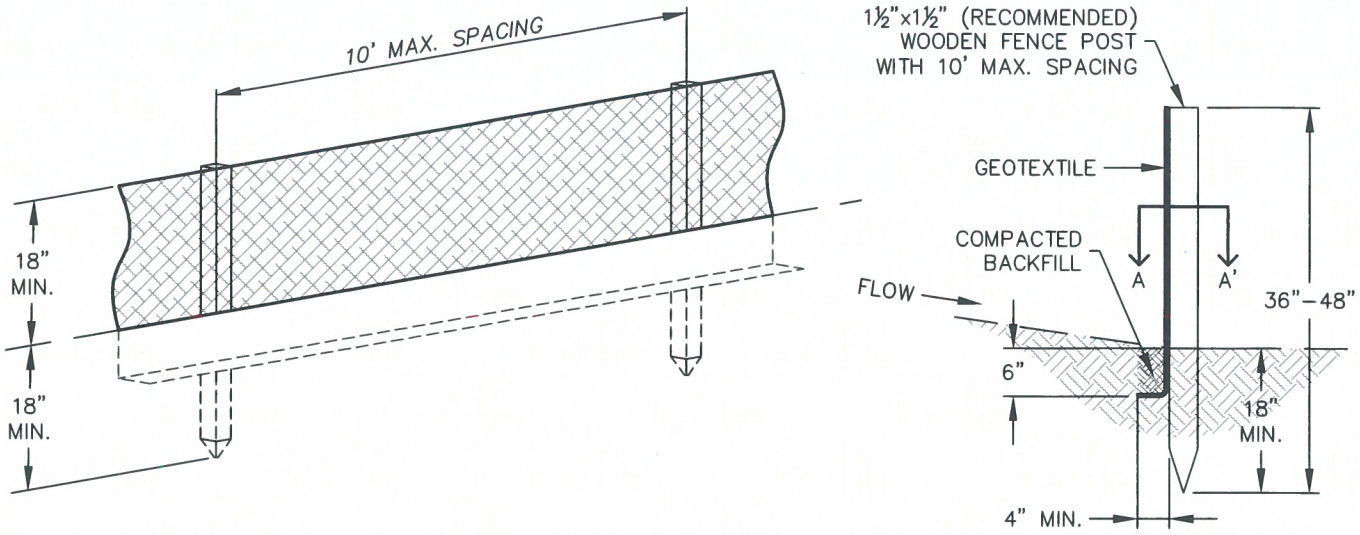
- Install silt fence to intercept sheet flow runoff from disturbed areas.
- Silt fence is not designed to be used as a filter fabric.
- Do not install silt fence across streams, channels, swales, ditches, or other drainageways.
- Install silt fence along the contour of slopes or in a manner to avoid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

4.0 TIMING

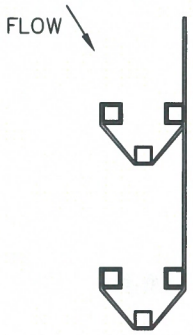
- Install prior to land disturbing activities.
- Remove silt fence after the upstream area has been permanently stabilized.

5.0 MAINTENANCE

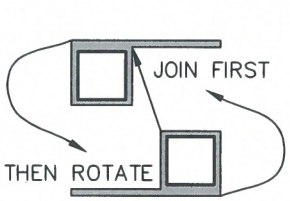
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed silt fence.
- Inspect for and repair or replace damaged silt fence.



SILT FENCE



J-HOOK INSTALLATION



SECTION A-A'

