County SWMP. The ESQCP is the permit, this document is the SWMP. Remove all mentions of the City throughout (I highlighted all I found)

Erosion and Stormwater Quality Control Plan/ ESQCP

Project: CSU Marksheffel Connector

Owner:
Mark Munoz, Project Manager
Colorado Springs Utilities
121 S. Tejon Avenue
Colorado Springs, CO 80903
(719)668-8679

Operator:
Randy Hiett, General Manager
Miller Pipeline, LLC
421 E. Industrial Blvd. Pueblo West, CO 81007
(719)248-0319

GEC/ESQCP Administrator:
Emily Chamberlain, President
Era Environmental, Inc.
PO Box 8492
Pueblo, CO 81008
(719)924-0519

Add contractor information as well to satisfy the SWMP Checklist Item 1. If TBD can leave a few lines blank as a placeholder.

ESQCP Development: 03/26/2024
Project Construction Commencement: 06/01/2024
Estimated Project Completion: 05/31/2025
Final Stabilization: 08/30/2025

Table of Contents:

APPENDIX

I. Site and Project Description:

1.1 *Project Description and Site History.* The CSU Marksheffel Connector project will be a linear underground utility installation of new gas line along Marksheffel Road from Barnes Road then along Tamlin Road cutting across to tie into Dublin Boulevard in Colorado Springs, CO 80927. The site has been previously developed and the presence of existing utilities are evident on the project plans. The project is a paved right of way for the City of Colorado Springs within residential area and roadside ditch and open field within El Paso County rural areas.

1.2 *Construction Activity.* Construction activity includes installation of new steel gas main pipe including connections and all associated appurtenances. This construction project will specifically excavation, installation of the new utilities, and repaving and reseeding as final stabilization. The construction activity is further illustrated in the engineered project specifications and drawings (plans) found in Appendix C.

El Paso County

1.3 *Progression of Significant Activities.* Once control measures (CMs) are in place and have been approved by inspection from the City of Colorado Springs construction will commence utilizing phasing to minimize stormwater and erosion impact. The size of the project will be broken down into 3 main construction phases. Once all necessary permits have been obtained, proper CMs have been put into place, and approved by the City Inspector the construction activities will begin work at the staging area on southwest Barnes and Marksheffel following this phasing plan. The project will be broken down into three construction phases. Each of the three phases will be completed as work progresses. The scope of work is broken down into these three phases for each construction phase: During the initial phase, the rock socks, inlet protection, sediment control log, and staging areas will be placed and established; the interim phase will progress with excavation and installation of the new utilities, followed by backfill and roadway subsurface; the final phase is completed by paving of the area and reseeding with removal of the temporary control measures in the paved areas. The temporary control measures will remain in the reseeded areas until final stabilization is achieved. Please see attached Construction Schedule/Phasing (Appendix B) for further description of the sequence of events.

1.4 *Area of Site and Area to be Impacted.* The estimated total area of the site is approximately 40 acres. The export/import of material will be greater than 500 cubic yards. The estimated area to be disturbed will be approximately 20 acres to include stockpiles, access, staging areas, and construction site disturbance.

1.5 *Existing Site Conditions.* The site is an asphalt right-of-way for the City of Colorado Springs consisting of mainly residential areas and a rural roadside and open field area in El Paso County. The street is bounded in areas by landscaping, and concrete curb and gutter. The site

contours preconstruction will match contours after construction is complete. There will be no grading for this linear underground utility installation project within the existing roadway, roadside, and open field.

1.6 *Soils and Site Reports.* A web soil survey was conducted using USDA Natural Resources Conservation Service. The soils within the project site consists of three types: Truckton sandy loam, 3 to 9 percent slopes, Hydrologic Soil Group A; Blakeland loamy sand, 1 to 9 percent slopes, Hydrologic Soils Group A; and Blendon sandy loam, 0 to 3 percent slopes, Hydrologic Soil Group B. Group A soils have low runoff potential and high infiltration rates even when thoroughly wet. They are typically sand, loamy sand, or sandy loam types of soils. They consist mostly of deep, well to excessively drained sands or gravels with a high rate of water transmission. Group B soils have moderately low runoff potential and a moderate infiltration rate when thoroughly wet. They typically consist of silt loam or loam soils of moderately fine to moderately coarse textures. Group C soils have low infiltration rates and a layer that hinders downward infiltration of water when thoroughly wet. The soils contain moderately fine to fine structure. Group D soils have the highest runoff potential. They have very low infiltration rates, a high swelling potential, and contain a layer at or near the surface that is nearly impervious and prevents infiltration when thoroughly wetted. The soils in this group are mainly clay loam, silty clay loam, sandy clay, silty clay, or clay. This soil data was collected using Web Soil Survey; Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. A FEMA Floodplain map was created for the project site and none of the project is located within a 100-year flood zone. There will be no grading or change to existing grade and contour since the watermain replacement will be occurring within existing asphalt roadway. These reports are in Appendix C. The project site is not located within or near Preble Jumping Mouse habitat, City of Colorado Springs Streamside, or Hillside Zones. There were no soils boring tests or geotechnical reports created or this project.

1.7 *Current Vegetative Conditions.* There is no vegetation within the construction limits for the roadway work. There will be minimal disturbance to the vegetation along the roadside ditches and there will be vegetative disturbance for the pipe installation through the open field area. There is grass and trees along the sidewalks, median or roadside ditch, and the open field has native grasses. These areas are mainly outside the project boundary and will not be disturbed with exception of the roadside ditch and open field areas. The disturbed areas will be returned to pre-existing conditions. The project disturbance within existing asphalt and concrete structures of the street and will be replaced with concrete and asphalt and the disturbance of the roadside ditch and open field will be seeded and blanketed or straw mulched when all ground surface disturbing activities have been completed and according to the plans for project final stabilization. The existing pre-disturbance vegetative density for the roadway is 0%. The existing pre-disturbance vegetative density for the roadside ditch is 50% and the open field is 70%. This was determined using visual linear transect estimation.

1.8 *Identified Potential Pollutant Sources.* Construction activities produce many different pollutants which may cause stormwater contamination. Grading and excavation activities remove ground cover, rocks, vegetation, and other erosion control surfaces, resulting in the exposure of underlying soil (a pollutant) to the elements. These construction activities leave the soil surface unprotected, and soil or sand particles are more easily picked up by wind and washed away by rain or other water sources. Additional materials and activities at the project site that may have an impact on stormwater include the following: excavation, exposed soil, sediment, trash & debris, sanitary waste, hauling of materials, heavy equipment, concrete waste, and asphalt paving. The on-site construction equipment, their vehicular traffic, fueling, and maintenance operations also present the potential for spills and leaks. These potential pollutants include hydraulic oil, engine grease, diesel fuel, gasoline, and anti-freeze (ethylene glycol). Any use of portable toilet facilities will also be a potential source of pollution.

1.9 *Non-stormwater Discharge.* There is potential for landscaping irrigation due to the proximity of the median and landscape areas. There are no additional non-stormwater discharge sources that have been observed or are anticipated at this project site. Should groundwater or other discharge be encountered the proper permits will be obtained, stormwater management measures will be taken, and the ESQCP will be revised and updated. Please refer to sections I.1.8 and V for further description of groundwater discharge. There will be no concrete wastewater onsite. The Contractor will utilize concrete trucks and equipment with their own contained wash systems.

Won't some of the activity occur outside of street limits? Or is this not the case?

1.10 *Receiving Waters.* Stormwater runoff from the site will enter the existing City of Colorado Springs storm sewer system because the construction activity will be occurring within the streets. There are inlets within the project limits or near vicinity, as well as curb and gutter. Due to the work within the roadside ditch this will be the immediate receiving water. These will discharge to Sand Creek as the ultimate receiving water. There is no TMDL or WLA required for these waterways that will be involved with our construction activity. The contractor is still aware of the need to prevent impact to the water quality due to their construction activity.

1.11 *Site Map.* A site map is included in the form of project engineered plans and maps and identifies the following: construction site boundaries; all areas of ground surface disturbance; areas of cut and fill; areas used for storage of building materials, equipment, soil, or waste; locations of dedicated asphalt or concrete batch plants; locations of all structural CMs; locations of any temporary stream crossings; locations of non-structural CMs as applicable; flow arrows, and locations of springs, streams, wetlands, and other surface waters. Please see Appendix A.

SWMP Checklist Item 16 - Provide description of all stream crossings or state that none exist within the project boundary.

II. Stormwater Management Controls

2.1 *ESQCP/GEC Administrator/Qualified Stormwater Manager.* Emily Chamberlain, President and Chief Environmental Consultant for Era Environmental. This individual is responsible for developing, implementing, maintaining, and revising the ESQCP. The ESQCP Administrator or a certified Inspector of Erosion Control will conduct site inspections. Please see Appendix F for relevant certifications. The Operator or Operator's representative will also be responsible for site inspections, control measures maintenance, and necessary revisions.

2.2 *Identification of Potential Pollutant Sources.* The following potential pollutant sources, including materials and activities, have been evaluated for the potential to contribute pollutants to stormwater discharges at this project site and will be addressed with best management practices in the next section.

2.2.1 All disturbed and stored soils- During roadway and soils removal, utility installation, and bridge replacement there will be disturbed soils on the project site. These exposed soils will be located below grade and surrounded by asphalt or concrete. It is not anticipated that the exposed soil will become a pollutant introduced as sediment into runoff. Stored soils and their potential to become a pollutant are possible.

2.2.2 Vehicle tracking of sediment- Heavy equipment (i.e., excavators, haul trucks, loaders) will be used for this project and vehicle tracking is to be expected for this project site.

2.2.3 Management of contaminated soils- There is no anticipation of contaminated soil within this project area. If contaminated soils are encountered the ESQCP will be amended to reflect how this would be addressed.

2.2.4 Loading and unloading operations- Construction materials will need to be loaded and unloaded at the site.

2.2.5 Outdoor storage activities (building materials, fertilizers, chemicals, etc.)- Construction building materials (pipe, fittings, etc.) will be stored outdoors at the project site.

2.2.6 Vehicle and equipment maintenance and fueling- All vehicle and equipment maintenance will take place off-site. Fueling will be done minimally onsite.

2.2.7 Significant dust or particulate generating processes- Dust from exposed soils is to be expected during construction activities.

2.2.8 Routine maintenance activities involving pesticides, detergents, fuels, solvents, oils, etc. - There are no routine maintenance activities involving pesticides, detergents, fuels, solvents, oils, etc. Should this be required, it will take place off site.

2.2.9 On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.)- There is no on-site waste besides those addressed in items 2.2.10 and 2.2.12.

2.2.10 Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment- Concrete truck/equipment washing is anticipated to be present for this project.

2.2.11 Dedicated asphalt and concrete batch plants- There will be no dedicated asphalt or concrete batch plants for this project.

2.2.12 Non-industrial waste sources such as worker trash and portable toilets- Worker trash and portable toilets will be a potential pollutant source for this project site.

2.2.13 Other areas or procedures where potential spills can occur- Diversion of the creek and dewatering operations may create additional potential for spill.

III. Control Measures (CMs) for Stormwater Pollution Prevention

3.1 *CMs Overview.* The following narratives will address the identified potential sources of pollution at the project site and the best management practices that will be used to prevent migration of pollution offsite. All CMs detailed plans are in Appendix G. Specific locations of CMs are detailed on the site map (Appendix A) and will be updated and revised as needed or as the project progresses.

3.1.1 *CMs for Disturbed Soil/Sediment.* Ground disturbing activities associated with underground utility installation at the project site have the potential to introduce sediment into the curb/flow line, and inlets for existing stormwater management belonging to the municipal stormwater system and directly for the roadside ditch. Excavation of soils will occur below grade reducing the risk of soil erosion, detachment, and sedimentation. Phasing for the project will minimize the amount of exposed soil at a given time. Disturbed areas will be kept to a minimum. Sediment control logs, silt fence, and seeding with erosion control blankets will be used to address control measures for the disturbance. Additionally, curb socks and inlet protection will be utilized as a CM treatment train to prevent sediment from the project site to impact the storm sewer system. When possible, vegetative areas will be undisturbed, creating infiltration and buffer. Rock socks will be placed in the curb and gutter and inlet protection will be installed at every inlet within the immediate vicinity and within the vicinity in downgradient conditions.

3.1.2 *CMs for Stored Materials.* Stockpiles of excavated materials are not anticipated due to daily soil replacement returned to excavated areas or being hauled off site. Should it be necessary, stockpiles of sedimentary materials will be located clear of any water flow paths, within the project boundary, and kept to a minimum in size by project

phasing. Erosion control devices will be installed as needed around the base of stockpiles to prevent the migration of soil. However, stockpiling of dirt will not be allowed on site. The topsoil in the open field area will be bladed and compacted as an earthen berm for perimeter controls and then placed back and conditioned for revegetation. Soil stockpiles and disturbed portions of the site where construction temporarily ceases for at least 14 days will be temporarily stabilized.

3.1.3 *CMs for Vehicle Tracking and Loading/Unloading.* Inspection, sweeping, and any necessary cleaning of tracking will be performed daily while construction work continues. There will be a staging area located within the construction area and tracking controls will be placed for transitioning from the disturbed areas back to asphalt. The work area will move along the linear project daily, working at approximately 200-400 feet of disturbance at a time per work crew thus eliminating the need for a vehicle tracking pad in these areas. Structural control measures will be installed for all vehicle tracking controls.

3.1.4 *CMs for Dust.* Wind erosion and dust control will be necessary to prevent sediment pollution. Daily inspections will occur for areas experiencing excessive winds, vehicle traffic, or precipitation events while the potential exists for fugitive dust. Water trucks will spray dusty areas on the project site as needed, taking care not to impact adjacent properties or overwater causing muddying of the surface and sediment transportation.

3.1.5 *CMs for Construction Materials Storage.* Outdoor storage of construction materials will be located clear of any water flow paths, within the project boundary, and within the work area. This area will move with the small area of disturbance daily and be cleaned of all debris and sediment daily. Fuel, grease, oil, paint, or any material classified as hazardous will be stored with secondary containment in the form of a utility trailer, approved containment system, or truck bed. A fuel truck or truck with fuel tank will be brought in daily for all equipment, to keep fuel storage onsite as minimal as possible. Subcontractors are responsible for hazardous waste removal back to their own facilities for ultimate transportation, storage, and disposal. All hazardous waste materials will be disposed of in accordance with federal, state, and municipal regulations. All site waste will be properly maintained to prevent potential pollution of State waters. There will be no on-site waste disposal.

3.1.6 *CMs for Concrete Waste.* Should ready-mix concrete be installed onsite, all equipment and vehicles that are involved in making and transporting concrete mixes will be equipped with an integral washout system used onboard the trucks. Concrete waste will not be dumped onsite. No concrete waste dumping or washing will be permitted near or in the storm drainage line.

3.1.7 *CMs for Non-industrial Waste.* Good housekeeping practices will be implemented to maintain a project site free of trash and debris. Trash receptacles will be inspected regularly to ensure they are disposed of properly when full and that debris

stays contained within the receptacle. Worker sanitary services (portable toilets) will be contained within the construction material storage or staging area, out of the curb flow line, and anchored to prevent tipping. Portable toilets located within Colorado Springs ROW will be anchored on a trailer as required. The area will be inspected regularly to ensure any waste stays contained. All site waste will be properly managed to prevent potential pollution of State waters. There will be no on-site waste disposal.

3.1.8 *CMs for Equipment Staging and Maintenance.* Store and maintain equipment in the designated work area, to be moved daily along this linear underground utility replacement project. When possible, substitute non-hazardous or less hazardous materials. Use secondary containment, like a drain pan, to catch spills when working with fluids like oil, grease, and fuel. Use proper equipment like pumps and funnels when transferring these fluids. Transfer waste fluids, oil filters, etc. to designated waste drum immediately after maintenance or repairs. Inspect equipment routinely for leaks and spills. Repair or remedy these immediately.

3.2 *Phasing of CMs.* Installations of structural and non-structural CMs will be used for erosion control and stormwater management prior to commencement and during construction activities. The Operator/Permittee is committed to installing the CMs as listed, maintaining them as needed, and revising or adding to this plan as construction phasing or plans evolve. See Appendix G for CM installation detail, if necessary.

3.2.1 *CMs Prior to Construction Commencement.* Sediment control CMs (rock/curb socks/inlet protection) will be installed prior to any ground disturbing activities, remain in place, and maintained during excavation, utility installation, backfill, and paving and removed once the construction phase is completed in that area and the potential pollutant has been eliminated. These CMs will need regular maintenance in the form of sediment and debris removal when build-up is visible. Multiple curb socks will be placed along the roadways within the construction area and inlet protection will be installed at every inlet within the construction area and downgrade vicinity. Please see installation location details on the erosion control map in Appendix A.

3.2.2 *CMs During Construction.* To continue with control of potential pollution-laden stormwater run-off, ongoing CMs will be applied and maintained during the construction phases of the project. Rock socks in the curb flow line, additional inlet protection as work progresses, dust control with water, waste management, vehicle tracking control, sweeping, spill measures, good housekeeping, and soil stabilization will be addressed or applied during active construction. CMs maintenance will be needed as previously stated. Restoration activities will be completed throughout the project. Rock socks and inlet protection will remain in place for all construction phases until the construction activities have reached the point of pavement patch finish. Rock socks and inlet protection will be installed prior to work beginning on each portion, and then

SWMP Checklist Item 26 - Provide a statement that the project does not rely on control measures owned or operated by another entity.

remain in place until construction activities have reached the point of pavement patch finish. Once that occurs the CMs will be removed.

3.2.3 *CMs for Final Stabilization, Re-Vegetation, and Long-Term Stormwater Management.* Final Stabilization measures, upon completion of construction activities, where potential pollutants are no longer a risk, and once surfaces have been replaced to asphalt or concrete, will be initiated. Temporary CMs that are regarded as unnecessary and no longer functional will be removed (rock socks and inlet protection), the site will be stabilized by permanent surfaces (concrete and asphalt), and good-housekeeping measures will be used to ensure a clean and complete project site. There will be no revegetation required for this linear underground utility installation within the roadway. There will be revegetation in the form of drill seeding, straw mulching, and erosion control blanket for the roadside ditch and open field areas. Temporary control measures will remain in these areas until final stabilization is achieved by meeting 70% vegetative density to pre-disturbance levels over the entire site not to include noxious weeds. There are no new long-term CMs constructed for this project. The temporary CMs will remain in the area of ground disturbance until final stabilization is achieved.

3.3 *Materials Handling and Spill Prevention.* To minimize potential for procedures or significant materials to contribute pollutants to runoff the project site superintendent will act as the point of contact for any spill that occurs. They will be responsible for implementing prevention practices, spill containment and cleanup, worker training, reporting, and completing documentation and updating the ESQCP if a spill occurs. The storage and handling of any construction materials will be managed according to company mandated procedures and policies and as detailed in the ESQCP. These policies will be communicated to all contractors, subcontractors, and vendors for proper adherence. The potential for spill pollution occurs where materials are stored, from equipment leaks, maintenance, or fueling procedures, from waste materials, or other chemicals. Additional CMs (addressed in 3.1.1 through 3.1.1.9) will be utilized to prevent or eliminate spills before they can occur.

3.3.1 *Spill Containment Methods.* Should a spill occur from equipment in the form of fuel, grease, hydraulic oil, etc. the hazardous material will be contained within a secondary spill containment cell (drip/drain pan) and disposed of properly in an approved receptacle. Any undetected leak from equipment will be cleaned immediately upon detection. The contaminated soil from such a leak will be removed with hand shovels and placed in an approved receptacle (fuel/oil waste disposal drum). A leak or spill that occurs on impervious surface (asphalt, concrete, rock, etc.) will be contained using fuel absorbent pads or absorbent litter and once allowed to absorb the spill will be removed to an approved fuel/oil waste disposal receptacle. These used spill materials and contaminated soils will be disposed of offsite at an approved hazardous waste facility. The material storage trailer will have a spill kit to be used for containment.

Please discuss long-term SW to satisfy checklist Item 22: discuss the EPC exclusion this site is proposing to address long term SW.

3.3.2 *Spill Countermeasures.* Should a hazardous spill occur, which may endanger health or the environment, cause pollution of the waters of the state, or may cause and exceedance of a water quality standard, the following procedures will take place:

Stop the spill, unless it is too hazardous, or the spill involves any biohazards.

Notify the Owner and/or the Owner's representative (Operator, Project Site Superintendent). The Owner or the Owner's representative will be onsite during the construction activities and will be able to respond immediately. Once the responsible parties have been notified, a determination will be made by the Owner or the Owner's representative whether the nature of the spill warrants the notification of additional authorities. As required by the Stormwater Discharges Associated with Construction Activity permit (Appendix I) the Colorado Department of Health and Environment will be notified by the following procedures for spills meeting the above criteria in 3.3.2.

For non-hazardous materials: Contact CDPHE Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is also required within 5 days.

For hazardous materials: Contact local emergency response team by calling 911. Then Contact the CDPHE Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is also required within 5 days.

Advance preparations will be initiated by the permittee to ensure a prompt and effective response to any spills. These preparations include an action plan to stop/control further leakage, containment of the spill with absorbent materials, or an earthen berm, and clean up and removal of residual pollutants and contaminated materials.

IV. Project Control Measures Inspections, Maintenance, and Record Keeping

4.1 *Site Inspections.* Inspections of the project site will be conducted as required by the Colorado Department of Public Health and Environment (CDPHE)- Water Quality Control Division permit, Stormwater Discharges Associated with Construction Activity. This document is included in Appendix I. This permit will be the guiding document for field and administrative requirements during the life of the permit for this project. Therefore, the permittee or the permittee's representative will execute the required inspections of site conditions and installed CMs for impact and/or required maintenance. The ESQCP is a living document and will be updated and revised, when necessary, including documentation of inspections. Inspections will occur weekly during active construction phase and then every 30 days and within 24 hours of

any precipitation event that may cause runoff during the final stabilization phase and be conducted as follows:

-All disturbed areas will be inspected for any existing or potential for erosion or transportation of sediment across or off the project site. All access points will be inspected for off-site tracking.

-All physical CMs will be inspected to ensure they are installed as detailed in the ESQCP (see Appendix G) and effective in their quantity, size, and location. They will additionally be inspected to determine whether maintenance, repairs, cleaning, replacement, or modifications are needed.

-All site inlets and outlets and/or discharge points will be inspected for evidence of blockages, sediment buildup, and contaminating pollutants.

If this first SWMP is intended for county use only remove and edit all mentions of the City.

-All materials handling, storage, waste areas, and equipment will be inspected for evidence of leaks, spills, containment, or procedure adherence, and/or contamination.

-Updating and revising of this ESQCP will be assessed and applied collaborating with changing site conditions and construction phases.

-A written report will be generated documenting the inspection, findings, and necessary actions. This report will be stored in the ESQCP Appendix H and a copy uploaded to the City's Accela portal for review by the City Stormwater Inspector within five business days.

SWMP Checklist Item 25 - identify that record keeping will include signatures on all inspections logs and the location of the SWMP records on-site.

4.2 *CM Maintenance Procedures.* In addition to regularly scheduled inspections, any required maintenance, replacement, modifications, or cleaning of physical CMs will be completed proactively before stormwater pollution occurs. Any contaminants or pollutants that are cleaned and/or removed from installed CM features will be disposed of properly.

4.3 *Record Keeping Procedures.* This Stormwater Management Plan is a living document and will be developed, implemented, maintained, and revised as construction progresses at this project site from Pre-construction to Final Stabilization. An on-site log in this ESQCP will be maintained with records of inspections, maintenance activities, spills leaks or illicit discharges, training and any other known documents affecting stormwater management or erosion control for this project site.

V. Non-Stormwater Discharge

4.1 *Anticipated Discharges.* There are no non-stormwater discharge sources that have been observed or are anticipated at this project site other than the allowable non-stormwater discharges covered in this section. The concrete waste will be contained within the trucks/equipment and the contractor utilizes concrete trucks that contain all wash water,

removed off-site. No concrete waste will remain or be dumped onsite, in any drainage way, or storm sewer. Should groundwater or other discharge be encountered the proper permits will be obtained, stormwater management measures will be taken, and the ESQCP will be revised and updated.

VI. Effluent Limitations (not covered in previous narrative)

6.1 *Requirements for Control Measures Used to Meet Effluent Limitations.* These effluent limitations are not numerical but rather intended to address the minimization of discharge of pollutants from all potential pollutant sources at the site. Control measures for erosion and sediment control, structural and non-structural, will be implemented to effectively minimize erosion, sediment transport, and the release of other pollutants related to the construction activity at this site. The subsequent list of specific control measures will be implemented to meet the requirements below or an explanation will follow.

6.1.1 Vehicle Tracking Controls will be implemented to minimize vehicle tracking of sediment from disturbed areas, or areas where vehicle tracking occurs will meet the following requirement. This project will utilize daily sweeping and keep staging and traffic within the asphalt roadway with rock socks downgrade and vehicle tracking control pad at the disturbance access to roadway.

6.1.2 Stormwater runoff from all disturbed areas and soil storage areas that have not been permanent or temporarily stabilized will flow to at least one control measure to minimize sediment in the discharge. This project will occur with most disturbance below grade and trench disturbance will be stabilized at the end of each day. Stockpiles are being removed offsite or backfilled at the end of the day and imported materials will not be stored onsite. The immediate areas in vicinity of the disturbance will have inlet protection and curb checks during disturbance and construction activity.

6.1.3 Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless feasible. However, this project will not have any basins or impoundments.

6.1.4 Maintain pre-existing vegetation or equivalent control measures that are within 50 horizontal feet of receiving waters as defined by this permit, unless infeasible. This will be feasible for this linear underground utility installation within the existing roadway and roadside areas.

6.1.5 Soil compaction must be minimized for areas where infiltration control measures will occur or where final stabilization will be achieved through vegetative cover. This project will require some revegetation and the soil will be conditioned prior to seeding.

6.1.6 Unless infeasible, topsoil shall be preserved for those areas of a site that will utilize vegetative final stabilization. The topsoil in the open field area will be utilized as a compacted earthen berm then placed back and conditioned prior to reseeding.

6.1.7 Minimize the amount of soil exposed during construction activity, including the disturbance of steep slopes. This project will have 200-400 linear feet of exposed soil each day with paving of the disturbance at the end of the day. There are no steep or rolling slopes for this project. The project is a utility installation so there will be no change in existing grades.

6.1.8 Bulk storage, 55 gallons or greater, for petroleum products and other liquid chemicals must have secondary containment, or equivalent protection, to contain spills and to prevent spilled material from entering state waters. There will be no bulk stored fuels besides fuels trucks within truck beds.

6.1.9 Control measures for washout, in addition to what was previously stated, will have buffering capacity prior to reaching groundwater and not located near natural drainages, springs, or wetlands. There will be no concrete washout waste on the construction site.

6.2 *Discharges to an Impaired Waterbody.* Total Maximum Daily Load (TMDL) will be addressed if the permittee's discharge flows to or could be expected to flow to any water body for which a TMDL has been approved, and stormwater discharges associated with construction activity were assigned a pollutant specific Wasteload Allocation (WLA) under the TMDL, the division may have additional oversight and requirements. There has been no TMDL approved for the receiving waters associated with this construction project and no WLA assigned.

6.3 *General Requirements.* Discharges authorized by this permit shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any applicable water quality standard, including narrative standards for water quality. The Qualified Stormwater Manager and the Contractor have created this ESQCP to comply with prevention of pollution and degradation of state waters.

VII. Plan Notes

The below 19 plan notes are included in this Erosion and Stormwater Quality Control Plan as directed by the City of Colorado Springs Stormwater Criteria Manual.

1. No clearing, grading, excavation, or other land disturbing activities shall be allowed (except for work directly related to the installation of Initial Control Measures) until a City GEC Permit has been issued.

2. All land disturbing activities must be performed in accordance with and the approved GEC Plan and CSWMP.

3. Initial Control Measures shall be installed and inspected prior to any land disturbance activities taking place. An initial site inspection will not be scheduled until a City GEC Permit has been "conditionally approved." Call City Stormwater Inspections, 385-5980, at least 48 hours prior to construction to schedule an initial inspection and obtain full permit approval.

4. Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS) and the "Clean Water Act" (33 USC 1344), including regulations promulgated and certifications or permits issued, in addition to the requirements included in the City's MS4 Permit, Stormwater Construction Manual. In the event of conflicts between these requirements and water quality control laws, rules, or regulations of other Federal or State agencies, the more restrictive laws, rules, or regulations shall apply.

5. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters.

6. All Construction Control Measures shall be maintained until permanent stabilization measures are implemented. Temporary Construction Control Measures must be removed prior to permit closeout.

7. Concrete wash water shall not be discharged to or allowed to runoff to State Waters or any surface or subsurface storm drainage system or facilities.

8. Building, construction, excavation, or other waste materials shall not be temporarily placed or stored in the street, alley, or other public way, unless in accordance with an approved Traffic Control Plan. Construction Control Measures may be required by the GEC Inspector if deemed necessary based on specific conditions and circumstances (e.g., estimated time of exposure, season of the year, etc.).

9. All wastes composed of building materials must be removed from the construction site for disposal in accordance with local and state regulatory requirements. No building material wastes or unused building materials shall be buried, dumped, or discharged at the site.

10. The permittee shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance system as a result of construction activities.

11. The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original manufacturer's labels. Materials shall not be stored in a location where they may be carried by stormwater runoff into the storm sewer system at any time.

12. Spill prevention and containment measures shall be used at all storage, equipment fueling, and equipment servicing areas so as to contain all spills and prevent any spilled material from entering the MS4, including any surface or subsurface storm drainage system or facility. Bulk

storage structures for petroleum products and other chemicals shall have secondary containment or equivalent adequate protection. All spills shall be cleaned up immediately after discovery or contained until appropriate cleanup methods can be employed. Manufacturer's recommended methods for spill cleanup shall be followed, along with proper disposal methods.

13. Sediment (mud and dirt) transported onto a public road, regardless of the size of the site, shall be cleaned as soon as possible after discovery.

14. No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by the State. In granting the use of such chemicals, special conditions and monitoring may be required.

15. Control Measures for all slopes, channels, ditches, or any disturbed land area shall be completed within fourteen (14) calendar days after final grading or final land disturbance has been completed. Disturbed areas which are not at final grade but will remain dormant for longer than fourteen (14) days shall be roughened, mulched, tackified, or stabilized with tarps within fourteen (14) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded, unless an alternative stabilization measure is accepted at the inspector's discretion. All temporary Construction Control Measures shall be maintained until final stabilization is achieved.

16. The GEC Plan will be subject to re-review and re-acceptance by the Stormwater Enterprise should any of the following occur: grading does not commence within twelve (12) months of the City's acceptance of the plan, the construction site is idle for twelve (12) consecutive months, a change in property ownership occurs, the planned development changes, or any other major modifications are proposed as defined in the Stormwater Construction Manual.

17. It is not permissible for any person to modify the grade of the earth on any utility easement or utility right-of-way without written approval from the utility owner. City acceptance of the GEC Plan and CSWMP does not satisfy this requirement. The plan shall not increase or divert water towards utility facilities. Any changes to existing utility facilities to accommodate the plan must be approved by the affected utility owner prior to implementing the plan. The cost to relocate or protect existing utilities or to provide interim access shall be at the applicant's expense.

18. Applicant represents and warrants that they have the legal authority to grade and/or construct improvements on adjacent property. The City has not reviewed the developer's authority to modify adjacent property. An approved GEC Permit does not provide approval for the Applicant to perform work on adjacent property.

19. Additional notes may be required by the review engineer. For example, the following note is required for all development projects, but is normally not required for capital projects:

"All utility installations within the limits of disturbance shown on this plan are covered under this plan. Locations of utilities within the limits of disturbance may be modified after plan

approval as a field change. Utility installations related to the private development that extend beyond the limits of disturbance shown on this plan are considered to be part of the larger development, and therefore require a plan modification or separate plan for the additional disturbance area."

City STORMWATER MANAGEMENT PLAN

Project: CSU Marksheffel Connector
Contractor: Miller Pipeline

If this SWMP is only for the City and the above is for the County, for future submittal please only include the County SWMP and attachments for clarity.

CITY STORMWATER MANAGEMENT PLAN/CSWMP

Project: CSU Marksheffel Connector

Owner:
Mark Munoz, Project Manager
Colorado Springs Utilities
121 S. Tejon Avenue
Colorado Springs, CO 80903
(719)668-8679

Operator/Permittee:
Randy Hiett, General Manager
Miller Pipeline, LLC
421 E. Industrial Blvd. Pueblo
West, CO 81007
(719)248-0319

GEC Administrator:
Emily Chamberlain, President
Era Environmental, Inc.
PO Box 8492
Pueblo, CO 81008
(719)924-0519

CSWMP Development: 03/26/2024
Project Construction Commencement: 06/01/2024
Estimated Project Completion: 05/31/2025
Final Stabilization: 08/30/2025

COLORADO SPRINGS UTILITIES EXTERNAL CONSULTANT SIGNATURE BLOCKS

CSU Marksheffel Connector

Engineer's Statement

This CSWMP was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the CSWMP, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Printed Name: Raymond E. Perez III, P.E. Date: 05 April 2024

Phone Number: (719) 291-2744 Seal:

Contractor's Statement

I will comply with the requirements of the CSWMP including Control Measure inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for stormwater discharges associated with construction activity.

Name of Contractor: Miller Pipeline, LLC

Authorized Signature: Randy Hiett Digitally signed by Randy Hiett DN: C=US, E=Randy.Hiett@millerpipeline.com, O="Miller Pipeline, LLC", CN=Randy Hiett Date: 2024.04.15 15:34:17-06'00' Date: 04/15/2024

Title: General Manager Phone Number: 719-325-9984

Address: 3170 Capital Dr - 80939 Email: Randy.Hiett@millerpipeline.com

CSU Project Manager's Statement

I hereby certify that the drainage, grading, and erosion control for CSU Marksheffel Connector shall be constructed according to the design presented in this CSWMP. I further understand that field changes must be reviewed by the SWENT Review Engineer to ensure conformance with the original design intent. I am employed by and perform engineering services solely for Colorado Springs Utilities, an enterprise of the City of Colorado Springs, and therefore am exempt from Colorado Revised Statute Title 12, Article 25, Part 1 according to § 12-25-103(1), C.R.S.

Name of CSU Project Manager: Mark Muñoz

Signature: Mark Muñoz Date: 04/16/2024

Title: Project Manager Phone Number: 719-668-2862

Email: mmunoz@csu.org

City of Colorado Springs Grading and Erosion Control Review

This CSWMP is filed in accordance with City Code. This plan is reviewed in accordance with the Stormwater Construction Manual, latest revisions.

Signature: _____ Date: _____

Table of Contents:

APPENDIX

I. Site and Project Description:

1.1 *Project Description and Site History.* The CSU Marksheffel Connector project will be a linear underground utility installation of new gas line along Marksheffel Road from Barnes Road then along Tamlin Road cutting across to tie into Dublin Boulevard in Colorado Springs, CO 80927. The site has been previously developed and the presence of existing utilities are evident on the project plans. The project is a paved right of way for the City of Colorado Springs within residential area and roadside ditch and open field within El Paso County rural areas.

1.2 *Construction Activity.* Construction activity includes installation of new steel gas main pipe including connections and all associated appurtenances. This construction project will specifically excavation, installation of the new utilities, and repaving and reseeding as final stabilization. The construction activity is further illustrated in the engineered project specifications and drawings (plans) found in Appendix C.

1.3 *Progression of Significant Activities.* Once control measures (CMs) are in place and have been approved by inspection from the City of Colorado Springs construction will commence utilizing phasing to minimize stormwater and erosion impact. The size of the project will be broken down into 3 main construction phases. Once all necessary permits have been obtained, proper CMs have been put into place, and approved by the City Inspector the construction activities will begin work at the staging area on southwest Barnes and Marksheffel following this phasing plan. The project will be broken down into three construction phases. Each of the three phases will be completed as work progresses. The scope of work is broken down into these three phases for each construction phase: During the initial phase, the rock socks, inlet protection, sediment control log, and staging areas will be placed and established; the interim phase will progress with excavation and installation of the new utilities, followed by backfill and roadway subsurface; the final phase is completed by paving of the area and reseeding with removal of the temporary control measures in the paved areas. The temporary control measures will remain in the reseeded areas until final stabilization is achieved. Please see attached Construction Schedule/Phasing (Appendix B) for further description of the sequence of events.

1.4 *Area of Site and Area to be Impacted.* The estimated total area of the site is approximately 40 acres. The export/import of material will be greater than 500 cubic yards. The estimated area to be disturbed will be approximately 20 acres to include stockpiles, access, staging areas, and construction site disturbance.

1.5 *Existing Site Conditions.* The site is an asphalt right-of-way for the City of Colorado Springs consisting of mainly residential areas and a rural roadside and open field area in El Paso County. The street is bounded in areas by landscaping, and concrete curb and gutter. The site

contours preconstruction will match contours after construction is complete. There will be no grading for this linear underground utility installation project within the existing roadway, roadside, and open field.

1.6 *Soils and Site Reports.* A web soil survey was conducted using USDA Natural Resources Conservation Service. The soils within the project site consists of three types: Truckton sandy loam, 3 to 9 percent slopes, Hydrologic Soil Group A; Blakeland loamy sand, 1 to 9 percent slopes, Hydrologic Soils Group A; and Blendon sandy loam, 0 to 3 percent slopes, Hydrologic Soil Group B. Group A soils have low runoff potential and high infiltration rates even when thoroughly wet. They are typically sand, loamy sand, or sandy loam types of soils. They consist mostly of deep, well to excessively drained sands or gravels with a high rate of water transmission. Group B soils have moderately low runoff potential and a moderate infiltration rate when thoroughly wet. They typically consist of silt loam or loam soils of moderately fine to moderately coarse textures. Group C soils have low infiltration rates and a layer that hinders downward infiltration of water when thoroughly wet. The soils contain moderately fine to fine structure. Group D soils have the highest runoff potential. They have very low infiltration rates, a high swelling potential, and contain a layer at or near the surface that is nearly impervious and prevents infiltration when thoroughly wetted. The soils in this group are mainly clay loam, silty clay loam, sandy clay, silty clay, or clay. This soil data was collected using Web Soil Survey; Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. A FEMA Floodplain map was created for the project site and none of the project is located within a 100-year flood zone. There will be no grading or change to existing grade and contour since the watermain replacement will be occurring within existing asphalt roadway. These reports are in Appendix C. The project site is not located within or near Preble Jumping Mouse habitat, City of Colorado Springs Streamside, or Hillside Zones. There were no soils boring tests or geotechnical reports created or this project.

1.7 *Current Vegetative Conditions.* There is no vegetation within the construction limits for the roadway work. There will be minimal disturbance to the vegetation along the roadside ditches and there will be vegetative disturbance for the pipe installation through the open field area. There is grass and trees along the sidewalks, median or roadside ditch, and the open field has native grasses. These areas are mainly outside the project boundary and will not be disturbed with exception of the roadside ditch and open field areas. The disturbed areas will be returned to pre-existing conditions. The project disturbance within existing asphalt and concrete structures of the street and will be replaced with concrete and asphalt and the disturbance of the roadside ditch and open field will be seeded and blanketed or straw mulched when all ground surface disturbing activities have been completed and according to the plans for project final stabilization. The existing pre-disturbance vegetative density for the roadway is 0%. The existing pre-disturbance vegetative density for the roadside ditch is 50% and the open field is 70%. This was determined using visual linear transect estimation.

1.8 *Identified Potential Pollutant Sources.* Construction activities produce many different pollutants which may cause stormwater contamination. Grading and excavation activities remove ground cover, rocks, vegetation, and other erosion control surfaces, resulting in the exposure of underlying soil (a pollutant) to the elements. These construction activities leave the soil surface unprotected, and soil or sand particles are more easily picked up by wind and washed away by rain or other water sources. Additional materials and activities at the project site that may have an impact on stormwater include the following: excavation, exposed soil, sediment, trash & debris, sanitary waste, hauling of materials, heavy equipment, concrete waste, and asphalt paving. The on-site construction equipment, their vehicular traffic, fueling, and maintenance operations also present the potential for spills and leaks. These potential pollutants include hydraulic oil, engine grease, diesel fuel, gasoline, and anti-freeze (ethylene glycol). Any use of portable toilet facilities will also be a potential source of pollution.

1.9 *Non-stormwater Discharge.* There is potential for landscaping irrigation due to the proximity of the median and landscape areas. There are no additional non-stormwater discharge sources that have been observed or are anticipated at this project site. Should groundwater or other discharge be encountered the proper permits will be obtained, stormwater management measures will be taken, and the CSWMP will be revised and updated. Please refer to sections I.1.8 and V for further description of groundwater discharge. There will be no concrete wastewater onsite. The Contractor will utilize concrete trucks and equipment with their own contained wash systems.