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SF

STORMWATER ENTERPRISE

SILT FENCE

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900–SF

STOCKPILE PROTECTION

SP

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

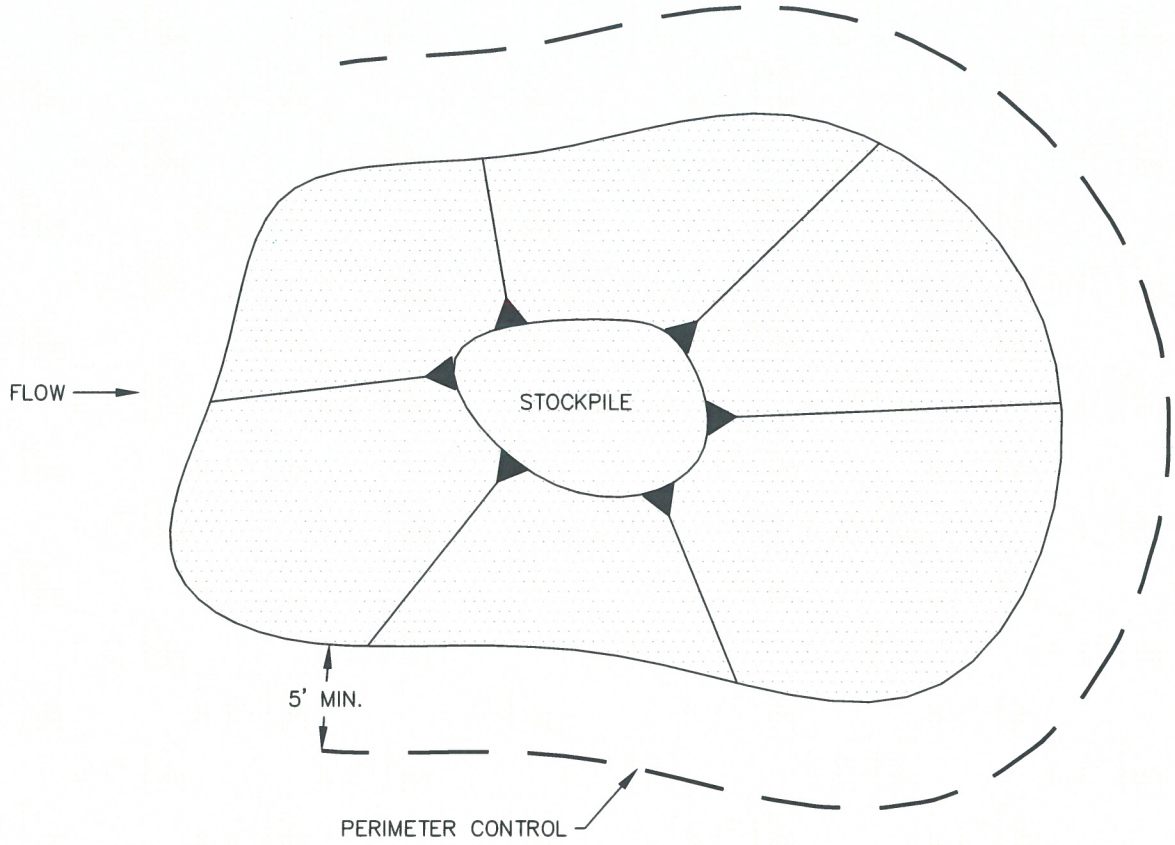
- Install perimeter control around stockpile on downgradient side.
- Stockpile perimeter controls may not be required for stockpiles on the interior portion of a construction site where other downgradient controls including perimeter control are in place.

4.0 TIMING

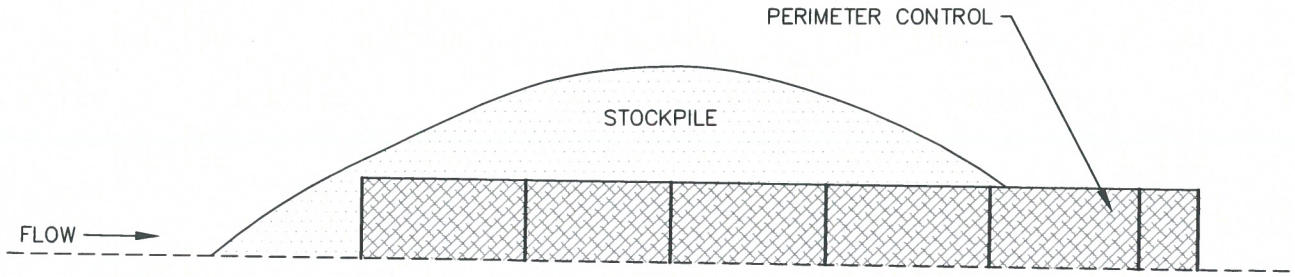
- Install immediately after stockpile has formed or limits are known, whichever occurs first.
- Remove stockpile protection after the stockpile has been removed.

5.0 MAINTENANCE

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



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.

SP

STORMWATER ENTERPRISE

STOCKPILE PROTECTION

APPROVED:

SWENT MANAGER

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

TEMPORARY SEDIMENT BASIN

TSB

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

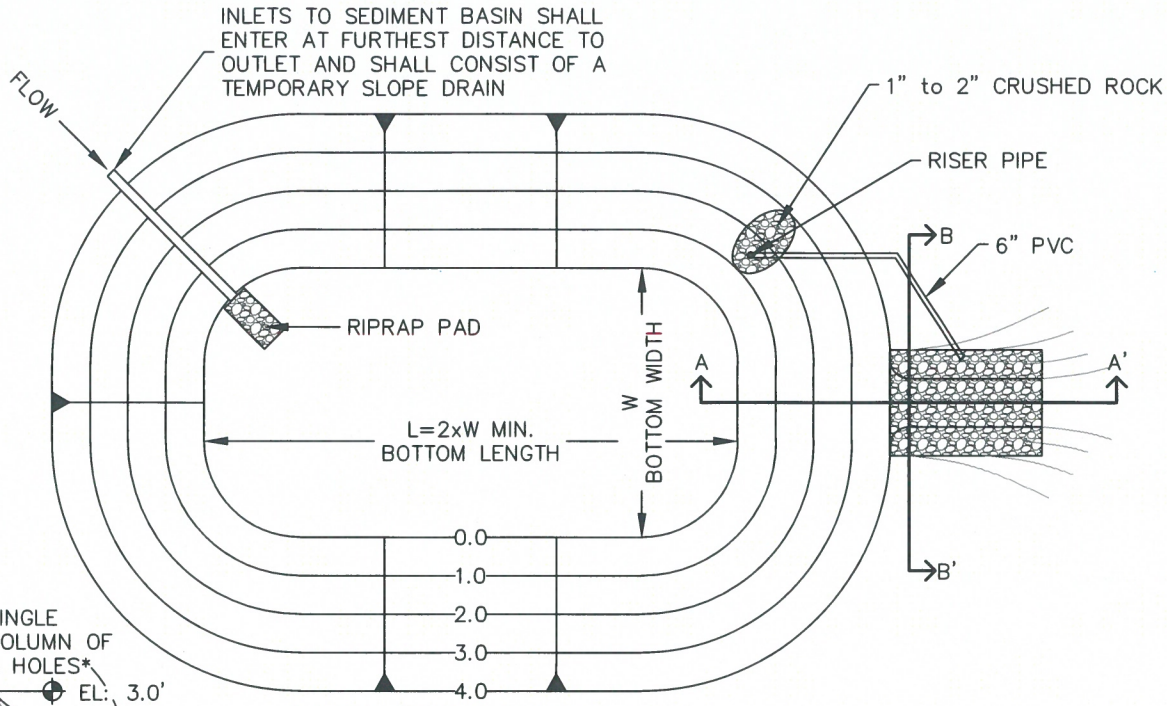
- Temporary sediment basins for drainage areas larger than 15 acres must be individually designed by engineer.
- Erosion and other sediment controls should be implemented upstream of temporary sediment basins.

4.0 TIMING

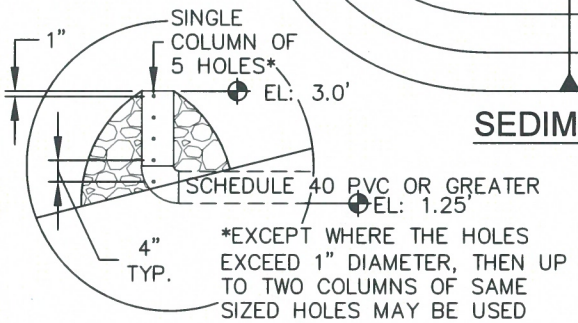
- Install prior to upstream land disturbance.
- Remove temporary sediment basin after upstream area has been stabilized. Permanently stabilize area after basin has been removed.

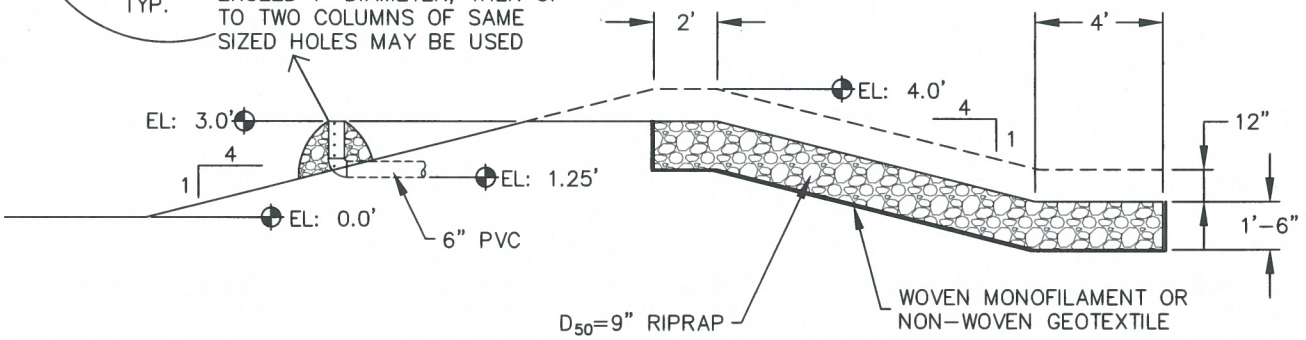
5.0 MAINTENANCE

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

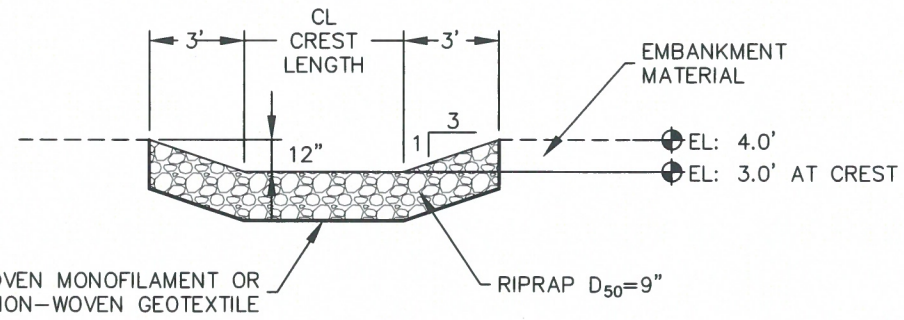


SEDIMENT BASIN PLAN





SECTION A-A'



SECTION B-B'

TSB

STORMWATER ENTERPRISE

TEMPORARY SEDIMENT BASIN

APPROVED:

SWENT MANAGER

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

TABLE SB–1, SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

UPSTREAM DRAINAGE AREA (ROUNDED TO NEAREST ACRE), (AC)	BASIN BOTTOM WIDTH (W), (FT)	SPILLWAY CREST LENGTH (CL), (FT)	HOLE DIAMETER (HD), (IN)
1	12½"	2	9/32
2	21	3	13/16
3	28	5	½
4	33½	6	9/16
5	38½	8	21/32
6	43	9	21/32
7	47¼	11	25/32
8	51	12	27/32
9	55	13	⅞
10	58¼	15	15/16
11	61	16	31/32
12	64	18	1
13	67½	19	1 1/16
14	70½	21	1⅛
15	73¼	22	1 3/16

INSTALLATION NOTES

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

MAINTENANCE NOTES

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

TSB

STORMWATER ENTERPRISE

TEMPORARY SEDIMENT BASIN

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900–TSB–2

APPENDIX D – Erosion and Stormwater Quality Control Permit (ESQCP)

EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP)
EL PASO COUNTY APPLICATION AND PERMIT

EPC Project Number:

APPLICANT INFORMATION ***PERMIT NUMBER*** _____

Owner Information	
Property Owner	KO1515, LLC
Applicant Name (Permit Holder)	Nina Ruiz
Company/Agency	Vertex Consulting Services
Position of Applicant	Consultant
Address (physical address, not PO Box)	455 East Pikes Peak Ave., Ste 101
City	Colorado Springs
State	Colorado
Zip Code	80903
Mailing address, if different from above	
Telephone	719-733-8605
FAX number	NA
Email Address	nina.ruiz@vertexcos.com
Cellular Phone number	719-433-2018
Contractor/Operator Information	
Name (person of responsibility)	
Company	
Address (physical address, not PO Box)	
City	
State	
Zip Code	
Mailing address, if different from above	
Telephone	
FAX number	
Email Address	
Cellular Phone number	
Erosion Control Supervisor (ECS)*	
ECS Phone number*	
ECS Cellular Phone number*	

*Required for all applicants. May be provided at later date pending securing a contract when applicable.

PROJECT INFORMATION

Project Information	
Project Name	4-Way Commercial
Legal Description	THAT POR OF THE SW4 SEC 28 AND NW4 SEC 33-12-64 DESC AS FOLS; COM AT THE N4 COR OF SD SEC 33 SD PT BEING THE POB; TH S 00<29'25" E ALG THE E LN OF TH NW4 OF SD SEC 33, 531.44 FT TO A PT ON THE NLY LN OF AN OPEN SPACE TR OWNED BY EL PASO COUNTY; S 45<55'40" W ALG THE N LN OF SD TR 1130.13 FT TO A PT
Address (or nearest major cross streets)	Stapleton Road & US Highway 24
Acreage (total and disturbed)	Total: 67.1 acres Disturbed: 31.5 acres
Schedule	Start of Construction: Fall 2023 Completion of Construction: Fall 2023 Final Stabilization: Spring 2024
Project Purpose	Proposed commercial area with the construction of 2 warehouses, a storage and parking area, full spectrum detention ponds, and private roadways on approximately 31.5 acres.
Description of Project	4-Way Commercial (16 acres) will be developed as commercial area and the remaining area will be undeveloped.
Tax Schedule Number	(4200000399)

FOR OFFICE USE ONLY
The following signature from the ECM Administrator signifies the approval of this ESQCP. All work shall be performed in accordance with the permit, the El Paso County Engineering Criteria Manual (ECM) Standards, City of Colorado Springs Drainage Criteria Manual, Volume 2 (DCM2) as adopted by El Paso County Addendum, approved plans, and any attached conditions. The approved plans are an enforceable part of the ESQCP. Construction activity, except for the installation of initial construction BMPs, is not permitted until issuance of a Construction Permit and Notice to Proceed.

Signature of ECM Administrator: _____ Date _____

1.1 REQUIRED SUBMISSIONS

In addition to this completed and signed application, the following items must be submitted to obtain an ESQCP:

- Permit fees;
- Stormwater Management Plan (SWMP) meeting the requirements of DCM2 and ECM either as part of the plan set or as a separate document;
- Operation and Maintenance Plan for any proposed permanent stormwater control measures; and
- Signed Private Detention Basin/Stormwater Quality Best Management Practice Maintenance Agreement and Easement, if any permanent stormwater control measures are to be constructed.