1.10 *Receiving Waters.* Stormwater runoff from the site will enter the existing City of Colorado Springs storm sewer system because the construction activity will be occurring within the streets. There are inlets within the project limits or near vicinity, as well as curb and gutter. Due to the work within the roadside ditch this will be the immediate receiving water. These will discharge to Sand Creek as the ultimate receiving water. There is no TMDL or WLA required for these waterways that will be involved with our construction activity. The contractor is still aware of the need to prevent impact to the water quality due to their construction activity.

1.11 *Site Map.* A site map is included in the form of project engineered plans and maps and identifies the following: construction site boundaries; all areas of ground surface disturbance; areas of cut and fill; areas used for storage of building materials, equipment, soil, or waste; locations of dedicated asphalt or concrete batch plants; locations of all structural CMs; locations of any temporary stream crossings (there will be no temporary stream crossings for this project); locations of non-structural CMs as applicable; flow arrows, and locations of springs, streams, wetlands, and other surface waters. Please see Appendix A.

II. Stormwater Management Controls

2.1 *CSWMP/GEC Administrator/Qualified Stormwater Manager.* Emily Chamberlain, President and Chief Environmental Consultant for Era Environmental. This individual is responsible for developing, implementing, maintaining, and revising the CSWMP. The GEC Administrator or a certified Inspector of Erosion Control will conduct site inspections. Please see Appendix F for relevant certifications. The Operator or Operator's representative will also be responsible for site inspections, control measures maintenance, and necessary revisions.

2.2 *Identification of Potential Pollutant Sources.* The following potential pollutant sources, including materials and activities, have been evaluated for the potential to contribute pollutants to stormwater discharges at this project site and will be addressed with best management practices in the next section.

2.2.1 All disturbed and stored soils- During roadway and soils removal, utility installation, and bridge replacement there will be disturbed soils on the project site. These exposed soils will be located below grade and surrounded by asphalt or concrete. It is not anticipated that the exposed soil will become a pollutant introduced as sediment into runoff. Stored soils and their potential to become a pollutant are possible.

2.2.2 Vehicle tracking of sediment- Heavy equipment (i.e., excavators, haul trucks, loaders) will be used for this project and vehicle tracking is to be expected for this project site.

2.2.3 Management of contaminated soils- There is no anticipation of contaminated soil within this project area. If contaminated soils are encountered the CSWMP will be amended to reflect how this would be addressed.

2.2.4 Loading and unloading operations- Construction materials will need to be loaded and unloaded at the site.

2.2.5 Outdoor storage activities (building materials, fertilizers, chemicals, etc.)- Construction building materials (pipe, fittings, etc.) will be stored outdoors at the project site.

2.2.6 Vehicle and equipment maintenance and fueling- All vehicle and equipment maintenance will take place off-site. Fueling will be done minimally onsite.

2.2.7 Significant dust or particulate generating processes- Dust from exposed soils is to be expected during construction activities.

2.2.8 Routine maintenance activities involving pesticides, detergents, fuels, solvents, oils, etc. - There are no routine maintenance activities involving pesticides, detergents, fuels, solvents, oils, etc. Should this be required, it will take place off site.

2.2.9 On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.)- There is no on-site waste besides those addressed in items 2.2.10 and 2.2.12.

2.2.10 Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment- Concrete truck/equipment washing is anticipated to be present for this project.

2.2.11 Dedicated asphalt and concrete batch plants- There will be no dedicated asphalt or concrete batch plants for this project.

2.2.12 Non-industrial waste sources such as worker trash and portable toilets- Worker trash and portable toilets will be a potential pollutant source for this project site.

2.2.13 Other areas or procedures where potential spills can occur- Diversion of the creek and dewatering operations may create additional potential for spill.

III. Control Measures (CMs) for Stormwater Pollution Prevention

3.1 *CMs Overview.* The following narratives will address the identified potential sources of pollution at the project site and the best management practices that will be used to prevent migration of pollution offsite. All CMs detailed plans are in Appendix G. Specific locations of CMs are detailed on the site map (Appendix A) and will be updated and revised as needed or as the project progresses.

3.1.1 *CMs for Disturbed Soil/Sediment.* Ground disturbing activities associated with underground utility installation at the project site have the potential to introduce sediment into the curb/flow line, and inlets for existing stormwater management belonging to the municipal stormwater system and directly for the roadside ditch. Excavation of soils will occur below grade reducing the risk of soil erosion, detachment, and sedimentation. Phasing for the project will minimize the amount of exposed soil at a given time. Disturbed areas will be kept to a minimum. Sediment control logs, silt fence, and seeding with erosion control blankets will be used to address control measures for the disturbance. Additionally, curb socks and inlet protection will be utilized as a CM treatment train to prevent sediment from the project site to impact the storm sewer system. When possible, vegetative areas will be undisturbed, creating infiltration and buffer. Rock socks will be placed in the curb and gutter and inlet protection will be installed at every inlet within the immediate vicinity and within the vicinity in downgradient conditions.

3.1.2 *CMs for Stored Materials.* Stockpiles of excavated materials are not anticipated due to daily soil replacement returned to excavated areas or being hauled off site. Should it be necessary, stockpiles of sedimentary materials will be located clear of any water flow paths, within the project boundary, and kept to a minimum in size by project

phasing. Erosion control devices will be installed as needed around the base of stockpiles to prevent the migration of soil. However, stockpiling of dirt will not be allowed on site. The topsoil in the open field area will be bladed and compacted as an earthen berm for perimeter controls and then placed back and conditioned for revegetation. Soil stockpiles and disturbed portions of the site where construction temporarily ceases for at least 14 days will be temporarily stabilized.

3.1.3 *CMs for Vehicle Tracking and Loading/Unloading.* Inspection, sweeping, and any necessary cleaning of tracking will be performed daily while construction work continues. There will be a staging area located within the construction area and tracking controls will be placed for transitioning from the disturbed areas back to asphalt. The work area will move along the linear project daily, working at approximately 200-400 feet of disturbance at a time per work crew thus eliminating the need for a vehicle tracking pad in these areas. Structural control measures will be installed for all vehicle tracking controls.

3.1.4 *CMs for Dust.* Wind erosion and dust control will be necessary to prevent sediment pollution. Daily inspections will occur for areas experiencing excessive winds, vehicle traffic, or precipitation events while the potential exists for fugitive dust. Water trucks will spray dusty areas on the project site as needed, taking care not to impact adjacent properties or overwater causing muddying of the surface and sediment transportation.

3.1.5 *CMs for Construction Materials Storage.* Outdoor storage of construction materials will be located clear of any water flow paths, within the project boundary, and within the work area. This area will move with the small area of disturbance daily and be cleaned of all debris and sediment daily. Fuel, grease, oil, paint, or any material classified as hazardous will be stored with secondary containment in the form of a utility trailer, approved containment system, or truck bed. A fuel truck or truck with fuel tank will be brought in daily for all equipment, to keep fuel storage onsite as minimal as possible. Subcontractors are responsible for hazardous waste removal back to their own facilities for ultimate transportation, storage, and disposal. All hazardous waste materials will be disposed of in accordance with federal, state, and municipal regulations. All site waste will be properly maintained to prevent potential pollution of State waters. There will be no on-site waste disposal.

3.1.6 *CMs for Concrete Waste.* Should ready-mix concrete be installed onsite, all equipment and vehicles that are involved in making and transporting concrete mixes will be equipped with an integral washout system used onboard the trucks. Concrete waste will not be dumped onsite. No concrete waste dumping or washing will be permitted near or in the storm drainage line.

3.1.7 *CMs for Non-industrial Waste.* Good housekeeping practices will be implemented to maintain a project site free of trash and debris. Trash receptacles will be inspected regularly to ensure they are disposed of properly when full and that debris

stays contained within the receptacle. Worker sanitary services (portable toilets) will be contained within the construction material storage or staging area, out of the curb flow line, and anchored to prevent tipping. Portable toilets located within Colorado Springs ROW will be anchored on a trailer as required. The area will be inspected regularly to ensure any waste stays contained. All site waste will be properly managed to prevent potential pollution of State waters. There will be no on-site waste disposal.

3.1.8 *CMs for Equipment Staging and Maintenance.* Store and maintain equipment in the designated work area, to be moved daily along this linear underground utility replacement project. When possible, substitute non-hazardous or less hazardous materials. Use secondary containment, like a drain pan, to catch spills when working with fluids like oil, grease, and fuel. Use proper equipment like pumps and funnels when transferring these fluids. Transfer waste fluids, oil filters, etc. to designated waste drum immediately after maintenance or repairs. Inspect equipment routinely for leaks and spills. Repair or remedy these immediately.

3.2 *Phasing of CMs.* Installations of structural and non-structural CMs will be used for erosion control and stormwater management prior to commencement and during construction activities. The Operator/Permittee is committed to installing the CMs as listed, maintaining them as needed, and revising or adding to this plan as construction phasing or plans evolve. See Appendix G for CM installation detail, if necessary.

3.2.1 *CMs Prior to Construction Commencement.* Sediment control CMs (rock/curb socks/inlet protection) will be installed prior to any ground disturbing activities, remain in place, and maintained during excavation, utility installation, backfill, and paving and removed once the construction phase is completed in that area and the potential pollutant has been eliminated. These CMs will need regular maintenance in the form of sediment and debris removal when build-up is visible. Multiple curb socks will be placed along the roadways within the construction area and inlet protection will be installed at every inlet within the construction area and downgrade vicinity. Please see installation location details on the erosion control map in Appendix A.

3.2.2 *CMs During Construction.* To continue with control of potential pollution-laden stormwater run-off, ongoing CMs will be applied and maintained during the construction phases of the project. Rock socks in the curb flow line, additional inlet protection as work progresses, dust control with water, waste management, vehicle tracking control, sweeping, spill measures, good housekeeping, and soil stabilization will be addressed or applied during active construction. CMs maintenance will be needed as previously stated. Restoration activities will be completed throughout the project. Rock socks and inlet protection will remain in place for all construction phases until the construction activities have reached the point of pavement patch finish. Rock socks and inlet protection will be installed prior to work beginning on each portion, and then

remain in place until construction activities have reached the point of pavement patch finish. Once that occurs the CMs will be removed.

3.2.3 *CMs for Final Stabilization, Re-Vegetation, and Long-Term Stormwater Management.* Final Stabilization measures, upon completion of construction activities, where potential pollutants are no longer a risk, and once surfaces have been replaced to asphalt or concrete, will be initiated. Temporary CMs that are regarded as unnecessary and no longer functional will be removed (rock socks and inlet protection), the site will be stabilized by permanent surfaces (concrete and asphalt), and good-housekeeping measures will be used to ensure a clean and complete project site. There will be no revegetation required for this linear underground utility installation within the roadway. There will be revegetation in the form of drill seeding, straw mulching, and erosion control blanket for the roadside ditch and open field areas. Temporary control measures will remain in these areas until final stabilization is achieved by meeting 70% vegetative density to pre-disturbance levels over the entire site not to include noxious weeds. There are no new long-term CMs constructed for this project. The temporary CMs will remain in the area of ground disturbance until final stabilization is achieved.

3.3 *Materials Handling and Spill Prevention.* To minimize potential for procedures or significant materials to contribute pollutants to runoff the project site superintendent will act as the point of contact for any spill that occurs. They will be responsible for implementing prevention practices, spill containment and cleanup, worker training, reporting, and completing documentation and updating the CSWMP if a spill occurs. The storage and handling of any construction materials will be managed according to company mandated procedures and policies and as detailed in the CSWMP. These policies will be communicated to all contractors, subcontractors, and vendors for proper adherence. The potential for spill pollution occurs where materials are stored, from equipment leaks, maintenance, or fueling procedures, from waste materials, or other chemicals. Additional CMs (addressed in 3.1.1 through 3.1.1.9) will be utilized to prevent or eliminate spills before they can occur.

3.3.1 *Spill Containment Methods.* Should a spill occur from equipment in the form of fuel, grease, hydraulic oil, etc. the hazardous material will be contained within a secondary spill containment cell (drip/drain pan) and disposed of properly in an approved receptacle. Any undetected leak from equipment will be cleaned immediately upon detection. The contaminated soil from such a leak will be removed with hand shovels and placed in an approved receptacle (fuel/oil waste disposal drum). A leak or spill that occurs on impervious surface (asphalt, concrete, rock, etc.) will be contained using fuel absorbent pads or absorbent litter and once allowed to absorb the spill will be removed to an approved fuel/oil waste disposal receptacle. These used spill materials and contaminated soils will be disposed of offsite at an approved hazardous waste facility. The material storage trailer will have a spill kit to be used for containment.

3.3.2 *Spill Countermeasures.* Should a hazardous spill occur, which may endanger health or the environment, cause pollution of the waters of the state, or may cause and exceedance of a water quality standard, the following procedures will take place:

Stop the spill, unless it is too hazardous, or the spill involves any biohazards.

Notify the Owner and/or the Owner's representative (Operator, Project Site Superintendent). The Owner or the Owner's representative will be onsite during the construction activities and will be able to respond immediately. Once the responsible parties have been notified, a determination will be made by the Owner or the Owner's representative whether the nature of the spill warrants the notification of additional authorities. As required by the Stormwater Discharges Associated with Construction Activity permit (Appendix I) the Colorado Department of Health and Environment will be notified by the following procedures for spills meeting the above criteria in 3.3.2.

For non-hazardous materials: Contact CDPHE Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is also required within 5 days.

For hazardous materials: Contact local emergency response team by calling 911. Then Contact the CDPHE Environmental Emergency Spill Reporting Line (1-877-518-5608) within 24 hours of the spill event. A written notification to CDPHE is also required within 5 days.

Advance preparations will be initiated by the permittee to ensure a prompt and effective response to any spills. These preparations include an action plan to stop/control further leakage, containment of the spill with absorbent materials, or an earthen berm, and clean up and removal of residual pollutants and contaminated materials.

IV. Project Control Measures Inspections, Maintenance, and Record Keeping

4.1 *Site Inspections.* Inspections of the project site will be conducted as required by the Colorado Department of Public Health and Environment (CDPHE)- Water Quality Control Division permit, Stormwater Discharges Associated with Construction Activity. This document is included in Appendix I. This permit will be the guiding document for field and administrative requirements during the life of the permit for this project. Therefore, the permittee or the permittee's representative will execute the required inspections of site conditions and installed CMs for impact and/or required maintenance. The CSWMP is a living document and will be updated and revised, when necessary, including documentation of inspections. Inspections will occur weekly during active construction phase and then every 30 days and within 24 hours of

any precipitation event that may cause runoff during the final stabilization phase and be conducted as follows:

-All disturbed areas will be inspected for any existing or potential for erosion or transportation of sediment across or off the project site. All access points will be inspected for off-site tracking.

-All physical CMs will be inspected to ensure they are installed as detailed in the CSWMP (see Appendix G) and effective in their quantity, size, and location. They will additionally be inspected to determine whether maintenance, repairs, cleaning, replacement, or modifications are needed.

-All site inlets and outlets and/or discharge points will be inspected for evidence of blockages, sediment buildup, and contaminating pollutants.

-All materials handling, storage, waste areas, and equipment will be inspected for evidence of leaks, spills, containment, or procedure adherence, and/or contamination.

-Updating and revising of this CSWMP will be assessed and applied collaborating with changing site conditions and construction phases.

-A written report will be generated documenting the inspection, findings, and necessary actions. This report will be stored in the CSWMP Appendix H and a copy uploaded to the City's Accela portal for review by the City Stormwater Inspector within five business days.

4.2 *CM Maintenance Procedures.* In addition to regularly scheduled inspections, any required maintenance, replacement, modifications, or cleaning of physical CMs will be completed proactively before stormwater pollution occurs. Any contaminants or pollutants that are cleaned and/or removed from installed CM features will be disposed of properly.

4.3 *Record Keeping Procedures.* This Stormwater Management Plan is a living document and will be developed, implemented, maintained, and revised as construction progresses at this project site from Pre-construction to Final Stabilization. An on-site log in this CSWMP will be maintained with records of inspections, maintenance activities, spills leaks or illicit discharges, training and any other known documents affecting stormwater management or erosion control for this project site.

V. Non-Stormwater Discharge

4.1 *Anticipated Discharges.* There are no non-stormwater discharge sources that have been observed or are anticipated at this project site other than the allowable non-stormwater discharges covered in this section. The concrete waste will be contained within the trucks/equipment and the contractor utilizes concrete trucks that contain all wash water,

removed off-site. No concrete waste will remain or be dumped onsite, in any drainage way, or storm sewer. Should groundwater or other discharge be encountered the proper permits will be obtained, stormwater management measures will be taken, and the CSWMP will be revised and updated.

VI. Effluent Limitations (not covered in previous narrative)

6.1 *Requirements for Control Measures Used to Meet Effluent Limitations.* These effluent limitations are not numerical but rather intended to address the minimization of discharge of pollutants from all potential pollutant sources at the site. Control measures for erosion and sediment control, structural and non-structural, will be implemented to effectively minimize erosion, sediment transport, and the release of other pollutants related to the construction activity at this site. The subsequent list of specific control measures will be implemented to meet the requirements below or an explanation will follow.

6.1.1 Vehicle Tracking Controls will be implemented to minimize vehicle tracking of sediment from disturbed areas, or areas where vehicle tracking occurs will meet the following requirement. This project will utilize daily sweeping and keep staging and traffic within the asphalt roadway with rock socks downgrade and vehicle tracking control pad at the disturbance access to roadway.

6.1.2 Stormwater runoff from all disturbed areas and soil storage areas that have not been permanent or temporarily stabilized will flow to at least one control measure to minimize sediment in the discharge. This project will occur with most disturbance below grade and trench disturbance will be stabilized at the end of each day. Stockpiles are being removed offsite or backfilled at the end of the day and imported materials will not be stored onsite. The immediate areas in vicinity of the disturbance will have inlet protection and curb checks during disturbance and construction activity.

6.1.3 Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless feasible. However, this project will not have any basins or impoundments.

6.1.4 Maintain pre-existing vegetation or equivalent control measures that are within 50 horizontal feet of receiving waters as defined by this permit, unless infeasible. This will be feasible for this linear underground utility installation within the existing roadway and roadside areas.

6.1.5 Soil compaction must be minimized for areas where infiltration control measures will occur or where final stabilization will be achieved through vegetative cover. This project will require some revegetation and the soil will be conditioned prior to seeding.

6.1.6 Unless infeasible, topsoil shall be preserved for those areas of a site that will utilize vegetative final stabilization. The topsoil in the open field area will be utilized as a compacted earthen berm then placed back and conditioned prior to reseeding.

6.1.7 Minimize the amount of soil exposed during construction activity, including the disturbance of steep slopes. This project will have 200-400 linear feet of exposed soil each day with paving of the disturbance at the end of the day. There are no steep or rolling slopes for this project. The project is a utility installation so there will be no change in existing grades.

6.1.8 Bulk storage, 55 gallons or greater, for petroleum products and other liquid chemicals must have secondary containment, or equivalent protection, to contain spills and to prevent spilled material from entering state waters. There will be no bulk stored fuels besides fuels trucks within truck beds.

6.1.9 Control measures for washout, in addition to what was previously stated, will have buffering capacity prior to reaching groundwater and not located near natural drainages, springs, or wetlands. There will be no concrete washout waste on the construction site.

6.2 *Discharges to an Impaired Waterbody.* Total Maximum Daily Load (TMDL) will be addressed if the permittee's discharge flows to or could be expected to flow to any water body for which a TMDL has been approved, and stormwater discharges associated with construction activity were assigned a pollutant specific Wasteload Allocation (WLA) under the TMDL, the division may have additional oversight and requirements. There has been no TMDL approved for the receiving waters associated with this construction project and no WLA assigned.

6.3 *General Requirements.* Discharges authorized by this permit shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any applicable water quality standard, including narrative standards for water quality. The Qualified Stormwater Manager and the Contractor have created this CSWMP to comply with prevention of pollution and degradation of state waters.

VII. Plan Notes

The below 19 plan notes are included in this Erosion and Stormwater Quality Control Plan as directed by the City of Colorado Springs Stormwater Criteria Manual.

1. No clearing, grading, excavation, or other land disturbing activities shall be allowed (except for work directly related to the installation of Initial Control Measures) until a City GEC Permit has been issued.

2. All land disturbing activities must be performed in accordance with and the approved GEC Plan and CSWMP.

3. Initial Control Measures shall be installed and inspected prior to any land disturbance activities taking place. An initial site inspection will not be scheduled until a City GEC Permit has been "conditionally approved." Call City Stormwater Inspections, 385-5980, at least 48 hours prior to construction to schedule an initial inspection and obtain full permit approval.

4. Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS) and the "Clean Water Act" (33 USC 1344), including regulations promulgated and certifications or permits issued, in addition to the requirements included in the City's MS4 Permit, Stormwater Construction Manual. In the event of conflicts between these requirements and water quality control laws, rules, or regulations of other Federal or State agencies, the more restrictive laws, rules, or regulations shall apply.

5. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters.

6. All Construction Control Measures shall be maintained until permanent stabilization measures are implemented. Temporary Construction Control Measures must be removed prior to permit closeout.

7. Concrete wash water shall not be discharged to or allowed to runoff to State Waters or any surface or subsurface storm drainage system or facilities.

8. Building, construction, excavation, or other waste materials shall not be temporarily placed or stored in the street, alley, or other public way, unless in accordance with an approved Traffic Control Plan. Construction Control Measures may be required by the GEC Inspector if deemed necessary based on specific conditions and circumstances (e.g., estimated time of exposure, season of the year, etc.).

9. All wastes composed of building materials must be removed from the construction site for disposal in accordance with local and state regulatory requirements. No building material wastes or unused building materials shall be buried, dumped, or discharged at the site.

10. The permittee shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance system as a result of construction activities.

11. The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original manufacturer's labels. Materials shall not be stored in a location where they may be carried by stormwater runoff into the storm sewer system at any time.

12. Spill prevention and containment measures shall be used at all storage, equipment fueling, and equipment servicing areas so as to contain all spills and prevent any spilled material from entering the MS4, including any surface or subsurface storm drainage system or facility. Bulk

storage structures for petroleum products and other chemicals shall have secondary containment or equivalent adequate protection. All spills shall be cleaned up immediately after discovery or contained until appropriate cleanup methods can be employed. Manufacturer's recommended methods for spill cleanup shall be followed, along with proper disposal methods.

13. Sediment (mud and dirt) transported onto a public road, regardless of the size of the site, shall be cleaned as soon as possible after discovery.

14. No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by the State. In granting the use of such chemicals, special conditions and monitoring may be required.

15. Control Measures for all slopes, channels, ditches, or any disturbed land area shall be completed within fourteen (14) calendar days after final grading or final land disturbance has been completed. Disturbed areas which are not at final grade but will remain dormant for longer than fourteen (14) days shall be roughened, mulched, tackified, or stabilized with tarps within fourteen (14) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded, unless an alternative stabilization measure is accepted at the inspector's discretion. All temporary Construction Control Measures shall be maintained until final stabilization is achieved.

16. The GEC Plan will be subject to re-review and re-acceptance by the Stormwater Enterprise should any of the following occur: grading does not commence within twelve (12) months of the City's acceptance of the plan, the construction site is idle for twelve (12) consecutive months, a change in property ownership occurs, the planned development changes, or any other major modifications are proposed as defined in the Stormwater Construction Manual.

17. It is not permissible for any person to modify the grade of the earth on any utility easement or utility right-of-way without written approval from the utility owner. City acceptance of the GEC Plan and CSWMP does not satisfy this requirement. The plan shall not increase or divert water towards utility facilities. Any changes to existing utility facilities to accommodate the plan must be approved by the affected utility owner prior to implementing the plan. The cost to relocate or protect existing utilities or to provide interim access shall be at the applicant's expense.

18. Applicant represents and warrants that they have the legal authority to grade and/or construct improvements on adjacent property. The City has not reviewed the developer's authority to modify adjacent property. An approved GEC Permit does not provide approval for the Applicant to perform work on adjacent property.

19. Additional notes may be required by the review engineer. For example, the following note is required for all development projects, but is normally not required for capital projects:

"All utility installations within the limits of disturbance shown on this plan are covered under this plan. Locations of utilities within the limits of disturbance may be modified after plan

approval as a field change. Utility installations related to the private development that extend beyond the limits of disturbance shown on this plan are considered to be part of the larger development, and therefore require a plan modification or separate plan for the additional disturbance area."

City STORMWATER MANAGEMENT PLAN

Project: CSU Marksheffel Connector
Contractor: Miller Pipeline

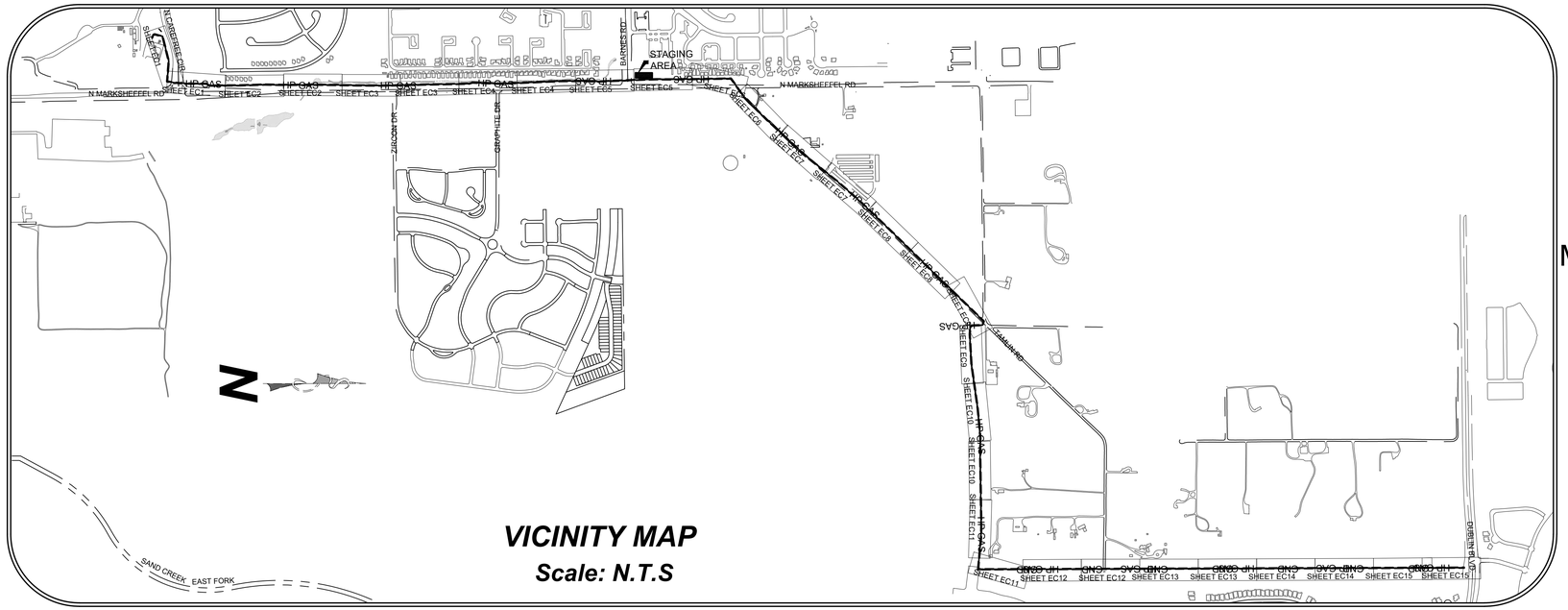
APPENDIX A

GEC Plan to be added upon approval

MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE GAS MAIN
GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN

811 Know what's below. Call before you dig. or www.UNCC2.org

SHEET INDEX	
TS1	COVERSHEET
GN1	GENERAL NOTES
EC1-EC15	EROSION CONTROL PLANS
DT1-DT2	EROSION CONTROL DETAILS



VICINITY MAP
Scale: N.T.S

MARKSHEFFEL CONNECTOR

SITE MAP
Scale: N.T.S.

OWNER'S STATEMENT:

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

OWNER SIGNATURE: _____ DATE: _____

NAME OF OWNER: _____ PHONE: _____

EMAIL: _____

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 DIRECTOR'S DISCRETION.

_____ _____
FOR THE COUNTY ENGINEER DATE

NOTES:

-

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROPERTY.

PRINTED NAME: RAYMOND E. PEREZ III, P.E. DATE: MAY 10, 2024

PHONE NUMBER: (719) 291-2744

COLORADO REGISTERED RAYMOND E. PEREZ III 37773 PROFESSIONAL ENGINEER

CONTRACTOR'S STATEMENT:

I WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN INCLUDING TEMPORARY CONTROL MEASURE INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

NAME OF CONTRACTOR: _____

AUTHORIZED SIGNATURE: _____ DATE: _____

TITLE: _____

PHONE NUMBER: _____

ADDRESS: _____

EMAIL ADDRESS: _____

OWNER/APPLICANT:
COLORADO SPRINGS CITY OF
PO BOX 1575 MAIL CODE 455
COLORADO SPRINGS, COLORADO

PROPERTY ADDRESS:
7713 NORTH CAREFREE CIRCLE
COLORADO SPRINGS, CO

TOTAL AREA TO BE DISTURBED:
20 ACRES

COLORADO REGISTERED RAYMOND E. PEREZ III 37773 PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

◆ TITLE SHEET

issued 05/10/24

TS1
sheet number

PRC Engineering
1685 W. Uintah St., Suite 114
Colorado Springs, CO 80904
719.291.2744

Date 5/13/2024
Project Mark Sheffel Connector

Engineer's Opinion of Probable Construction Costs

Description	Quantity	Units	Unit Cost		Total
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		CY	$ 2.50	=	$ -
greater than 200,000; $500,000 min		CY	$ 2.00	=	$ -
* Permanent Seeding (inc. noxious weed mgmnt.)		AC	$ 800.00	=	$ -
* Mulching		AC	$ 750.00	=	$ -
* Permanent Erosion Control Blanket		SY	$ 6.00	=	$ -
* Permanent Pond/BMP Construction		CY	$ 20.00	=	$ -
* Permanent Pond/BMP (Spillway)		EA		=	$ -
* Permanent Pond/BMP (Outlet Structure)		EA		=	$ -
Safety Fence		LF	$ 3.00	=	$ -
Temporary Erosion Control Blanket		SY	$ 3.00	=	$ -
Vehicle Tracking Control	1	EA	$ 1,325.00	=	$ 1,325.00
Silt Fence	14,775	LF	$ 2.50	=	$ 36,937.50
Temporary Seeding	3.84	AC	$ 525.00	=	$ 2,016.00
Temporary Mulch		AC	$ 750.00	=	$ -
Erosion Bales		EA	$ 25.00	=	$ -
Erosion Logs/Straw Waddle		LF	$ 5.00	=	$ -
Rock Sock	300	LF	$ 15.00	=	$ 4,500.00
Inlet Protection		EA	$ 110.00	=	$ -
Sediment Basin		EA	$ 1,762.00	=	$ -
Concrete Washout Basin	1	EA	$ 760.00	=	$ 760.00
Stabilized Staging Area	1,650	SY	$ 3.75	=	$ 6,187.50
Stockpile Management	50	CY	$ 9.25	=	$ 462.50
				=	$ -
		MAINTENANCE (40% of Construction BMPs)		=	$ 20,875.40
			Total	=	**$ 73,063.90**

LEGEND

AS-BUILT HP GAS MAIN		CONCRETE/ASPHALT	
AS-BUILT GAS MAIN	GAS	CABLE LINE - UNDERGROUND	CATV
AS-BUILT GAS SERVICE		ELECTRIC - OVERHEAD	OHE
EXISTING HP GAS MAIN	HP GAS	ELECTRIC - UNDERGROUND	UGE
EXISTING GAS MAIN	GAS	FIBER OPTIC - UNDERGROUND	FO
EXISTING GAS SERVICE		PHONE - OVERHEAD	OHT
GAS LINE TO BE ABANDONED		PHONE - UNDERGROUND	UGT
GASLIGHT		RECLAIMED WATER	RW
GAS VALVE		SEWER	S
EXCESS FLOW VALVE		STORMWATER	SD
RELIEF VALVE		PROPOSED STORMWATER	PROP-SD
COUPLINGS	C E F	WATER	W
BOND OVER	B O	FENCE LINE	X
TEST POINT		UTILITY PEDESTALS	
INSULATOR		FIRE HYDRANT	
REGULATOR STATION	R	MANHOLE	
MONITORS		WATER VALVE	
ANODE		SURVEY MONUMENT	
SCADA		POWER POLE	
METER SET ASSEMBLY	M M	TRAFFIC SIGNAL	T
PURGE POINT		GAS FLOW ARROW	FLOW
BRANCH,CVT,LINE STOPPER	B CVT S		
PROPOSED HP GAS MAIN	HP GAS		
PROPOSED GAS MAIN	GAS		
PROPOSED GAS SERVICE			
PROPOSED CATHODIC GROUND	GND		
EXISTING EASEMENT			
PROPOSED EASEMENT			
ROW LINE	ROW		
PROPERTY LINE			
STREET CENTERLINE	CL		
EDGE OF PAVEMENT			

GENERAL NOTES:

1. ACCORDING TO FEMA FLOOD INSURANCE RATE MAP 08041C0727F AND 08041C0514F EFFECTIVE MARCH 17,1997, THERE IS NO FLOODPLAIN WITHIN THE PROJECT LIMITS.

2. STOCKPILE AND TEMPORARY DISPOSAL AREA LOCATIONS WILL BE DETERMINED BY CONTRACTOR.

3. STABILIZED STAGING AREA SHOWN ON VICINITY MAP (SEE TITLE SHEET) AND TO BE IDENTIFIED ON THESE PLANS BY THE CONTRACTOR, IF RELOCATED.

4. PROPOSED TOPOGRAPHY IS EQUAL TO EXISTING TOPOGRAPHY.

5. ADJACENT PROPTERTIES ARE NOT ANTICIPATED TO BE AFFECTED BY THIS CONSTRUCTION.

6. NO GEOLOGIC HAZARD STUDY REVIEW WAS COMPLETED TO DETERMINE THERE ARE NO AREAS IDENTIFIED AS "NO-BUILD AREAS".

TIMING ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:

START: 06/01/24
END: 05/30/25

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETE:

08/30/25

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

TOTAL PROJECT AREA: 40 ACRES
TOTAL AREA TO BE DISTURBED: 20 ACRES

NAME OF RECEIVING WATERS:
SAND CREEK VIA CITY OF COLORADO SPRINGS STORM SEWER SYSTEM

SOILS INFORMATION:
TRUCKTON SANDY LOAM ,3 TO 9 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: A

BLAKELAND LOAMY SAND, 1 TO 3 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: A

BLEDON SANDY LOAM, 0 TO 3 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: B

STANDARD EL PASO GESC 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 LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE RITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.

3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.

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 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 OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES 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 CONSTRUCTION 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 MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR 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 SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.

11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE 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, UNCONTAMINATED GROUNDWATER 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 CONTROL BLANKETING 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 THE 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 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 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 A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.

21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE 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 REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ON-SITE 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 THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.

26. PRIOR TO CONSTRUCTION THE PERMITTEE 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 THIS SITE HAS BEEN PREPARED BY ERA ENVIRONMENTAL, DATED FEBRUARY 17, 2021 AND SHALL BE CONSIDERED A PART OF THESE PLANS.

29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1)ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN(SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

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

811 Know what's below. Call before you dig. or www.UNCC2.org

COLORADO REGISTERED BOND E. PRICE 37773 PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1685 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

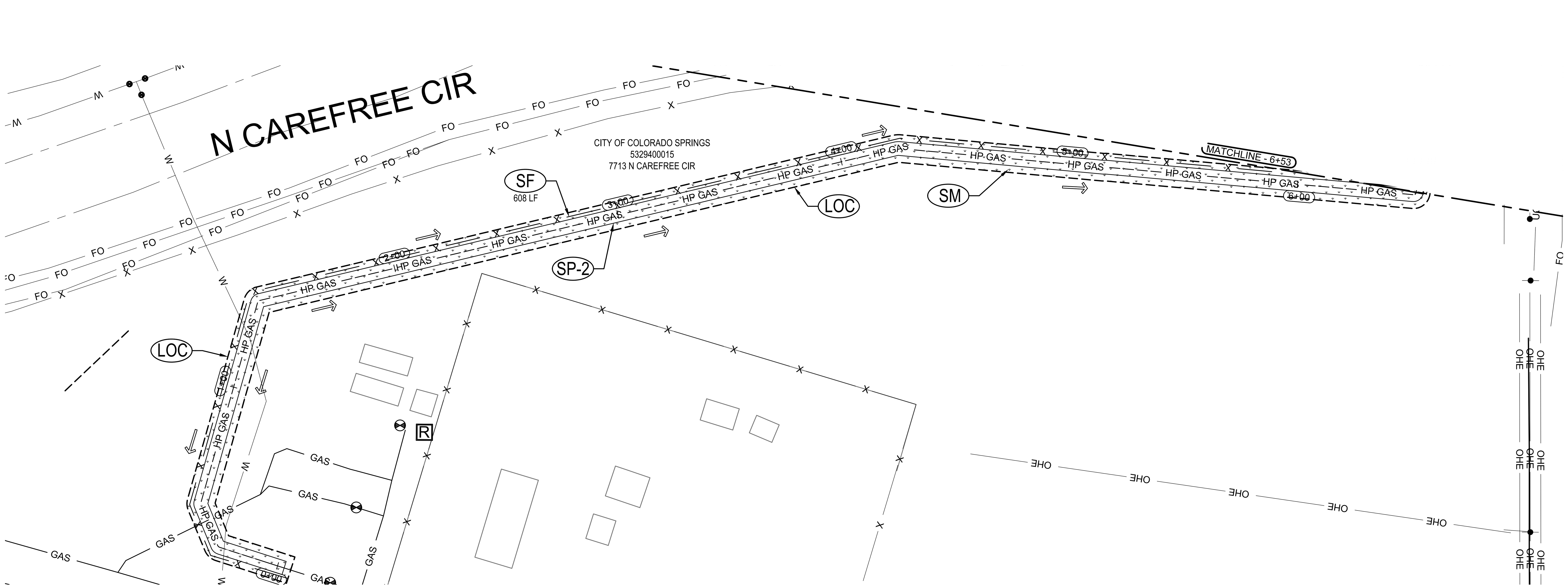
GESC PLAN

MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

◆ TITLE SHEET

issued	05/10/24

GN1
sheet number



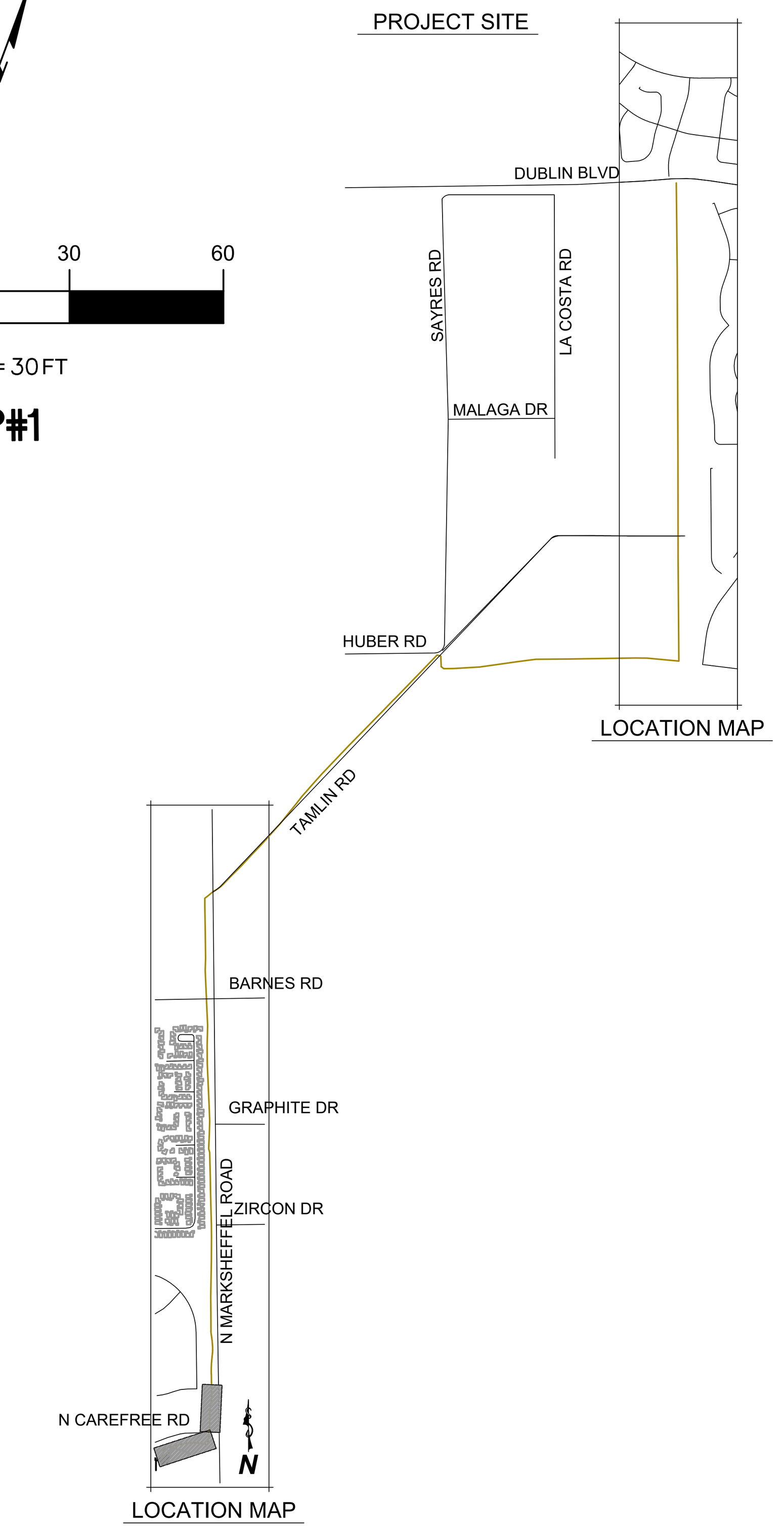
Know what's below. Call before you dig. or www.UNCC2.org

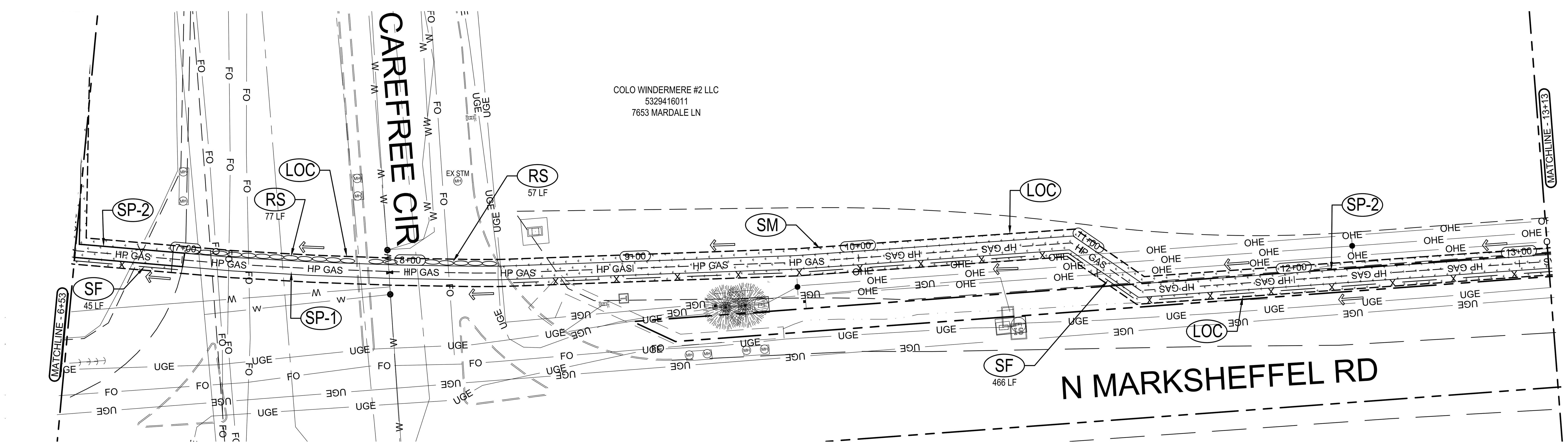
1 INCH = 30 FT

VP#1

MARKSHEFFEL CONNECTOR

PROJECT SITE





1 INCH = 30 FT

VP#2

LEGEND

		EXISTING ROW/PROPERTY LINE
		EXISTING CURB LINE
	SM	SEEDING AND MULCHING
SP-1	SP-2	MATERIALS STAGING
	RS	ROCK SOCK
	LOC	LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
	IP	INLET PROTECTION
		EXISTING SANITARY SEWER
		EXISTING WATER
	SF	SILT FENCE
		SOIL DISTURBANCE AREA
		EXISTING FLOW DIRECTION

COLORADO REGISTERED PROFESSIONAL ENGINEER 37773 05/10/24

PRC ENGINEERING
1685 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

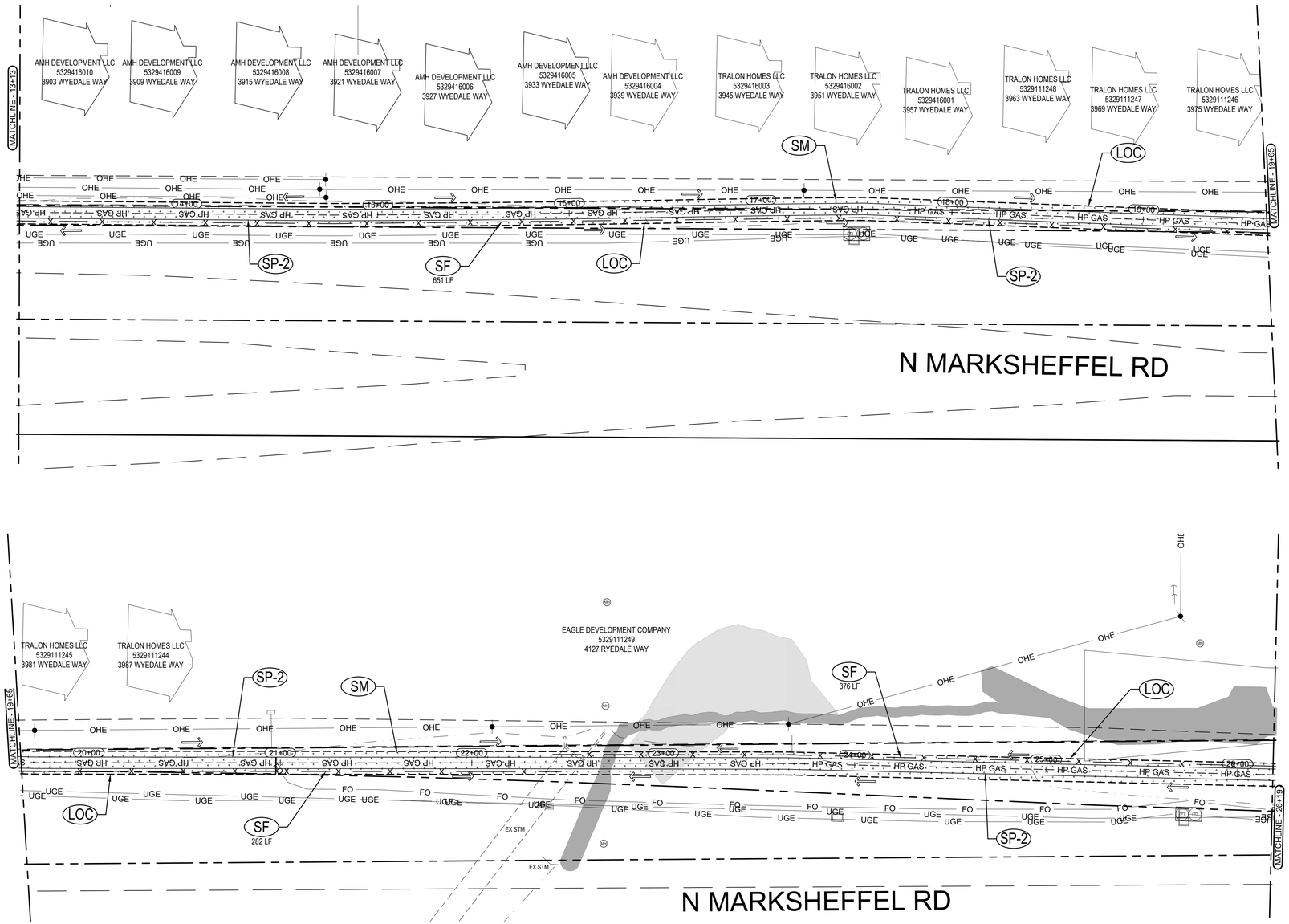
GESC PLAN

MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

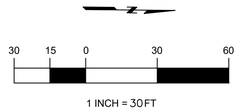
issued	05/10/24

EC1
sheet number

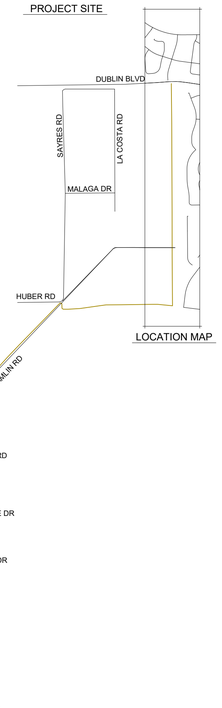


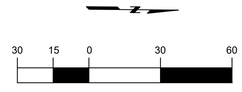
Know what's below.
Call before you dig.
or www.UNCC2.org

MARKSHEFFEL CONNECTOR



VP#3





VP#4

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

COLORADO REGISTERED
RICHARD E. PRESZ
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING

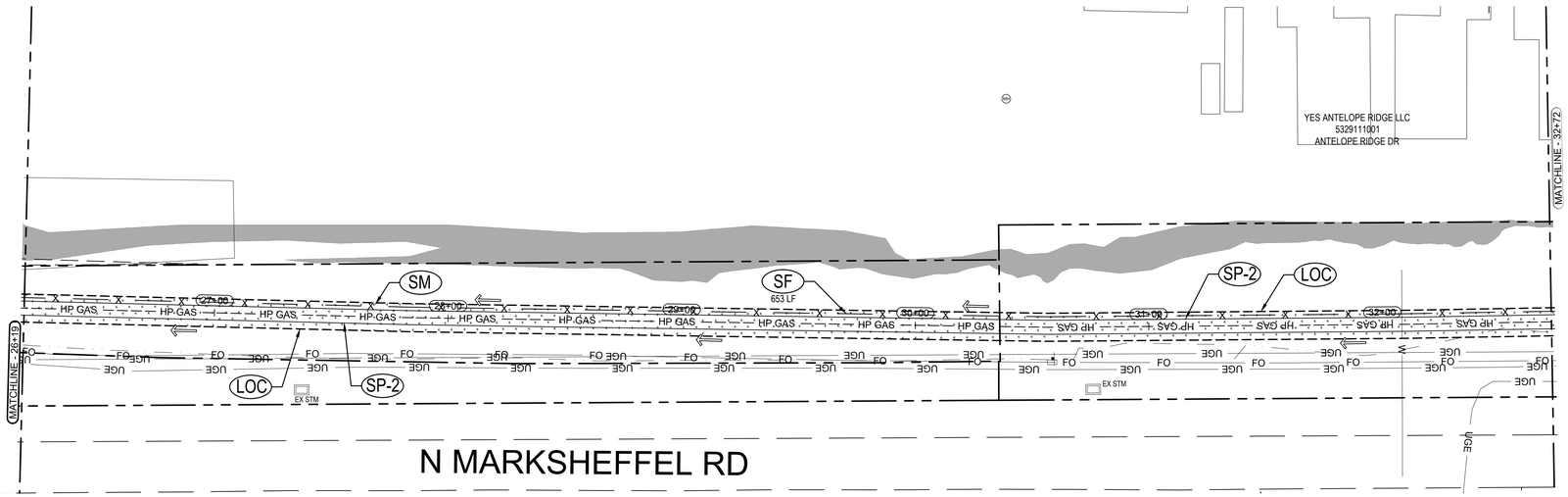
GESC PLAN

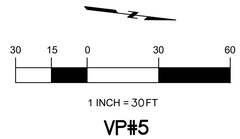
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

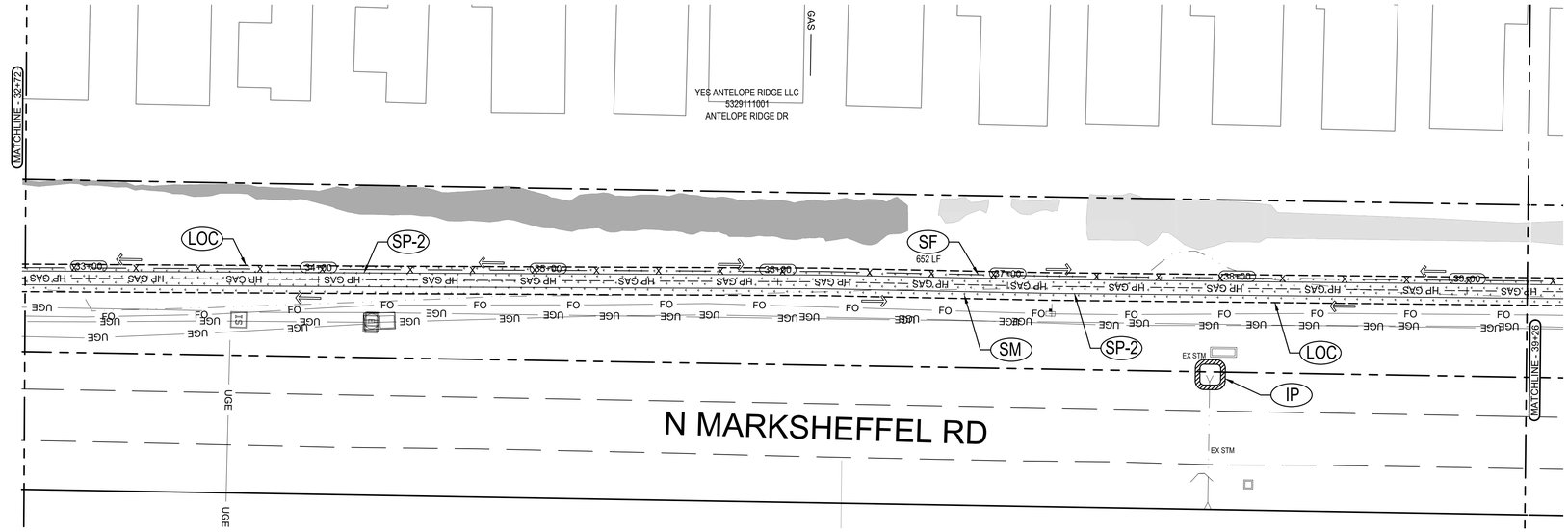
issued	05/10/24

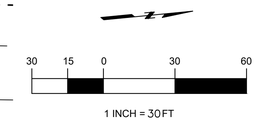
EC2
sheet number





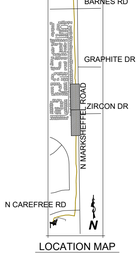
VP#5





VP#6

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

Know what's below.
Call before you dig.
or www.UNCC2.org

COLORADO REGISTERED
EDMOND E. PEREZ
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

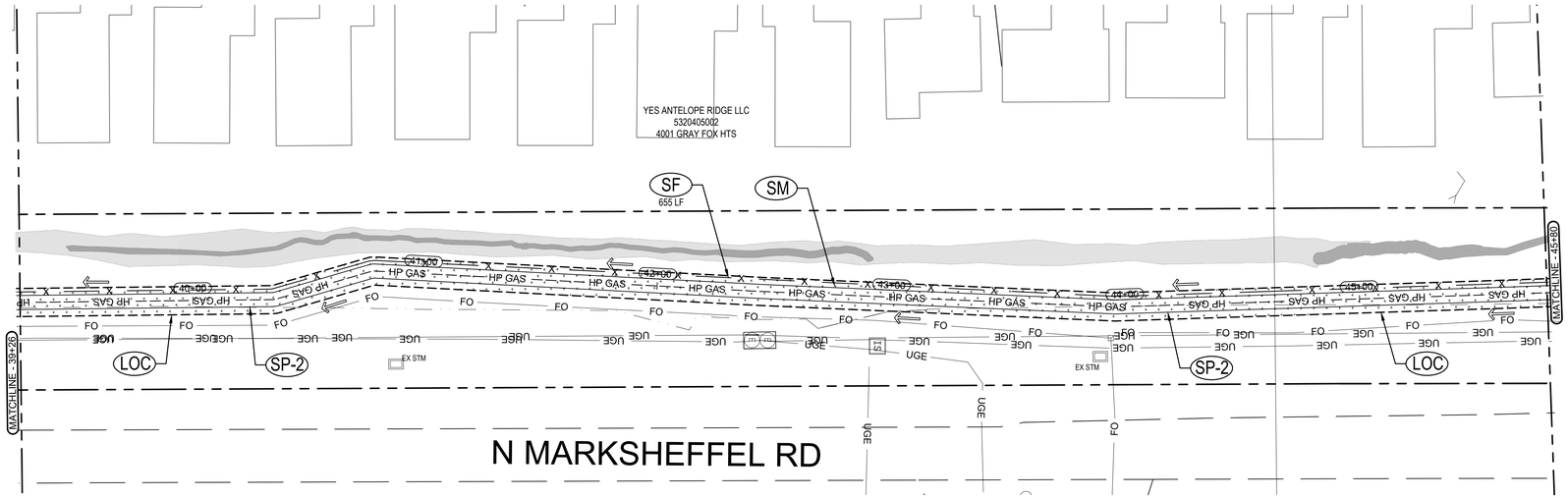
PRC ENGINEERING

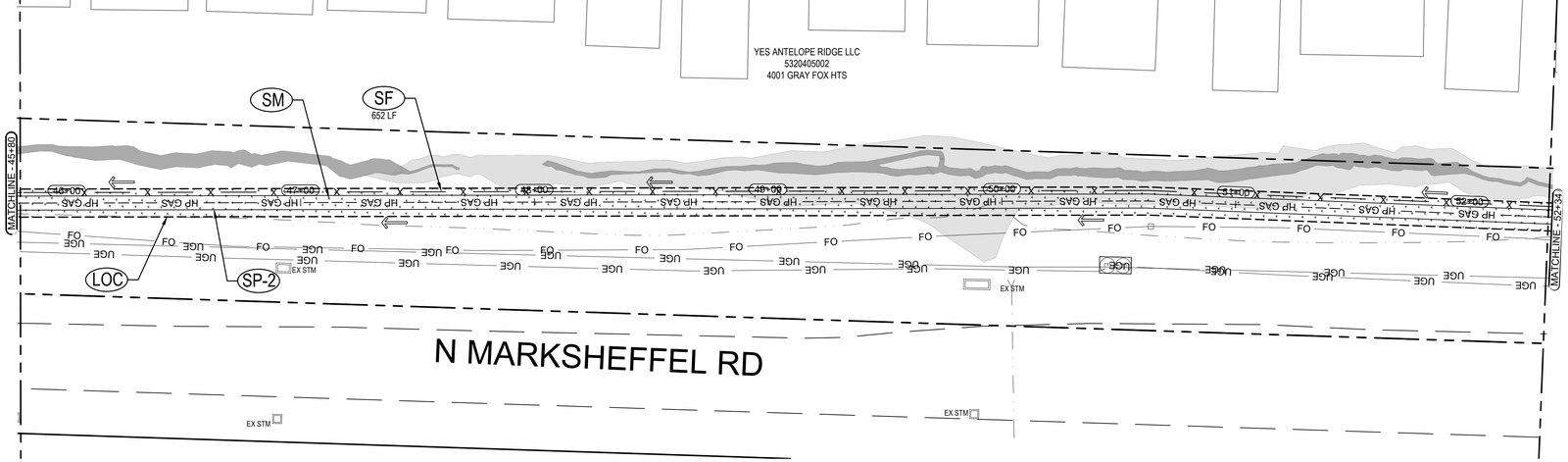
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued	05/10/24

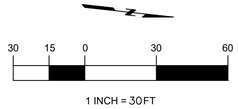
EC3
sheet number



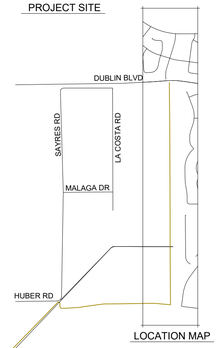


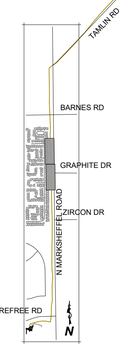
Know what's below.
Call before you dig.
or www.UNCC2.org

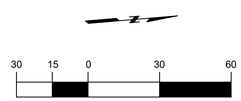
MARKSHEFFEL CONNECTOR



VP#7







VP#8

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

COLORADO REGISTERED
RICHARD E. PRESZ
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

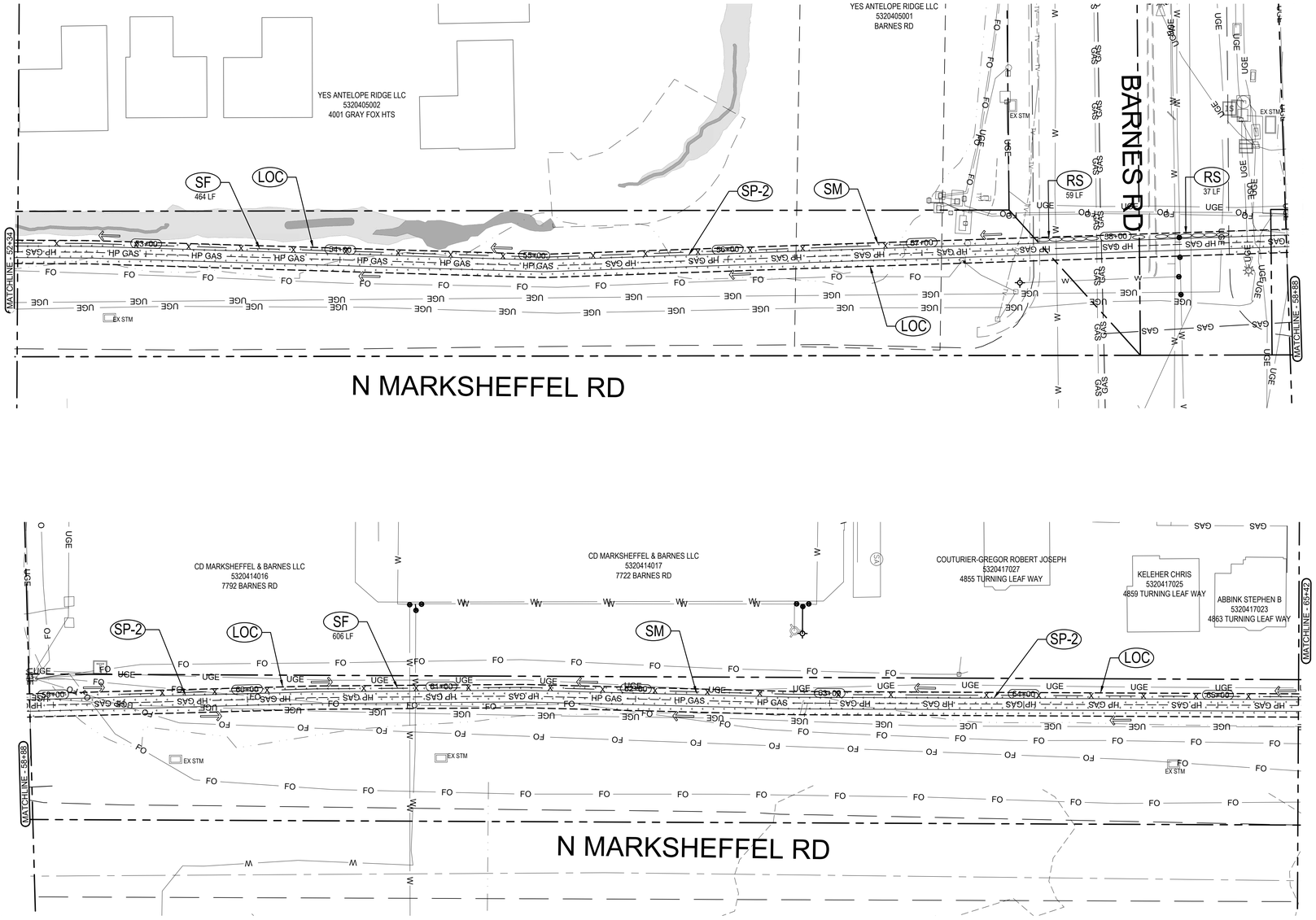
PRC ENGINEERING

GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued	05/10/24

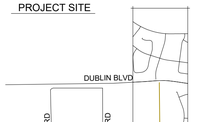
EC4
sheet number



811
Know what's below.
Call before you dig.
or www.UNCC2.org

MARKSHEFFEL CONNECTOR

PROJECT SITE



VP#9

VP#10

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

COLORADO REGISTERED
EDMOND E. PEREZ
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

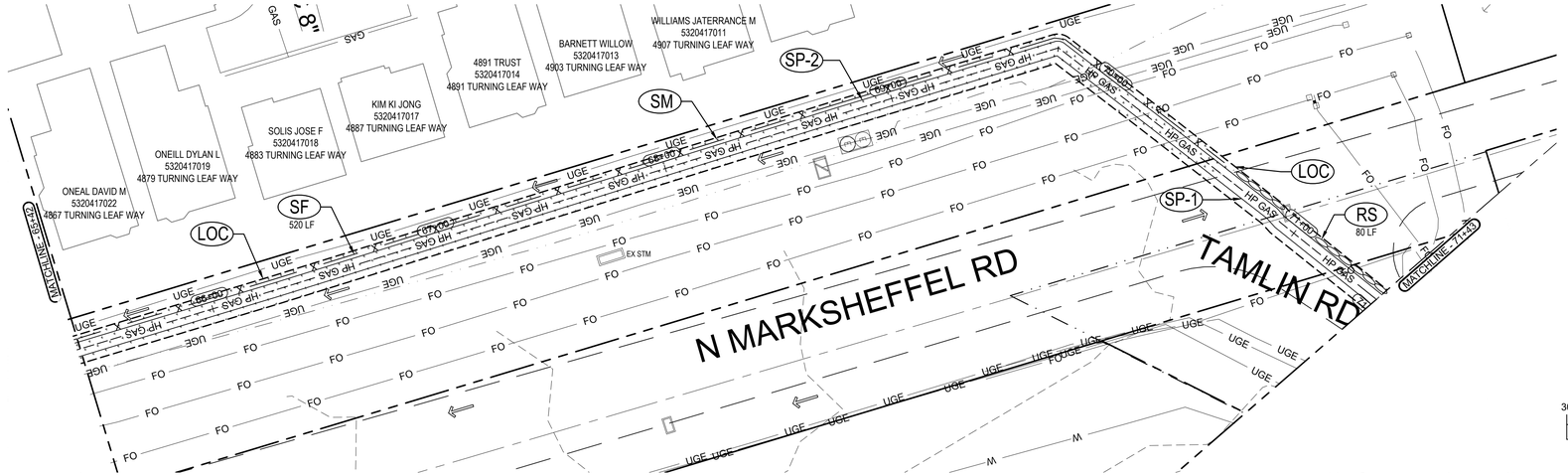
GESC PLAN

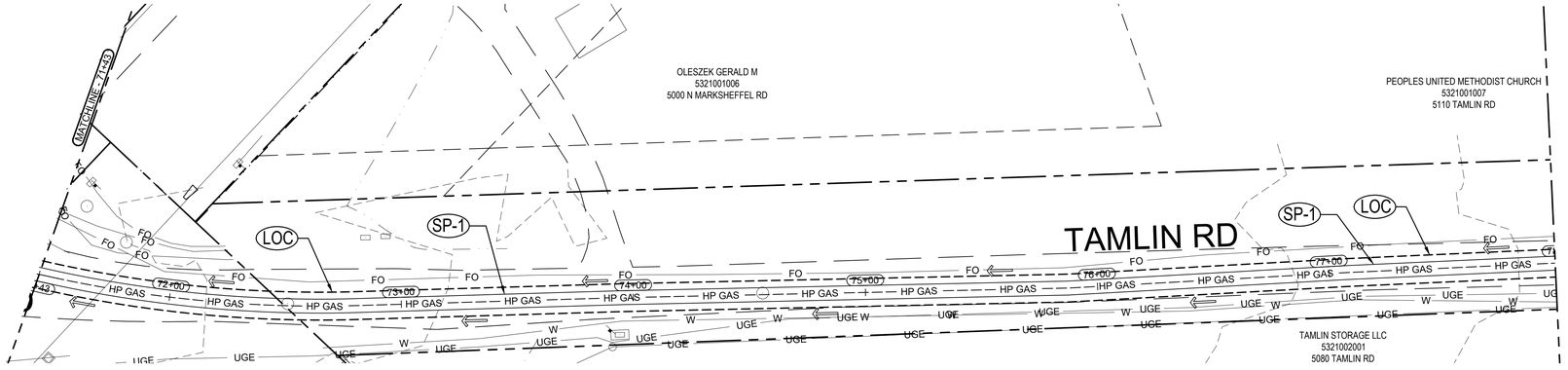
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

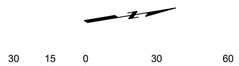
EROSION CONTROL PLAN

issued	05/10/24

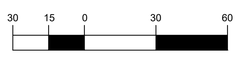
EC5
sheet number





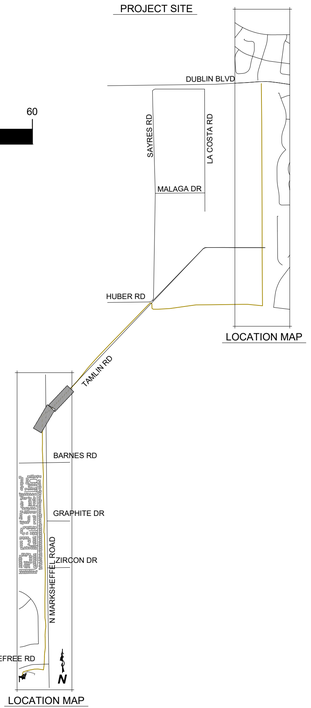


VP#11



VP#12

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

Know what's below.
Call before you dig.
or www.UNCC2.org

COLORADO REGISTERED
RAYMOND E. PRESLEY
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

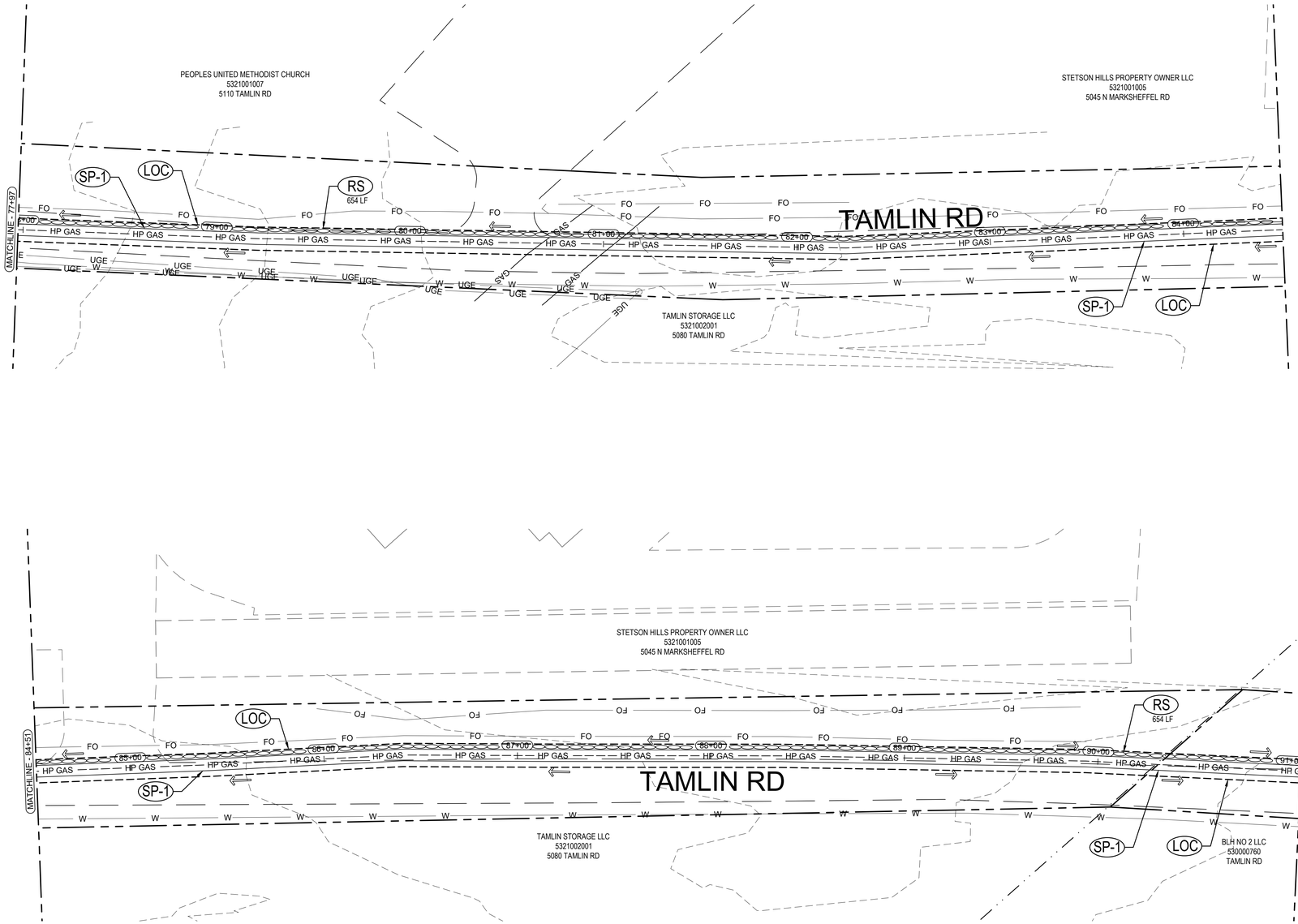
PRC ENGINEERING

GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

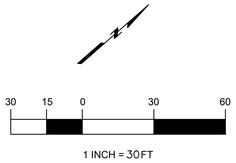
issued	05/10/24

EC6
sheet number

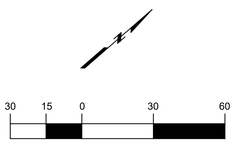


811 Know what's below. Call before you dig. or www.UNCC2.org

MARKSHEFFEL CONNECTOR



VP#13



VP#14

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

COLORADO REGISTERED DONALD E. PRESLEY 37773 PROFESSIONAL ENGINEER 05/10/24

PRC ENGINEERING

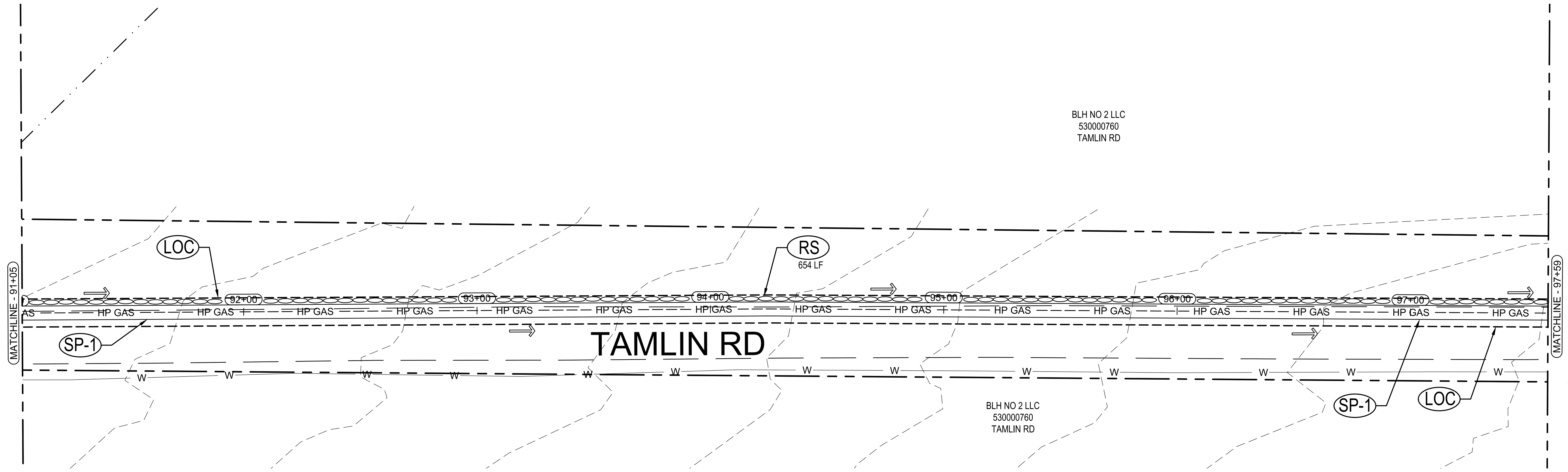
GESC PLAN

MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued	05/10/24

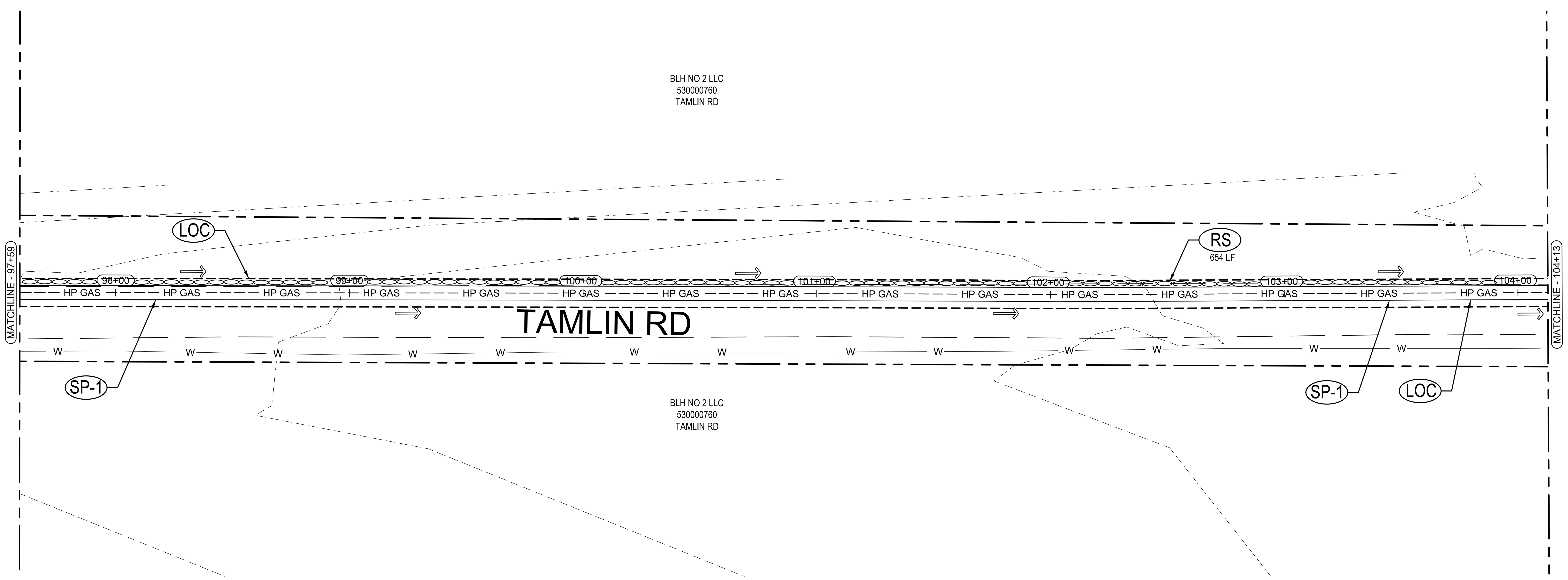
EC7
sheet number



30 15 0 30 60

1 INCH = 30 FT

VP#15



30 15 0 30 60

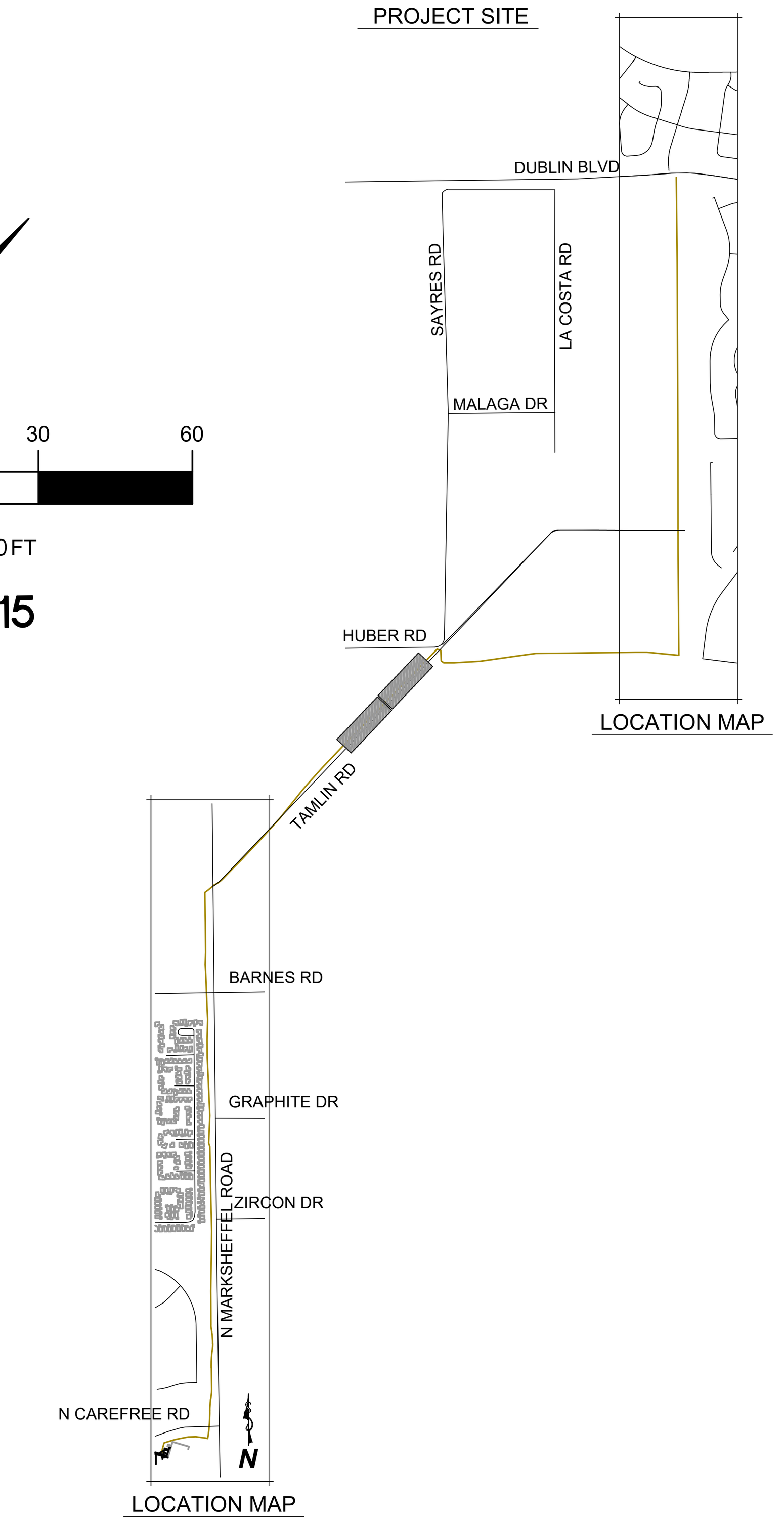
1 INCH = 30 FT

VP#16

Know what's below.
Call before you dig.
or www.UNCC2.org

MARKSHEFFEL CONNECTOR

PROJECT SITE



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

COLORADO REGISTERED
RAYMOND E. PEREZ
37173
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1685 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