1.2 RESPONSIBILITY FOR DAMAGE

The County and its officers and employees, including but not limited to the ECM Administrator, shall not be answerable or accountable in any manner for damage to property or for injury to or death of any person, including but not limited to a permit holder, persons employed by the permit holder, or persons acting in behalf of the permit holder, from any cause. The permit holder shall be responsible for any liability imposed by law and for damage to property or injuries to or death of any person, including but not limited to the permit holder, persons employed by the permit holder, persons acting in behalf of the permit holder, arising out of work or other activity permitted and done under a permit, or arising out of the failure to perform the obligations under any permit with respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work or other activity, or at any subsequent time work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permit holder shall indemnify, save, and hold harmless the County and its officers and employees, including but not limited to the BOCC and ECM Administrator, from all claims, suits or actions of every name, kind and description brought for or on account of damage to property or injuries to or death of any person, including but not limited to the permit holder, persons employed by the permit holder, persons acting in behalf of the permit holder and the public, resulting from the performance of work or other activity under the permit, or arising out of the failure to perform obligations under any permit with respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work or other activity, or at any subsequent time work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by state law. The permit holder waives any and all rights to any type of expressed or implied indemnity against the County, its officers or employees. It is the intent of the parties that the permit holder will indemnify, save, and hold harmless the County, its officers and employees from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault of or negligence, whether active or passive, primary or secondary, on the part of the County, the permit holder, persons employed by the permit holder, or persons acting in behalf of the permit holder

1.3 APPLICATION CERTIFICATION

We, as the Applicants or the representative of the Applicants, hereby certify that this application is correct and complete as per the requirements presented in this application, the El Paso County Engineering Criteria Manual, and Drainage Criteria Manual, Volume 2 and El Paso County Addendum.

We, as the Applicants or the representatives of the Applicants, have read and will comply with all of the requirements of the specified Stormwater Management Plan and any other documents specifying stormwater best management practices to be used on the site, including permit conditions that may be required by the ECM Administrator. We understand that the stormwater control measures are to be maintained on the site and revised as necessary to protect stormwater quality as the project progresses. We further understand that a Construction Permit must be obtained and all necessary stormwater quality control measures are to be installed in accordance with the SWMP, the El Paso County Engineering Criteria Manual, Drainage Criteria Manual, Volume 2 and El Paso County Addendum before land disturbance begins and that failure to comply will result in a Stop Work Order and may result in other penalties as allowed by law. We further understand and agree to indemnify, save, and hold harmless the County and its officers and employees, including but not limited to the BOCC and ECM Administrator, from all claims, suits or actions of every name, kind and description as outlined in Section 1.2 Responsibility for Damage

_____ Date: _____

Signature of Owner or Representative

_____

Print Name of Owner or Representative

_____ Date: _____

Signature of Operator or Representative

_____

Print Name of Operator or Representative

Permit Fee $_____

Surcharge $_____

Financial Surety $_____ Type of Surety _____

Total $_____

APPENDIX E – Financial Assurance Estimate (FAE)

2023 Financial Assurance Estimate Form
(with pre-plat construction)

Updated: 12/8/2022

PROJECT INFORMATION		
4 Way Commercial	10/13/2023	
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction) % Complete	Remaining	
SECTION 1 - GRADING AND EROSION CONTROL (Construction and Permanent BMPs)								
Earthwork								*
less than 1,000; $5,300 min		CY	$ 8.00	=	$ -		$ -	*
1,000-5,000; $8,000 min		CY	$ 6.00	=	$ -		$ -	*
5,001-20,000; $30,000 min		CY	$ 5.00	=	$ -		$ -	*
20,001-50,000; $100,000 min		CY	$ 3.50	=	$ -		$ -	*
50,001-200,000; $175,000 min	158,576	CY	$ 2.50	=	$ 396,440.00		$ 396,440.00	*
greater than 200,000; $500,000 min		CY	$ 2.00	=	$ -		$ -	*
Permanent Erosion Control Blanket		SY	$ 8.00	=	$ -		$ -	*
Permanent Seeding (inc. noxious weed mgmnt.) & Mulching	19.0	AC	$ 1,875.00	=	$ 35,625.00		$ 35,625.00	*
Permanent Pond/BMP (provide engineer's estimate)	1	EA	$ 50,000.00	=	$ 50,000.00		$ 50,000.00	*
Concrete Washout Basin	1	EA	$ 1,089.00	=	$ 1,089.00		$ 1,089.00	
Inlet Protection	13	EA	$ 202.00	=	$ 2,626.00		$ 2,626.00	
Rock Check Dam		EA	$ 605.00	=	$ -		$ -	
Safety Fence		LF	$ 3.00	=	$ -		$ -	
Sediment Basin	2	EA	$ 2,132.00	=	$ 4,264.00		$ 4,264.00	
Sediment Trap		EA	$ 500.00	=	$ -		$ -	
Silt Fence	4,524	LF	$ 3.00	=	$ 13,572.00		$ 13,572.00	
Slope Drain		LF	$ 40.00		$ -		$ -	
Straw Bale		EA	$ 31.00	=	$ -		$ -	
Straw Wattle/Rock Sock		LF	$ 7.00	=	$ -		$ -	
Surface Roughening		AC	$ 250.00		$ -		$ -	
Temporary Erosion Control Blanket		SY	$ 3.00	=	$ -		$ -	
Temporary Seeding and Mulching		AC	$ 1,666.00	=	$ -		$ -	
Vehicle Tracking Control	2	EA	$ 2,867.00	=	$ 5,734.00		$ 5,734.00	
				=	$ -		$ -	
[insert items not listed but part of construction plans]				=	$ -		$ -	
MAINTENANCE (35% of Construction BMPs)				=	$ 9,168.60		$ 9,168.60	
* - Subject to defect warranty financial assurance. A minimum of 20% shall be retained until final acceptance (MAXIMUM OF 80% COMPLETE ALLOWED)		**Section 1 Subtotal**		**=**	**$ 518,518.60**		**$ 518,518.60**	
SECTION 2 - PUBLIC IMPROVEMENTS *								
ROADWAY IMPROVEMENTS								*
Construction Traffic Control		LS		=	$ -		$ -	*
Aggregate Base Course (135 lbs/cf)		Tons	$ 34.00	=	$ -		$ -	*
Aggregate Base Course (135 lbs/cf)		CY	$ 61.00		$ -		$ -	*
Asphalt Pavement (3" thick)		SY	$ 17.00		$ -		$ -	*
Asphalt Pavement (4" thick)		SY	$ 23.00		$ -		$ -	*
Asphalt Pavement (6" thick)		SY	$ 35.00		$ -		$ -	*
Asphalt Pavement (147 lbs/cf) __" thick		Tons	$ 106.00	=	$ -		$ -	*
Raised Median, Paved		SF	$ 10.00	=	$ -		$ -	*
Regulatory Sign/Advisory Sign		EA	$ 364.00	=	$ -		$ -	*
Guide/Street Name Sign		EA		=	$ -		$ -	*
Epoxy Pavement Marking		SF	$ 16.00	=	$ -		$ -	*
Thermoplastic Pavement Marking		SF	$ 28.00	=	$ -		$ -	*
Barricade - Type 3		EA	$ 241.00	=	$ -		$ -	*
Delineator - Type I		EA	$ 29.00	=	$ -		$ -	*
Curb and Gutter, Type A (6" Vertical)		LF	$ 35.00	=	$ -		$ -	*
Curb and Gutter, Type B (Median)		LF	$ 35.00	=	$ -		$ -	*
Curb and Gutter, Type C (Ramp)		LF	$ 35.00	=	$ -		$ -	*
4" Sidewalk (common areas only)		SY	$ 58.00	=	$ -		$ -	*
5" Sidewalk		SY	$ 72.00	=	$ -		$ -	*
6" Sidewalk		SY	$ 87.00	=	$ -		$ -	*
8" Sidewalk		SY	$ 116.00		$ -		$ -	*
Pedestrian Ramp		EA	$ 1,390.00	=	$ -		$ -	*
Cross Pan, local (8" thick, 6' wide to include return)		LF	$ 73.00	=	$ -		$ -	*
Cross Pan, collector (9" thick, 8' wide to include return)		LF	$ 111.00		$ -		$ -	*
Curb Opening with Drainage Chase		EA	$ 1,790.00	=	$ -		$ -	*
Guardrail Type 3 (W-Beam)		LF	$ 60.00	=	$ -		$ -	*
Guardrail Type 7 (Concrete)		LF	$ 87.00	=	$ -		$ -	*
Guardrail End Anchorage		EA	$ 2,538.00	=	$ -		$ -	*
Guardrail Impact Attenuator		EA	$ 4,556.00	=	$ -		$ -	*
Sound Barrier Fence (CMU block, 6' high)		LF	$ 95.00		$ -		$ -	*
Sound Barrier Fence (panels, 6' high)		LF	$ 97.00	=	$ -		$ -	*
Electrical Conduit, Size =		LF	$ 20.00	=	$ -		$ -	*
Traffic Signal, (provide engineer's estimate)		EA		=	$ -		$ -	*