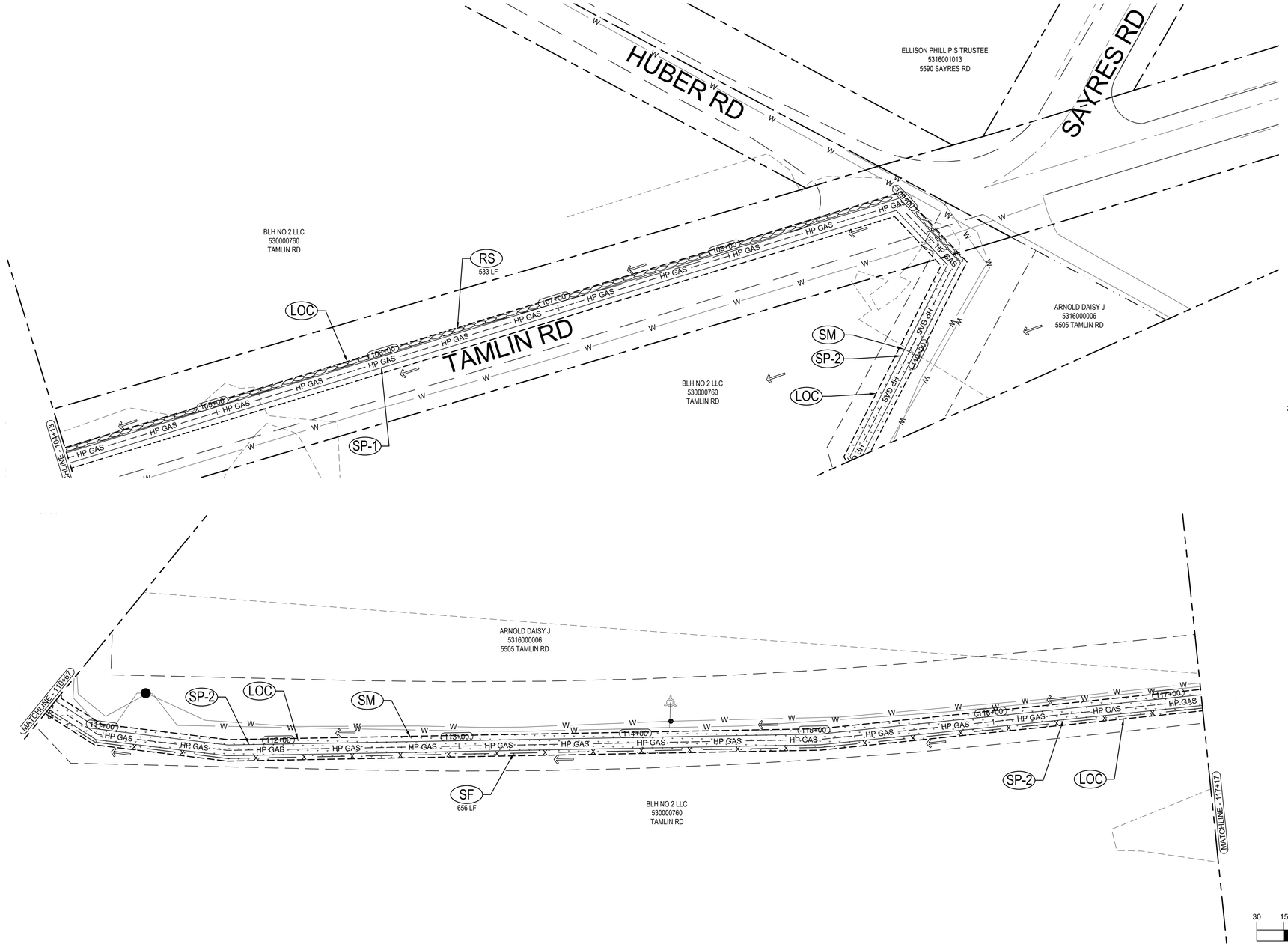
PRC ENGINEERING

GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

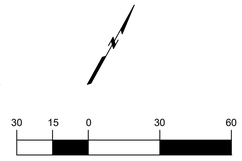
EROSION CONTROL PLAN

issued 05/10/24

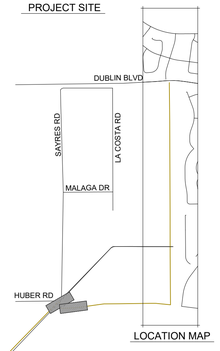
EC8
sheet number

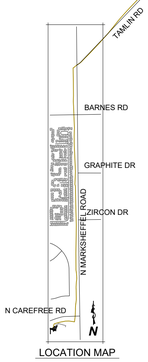


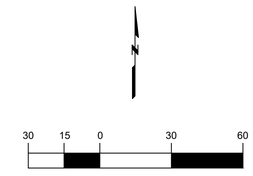
MARKSHEFFEL CONNECTOR



VP#17







VP#18

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

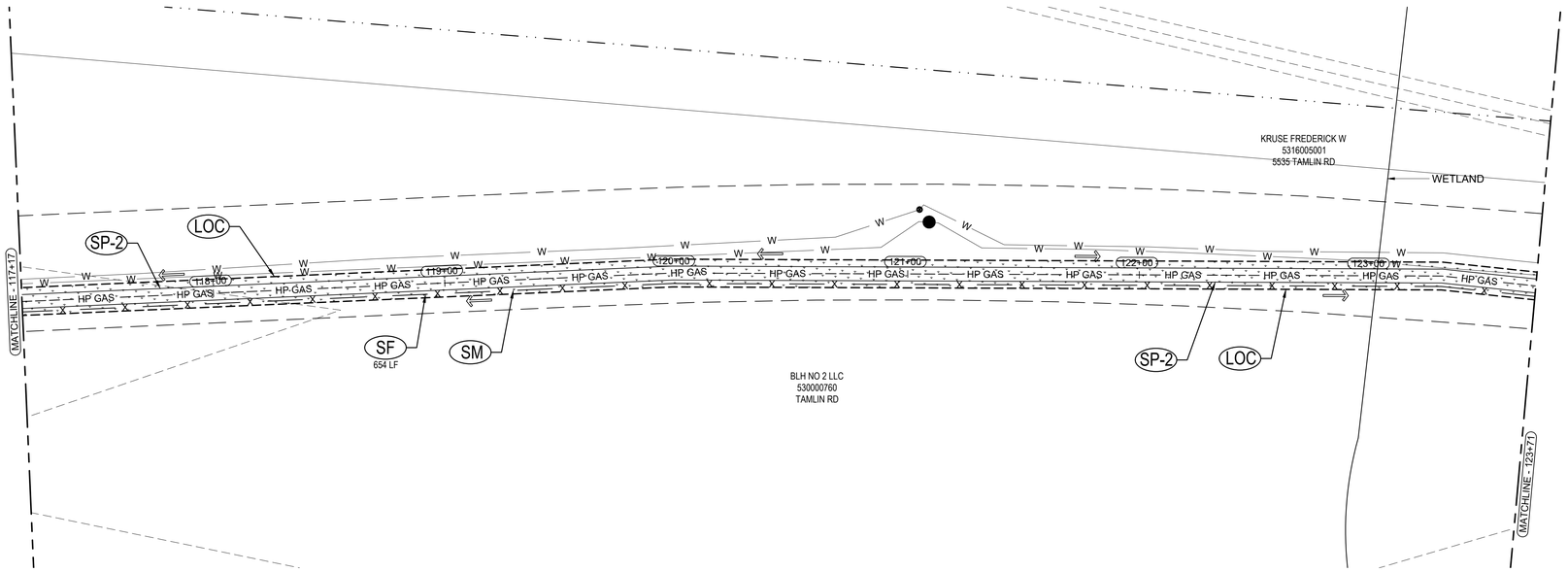
COLORADO REGISTERED
RICHARD E. PEREZ
37773
PROFESSIONAL ENGINEER
05/10/24

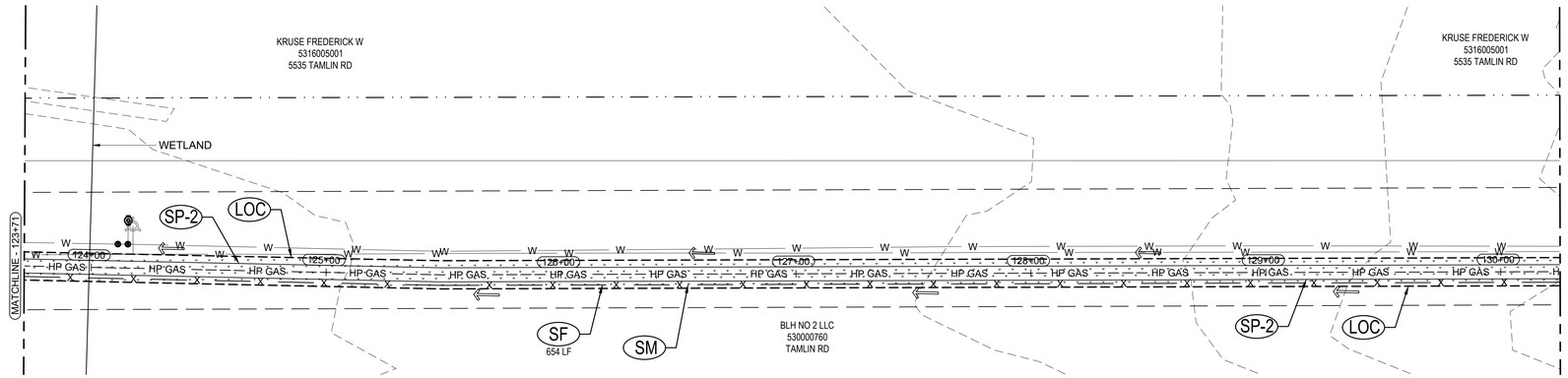
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued 05/10/24

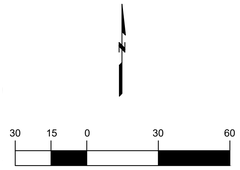
EC9
sheet number





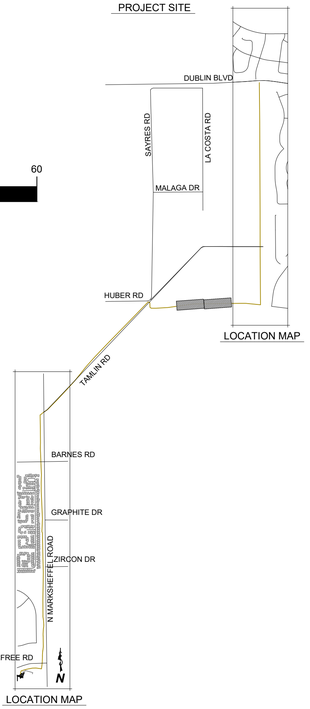
811
Know what's below.
Call before you dig.
or www.UNCC2.org

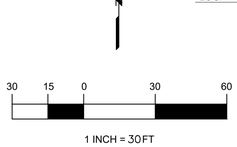
MARKSHEFFEL CONNECTOR



1 INCH = 30 FT

VP#19





1 INCH = 30 FT

VP#20

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

COLORADO REGISTERED
RAMON E. PEREZ
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

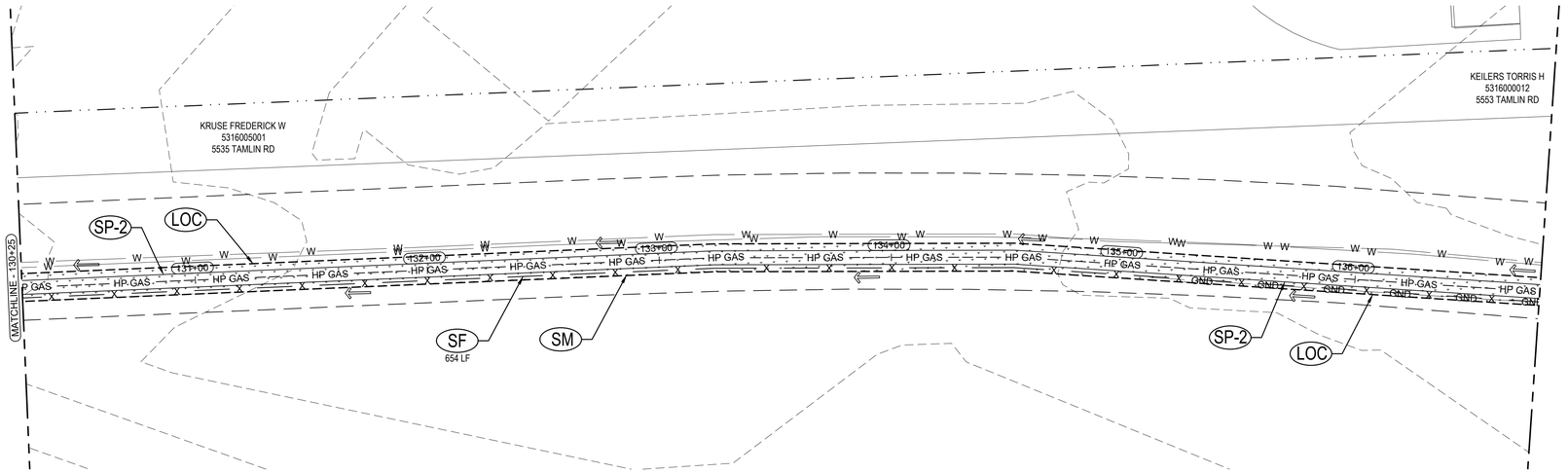
PRC ENGINEERING

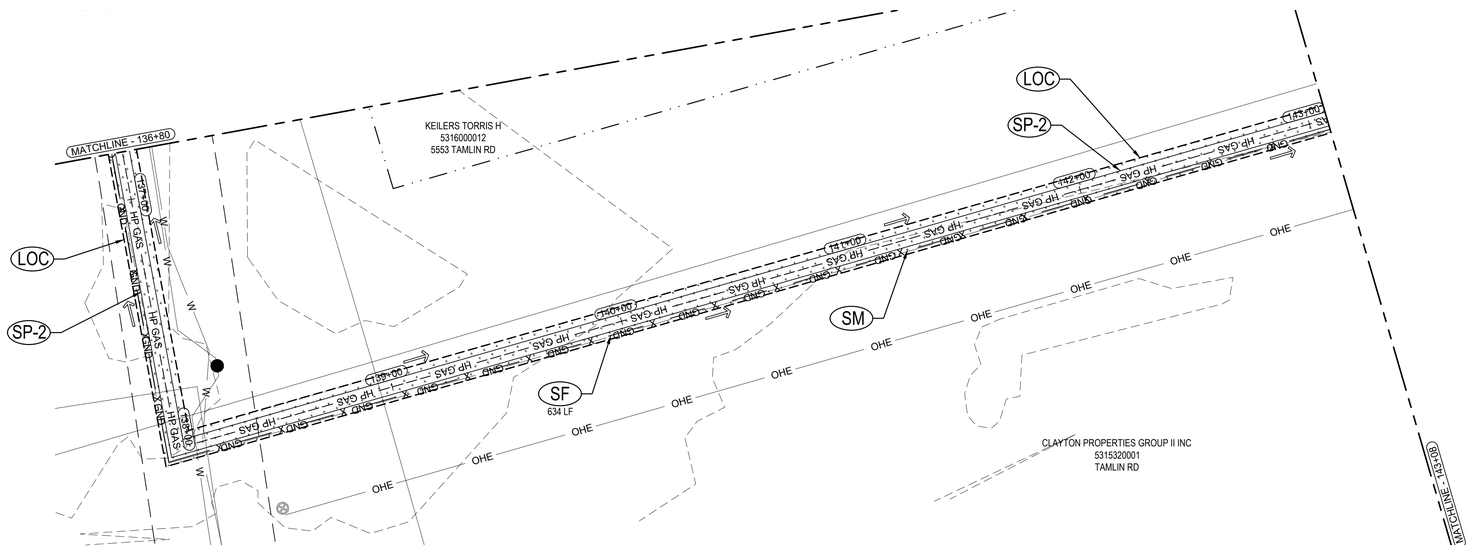
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

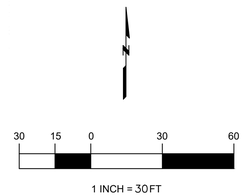
EROSION CONTROL PLAN

issued	05/10/24

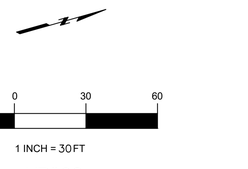
EC10
sheet number





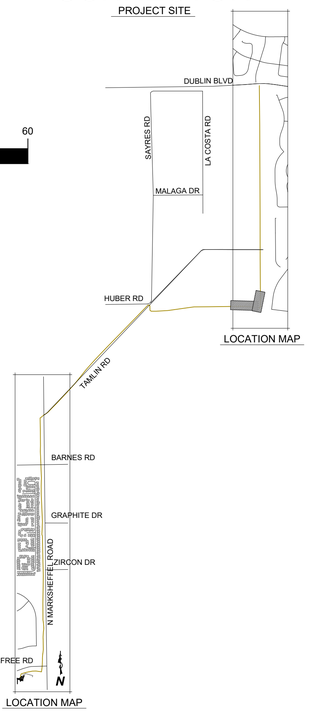


VP#21



VP#22

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

Know what's below.
Call before you dig.
or www.UNCC2.org

COLORADO REGISTERED
RICHARD E. PRESLEY
37773
PROFESSIONAL ENGINEER
05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

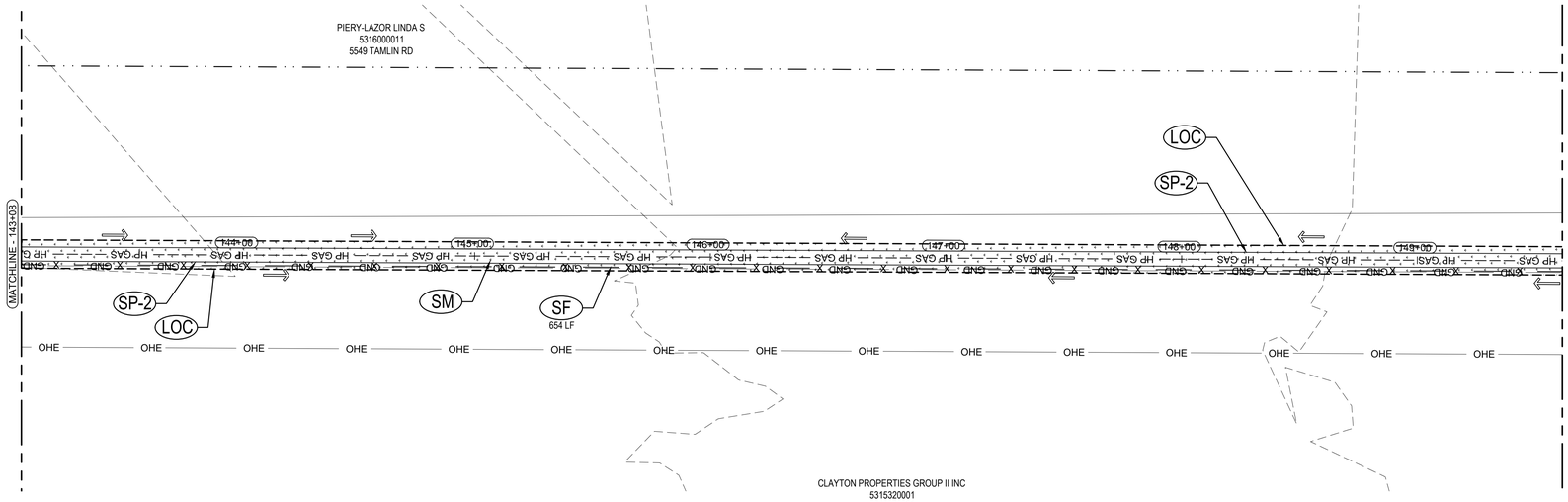
PRC ENGINEERING

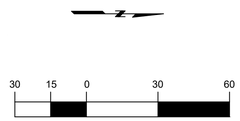
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued	05/10/24

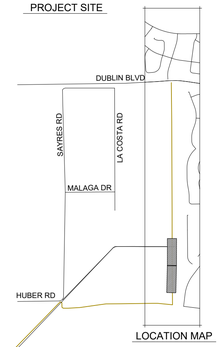
EC11
sheet number

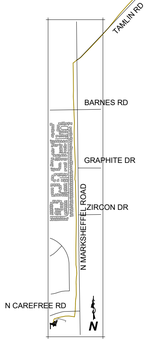


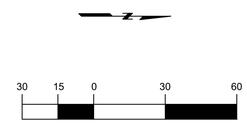


VP#23

MARKSHEFFEL CONNECTOR







VP#24

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

811 Know what's below. Call before you dig. or www.UNCC2.org

COLORADO REGISTERED DONALD E. PRESLEY 37773 PROFESSIONAL ENGINEER 05/10/24

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

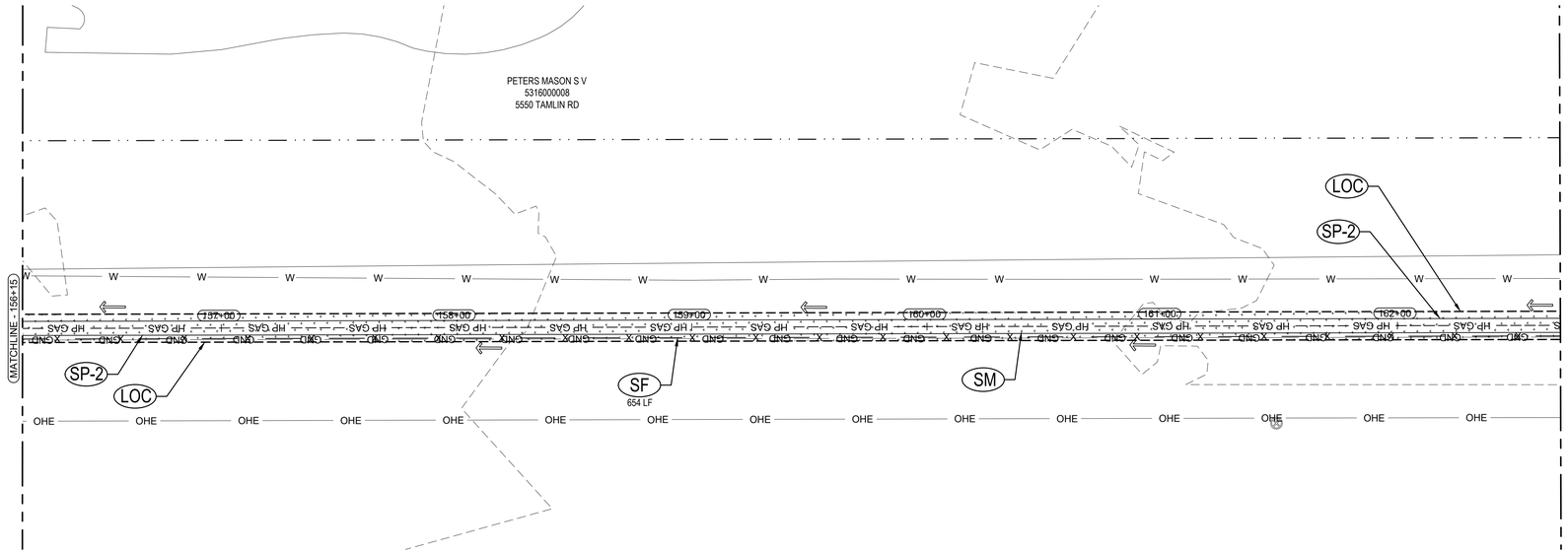
PRC ENGINEERING

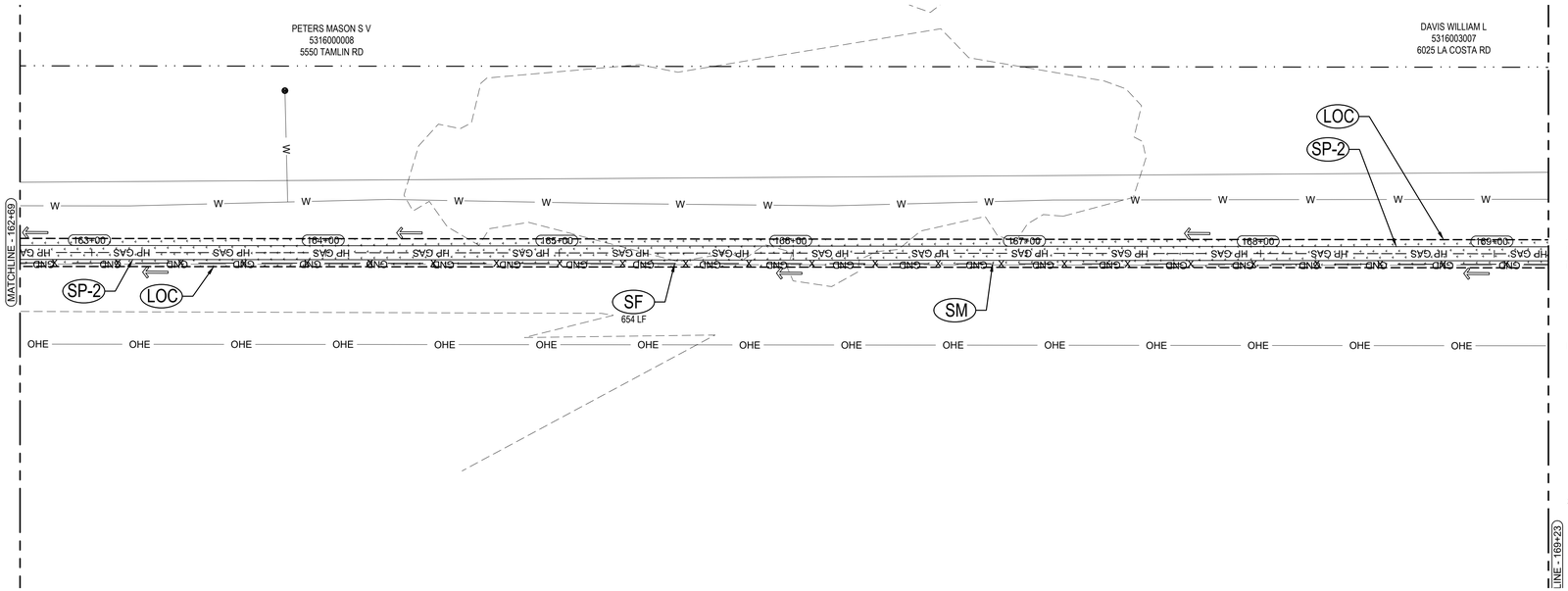
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

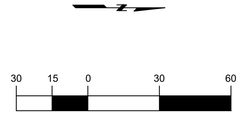
EROSION CONTROL PLAN

issued	05/10/24

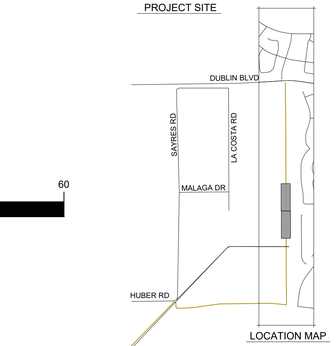
EC12
sheet number

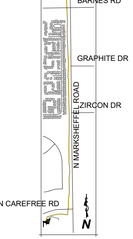


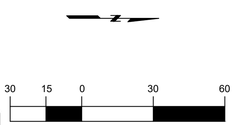




VP#25







VP#26

LINE - 169+23

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

811 Know what's below. Call before you dig. or www.UNCC2.org

COLORADO REGISTERED DONALD E. PEREZ 37773 PROFESSIONAL ENGINEER 05/10/24

PRC ENGINEERING
1680 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

MARKSHEFFEL CONNECTOR

GESC PLAN

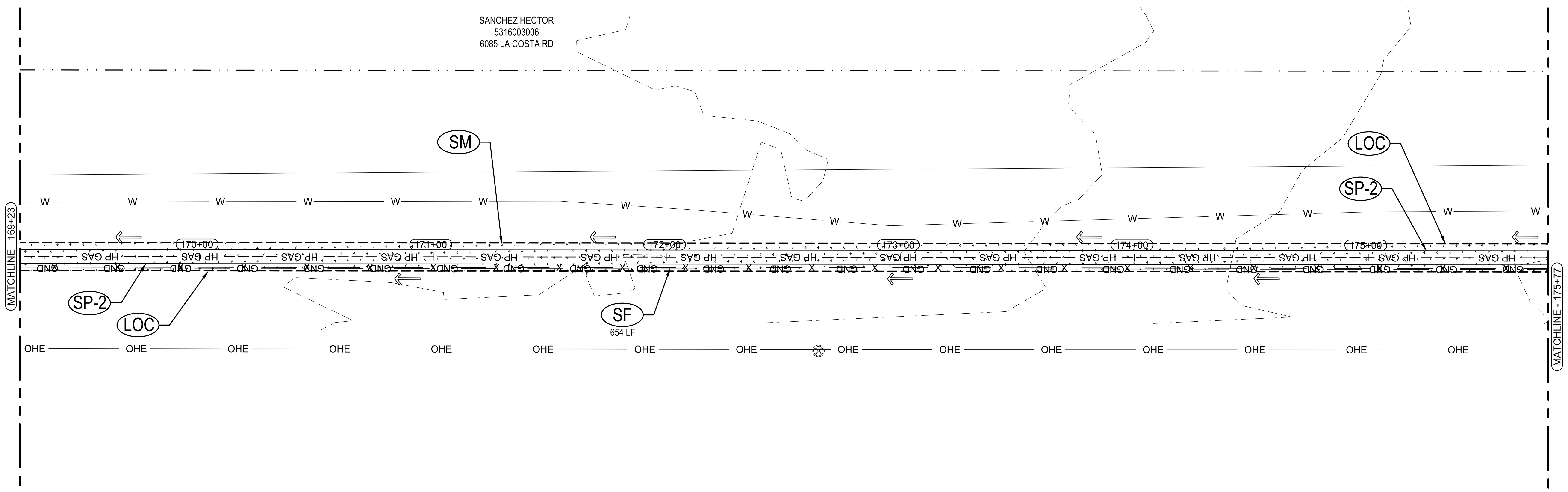
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN

EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued	05/10/24

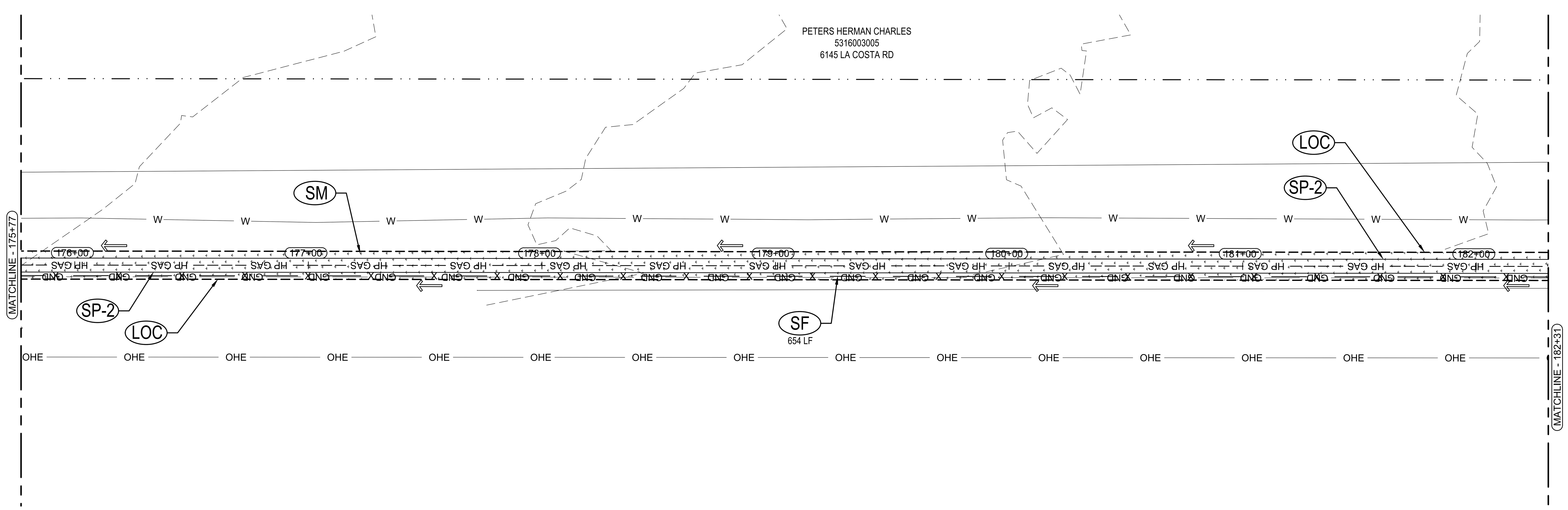
EC13
sheet number



30 15 0 30 60

1 INCH = 30FT

VP#27



30 15 0 30 60

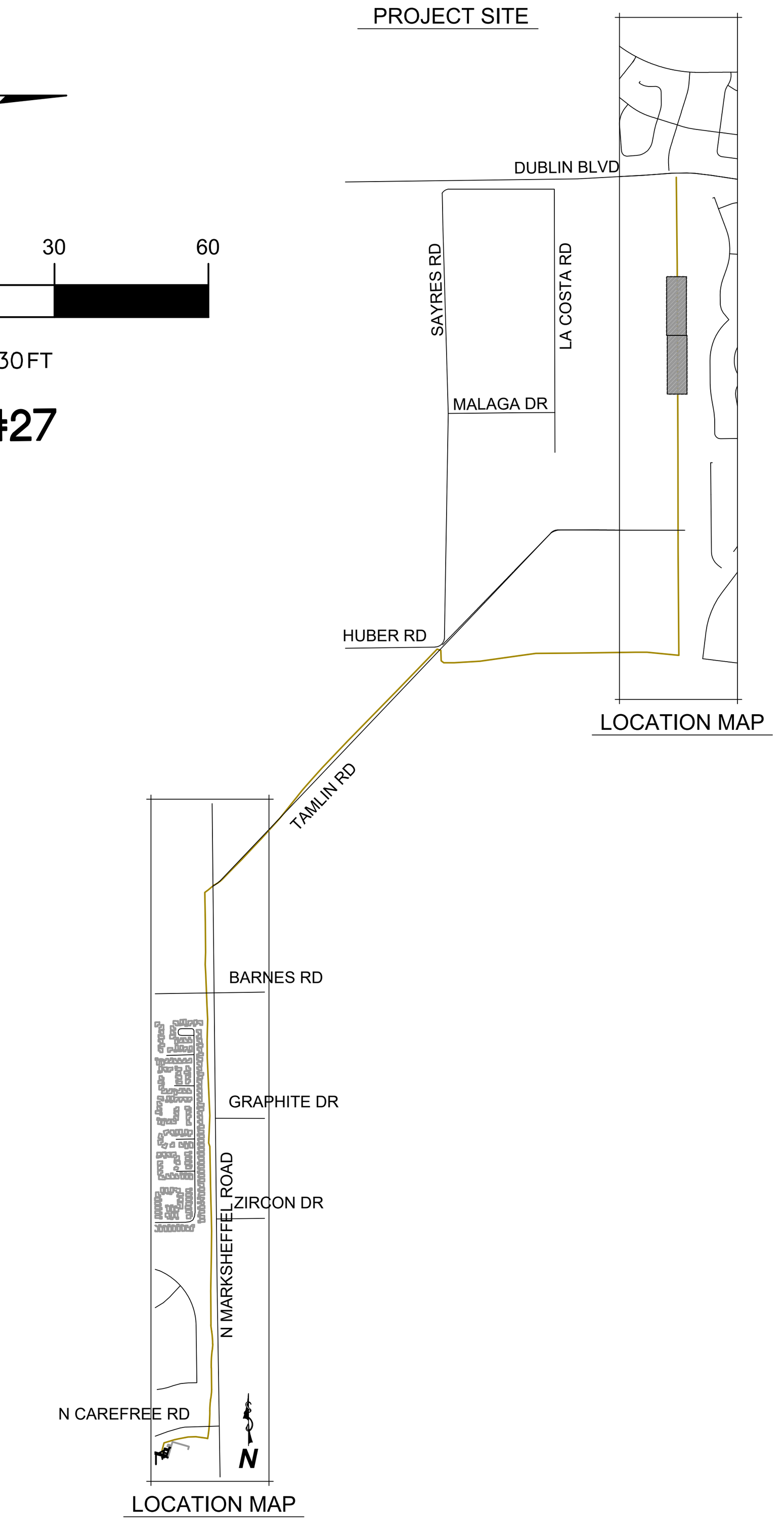
1 INCH = 30FT

VP#28

811 Know what's below. Call before you dig. or www.UNCC2.org

MARKSHEFFEL CONNECTOR

PROJECT SITE



LOCATION MAP

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	SF SILT FENCE
SP-1 SP-2 MATERIALS STAGING	SOIL DISTURBANCE AREA
RS ROCK SOCK	EXISTING FLOW DIRECTION
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP INLET PROTECTION	

PRC ENGINEERING
1685 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

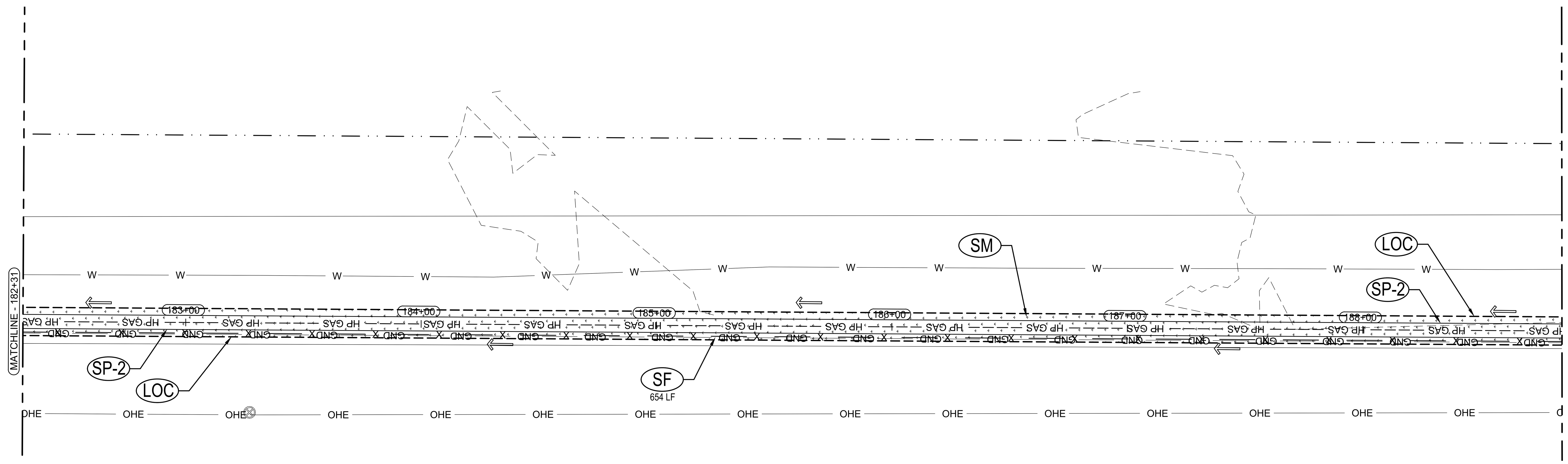
PRC ENGINEERING

G E S C P L A N
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

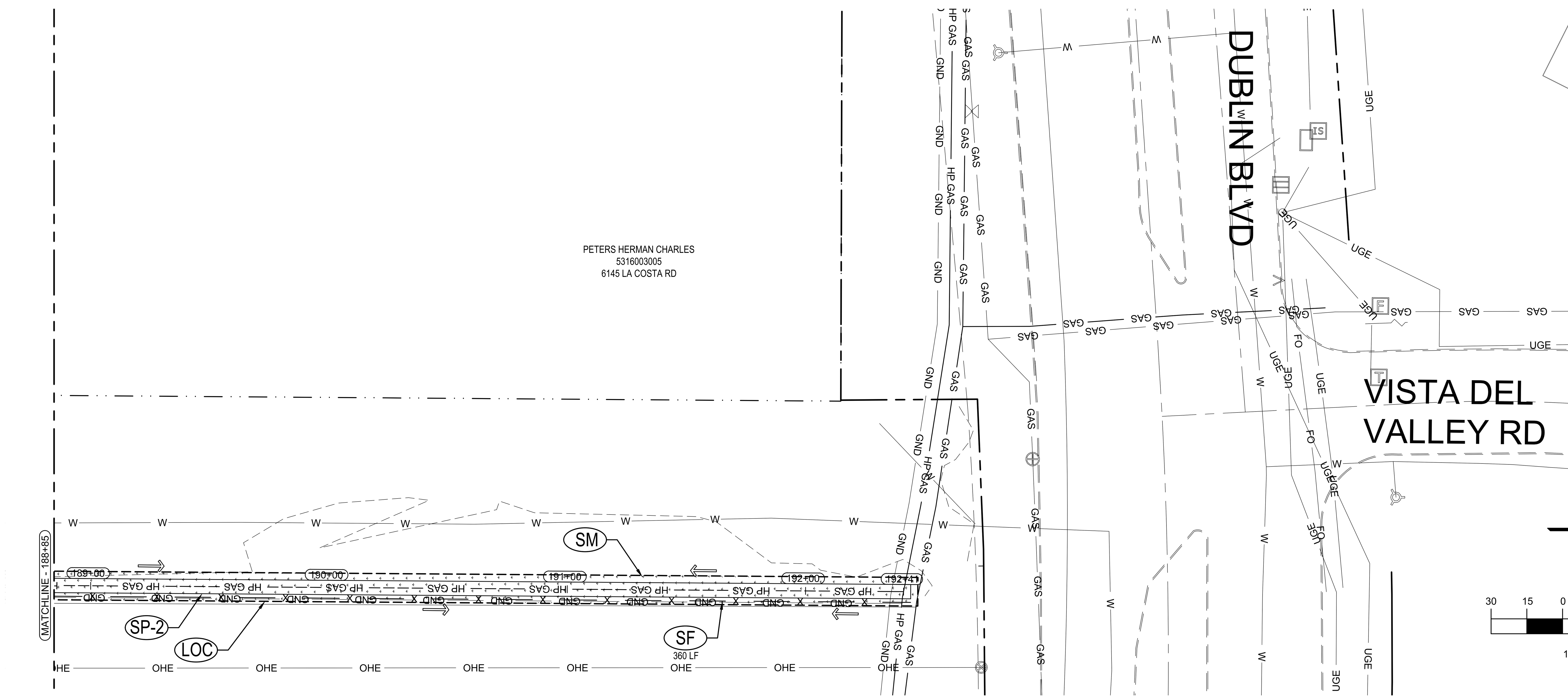
EROSION CONTROL PLAN

issued 05/10/24

EC14
sheet number



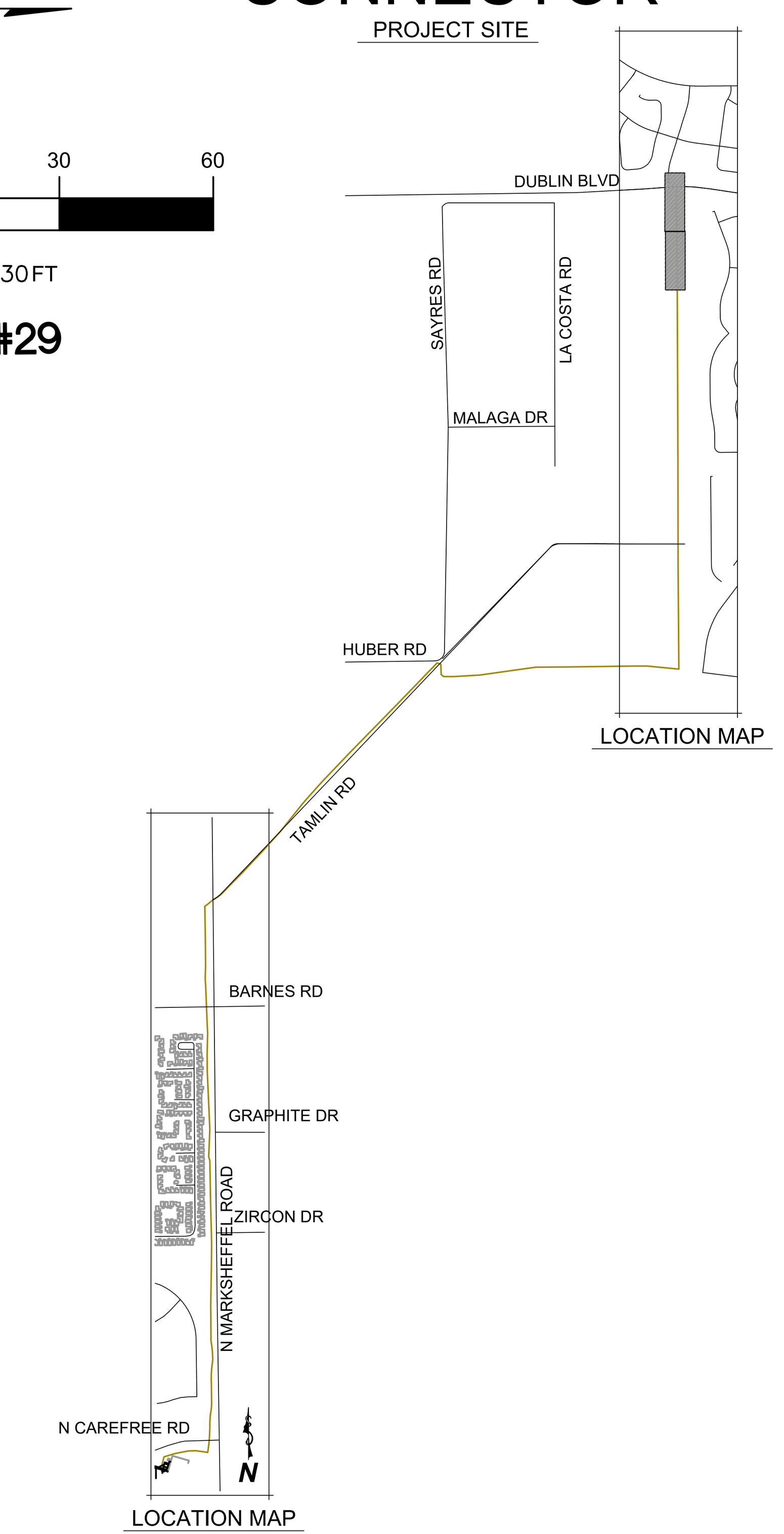
30 15 0 30 60
1 INCH = 30FT
VP#29



30 15 0 30 60
1 INCH = 30FT
VP#30

Know what's below.
Call before you dig.
or www.UNCC2.org

MARKSHEFFEL CONNECTOR



LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	SF SILT FENCE
SP-1 SP-2 MATERIALS STAGING	SOIL DISTURBANCE AREA
RS ROCK SOCK	EXISTING FLOW DIRECTION
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP INLET PROTECTION	

COLORADO REGISTERED PROFESSIONAL ENGINEER
RAYMOND E. PEREZ
37773
05/10/24

PRC ENGINEERING
1685 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

GESC PLAN

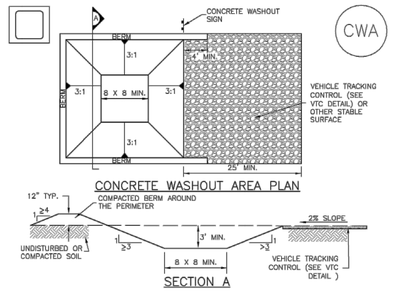
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

EROSION CONTROL PLAN

issued 05/10/24

EC15
sheet number

Concrete Washout Area (CWA) MM-1



CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY, DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

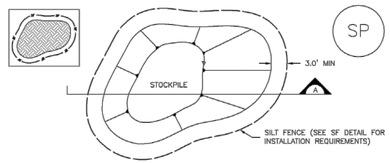
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Stockpile Management (SP) MM-2



SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

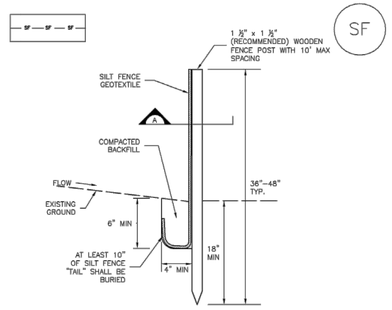
1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY 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.

Silt Fence (SF) SC-1



SF–1. SILT FENCE

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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

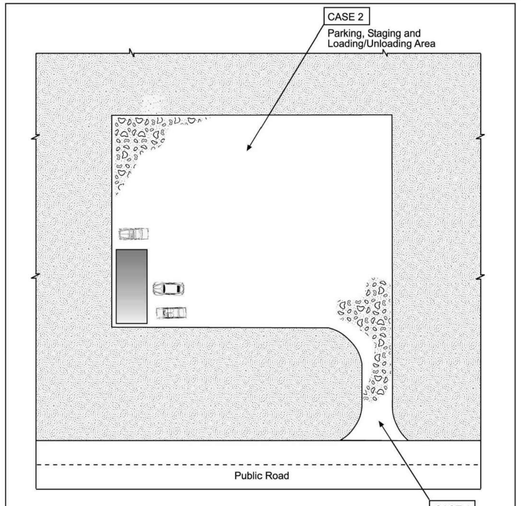


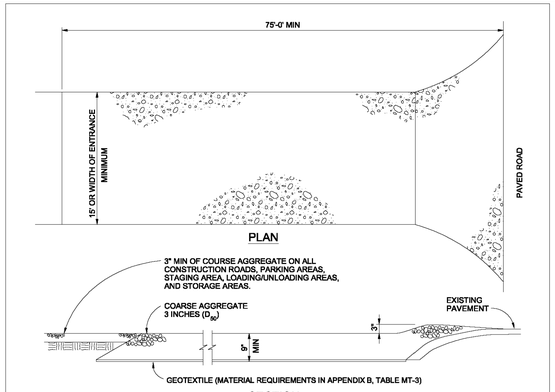
Table VT-1

	Case 1	Case 2
Gravel Thickness	9"	3"
Filter Fabric	YES	NO

City of Colorado Springs
Storm Water Quality

Figure VT-1
Vehicle Tracking
Application Examples

DEN:M153722.CS.CB/FigVT-1/9-99



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.

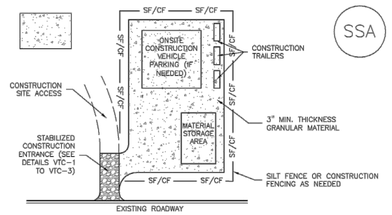
4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.

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

Stabilized Staging Area (SSA) SM-6



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.

SM-6 Stabilized Staging Area (SSA)

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)

Know what's below.
Call before you dig.
or www.UNCC2.org

PRC ENGINEERING
1665 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

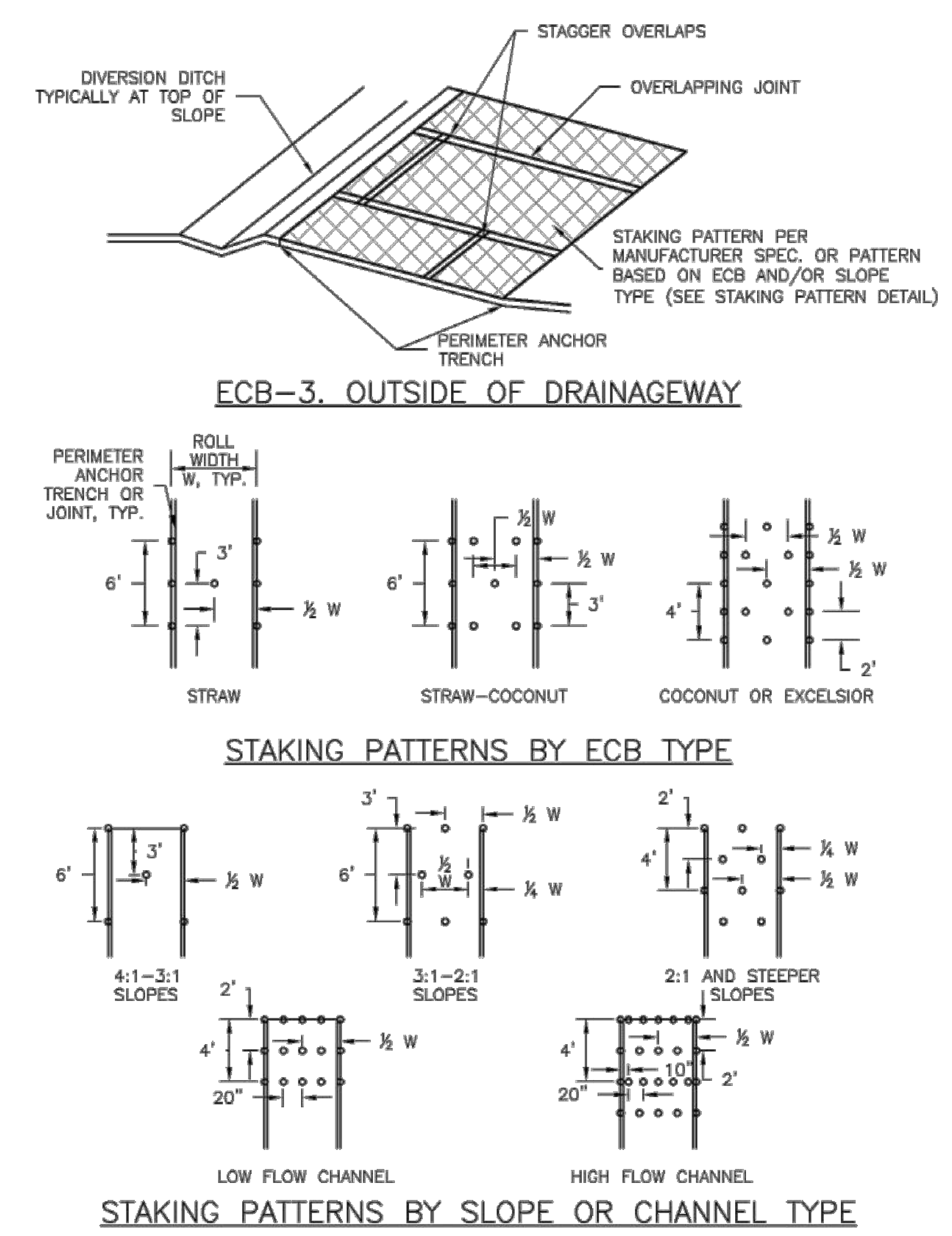
GESC PLAN
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

◆ EROSION CONTROL DETAILS

issued	05/10/24

DT1
sheet number

Know what's below. Call before you dig. or www.UNCC2.org



EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF ECB.
   - TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB–1. ECB MATERIAL SPECIFICATIONS

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

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

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.

Photograph MU-1. An area that was recently seeded, mulched, and crimped.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeding. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

Design and Installation

Prior to mulching, surface-roughen areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

A variety of mulches can be used effectively at construction sites. Consider the following:

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season[b]	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	*Bouteloua gracilis*	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	*Schizachyrium scoparium 'Camper'*	Warm	Bunch	240,000	1.0
Prairie sandreed	*Calamovilfa longifolia*	Warm	Open sod	274,000	1.0
Sand dropseed	*Sporobolus cryptandrus*	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	*Bouteloua curtipendula 'Vaughn'*	Warm	Sod	191,000	2.0
Arriba western wheatgrass	*Agropyron smithii 'Arriba'*	Cool	Sod	110,000	5.5
Total					**10.25**
Heavy Clay, Rocky Foothill Seed Mix					
Ephriam crested wheatgrass[d]	*Agropyron cristatum 'Ephriam'*	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	*Agropyron intermedium 'Oahe'*	Cool	Sod	115,000	5.5
Vaughn sideoats grama[e]	*Bouteloua curtipendula 'Vaughn'*	Warm	Sod	191,000	2.0
Lincoln smooth brome	*Bromus inermis leyss 'Lincoln'*	Cool	Sod	130,000	3.0
Arriba western wheatgrass	*Agropyron smithii 'Arriba'*	Cool	Sod	110,000	5.5
Total					**17.5**

[a] All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

[b] See Table TS/PS-3 for seeding dates.

[c] If site is to be irrigated, the transition turf seed rates should be doubled.

[d] Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

[e] Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	**Warm**	**Cool**	**Warm**	**Cool**
January 1–March 15			✓	✓
March 16–April 30	4	1,2,3	✓	✓
May 1–May 15	4		✓	
May 16–June 30	4,5,6,7			
July 1–July 15	5,6,7			
July 16–August 31				
September 1–September 30		8,9,10,11		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

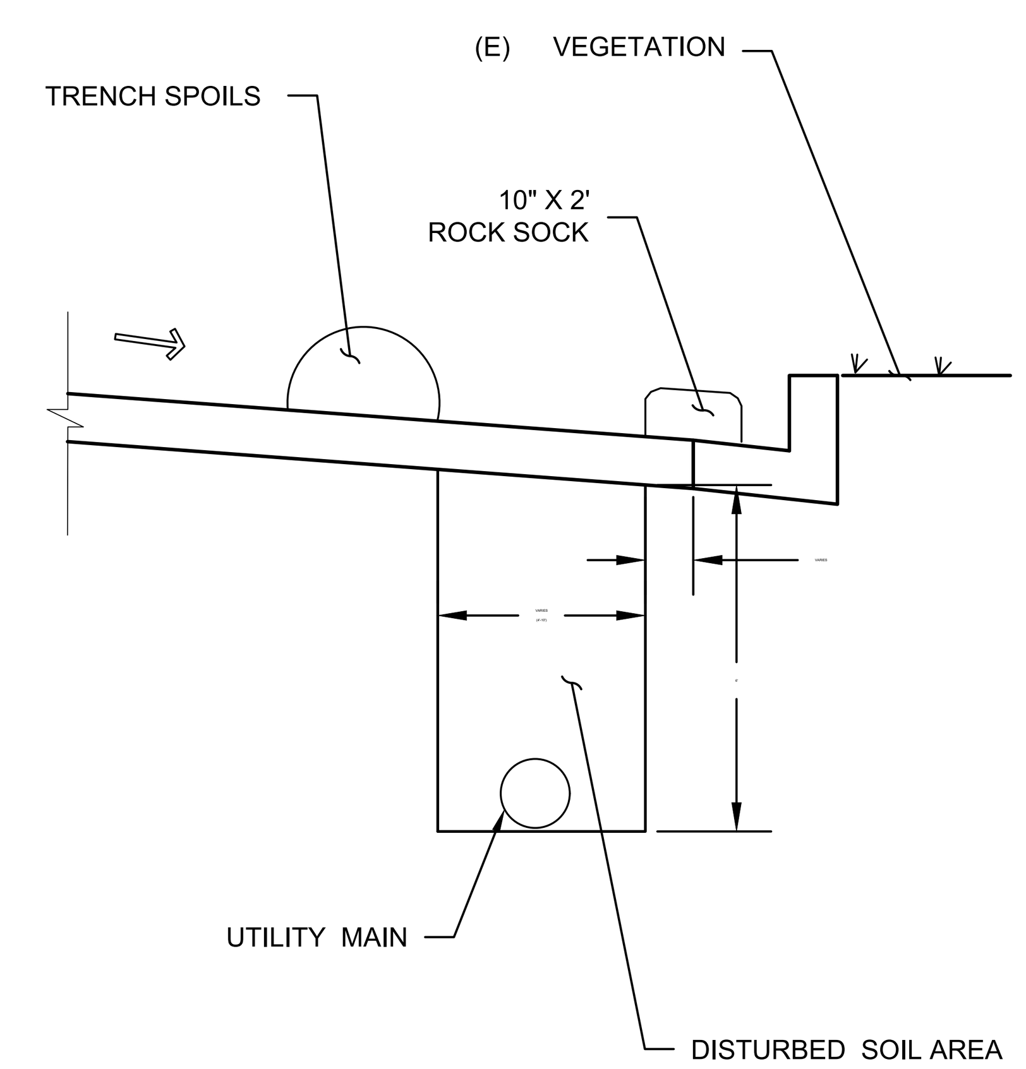
Maintenance and Removal

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

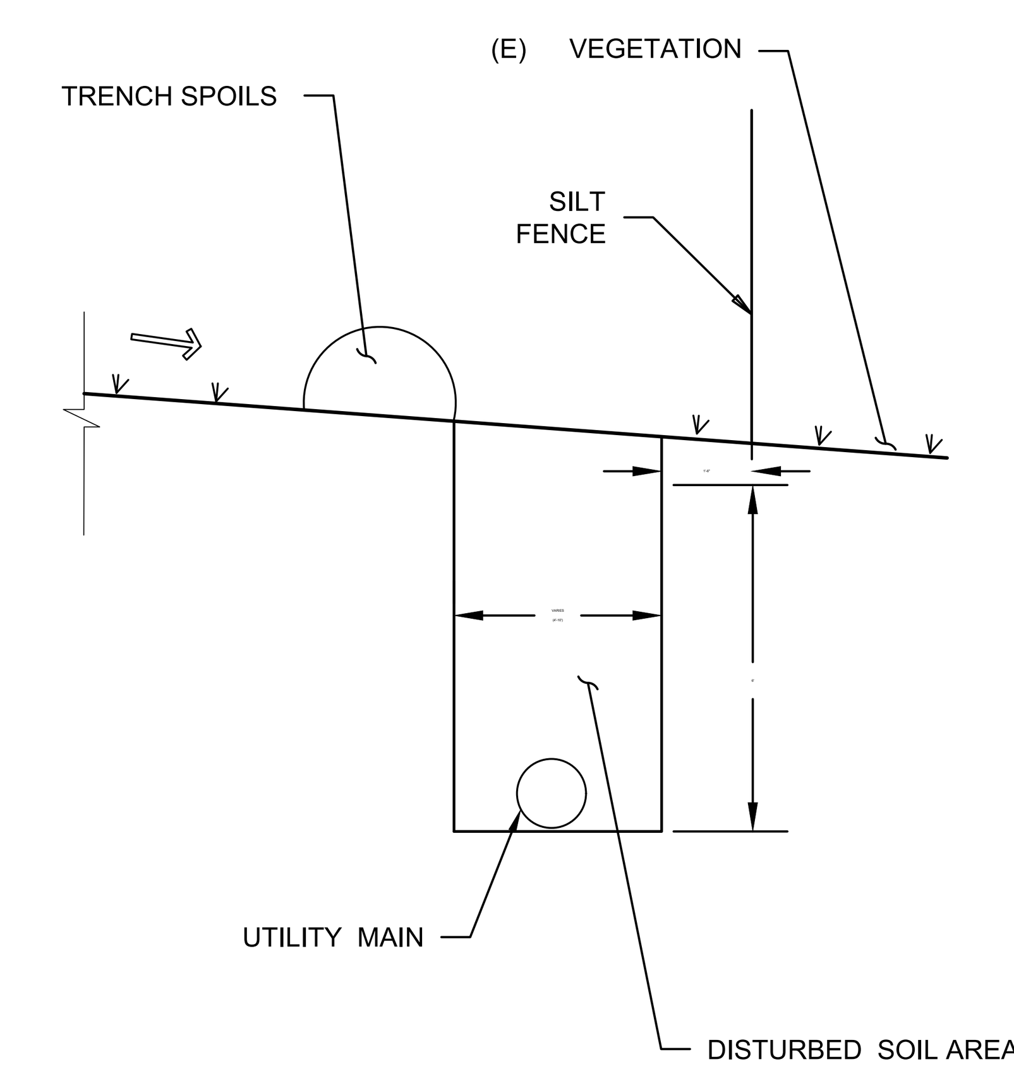
An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

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.



TYPICAL TRENCH SECTION
SP–1
NOT TO SCALE



TYPICAL TRENCH SECTION
SP–2
NOT TO SCALE

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.
5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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

COLORADO REGISTERED RAYMOND E. PEREZ III 37173 PROFESSIONAL ENGINEER 05/10/24

PRC ENGINEERING
1685 W. UINTAH ST., SUITE 114
COLORADO SPRINGS, CO 80904
(719) 291-2744

PRC ENGINEERING

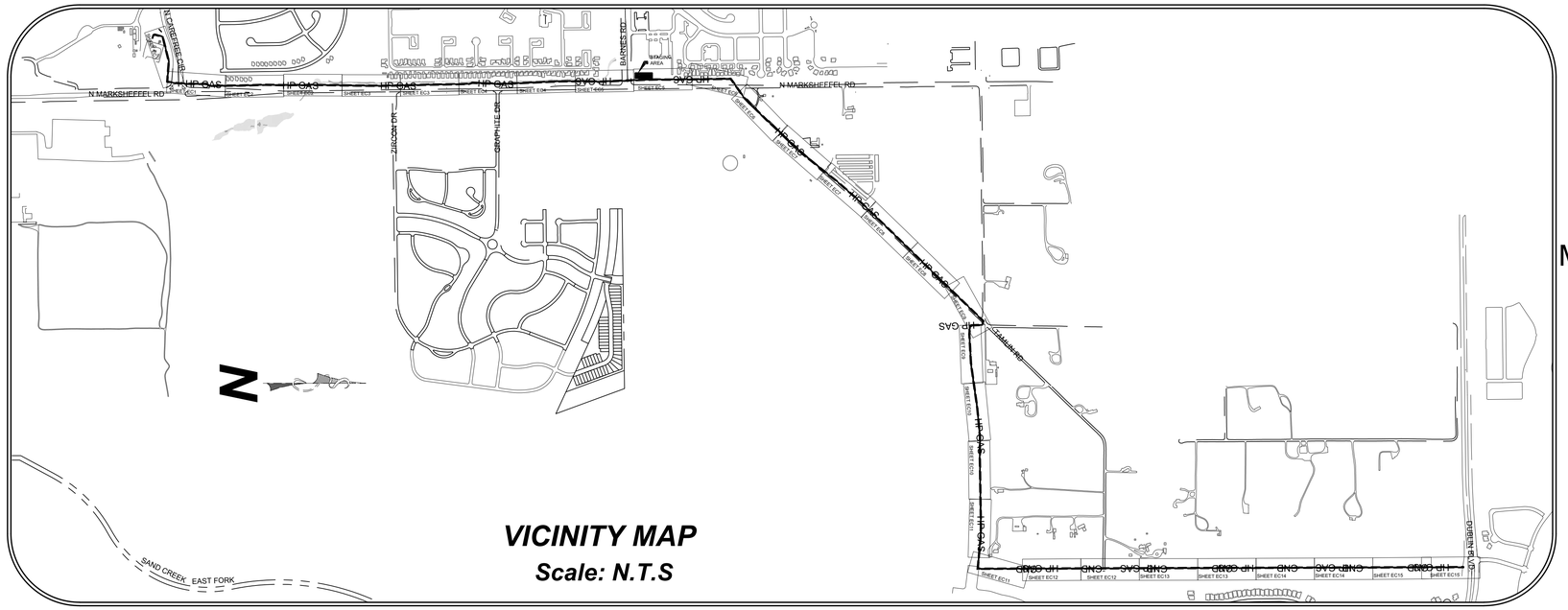
G E S C P L A N
MARK SHEFFEL CONNECTOR
16-IN HIGH PRESSURE GAS MAIN
EL PASO COUNTY, COLORADO

◆ E R O S I O N C O N T R O L D E T A I L S

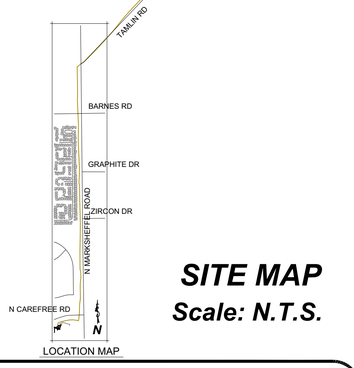
issued 05/10/24

DT2
sheet number

MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE GAS MAIN



VICINITY MAP
Scale: N.T.S



SITE MAP
Scale: N.T.S.

CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL REVIEW:

THIS GRADING AND EROSION CONTROL PLAN IS FILED IN ACCORDANCE WITH CITY CODE. THIS PLAN IS REVIEWED IN ACCORDANCE WITH THE STORMWATER CONSTRUCTION MANUAL, LATEST REVISIONS.

SIGNATURE_____ DATE _____

FOR THE SWENT MANAGER

NOTES: _____

CSU PROJECT MANAGER'S STATEMENT:
I HEREBY CERTIFY THAT THE DRAINAGE, GRADING, AND EROSION CONTROL FOR CSU MARKSHEFFEL CONNECTOR SHALL BE CONSTRUCTED ACCORDING TO THE DESIGN PRESENTED IN THIS GRADING AND EROSION CONTROL PLAN. I FURTHER UNDERSTAND THAT FIELD CHANGES MUST BE REVIEWED BY THE SWENT REVIEW ENGINEER TO ENSURE CONFORMANCE WITH THE ORIGINAL DESIGN INTENT. I AM EMPLOYED BY AND PERFORM ENGINEERING SERVICES SOLELY FOR COLORADO SPRINGS UTILITIES, AN ENTERPRISE OF THE CITY OF COLORADO SPRINGS, AND THEREFORE AM EXEMPT FROM COLORADO REVISED STATUTE TITLE 12, ARTICLE 25, PART 1 ACCORDING TO 12-25-103(1), C.R.S.

NAME OF CSU PROJECT MANAGER: Mark Muñoz

SIGNATURE: Mark Muñoz DATE: 04/16/2024

TITLE: Project Manager

PHONE NUMBER: 719-668-2862

EMAIL ADDRESS: mmunoz@csu.org

CONTRACTOR'S STATEMENT:
I WILL COMPLY WITH THE REQUIREMENTS OF THIS GRADING AND EROSION CONTROL PLAN INCLUDING CONTROL MEASURE INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

NAME OF CONTRACTOR: _____

AUTHORIZED SIGNATURE: _____DATE: _____

TITLE: _____

EMAIL ADDRESS: _____

PHONE NUMBER: _____ADDRESS: _____

ENGINEER'S STATEMENT:
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROERTY.

SIGNATURE _____ DATE 05/06/24

PRINTED NAME RAYMOND E. PEREZ SEAL

COLORADO REGISTERED RAYMOND E. PEREZ 37773 PROFESSIONAL ENGINEER

COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING
1865 W. UINTAH STREET, SUITE 114
COLORADO SPRINGS, CO 80904
www.PRCEng.com (719) 291-2744

SHEET INDEX

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 1 OF 19

REVISIONS:

Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 04/05/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]

GENERAL NOTES

1. ANY LAND DISTURBANCE BY ANY OWNER,DEVELOPER,BUILDER,CONTRACTOR,OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME II.

2. NO CLEARING, GRADING, EXCAVATION, FILLING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTILSIGNOFF AND ACCEPTANCE OF THE GRADING PLAN AND EROSION AND STQ,RMWATER QUALITY CONTROL PLAN IS RECEIVED FROM CITY ENGINEERING.

3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 385-5980, 48 HOURS PRIOR TO CONSTRUCTION.

4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY.

5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.

6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF COLORADO SPRINGS ENGINEERING SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN 12 MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP,PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.

8. THE PLAN SHALL NOT CHANGE THE DEPTH OF COVER, OR ACCESS TO UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY COLORADO SPRINGS UTILITIES EASEMENT OR RIGHT-OF-WAY WITHOUT THEIR WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN.THE COST TO RELOCATE OR PROTECT UTILITIES OR TO PROVIDE INTERIM ACCESS IS THE APPLICANT'S EXPENSE.

9. ACCORDING TO FEMA FLOOD INSURANCE RATE MAP 08041C0727F AND 08041C0514F EFFECTIVE MARCH 17, 1997, THERE IS NO FLOODPLAIN WITHIN THE PROJECT LIMITS.

10. STOCKPILE AND TEMPORARY DISPOSAL AREA LOCATIONS WILL BE DETERMINED BY CONTRACTOR.

11. STABILIZED STAGING AREA TO BE OFF-SITE

12. PROPOSED TOPOGRAPHY IS EQUAL TO EXISTING TOPOGRAPHY.

TIMING ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:

START: 06/01/24
END: 05/30/25

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETE:

08/30/25

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

TOTAL PROJECT AREA: 40 ACRES
TOTAL AREA TO BE DISTURBED: 20 ACRES

NAME OF RECEIVING WATERS:
SAND CREEK VIA CITY OF COLORADO SPRINGS STORM SEWER SYSTEM

SOILS INFORMATION:
TRUCKTON SANDY LOAM ,3 TO 9 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: A

BLAKELAND LOAMY SAND, 1 TO 3 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: A

BLEDON SANDY LOAM, 0 TO 3 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: B

13. ALL UTILITIES ARE WITHIN PUBLIC RIGHT-OF-WAY

14. ADJACENT PROPTERTIES ARE NOT ANTICIPATED TO BE AFFECTED BY THIS CONSTRUCTION.

15. NO GEOLOGIC HAZARD STUDY REVIEW WAS COMPLETED TO DETERMINE THERE ARE NO AREAS IDENTIFIED AS "NO-BUILD AREAS".

STANDARD GEC PLAN NOTES

1. NO CLEARING, GRADING, EXCAVATION, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE ALLOWED (EXCEPT FOR WORK DIRECTLY RELATED TO THE INSTALLATION OF INITIAL CONTROL MEASURES) UNTIL A CITY GEC PERMIT HAS BEEN ISSUED.

2. ALL LAND DISTURBING ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH AND THE APPROVED GEC PLAN AND CSWMP.

3. INITIAL CONTROL MEASURES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY LAND DISTURBANCE ACTIVITIES TAKING PLACE. AN INITIAL SITE INSPECTION WILL NOT BE SCHEDULED UNTIL A CITY GEC PERMIT HAS BEEN "CONDITIONALLY APPROVED." CALL CITY STORMWATER INSPECTIONS, 385-5980, AT LEAST 48 HOURS PRIOR TO CONSTRUCTION TO SCHEDULE AN INITIAL INSPECTION AND OBTAIN FULL PERMIT APPROVAL.

4. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), INCLUDING REGULATIONS PROMULGATED AND CERTIFICATIONS OR PERMITS ISSUED, IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE CITY'S MS4 PERMIT, STORMWATER CONSTRUCTION MANUAL. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

5. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS.

6. ALL CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION MEASURES ARE IMPLEMENTED. TEMPORARY CONSTRUCTION CONTROL MEASURES MUST BE REMOVED PRIOR TO PERMIT CLOSEOUT.

7. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS OR ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.

8. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONSTRUCTION CONTROL MEASURES MAY BE REQUIRED BY THE GEC INSPECTOR IF DEEMED NECESSARY BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).

9. ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

10. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AS A RESULT OF CONSTRUCTION ACTIVITIES.

11. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO THE STORM SEWER SYSTEM AT ANY TIME.

12. SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT ALL STORAGE, EQUIPMENT FUELING, AND EQUIPMENT SERVICING AREAS SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITY. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT ADEQUATE PROTECTION. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

13. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED AS SOON AS POSSIBLE AFTER DISCOVERY.

14. NO CHEMICALS ARE TO BE ADDED TO THE DISCHARGE UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED BY THE STATE. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

15. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER FINAL GRADING OR FINAL LAND DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS SHALL BE ROUGHENED, MULCHED, TACKIFIED, OR STABILIZED WITH TARPS WITHIN FOURTEEN (14) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDED, UNLESS AN ALTERNATIVE STABILIZATION MEASURE IS ACCEPTED AT THE INSPECTOR'S DISCRETION. ALL TEMPORARY CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED.

16. THE GEC PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE STORMWATER ENTERPRISE SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY'S ACCEPTANCE OF THE PLAN, THE CONSTRUCTION SITE IS IDLE FOR TWELVE (12) CONSECUTIVE MONTHS, A CHANGE IN PROPERTY OWNERSHIP OCCURS, THE PLANNED DEVELOPMENT CHANGES, OR ANY OTHER MAJOR MODIFICATIONS ARE PROPOSED AS DEFINED IN THE STORMWATER CONSTRUCTION MANUAL.

17. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY UTILITY EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL FROM THE UTILITY OWNER. CITY ACCEPTANCE OF THE GEC PLAN AND CSWMP DOES NOT SATISFY THIS REQUIREMENT. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS SHALL BE AT THE APPLICANT'S EXPENSE.

18. APPLICANT REPRESENTS AND WARRANTS THAT THEY HAVE THE LEGAL AUTHORITY TO GRADE AND/OR CONSTRUCT IMPROVEMENTS ON ADJACENT PROPERTY. THE CITY HAS NOT REVIEWED THE DEVELOPER'S AUTHORITY TO MODIFY ADJACENT PROPERTY. AN APPROVED GEC PERMIT DOES NOT PROVIDE APPROVAL FOR THE APPLICANT TO PERFORM WORK ON ADJACENT PROPERTY.

19. AFTER THE GEC PLAN AND CSWMP ARE BOTH SIGNED, SUBMIT THE GEC PERMIT APPLICATION AND PAY THE PERMIT FEE. AFTER YOUR GEC PERMIT APPLICATION HAS BEEN APPROVED, A CITY GEC PERMIT MUST BE OBTAINED. PLEASE USE THE CITY'S SOFTWARE, ACCELA, TO COMPLETE, YOU WILL RECEIVE AN EMAIL WITH FURTHER INSTRUCTIONS. CONSTRUCTION ACTIVITIES SHALL NOT BEGIN UNTIL A GEC PERMIT HAS BEEN OBTAINED. FOR ADDITIONAL INFORMATION, CALL (719) 385-5980.

20. THE CONCRETE WASHOUT LOCATION WILL BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL MARK THE LOCATION ON THESE PLANS.

21. NO CONCRETE OR ASPHALT BATCH PLANTS AND/OR MASONRY MIX STATIONS ARE PLANNED FOR THIS PROJECT. NONE ARE INTEDED TO BE IMPLEMENTED OR INSTALLED IN CONJUNCTION WITH THIS PROJECT.

22. NON-STRUCTURAL CONTROLS ARE CONSTRUCTION CONTROL MEASURES (CCMS) THAT DO NOT INVOLVE A STRUCTURED, OR ENGINEERED SOLUTION. THEY INCLUDE SUCH MEASURES AS EDUCATION, SITE PLANNING, AND STORMWATER MANAGEMENT REGULATIONS IN ADDITION TO SWEEPING AND GOOD HOUSEKEEPING.