PROJECT INFORMATION		
4 Way Commercial	10/13/2023	
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction) % Complete	Remaining	
				=	$ -		$ -	
[insert items not listed but part of construction plans]				=	$ -		$ -	*
STORM DRAIN IMPROVEMENTS								*
Concrete Box Culvert (M Standard), Size (W x H)		LF		=	$ -		$ -	*
18" Reinforced Concrete Pipe		LF	$ 76.00	=	$ -		$ -	*
24" Reinforced Concrete Pipe		LF	$ 91.00	=	$ -		$ -	*
30" Reinforced Concrete Pipe		LF	$ 114.00	=	$ -		$ -	*
36" Reinforced Concrete Pipe		LF	$ 140.00	=	$ -		$ -	*
42" Reinforced Concrete Pipe		LF	$ 187.00	=	$ -		$ -	*
48" Reinforced Concrete Pipe		LF	$ 228.00	=	$ -		$ -	*
54" Reinforced Concrete Pipe		LF	$ 297.00	=	$ -		$ -	*
60" Reinforced Concrete Pipe		LF	$ 348.00	=	$ -		$ -	*
66" Reinforced Concrete Pipe		LF	$ 402.00	=	$ -		$ -	*
72" Reinforced Concrete Pipe		LF	$ 460.00	=	$ -		$ -	*
18" Corrugated Steel Pipe		LF	$ 98.00	=	$ -		$ -	*
24" Corrugated Steel Pipe		LF	$ 112.00	=	$ -		$ -	*
30" Corrugated Steel Pipe		LF	$ 143.00	=	$ -		$ -	*
36" Corrugated Steel Pipe		LF	$ 171.00	=	$ -		$ -	*
42" Corrugated Steel Pipe		LF	$ 197.00	=	$ -		$ -	*
48" Corrugated Steel Pipe		LF	$ 207.00	=	$ -		$ -	*
54" Corrugated Steel Pipe		LF	$ 304.00	=	$ -		$ -	*
60" Corrugated Steel Pipe		LF	$ 328.00	=	$ -		$ -	*
66" Corrugated Steel Pipe		LF	$ 397.00	=	$ -		$ -	*
72" Corrugated Steel Pipe		LF	$ 467.00	=	$ -		$ -	*
78" Corrugated Steel Pipe		LF	$ 537.00	=	$ -		$ -	*
84" Corrugated Steel Pipe		LF	$ 642.00	=	$ -		$ -	*
Flared End Section (FES) RCP Size = (unit cost = 6x pipe unit cost)		EA		=	$ -		$ -	*
Flared End Section (FES) CSP Size = (unit cost = 6x pipe unit cost)		EA		=	$ -		$ -	*
End Treatment- Headwall		EA		=	$ -		$ -	*
End Treatment- Wingwall		EA		=	$ -		$ -	*
End Treatment - Cutoff Wall		EA		=	$ -		$ -	*
Curb Inlet (Type R) L=5', Depth < 5'		EA	$ 6,703.00	=	$ -		$ -	*
Curb Inlet (Type R) L=5', 5' ≤ Depth < 10'		EA	$ 8,715.00	=	$ -		$ -	*
Curb Inlet (Type R) L =5', 10' ≤ Depth < 15'		EA	$ 10,092.00	=	$ -		$ -	*
Curb Inlet (Type R) L =10', Depth < 5'		EA	$ 9,224.00	=	$ -		$ -	*
Curb Inlet (Type R) L =10', 5' ≤ Depth < 10'		EA	$ 9,507.00	=	$ -		$ -	*
Curb Inlet (Type R) L =10', 10' ≤ Depth < 15'		EA	$ 11,901.00	=	$ -		$ -	*
Curb Inlet (Type R) L =15', Depth < 5'		EA	$ 11,995.00	=	$ -		$ -	*
Curb Inlet (Type R) L =15', 5' ≤ Depth < 10'		EA	$ 12,858.00	=	$ -		$ -	*
Curb Inlet (Type R) L =15', 10' ≤ Depth < 15'		EA	$ 14,061.00	=	$ -		$ -	*
Curb Inlet (Type R) L =20', Depth < 5'		EA	$ 12,783.00	=	$ -		$ -	*
Curb Inlet (Type R) L =20', 5' ≤ Depth < 10'		EA	$ 14,109.00	=	$ -		$ -	*
Grated Inlet (Type C), Depth < 5'		EA	$ 5,611.00	=	$ -		$ -	*
Grated Inlet (Type D), Depth < 5'		EA	$ 6,931.00	=	$ -		$ -	*
Storm Sewer Manhole, Box Base		EA	$ 14,061.00	=	$ -		$ -	*
Storm Sewer Manhole, Slab Base		EA	$ 7,734.00	=	$ -		$ -	*
Geotextile (Erosion Control)		SY	$ 8.00	=	$ -		$ -	*
Rip Rap, d50 size from 6" to 24"		Tons	$ 97.00	=	$ -		$ -	*
Rip Rap, Grouted		Tons	$ 115.00	=	$ -		$ -	*
Drainage Channel Construction, Size (W x H)		LF	$ -	=	$ -		$ -	*
Drainage Channel Lining, Concrete		CY	$ 689.00	=	$ -		$ -	*
Drainage Channel Lining, Rip Rap		CY	$ 135.00	=	$ -		$ -	*
Drainage Channel Lining, Grass		AC	$ 1,776.00	=	$ -		$ -	
Drainage Channel Lining, Other Stabilization				=	$ -		$ -	*
				=	$ -		$ -	
[insert items not listed but part of construction plans]				=	$ -		$ -	
* - Subject to defect warranty financial assurance. A minimum of 20% shall be retained until final acceptance (MAXIMUM OF 80% COMPLETE ALLOWED)		**Section 2 Subtotal**		**=**	**$ -**		**$ -**	