QUANTITIES

BMP

	(UNIT)	(AMOUNT)	
ROCK SOCK	EA	50	(ROCK SOCKS WILL BE RE-USED DAILY)
SEEDING AND MULTCHING	AC	3.84	
SILT FENCE	LF	14,775	
INLET PROTECTION	EA	1	

THIS PROJECT IS EXEMPT FROM ASSURANCES.

LEGEND

AS-BUILT HP GAS MAIN
AS-BUILT GAS MAIN
AS-BUILT GAS SERVICE
EXISTING HP GAS MAIN
EXISTING GAS MAIN
EXISTING GAS SERVICE
GAS LINE TO BE ABANDONED
GASLIGHT
GAS VALVE
EXCESS FLOW VALVE
RELIEF VALVE
COUPLINGS
BOND OVER
TEST POINT
INSULATOR
REGULATOR STATION
MONITORS
ANODE
SCADA
METER SET ASSEMBLY
PURGE POINT
BRANCH,CVT,LINE STOPPER
PROPOSED HP GAS MAIN
PROPOSED GAS MAIN
PROPOSED GAS SERVICE
PROPOSED CATHODIC GROUND
EXISTING EASEMENT
PROPOSED EASEMENT
ROW LINE
PROPERTY LINE
STREET CENTERLINE
EDGE OF PAVEMENT
CONCRETE/ASPHALT
CABLE LINE - UNDERGROUND
ELECTRIC - OVERHEAD
ELECTRIC - UNDERGROUND
FIBER OPTIC - UNDERGROUND
PHONE - OVERHEAD
PHONE - UNDERGROUND
RECLAIMED WATER
SEWER
STORMWATER
PROPOSED STORMWATER
WATER
FENCE LINE
UTILITY PEDESTALS
FIRE HYDRANT
MANHOLE
WATER VALVE
SURVEY MONUMENT
POWER POLE
TRAFFIC SIGNAL
GAS FLOW ARROW

PRC ENGINEERING
1865 W. UINTAH STREET, SUITE 114
COLORADO SPRINGS, CO 80904
www.PRCEng.com (719) 291-2744

COLORADO REGISTERED 57173 PROFESSIONAL ENGINEER

ABBREVIATIONS

@	ANODE	GR.BK.(OR V.P.I.)	V.P.I. GRADE BREAK	RSTNT	MJ RESTRAINT (i.e. MEGALUG)
ACT	ACTUAL	HDPE	HIGH DENSITY POLYETHYLENE PIPE	SJ	SLIP JOINT
BFV	BUTTERFLY VALVE	HYD. ASSY.	INCLUDES FIRE HYDRANT, LATERAL, VALVE, TIE RODS AND REVERSE ANCHOR	SS	SANITARY SEWER
BOP	BOTTOM OF PIPE			STA	STATION
BOV	BLOWOFF ASSEMBLY AND VALVE	INV.	INVERT	STS	STORM SEWER
CB	CATCH BASIN	MJ	MECHANICAL JOINT	TOP	TOP OF PIPE
CMP	CORRUGATED METAL PIPE	N, S, E, W	NORTH, SOUTH, EAST, WEST	TS	TEST STATION
CPLG.(INS.),(RED.), (STR.)	COUPLING (INSULATING), (REDUCING), (STRAIGHT)	PH	POTHOLE	WL	WATER LINE
		PL	PROPERTY LINE	.333	4" ABOVE EXIST. TOP OF CURB OR GROUND
CR	CURB RETURN	PP	POWER POLE		
CRA	CONCRETE REVERSE ANCHOR	PSI	POUNDS PER SQUARE INCH		
CTRB	CONCRETE THRUST REACTION BLOCK	PUPS	12" OR SMALLER, USE PLAIN END BY PLAIN END, 30" LENGTH, 16" OR LARGER		
DEFL	DEFLECT				
DIP	DUCTILE IRON PIPE		USE PLAIN END BY PLAIN END, 24" LENGTH		
EL	ELEVATION	PVC	POLYVINYL CHLORIDE PIPE		
FLG	FLANGE	RCP	REINFORCED CONCRETE PIPE		
GPM	GALLONS PER MINUTE	RED	REDUCER		

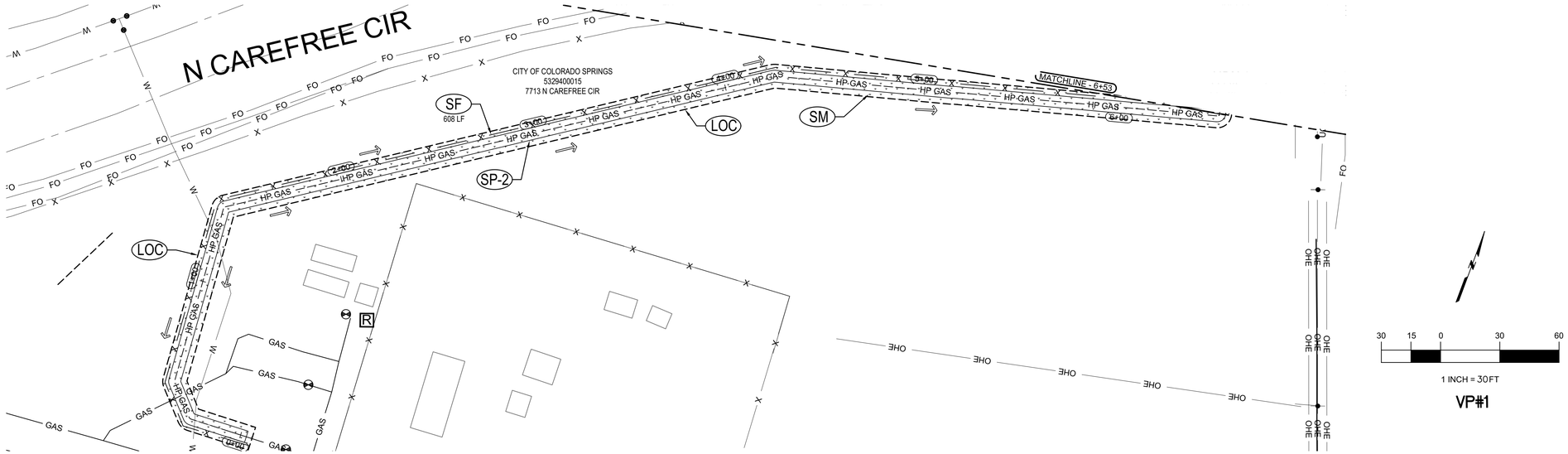
(AS BUILT INFORMATION)

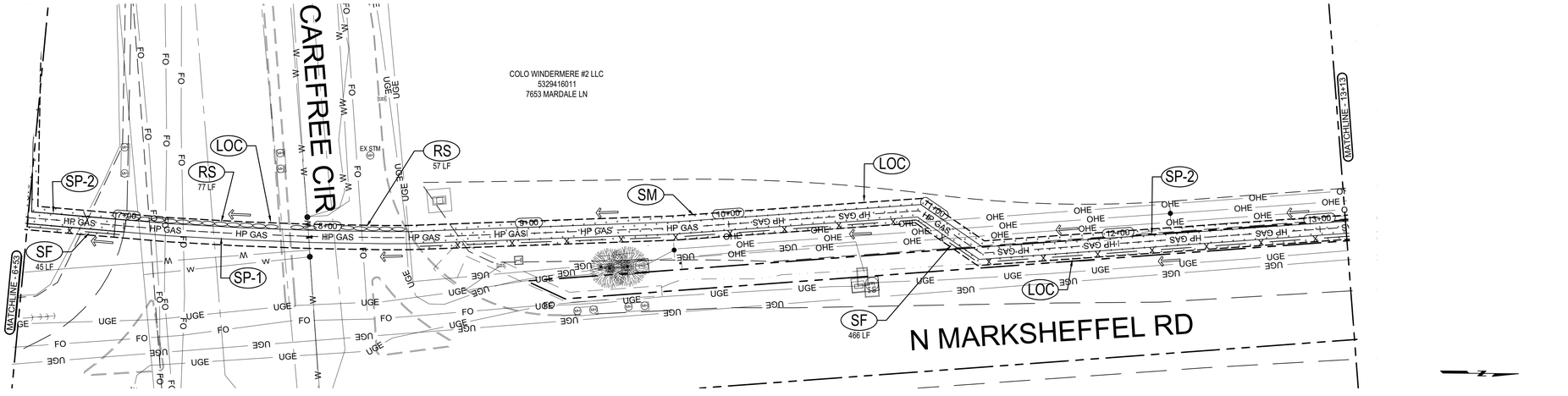
DATE STARTED:
DATE COMPLETED:
FOREMAN:
INSPECTOR:
CONTRACTOR:

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

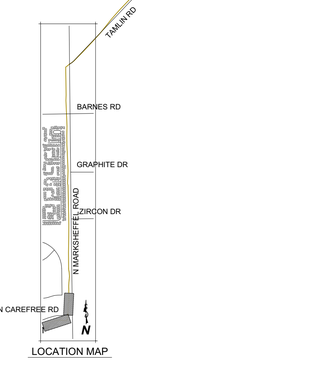
(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 2 OF 19
REVISIONS:





MARKSHEFFEL CONNECTOR



COLORADO 811 — KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- X — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

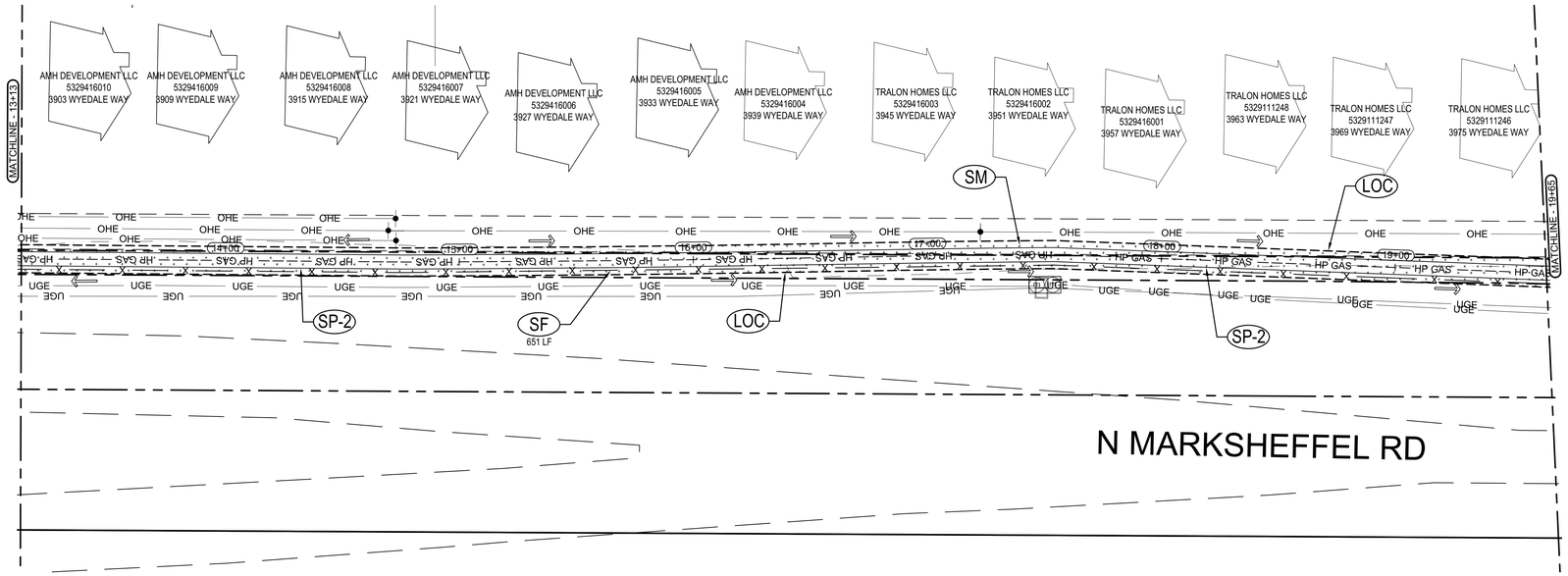
(PROJECT RELATED INFORMATION)
PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 3 OF 19
REVISIONS:

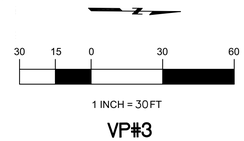
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

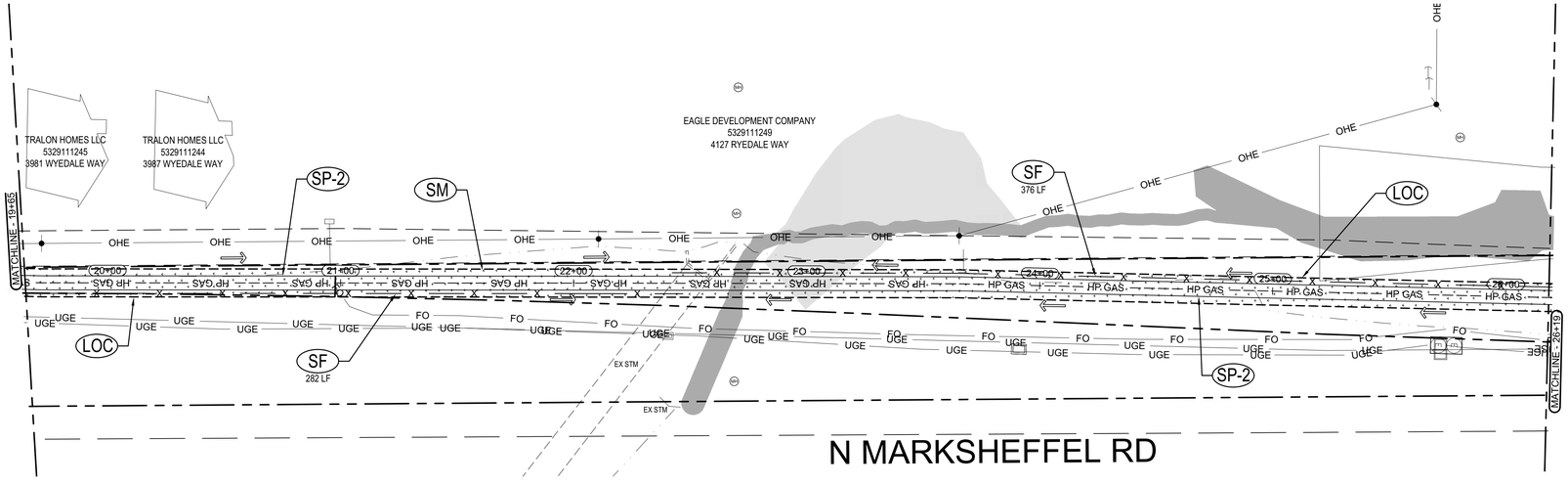
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

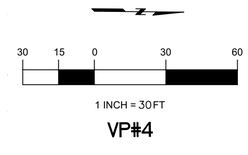
[INSERT TASK]





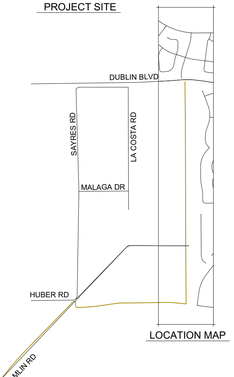
VP#3

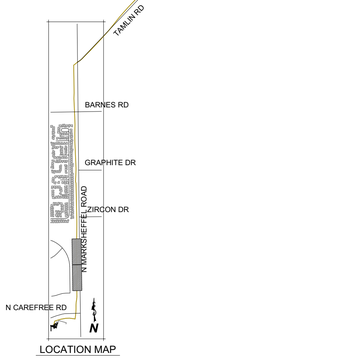




VP#4

MARKSHEFFEL CONNECTOR





COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

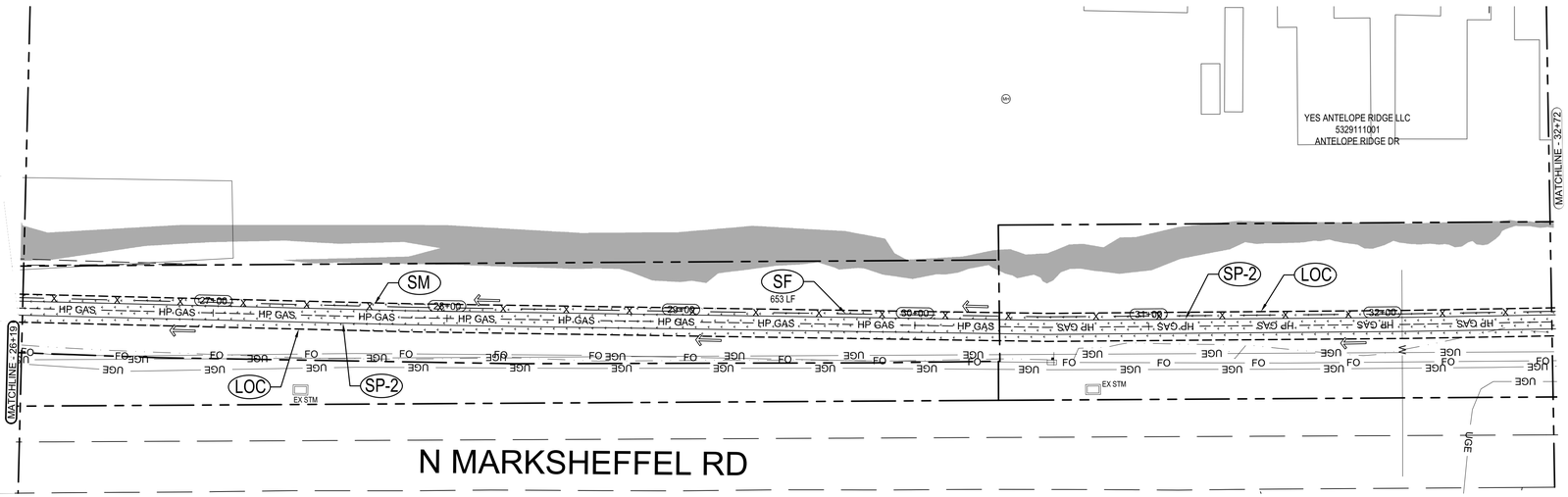
(PROJECT RELATED INFORMATION)	
PARENT WORK ORDER NUMBER:	3988813
PROJECT NUMBER:	
FIMS MAP:	
SHEET NO:	4 OF 19
REVISIONS:	

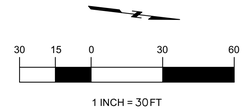
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

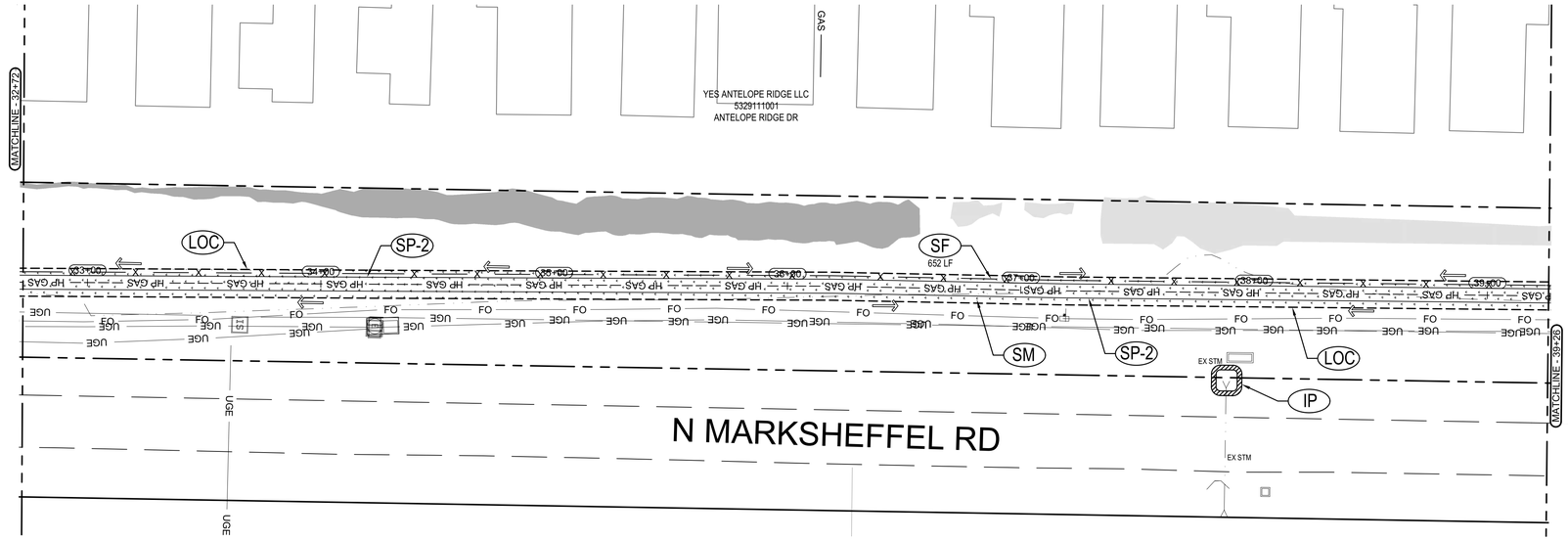
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

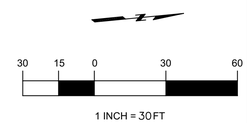
[INSERT TASK]





VP#5





VP#6

MARKSHEFFEL CONNECTOR

LOCATION MAP

COLORADO 811 — KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	SF SILT FENCE
SP-1 SP-2 MATERIALS STAGING	SOIL DISTURBANCE AREA
RS ROCK SOCK	EXISTING FLOW DIRECTION
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP INLET PROTECTION	

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 5 OF 19

REVISIONS:

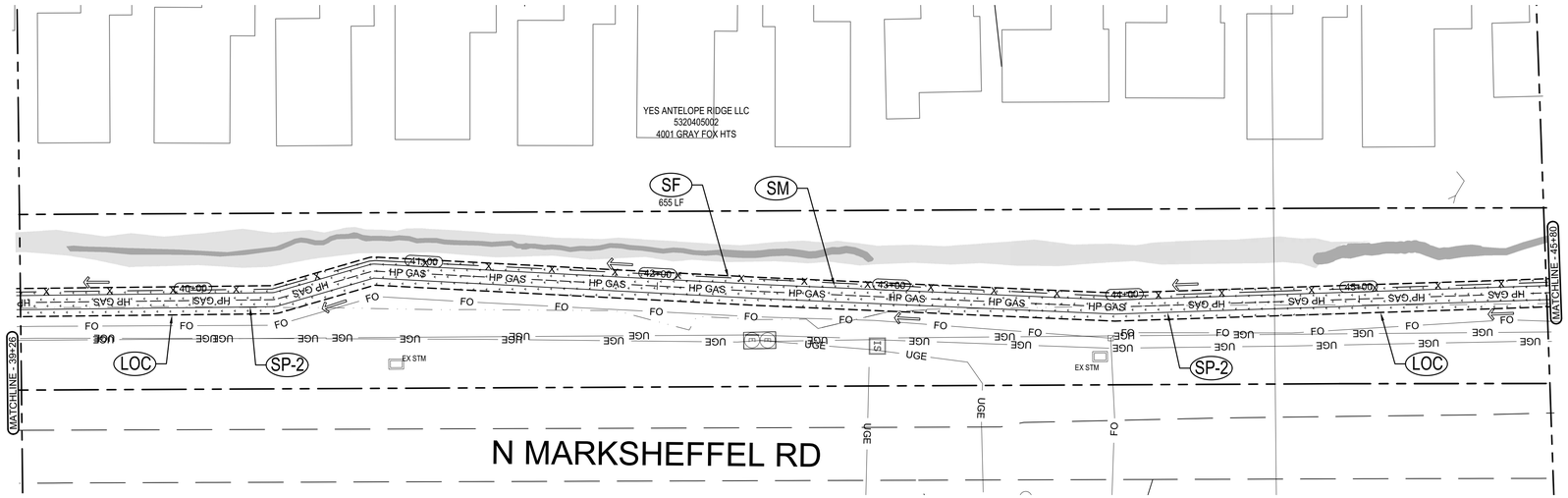
Colorado Springs Utilities

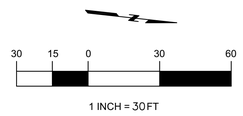
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

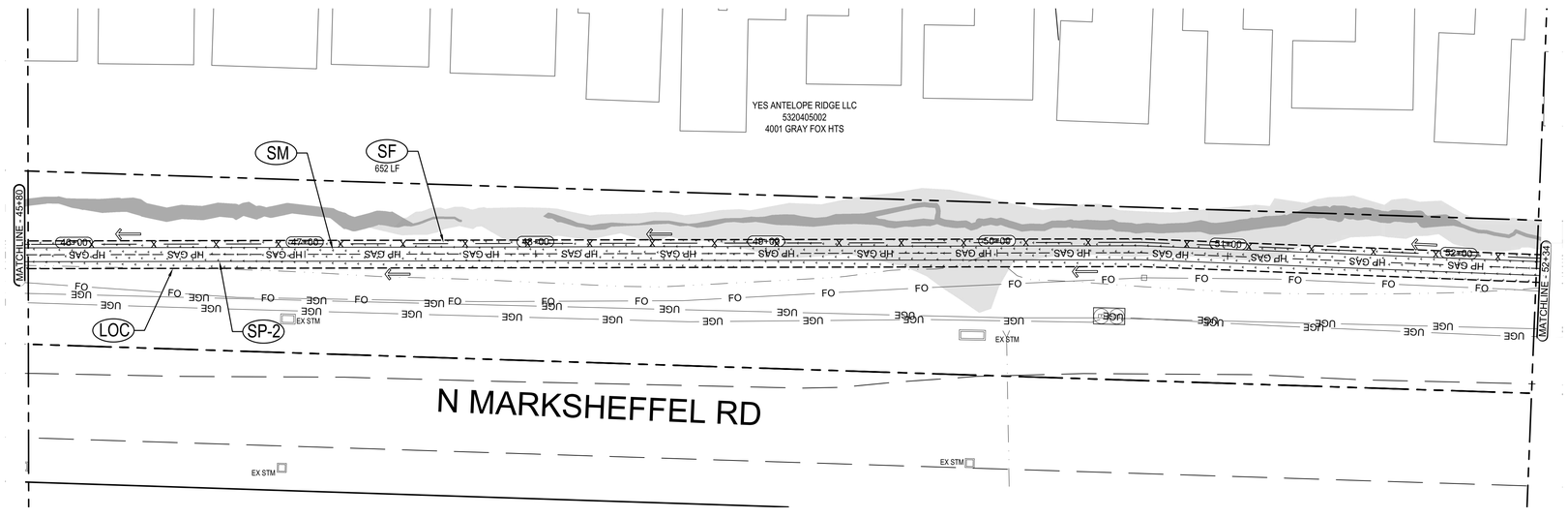
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

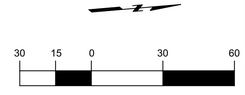
[INSERT TASK]





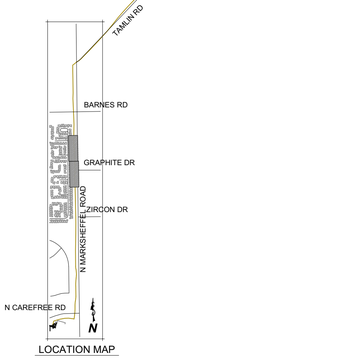
VP#7





VP#8

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 6 OF 19

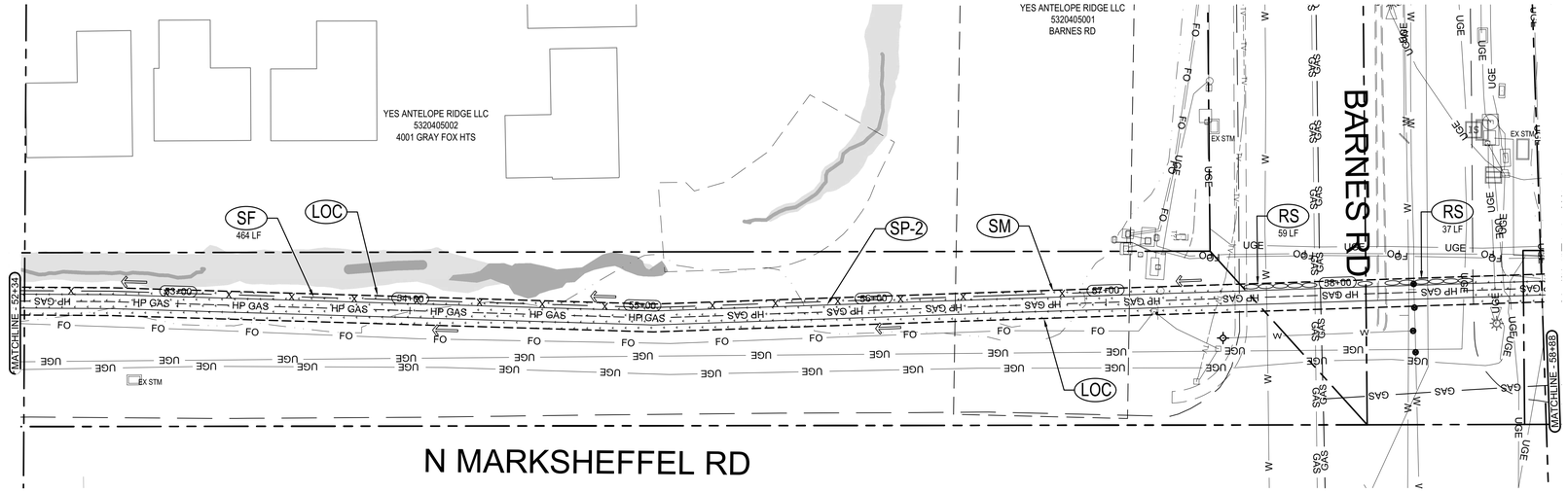
REVISIONS:

Colorado Springs Utilities
It's how we're all connected

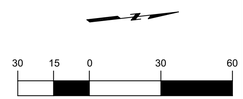
DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]

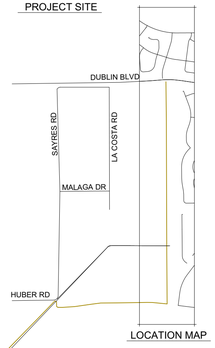


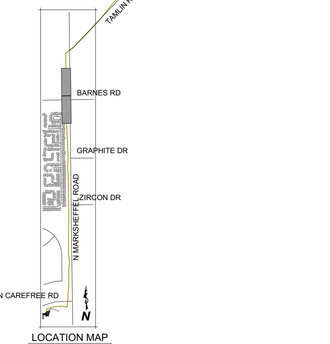
VP#9



VP#10

MARKSHEFFEL CONNECTOR





COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 7 OF 19

REVISIONS:

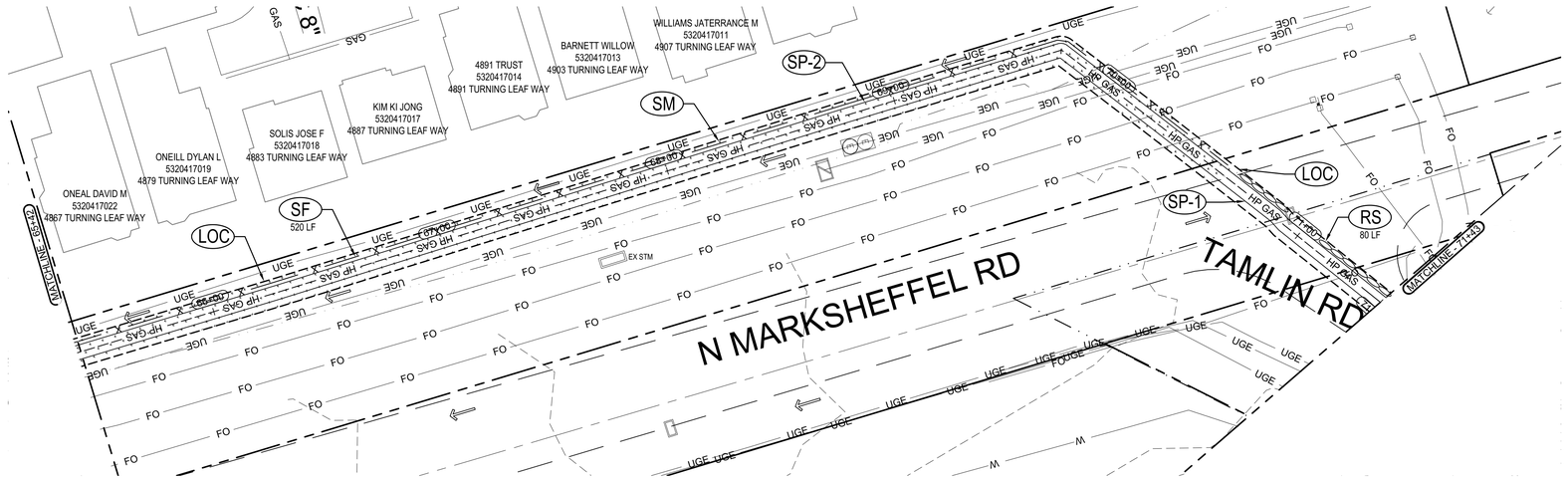
Colorado Springs Utilities

It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

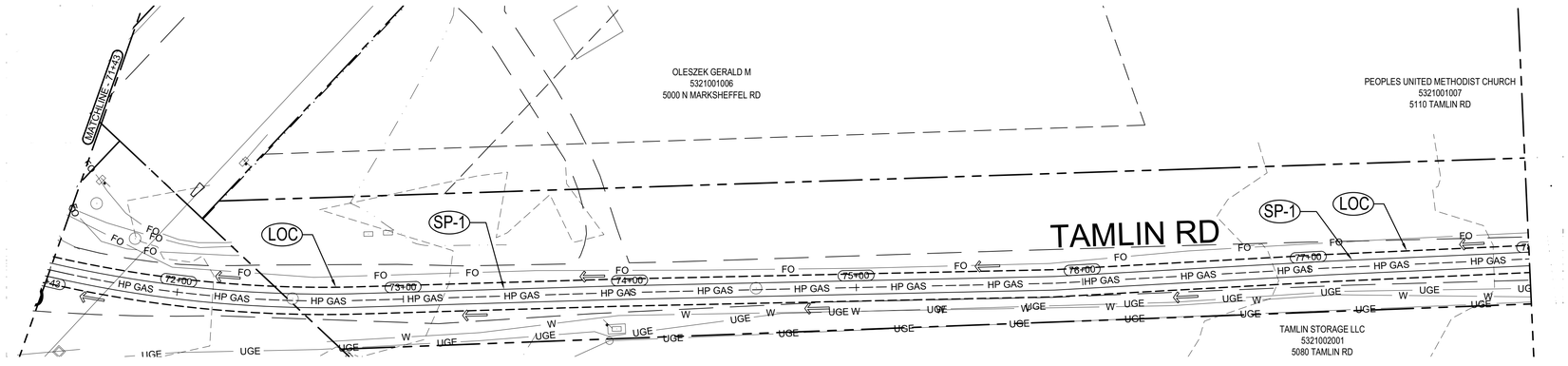
[INSERT TASK]



30 15 0 30 60

1 INCH = 30 FT

VP#11



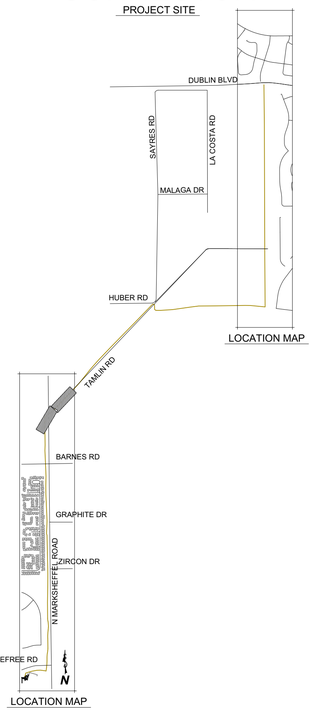
30 15 0 30 60

1 INCH = 30 FT

VP#12

MARKSHEFFEL CONNECTOR

PROJECT SITE



LOCATION MAP

LOCATION MAP

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)	
PARENT WORK ORDER NUMBER:	3988813
PROJECT NUMBER:	
FIMS MAP:	
SHEET NO:	8 OF 19
REVISIONS:	

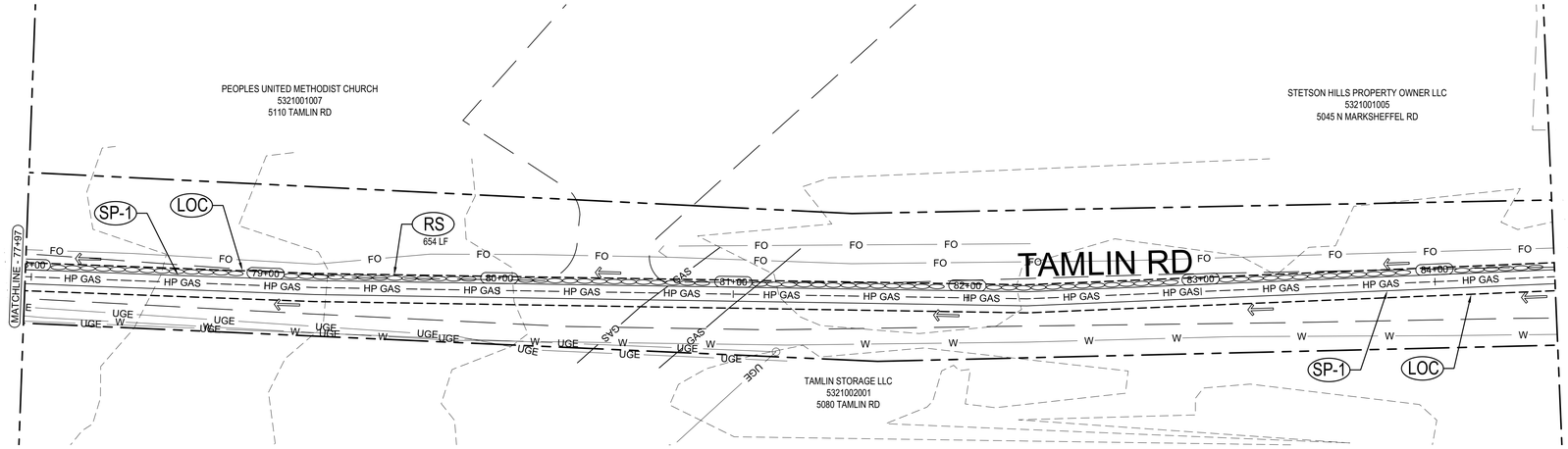
Colorado Springs Utilities

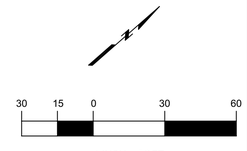
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

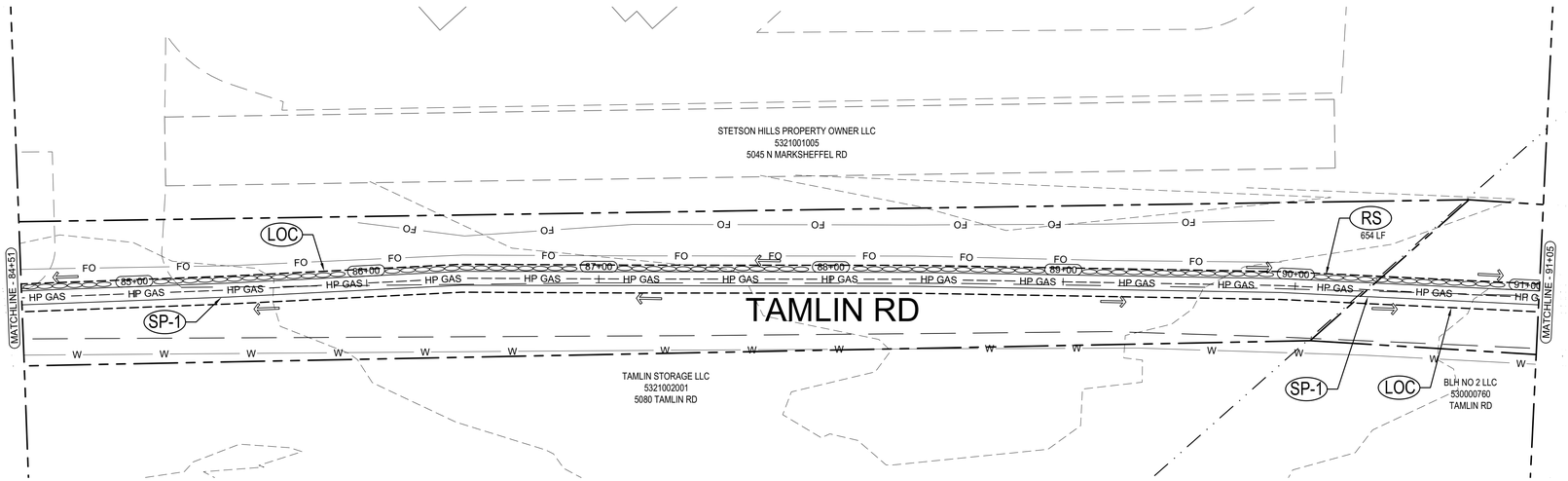
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