PROJECT INFORMATION		
4 Way Commercial	10/13/2023	
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction) % Complete	(with Pre-Plat Construction) Remaining
SECTION 3 - COMMON DEVELOPMENT IMPROVEMENTS (Private or District and NOT Maintained by EPC)**							
ROADWAY IMPROVEMENTS							
Aggregate Base Course (135 lbs/cf)	15,624.0	CY	$ 61.00	=	$ 953,064.00		$ 953,064.00
Asphalt Pavement (4" thick)	2,604.0	SY	$ 23.00	=	$ 59,892.00		$ 59,892.00
Regulatory Sign/Advisory Sign	6.0	EA	$ 364.00	=	$ 2,184.00		$ 2,184.00
Guide/Street Name Sign	2.0	EA	$ 200.00	=	$ 400.00		$ 400.00
Curb and Gutter, Type A (6" Vertical)	3,632.5	LF	$ 35.00	=	$ 127,138.20		$ 127,138.20
5" Sidewalk	247.5	SY	$ 72.00	=	$ 17,820.00		$ 17,820.00
Pedestrian Ramp	5.0	EA	$ 1,390.00	=	$ 6,950.00		$ 6,950.00
Cross Pan, local (8" thick, 6' wide to include return)	352.5	LF	$ 73.00	=	$ 25,733.23		$ 25,733.23
STORM DRAIN IMPROVEMENTS (Exception: Permanent Pond/BMP shall be itemized under Section 1)							
18" Reinforced Concrete Pipe	89	LF	$ 76.00		$ 6,764.00		$ 6,764.00
15" High Density Polyethylene Pipe	60	LF	$ 40.00	=	$ 2,400.00		$ 2,400.00
18" High Density Polyethylene Pipe	361	LF	$ 55.00	=	$ 19,855.00		$ 19,855.00
24" High Density Polyethylene Pipe	931	LF	$ 80.00	=	$ 74,480.00		$ 74,480.00
30" High Density Polyethylene Pipe	226	LF	$ 105.00	=	$ 23,730.00		$ 23,730.00
36" High Density Polyethylene Pipe	218	LF	$ 120.00	=	$ 26,160.00		$ 26,160.00
Curb Inlet (Type R) L=5', Depth < 5'	6	EA	$ 120.00		$ 720.00		$ 720.00
Grated Inlet (Type C), Depth < 5'	2	EA	$ 120.00		$ 240.00		$ 240.00
Flared End Section (FES) HDPE Size = 18" (unit cost = 6x pipe unit cost)	1	EA	$ 228.00		$ 228.00		$ 228.00
Flared End Section (FES) HDPE Size = 24" (unit cost = 6x pipe unit cost)	1	EA	$ 240.00		$ 240.00		$ 240.00
Flared End Section (FES) HDPE Size = 36" (unit cost = 6x pipe unit cost)	1	EA	$ 360.00	=	$ 360.00		$ 360.00
Storm Sewer Manhole, Slab Base	6	EA	$ 7,734.00		$ 46,404.00		$ 46,404.00
WATER SYSTEM IMPROVEMENTS							
Water Main Pipe (PVC), Size 8"		LF	$ 78.00	=	$ -		$ -
Water Main Pipe (Ductile Iron), Size 8"		LF	$ 91.00	=	$ -		$ -
Gate Valves, 8"		EA	$ 2,247.00	=	$ -		$ -
Fire Hydrant Assembly, w/ all valves		EA	$ 7,978.00	=	$ -		$ -
Water Service Line Installation, inc. tap and valves		EA	$ 1,601.00	=	$ -		$ -
Fire Cistern Installation, complete		EA		=	$ -		$ -
				=	$ -		$ -
[insert items not listed but part of construction plans]				=	$ -		$ -
SANITARY SEWER IMPROVEMENTS							
Sewer Main Pipe (PVC), Size 8"		LF	$ 78.00	=	$ -		$ -
Sanitary Sewer Manhole, Depth < 15 feet		EA	$ 5,305.00	=	$ -		$ -
Sanitary Service Line Installation, complete		EA	$ 1,696.00	=	$ -		$ -
Sanitary Sewer Lift Station, complete		EA		=	$ -		$ -
				=	$ -		$ -
[insert items not listed but part of construction plans]				=	$ -		$ -
LANDSCAPING IMPROVEMENTS (For subdivision specific condition of approval, or PUD)							
		EA		=	$ -		$ -
		EA		=	$ -		$ -
		EA		=	$ -		$ -
		EA		=	$ -		$ -
		EA		=	$ -		$ -
** - Section 3 is not subject to defect warranty requirements		**Section 3 Subtotal**		**=**	**$ 381,806.43**		**$ 381,806.43**

PROJECT INFORMATION		
4 Way Commercial	10/13/2023	
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction) % Complete	Remaining
AS-BUILT PLANS (Public Improvements inc. Permanent WQCV BMPs)		LS		=	$ -		$ -
POND/BMP CERTIFICATION (inc. elevations and volume calculations)		LS		=	$ -		$ -

Total Construction Financial Assurance **$ 900,325.03**

(Sum of all section subtotals plus as-builts and pond/BMP certification)

Total Remaining Construction Financial Assurance (with Pre-Plat Construction) **$ 900,325.03**

(Sum of all section totals less credit for items complete plus as-builts and pond/BMP certification)

Total Defect Warranty Financial Assurance **$ 96,413.00**

(20% of all items identified as (*). To be collateralized at time of preliminary acceptance)

Approvals

I hereby certify that this is an accurate and complete estimate of costs for the work as shown on the Grading and Erosion Control Plan and Construction Drawings associated with the Project.

Engineer (P.E. Seal Required)

Approved by Owner / Applicant — Date

Approved by El Paso County Engineer / ECM Administrator — Date