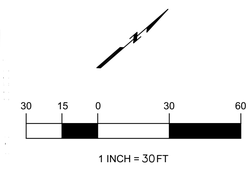
[INSERT TASK]





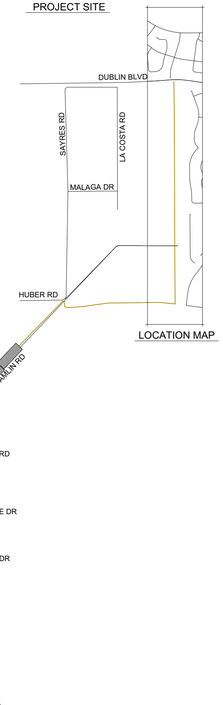
VP#13





VP#14

MARKSHEFFEL CONNECTOR



COLORADO 811 — KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 9 OF 19

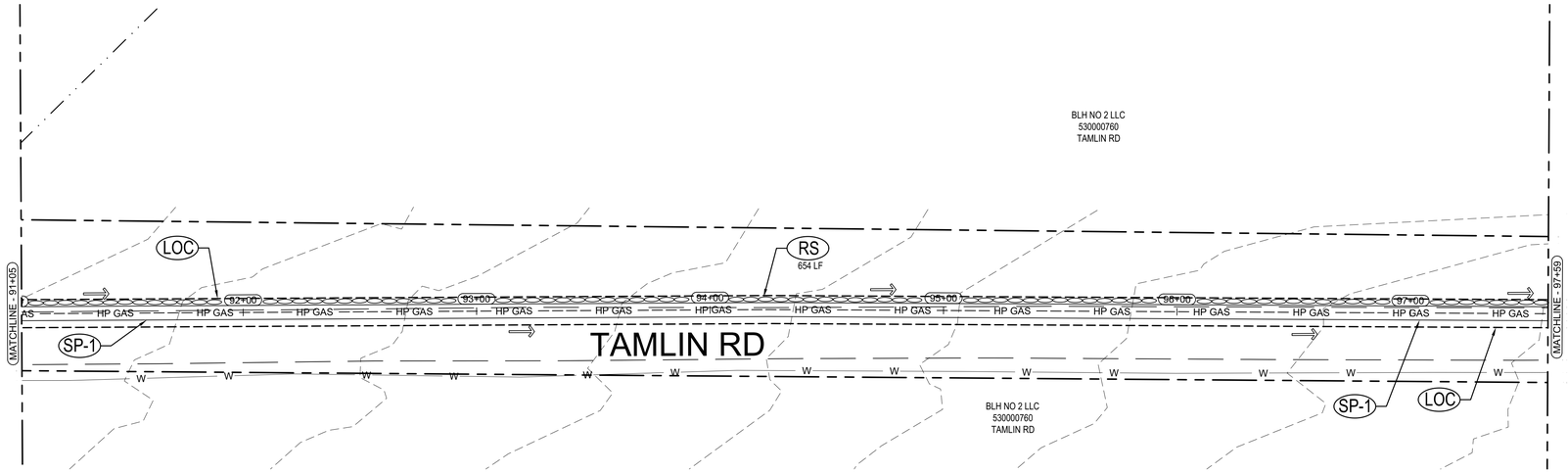
REVISIONS:

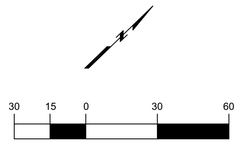
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

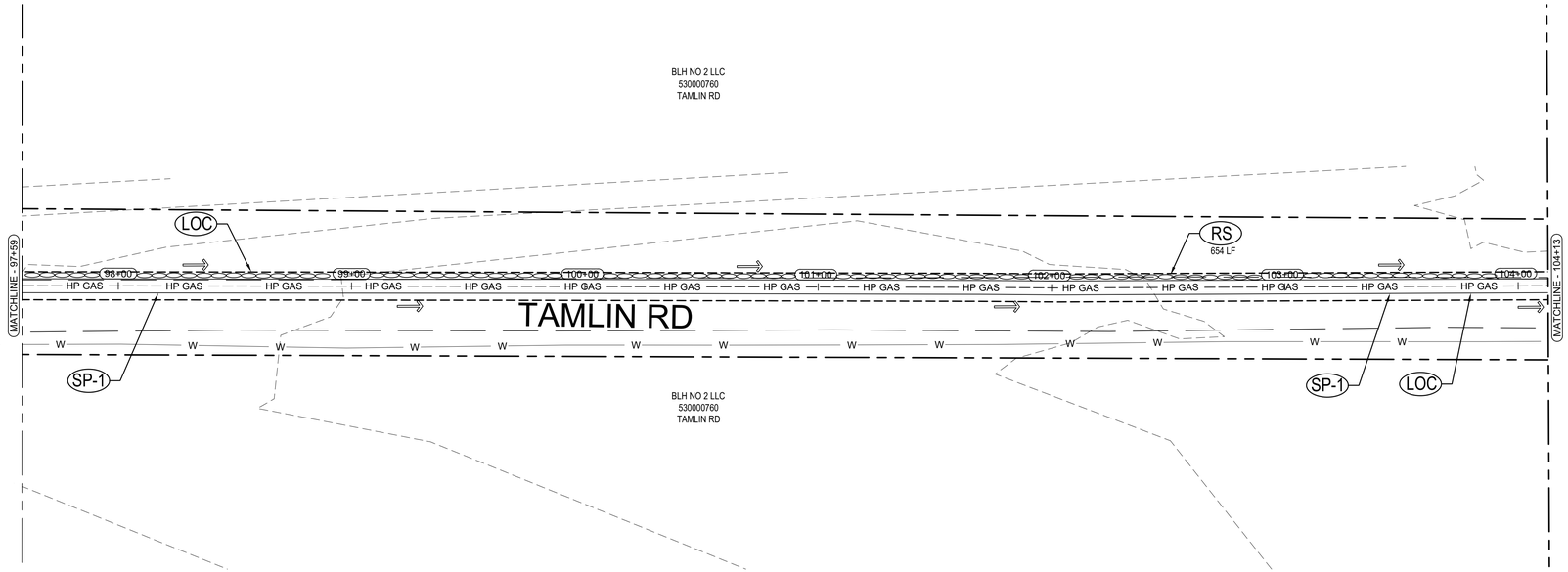
[INSERT TASK]

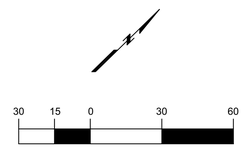




1 INCH = 30 FT

VP#15

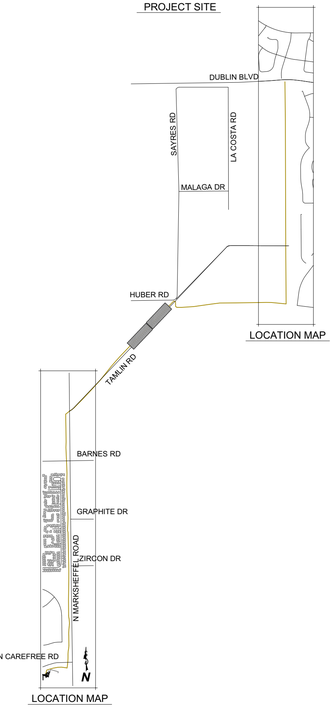




1 INCH = 30 FT

VP#16

MARKSHEFFEL CONNECTOR



COLORADO 811 — KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER (W)
EXISTING CURB LINE	EXISTING WATER
SM — SEEDING AND MULCHING	x — SF — SILT FENCE
SP-1 SP-2 — MATERIALS STAGING	SOIL DISTURBANCE AREA
RS — ROCK SOCK	EXISTING FLOW DIRECTION
LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP — INLET PROTECTION	

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 10 OF 19

REVISIONS:

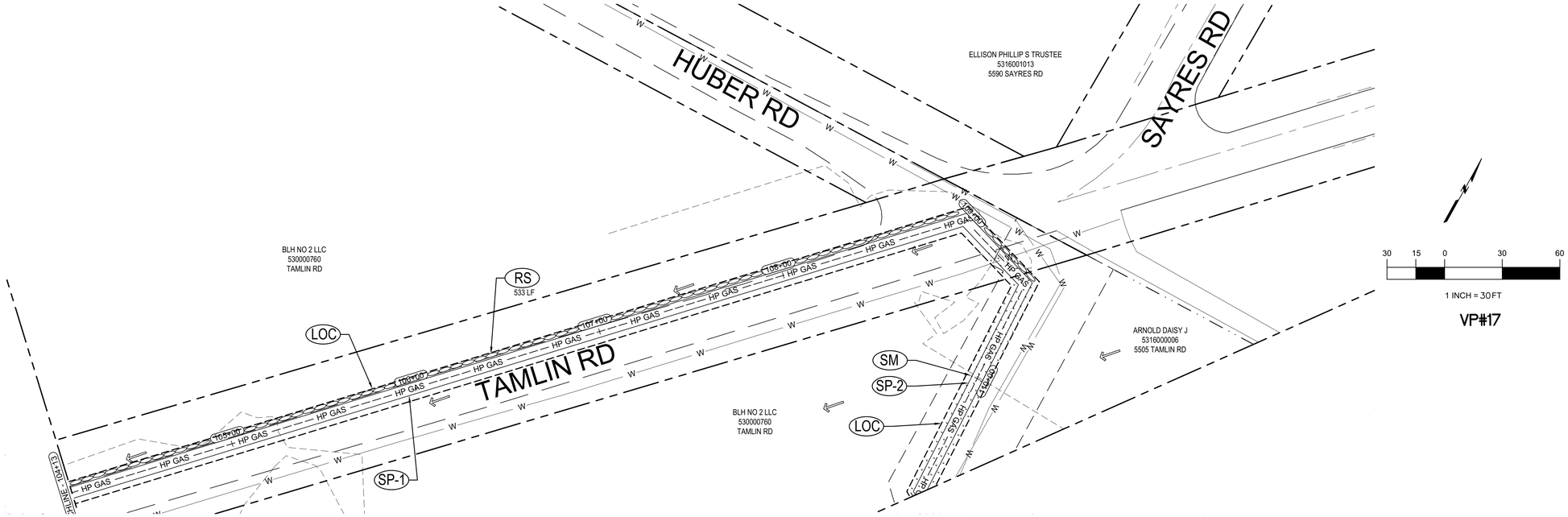
Colorado Springs Utilities

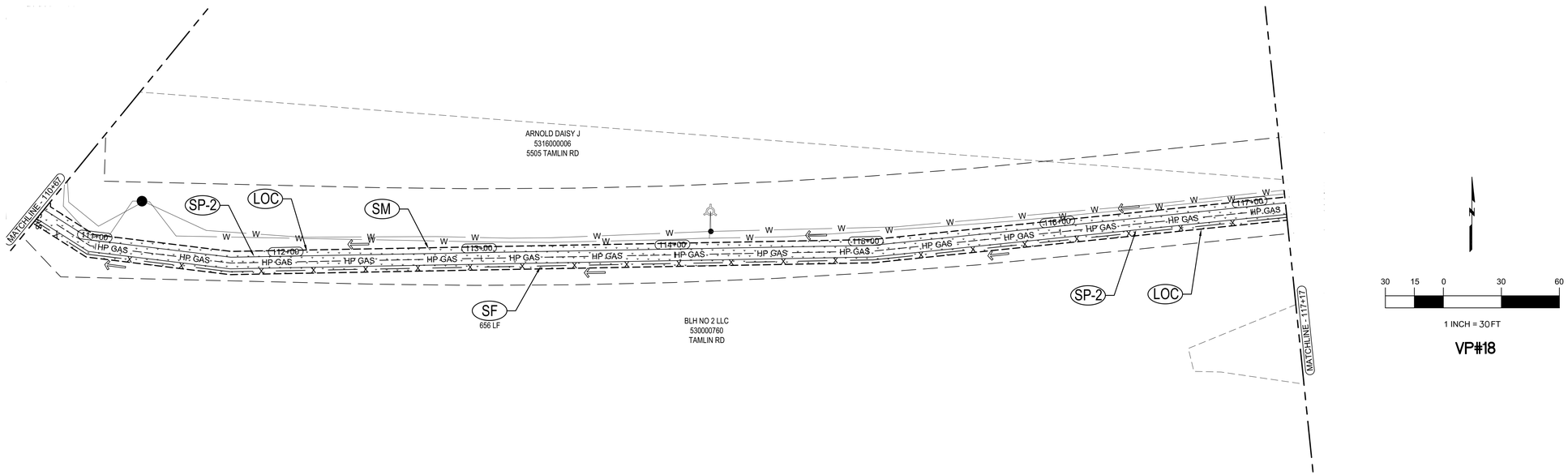
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

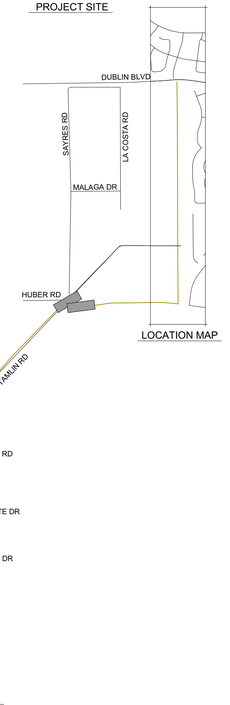
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]





MARKSHEFFEL CONNECTOR



COLORADO 811 — KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 11 OF 19

REVISIONS:

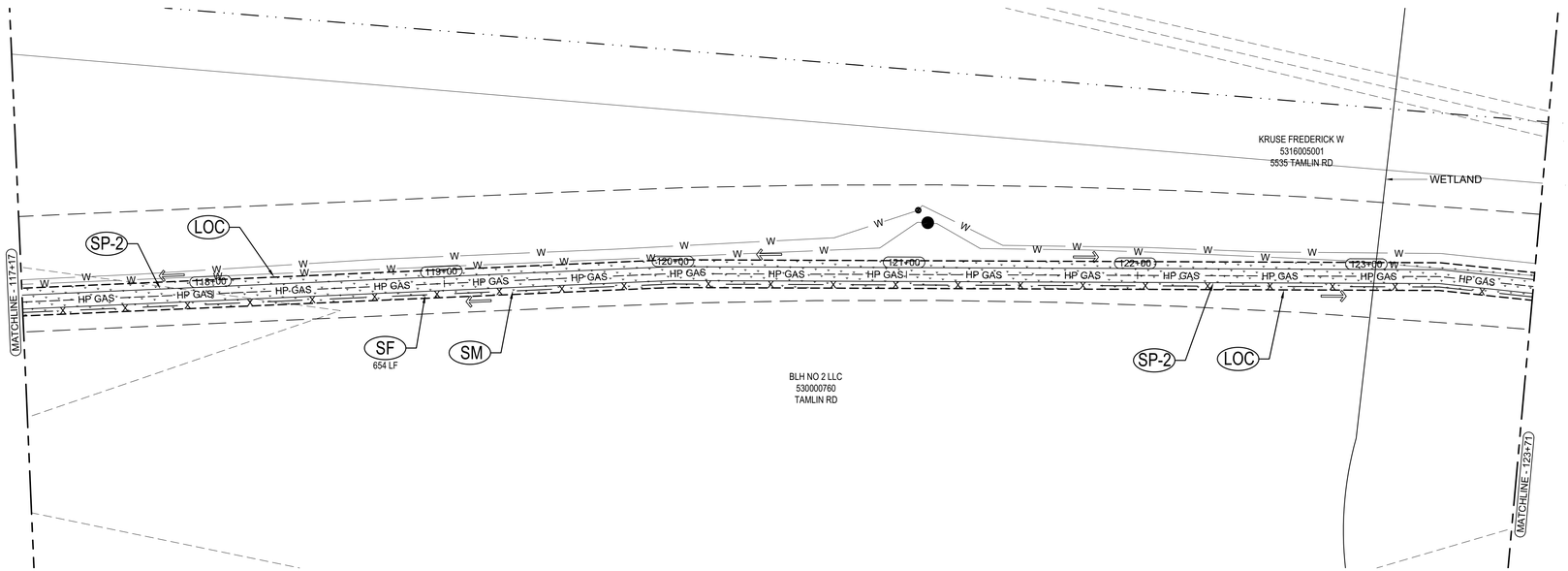
Colorado Springs Utilities

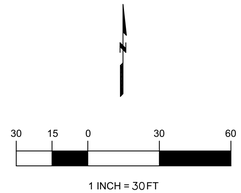
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

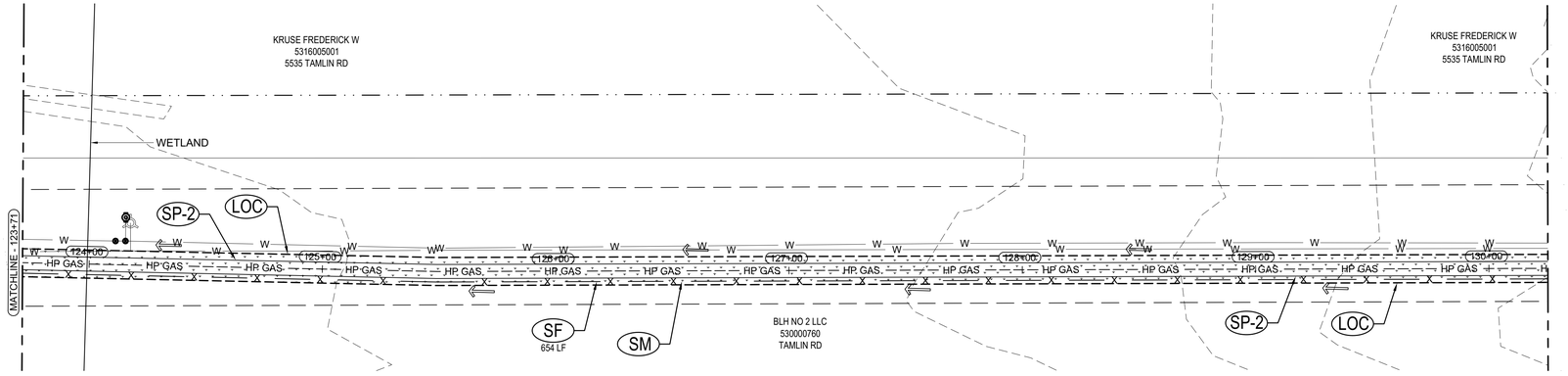
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

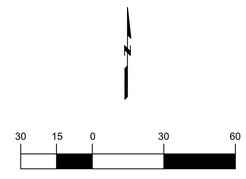
[INSERT TASK]





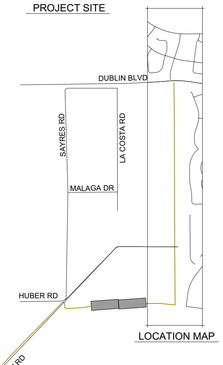
VP#19



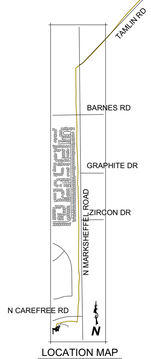


VP#20

MARKSHEFFEL CONNECTOR



LOCATION MAP



LOCATION MAP

COLORADO 811
KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

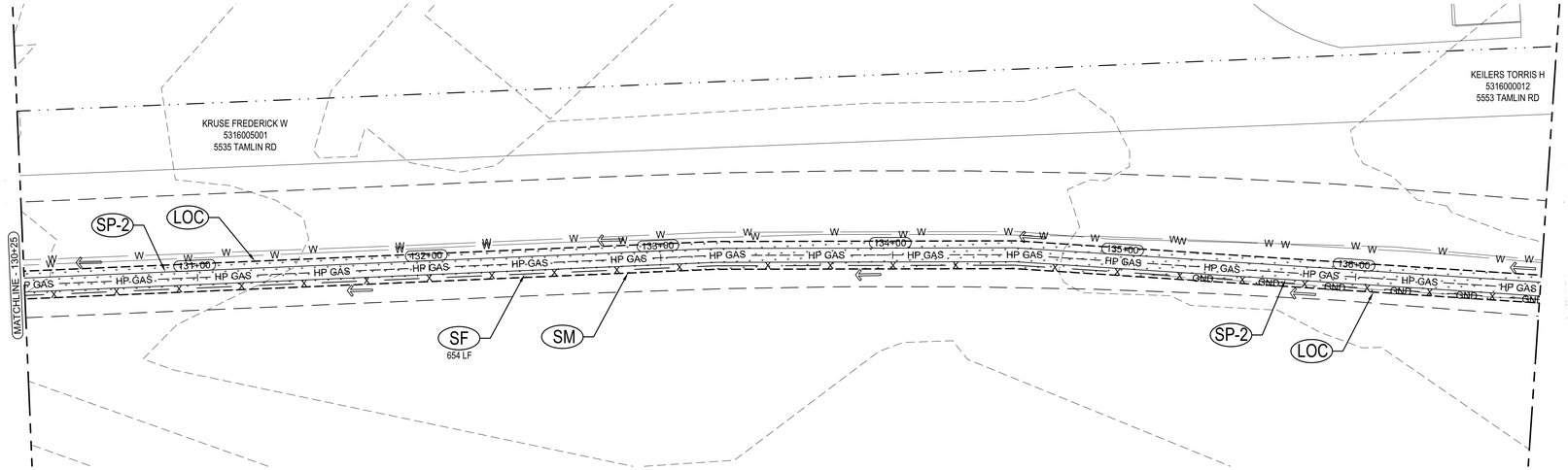
(PROJECT RELATED INFORMATION)
PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 12 OF 19
REVISIONS:

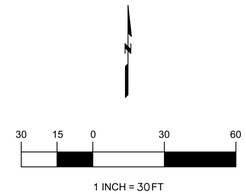
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

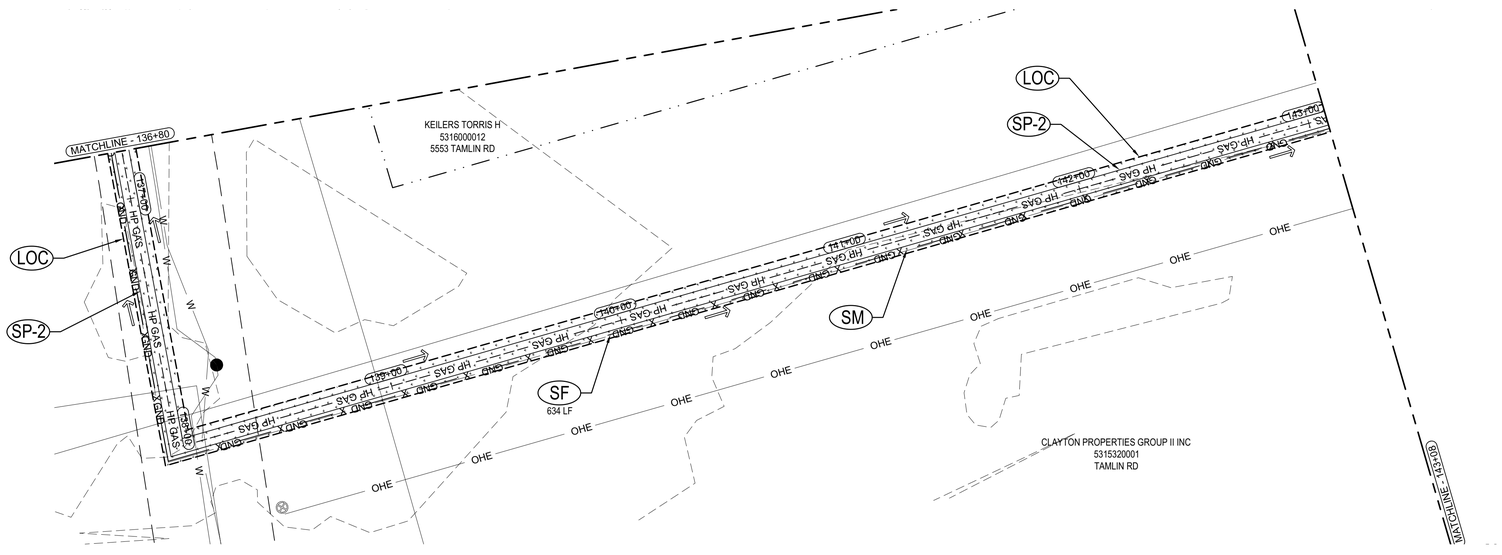
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

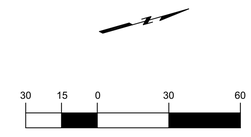
[INSERT TASK]





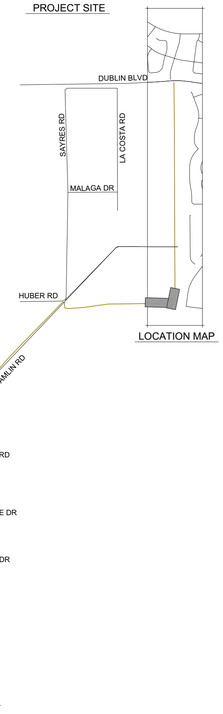
VP#21





VP#22

MARKSHEFFEL CONNECTOR



LOCATION MAP

LOCATION MAP

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- x — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 13 OF 19

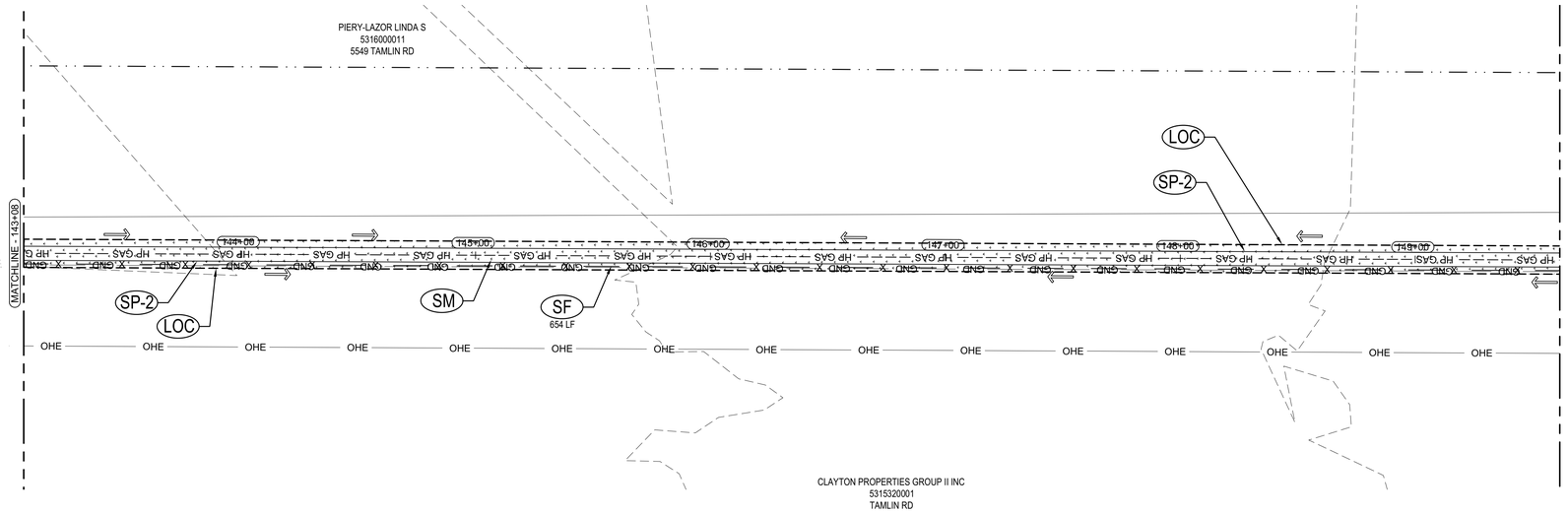
REVISIONS:

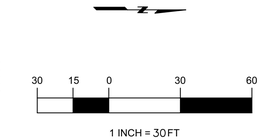
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

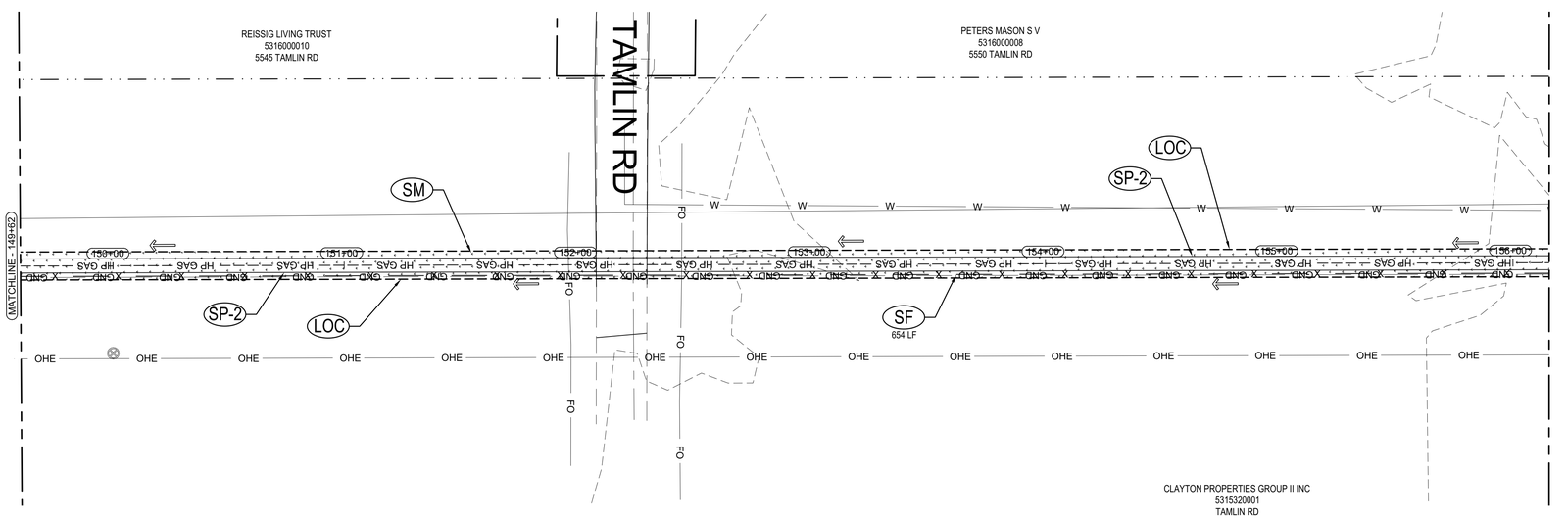
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

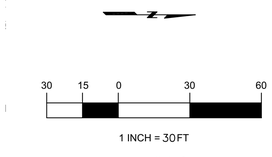
[INSERT TASK]





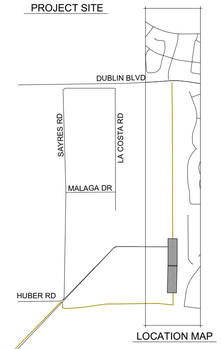
VP#23

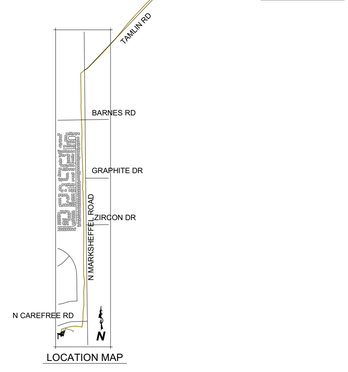




VP#24

MARKSHEFFEL CONNECTOR





LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 14 OF 18

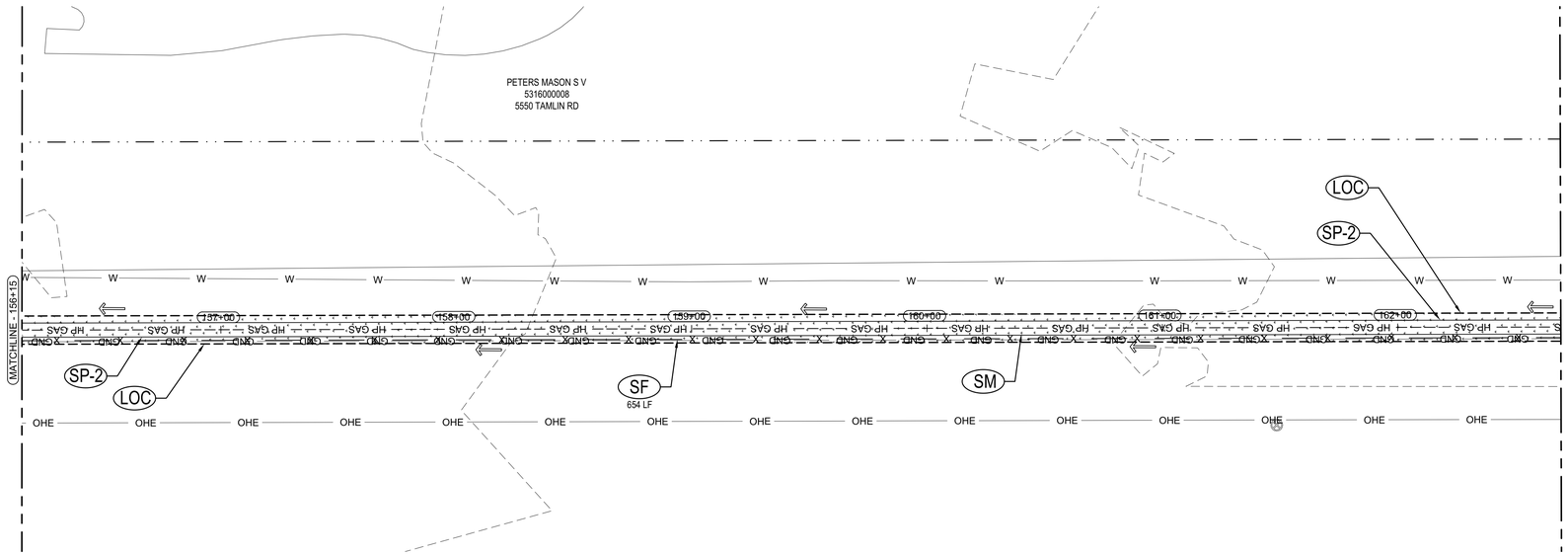
REVISIONS:

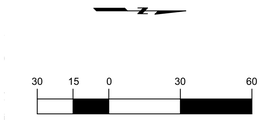
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

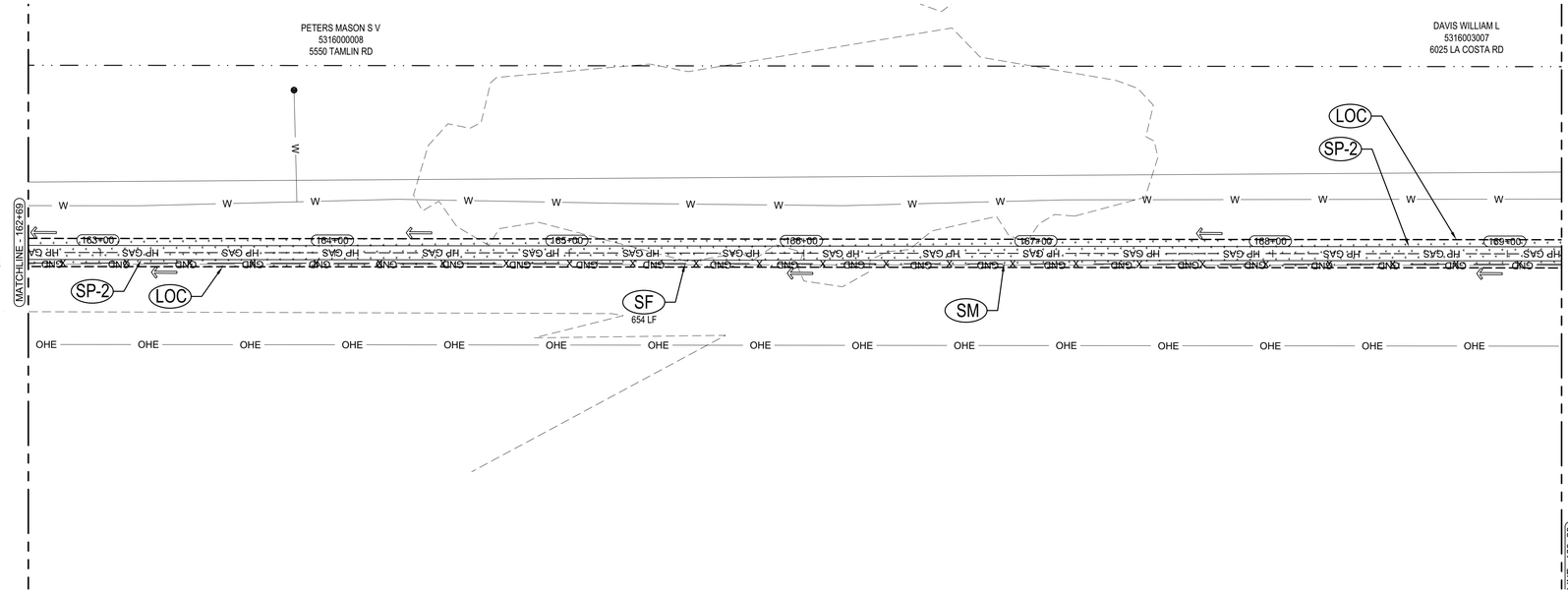
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

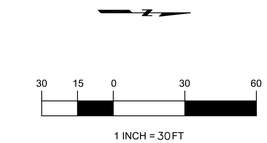
[INSERT TASK]





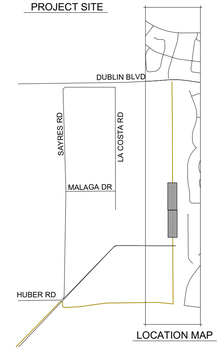
VP#25

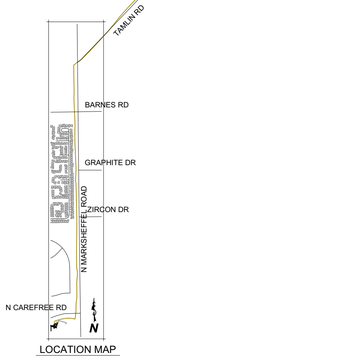




VP#26

MARKSHEFFEL CONNECTOR





LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- X — SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 15 OF 19

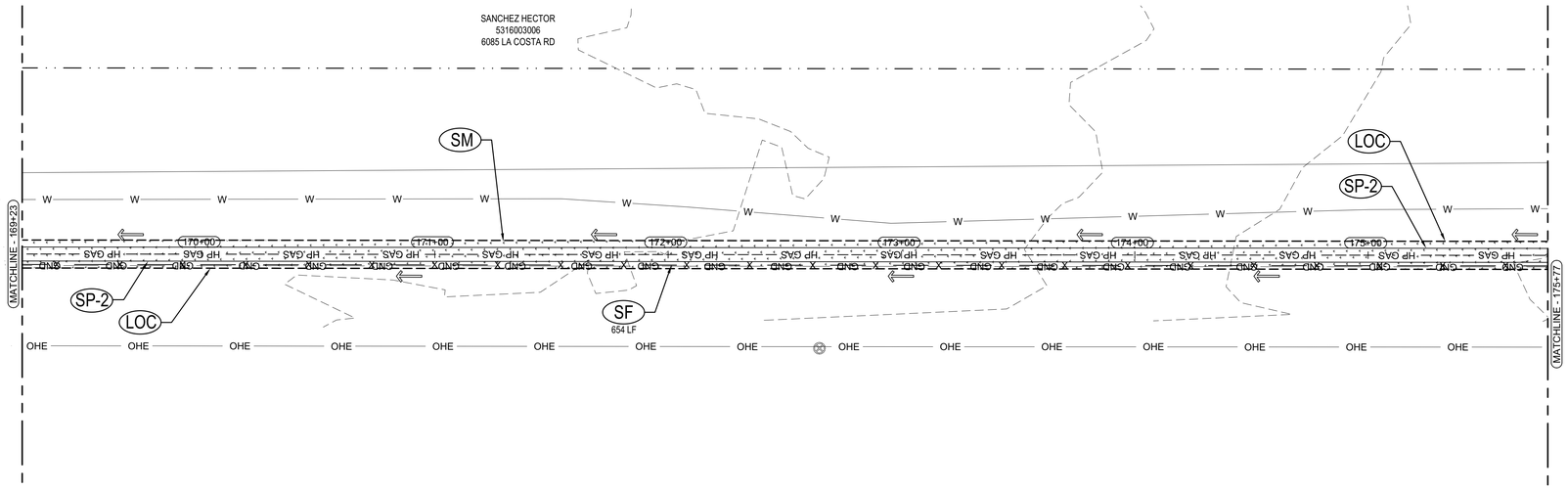
REVISIONS:

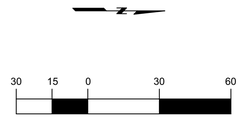
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

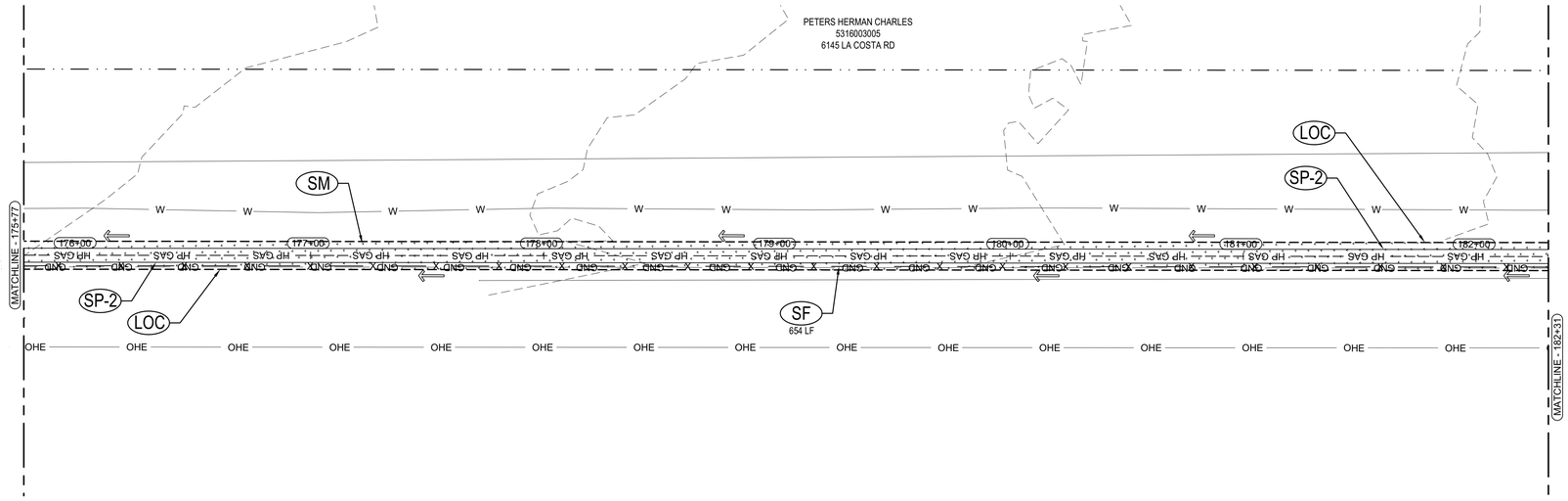
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

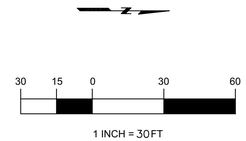
[INSERT TASK]





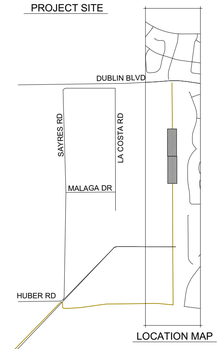
VP#27

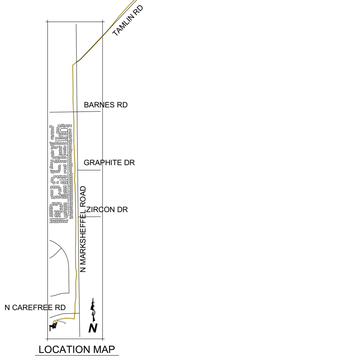




VP#28

MARKSHEFFEL CONNECTOR





COLORADO 811
KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM — SEEDING AND MULCHING	SF — SILT FENCE
SP-1 SP-2 — MATERIALS STAGING	SOIL DISTURBANCE AREA
RS — ROCK SOCK	EXISTING FLOW DIRECTION
LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP — INLET PROTECTION	

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 16 OF 19

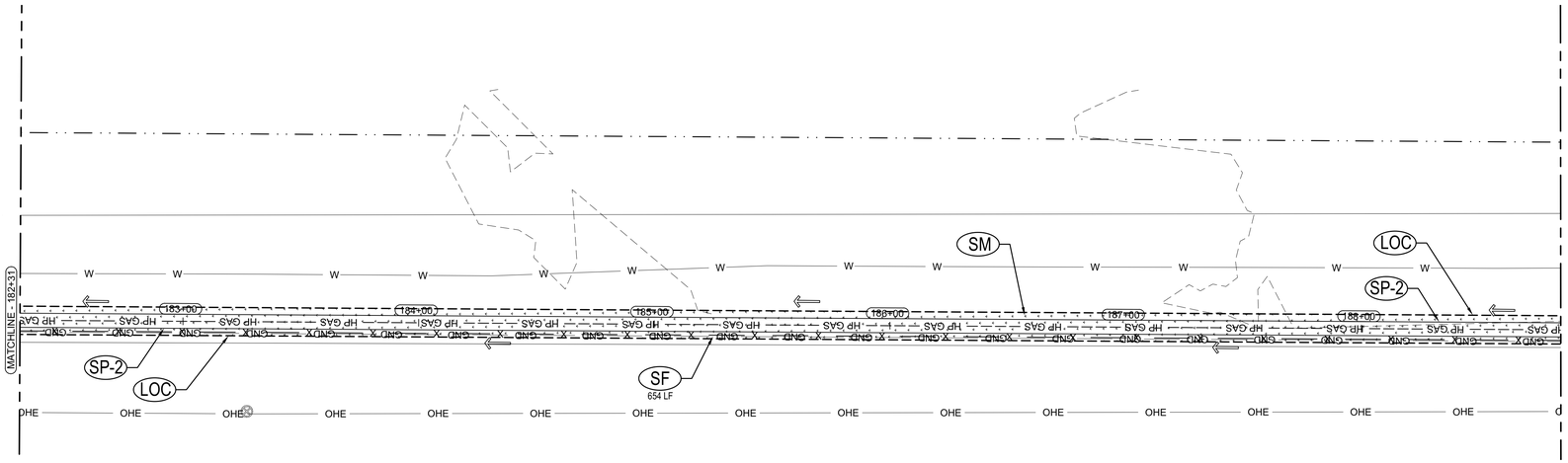
REVISIONS:

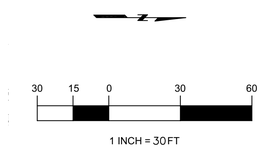
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

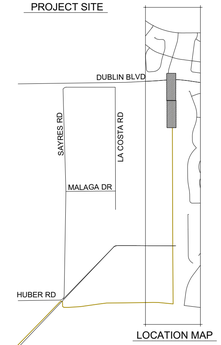
[INSERT TASK]

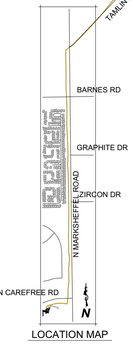


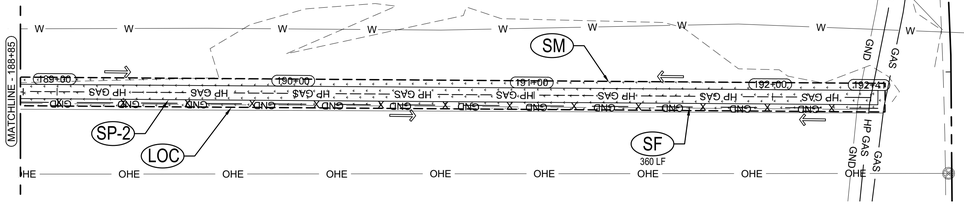


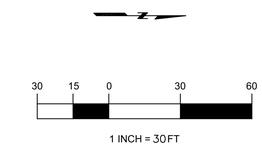
VP#29

MARKSHEFFEL CONNECTOR









VP#30

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 17 OF 19

REVISIONS:

Colorado Springs Utilities

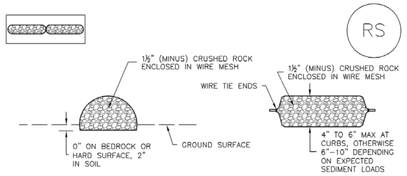
It's how we're all connected

DESIGN BY: REP	DATE: 05/06/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

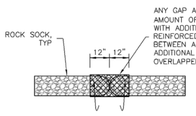
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]

SC-5 Rock Sock (RS)



ROCK SOCK SECTION ROCK SOCK PLAN



ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.

ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
¾"	0 – 15
⅜"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

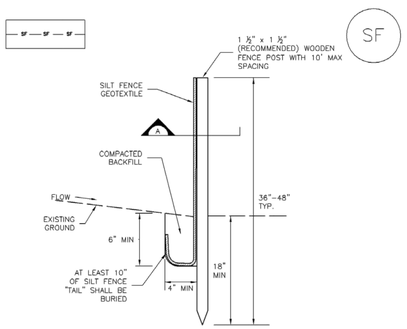
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½". RECOMMENDED MINIMUM ROLL WIDTH OF 48"

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

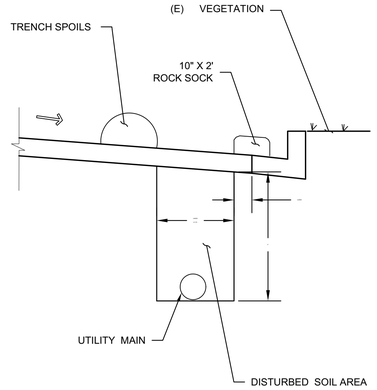
Silt Fence (SF) SC-1



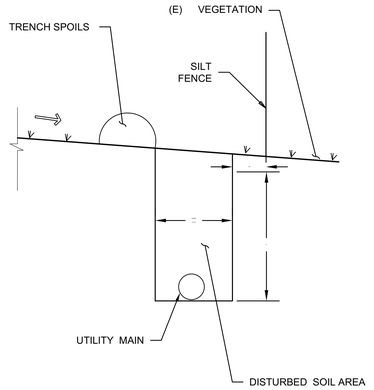
SILT FENCE

SECTION A

SF–1. SILT FENCE



TYPICAL TRENCH SECTION
SP–1
NOT TO SCALE



TYPICAL TRENCH SECTION
SP–2
NOT TO SCALE

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.
5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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

(AS BUILT INFORMATION)

DATE STARTED:
DATE COMPLETED:
FOREMAN:
INSPECTOR:
CONTRACTOR:

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 398813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 18 OF 19

REVISIONS:

MM-2 Stockpile Management (SM)

MATERIALS STAGING IN ROADWAY 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.

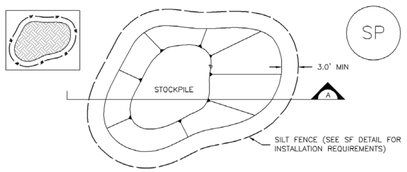
4. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.

5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

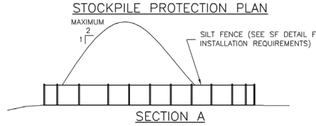
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM AURORA, COLORADO)

Stockpile Management (SP) MM-2



STOCKPILE PROTECTION PLAN



SECTION A

SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

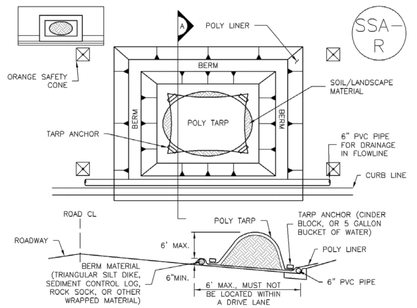
1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY 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.

Stockpile Management (SP) MM-2



SP–2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF MATERIAL STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.

3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.

4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.

5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.

6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.

7. THIS FEATURE CAN BE USED FOR:
   –UTILITY REPAIRS.
   –WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
   –OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

COLORADO 811
KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

COLORADO REGISTERED RAYMOND E. PEREZ 37173 PROFESSIONAL ENGINEER

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	25-35	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 UDFCD 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

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

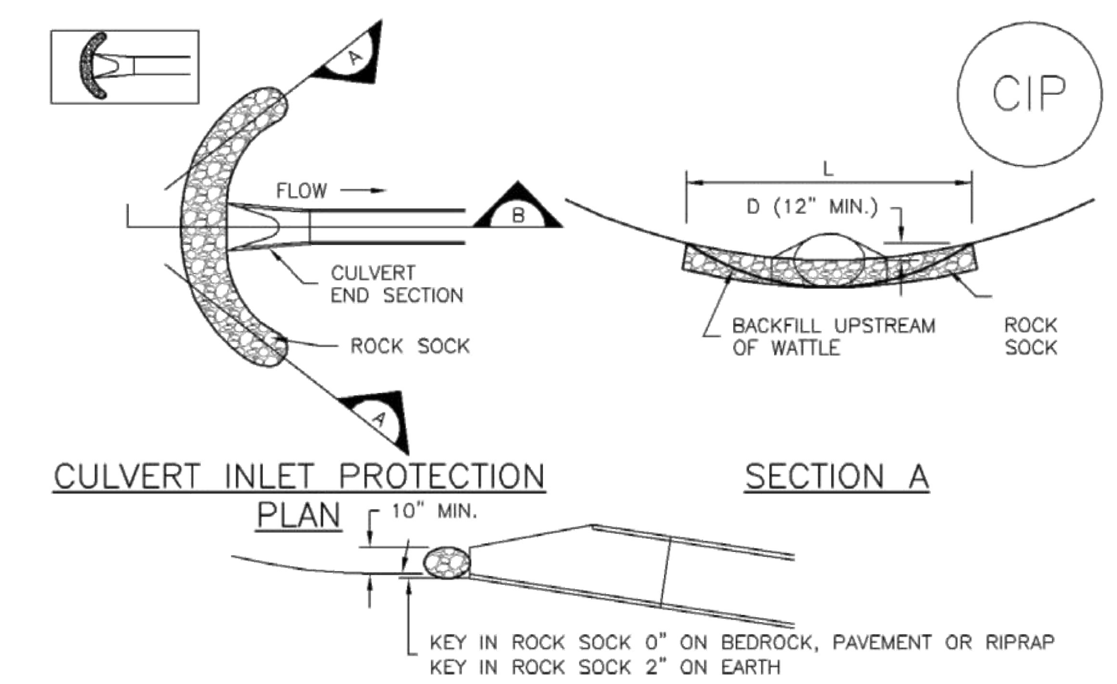
1. ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
2. SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE
   - SEED DEPTH MUST BE ⅓ TO ½ INCHES WHEN DRILL-SEEDING IS USED
3. 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: ... CRENT MANAGER
ISSUED: 10/7/19 | REVISED: 8/18/2020 | DRAWING NO. 900-SM



CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

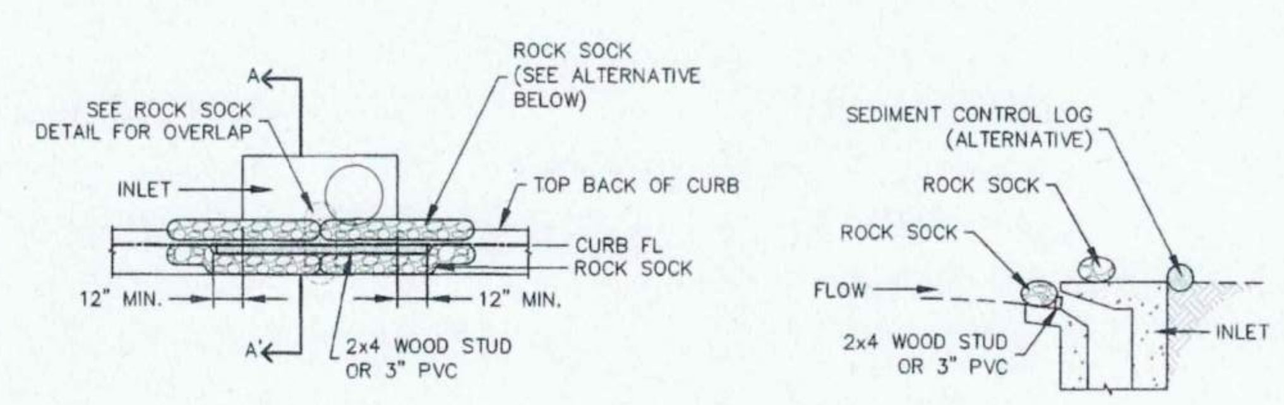
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

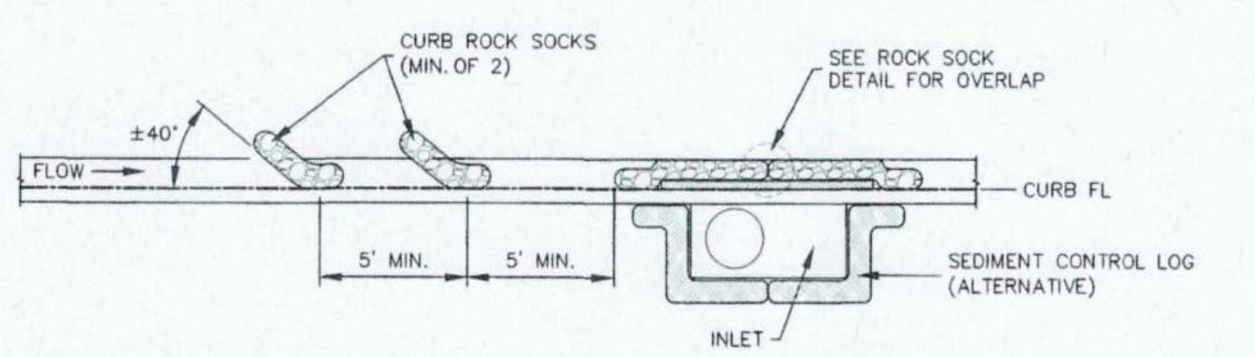
(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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



CURB INLET PROTECTION PLAN

SECTION A-A'



CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

INSTALLATION NOTES

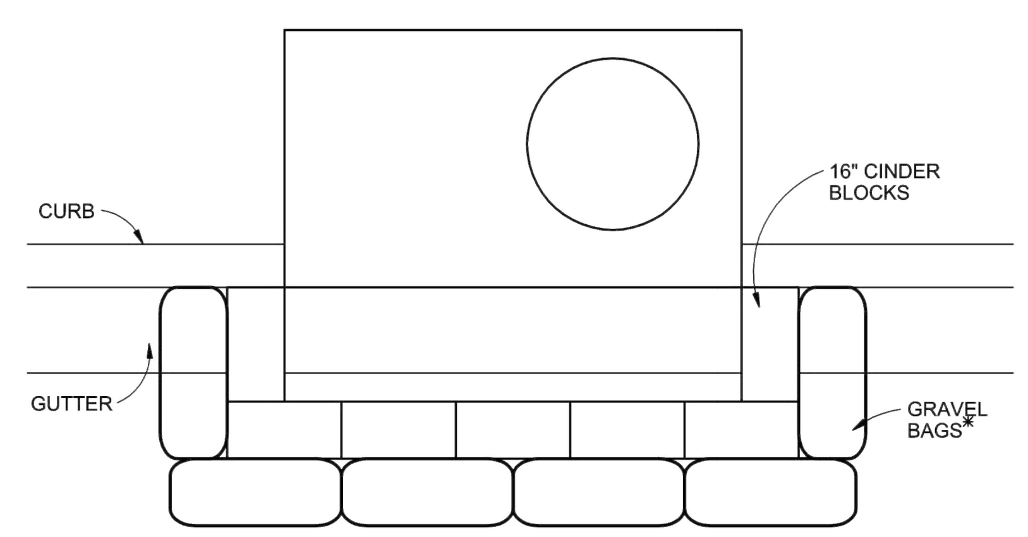
1. SEE ROCK SOCK DETAIL FOR INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE ROCK SOCK SHALL BE APPROXIMATELY 40 DEGREES FROM THE CURB.
3. ROCK SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5' APART.
4. AT LEAST TWO CURB ROCK SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADIENT INLETS.
5.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

MAINTENANCE NOTES

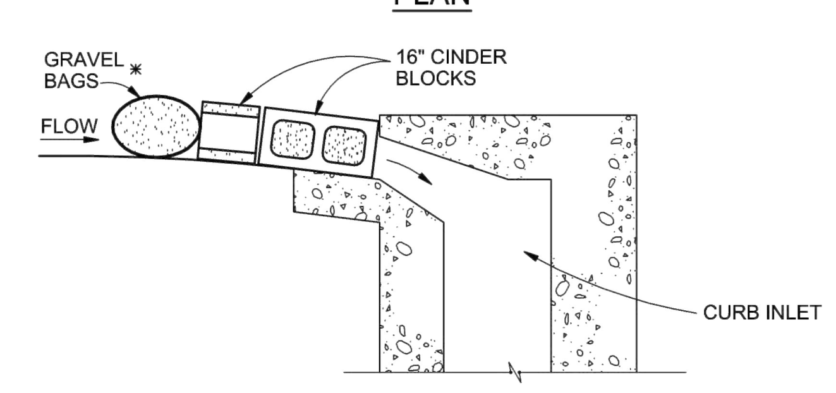
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE INLET BARRIER.
3. ROCK 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: ... CRENT MANAGER
ISSUED: 10/7/19 | REVISED: 8/18/2020 | DRAWING NO. 900-IP-1



PLAN



SECTION

BLOCK AND GRAVEL BAG* CURB INLET PROTECTION
NTS

BLOCK AND GRAVEL BAG* CURB INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.

2. CONCRETE BLOCKS ARE TO BE LAID AROUND THE INLET IN A SINGLE ROW ON THEIR SIDES, ABUTTING ONE ANOTHER WITH THE OPEN ENDS OF THE BLOCK FACING OUTWARD.

3. GRAVEL BAGS ARE TO BE PLACED AROUND THE CONCRETE BLOCKS CLOSELY ABUTTING ONE ANOTHER SO THERE ARE NO GAPS.

4. GRAVEL BAGS ARE TO CONTAIN WASHED SAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER.

5. BAGS ARE TO BE MADE OF 1/4" INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

2. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.

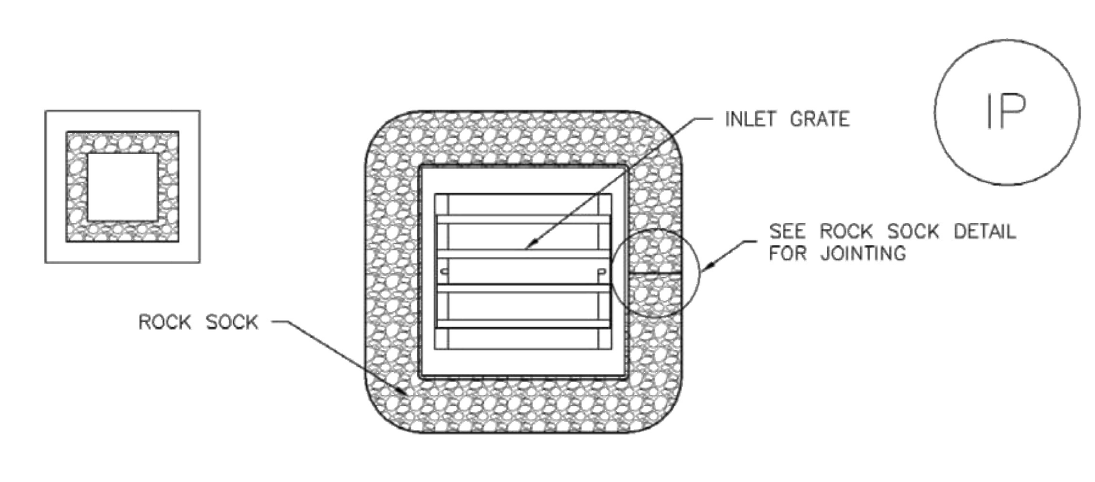
3. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.

4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

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

City of Colorado Springs
Stormwater Quality

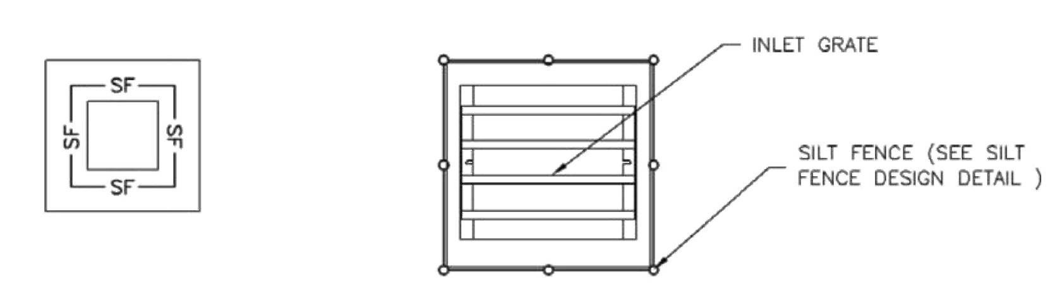
Figure IP-3
Block & Gravel Bag Curb Inlet Protection
Construction Detail and Maintenance Requirements



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

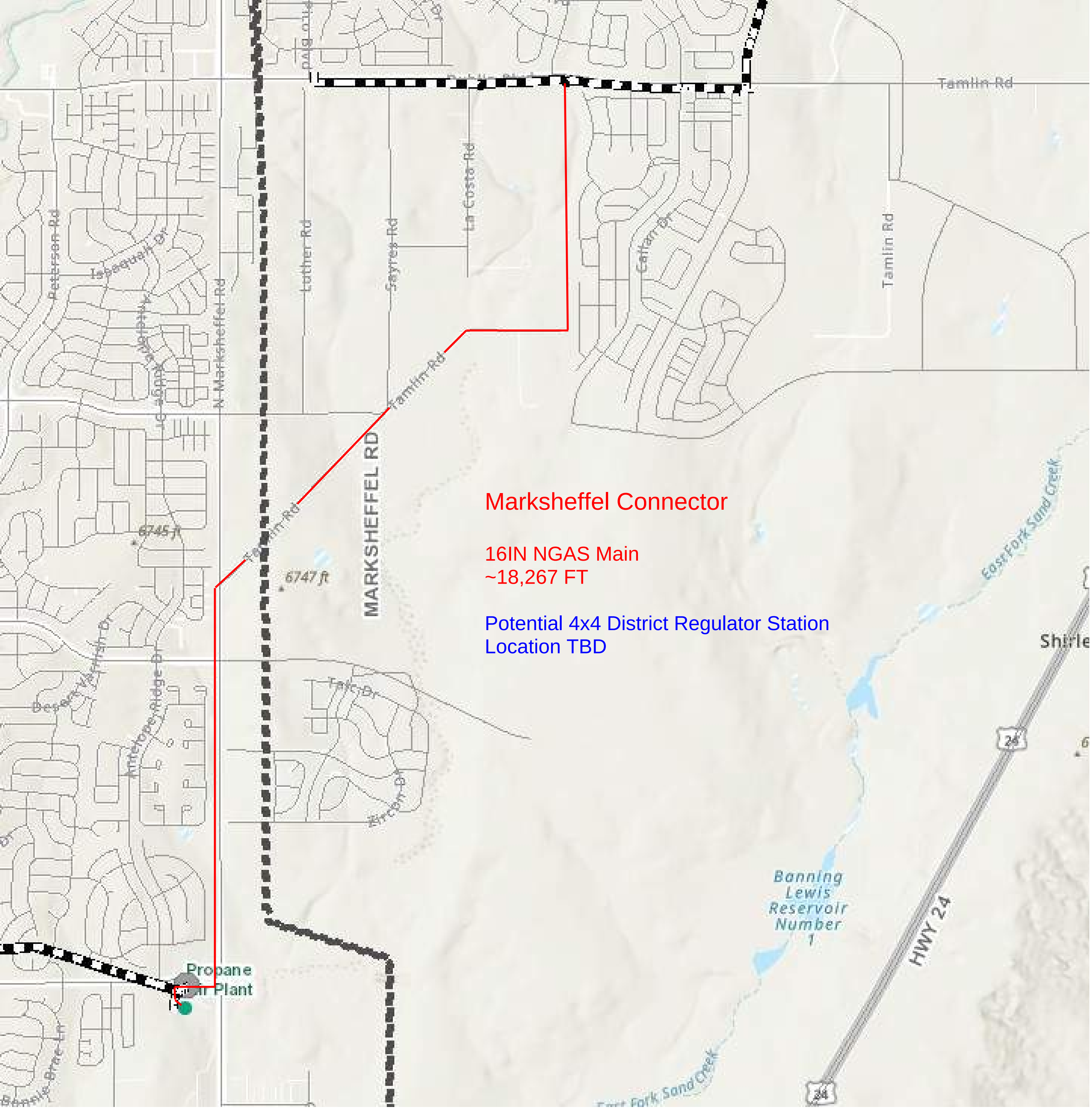
COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

(AS BUILT INFORMATION)
DATE STARTED:
DATE COMPLETED:
FOREMAN:
INSPECTOR:
CONTRACTOR:

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

(PROJECT RELATED INFORMATION)
PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 19 OF 19
REVISIONS:

APPENDIX B

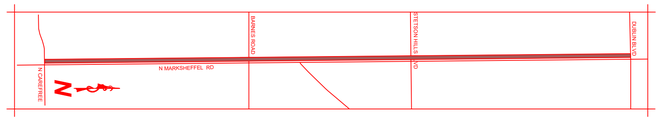


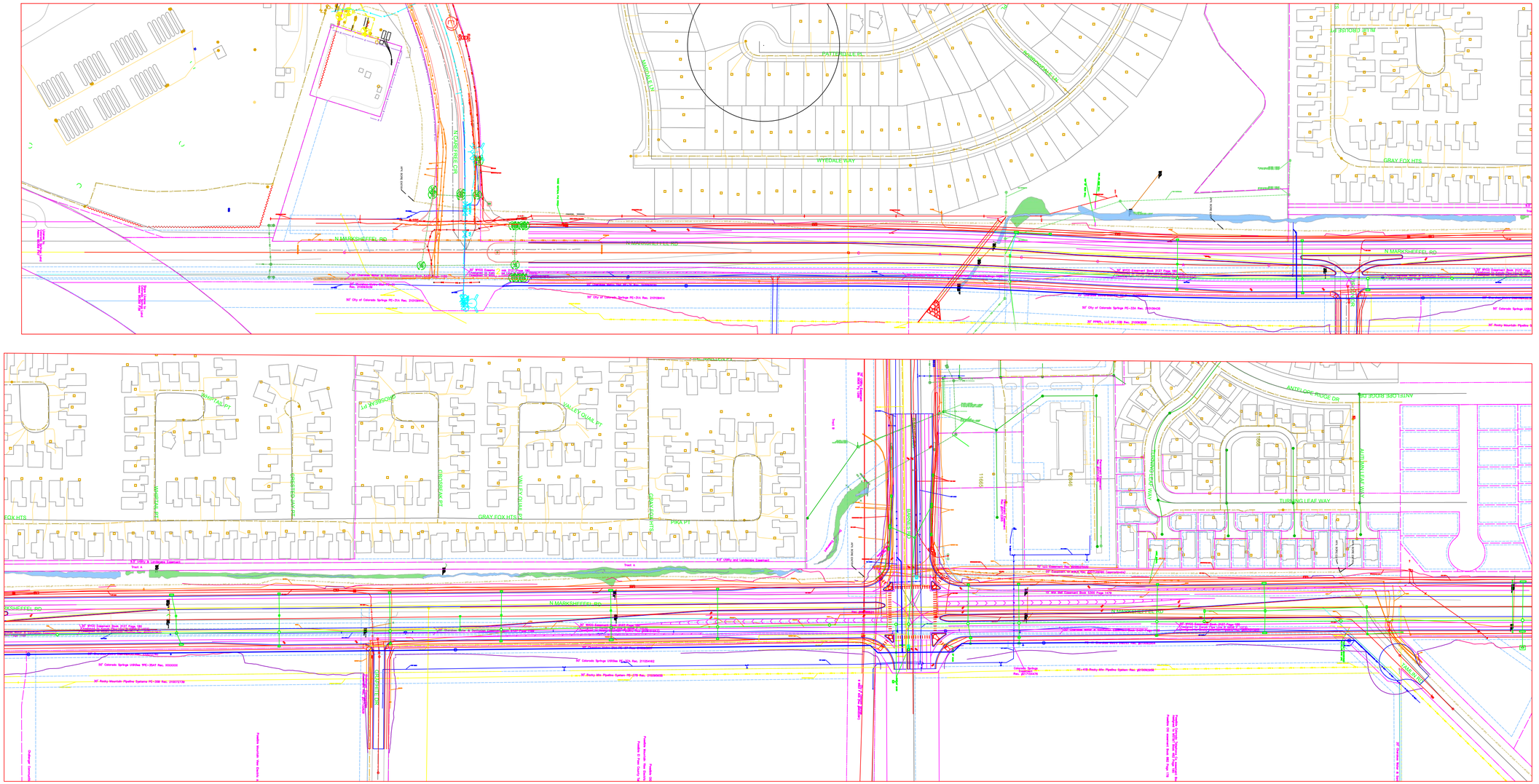
Marksheffel Connector
16IN NGAS Main
~18,267 FT
Potential 4x4 District Regulator Station
Location TBD
MARKSHEFFEL RD
Tamlin Rd
N Marksheffel Rd
Peterson Rd
Issequah Dr
Luther Rd
Sayres Rd
La Costa Rd
Callan Dr
Antelope Ridge Dr
Desert Jasmine Dr
Talc Dr
Zircon Dr
6745 ft
6747 ft
Propane
Air Plant
East Fork Sand Creek
Banning
Lewis
Reservoir
Number
1
HWY 24
24

MARKSHEFFEL CONNECTOR

LEGEND

- AS-BUILT HP GAS MAIN
- AS-BUILT GAS MAIN
- AS-BUILT GAS SERVICE
- EXISTING HP GAS MAIN
- EXISTING GAS MAIN
- EXISTING GAS SERVICE
- GAS LINE TO BE ABANDONED
- GASLIGHT
- GAS VALVE
- EXCESS FLOW VALVE
- RELIEF VALVE
- COUPLINGS
- BOND OVER
- TEST POINT
- INSULATOR
- REGULATOR STATION
- MONITORS
- ANODE
- SCADA
- METER SET ASSEMBLY
- PURGE POINT
- BRANCH,CVT,LINE STOPPER
- PROPOSED HP GAS MAIN
- PROPOSED GAS MAIN
- PROPOSED GAS SERVICE
- EXISTING EASEMENT
- ROW LINE
- PROPERTY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- CONCRETE/ASPHALT
- CABLE LINE - UNDERGROUND
- ELECTRIC - OVERHEAD
- ELECTRIC - UNDERGROUND
- FIBER OPTIC - UNDERGROUND
- PHONE - OVERHEAD
- PHONE - UNDERGROUND
- RECLAIMED WATER
- SEWER
- STORMWATER
- WATER
- FENCE LINE
- UTILITY PEDESTALS
- FIRE HYDRANT
- MANHOLE
- WATER VALVE
- SURVEY MONUMENT
- POWER POLE
- TRAFFIC SIGNAL
- GAS FLOW ARROW





COLORADO 811
KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

Colorado Springs Utilities
It's how we're all connected

DRAFT

REVISIONS				
NO.	DESCRIPTION	BY	DATE	APPVD.

PERMIT INFORMATION	CP SYSTEM ID	LOCATION	ATLAS OR TILE
N/A	N/A	SEC 29 T13S R65W	Q-28,R-28

SYSTEM NAME: ----	
SYSTEM MAOP:	----
SYSTEM MOP:	#

SYSTEM MAOP:	#
SYSTEM MOP:	#

JOB TYPE
- 150P DIST. ☒
- DISTRIBUTION ☒
- DISTRICT REG. ☒

W/O #: 3936906

RELATED W/O #s: #

ENGINEER: SCOTT JENSEN		PHONE:(719)-668-5573
PROJECT MANAGER: MARK MUNOZ		PHONE:(719)-728-5901
SUPPORT COORD.: AUDRIANNA MEDELLIN		PHONE:(719)-600-9253
SHEET NO. 1 OF 5	SCALE 1" = 150'	DATE 3/7/23
DWN. BY:BLAINE H.	CHKD. BY:	APPVD. BY:

MARKSHEFFEL CONNECTOR
#####

L:\Gas_Planning_Design_Unit_Projects\3936906 - Marksheffel Connector\AutoCAD\3936906 - Marksheffel Connector 05-30-2023 - SE2.dwg

APPENDIX C

Construction Phasing/Sequencing (CP) SM-1

Description

Photograph CP-1. Construction phasing to avoid disturbing the entire area at one time. Photo courtesy of WWE.

Effective construction site management to minimize erosion and sediment transport includes attention to construction phasing, scheduling, and sequencing of land disturbing activities. On most construction projects, erosion and sediment controls will need to be adjusted as the project progresses and should be documented in the SWMP.

Construction phasing refers to disturbing only part of a site at a time to limit the potential for erosion from dormant parts of a site. Grading activities and construction are completed and soils are effectively stabilized on one part of a site before grading and construction begins on another portion of the site.

Construction sequencing or scheduling refers to a specified work schedule that coordinates the timing of land disturbing activities and the installation of erosion and sediment control practices.

Appropriate Uses

All construction projects can benefit from upfront planning to phase and sequence construction activities to minimize the extent and duration of disturbance. Larger projects and linear construction projects may benefit most from construction sequencing or phasing, but even small projects can benefit from construction sequencing that minimizes the duration of disturbance.

Typically, erosion and sediment controls needed at a site will change as a site progresses through the major phases of construction. Erosion and sediment control practices corresponding to each phase of construction must be documented in the SWMP.

Design and Installation

BMPs appropriate to the major phases of development should be identified on construction drawings. In some cases, it will be necessary to provide several drawings showing construction-phase BMPs placed according to stages of development (e.g., clearing and grading, utility installation, active construction, final stabilization). Some municipalities in the Denver area set maximum sizes for disturbed area associated with phases of a construction project. Additionally, requirements for phased construction drawings vary among local governments within the UDFCD boundary. Some local governments require separate erosion and sediment control drawings for initial BMPs, interim conditions (in active construction), and final stabilization.

Construction Scheduling	
Functions	
Erosion Control	Moderate
Sediment Control	Moderate
Site/Material Management	Yes

Typical construction phasing BMPs include:

- Limit the amount of disturbed area at any given time on a site to the extent practical. For example, a 100-acre subdivision might be constructed in five phases of 20 acres each.

- If there is carryover of stockpiled material from one phase to the next, position carryover material in a location easily accessible for the pending phase that will not require disturbance of stabilized areas to access the stockpile. Particularly with regard to efforts to balance cut and fill at a site, careful planning for location of stockpiles is important.

Typical construction sequencing BMPs include:

- Sequence construction activities to minimize duration of soil disturbance and exposure. For example, when multiple utilities will occupy the same trench, schedule installation so that the trench does not have to be closed and opened multiple times.

- Schedule site stabilization activities (e.g., landscaping, seeding and mulching, installation of erosion control blankets) as soon as feasible following grading.

- Install initial erosion and sediment control practices before construction begins. Promptly install additional BMPs for inlet protection, stabilization, etc., as construction activities are completed.

Table CP-1 provides typical sequencing of construction activities and associated BMPs.

Maintenance and Removal

When the construction schedule is altered, erosion and sediment control measures in the SWMP and construction drawings should be appropriately adjusted to reflect actual "on the ground" conditions at the construction site. Be aware that changes in construction schedules can have significant implications for site stabilization, particularly with regard to establishment of vegetative cover.

Table CP-1. Typical Phased BMP Installation for Construction Projects

Project Phase	BMPs
Pre-disturbance, Site Access	▪ Install sediment controls downgradient of access point (on paved streets this may consist of inlet protection). ▪ Establish vehicle tracking control at entrances to paved streets. Fence as needed. ▪ Use construction fencing to define the boundaries of the project and limit access to areas of the site that are not to be disturbed. **Note: it may be necessary to protect inlets in the general vicinity of the site, even if not downgradient, if there is a possibility that sediment tracked from the site could contribute to the inlets.**
Site Clearing and Grubbing	▪ Install perimeter controls as needed on downgradient perimeter of site (silt fence, wattles, etc). ▪ Limit disturbance to those areas planned for disturbance and protect undisturbed areas within the site (construction fence, flagging, etc). ▪ Preserve vegetative buffer at site perimeter. ▪ Create stabilized staging area. ▪ Locate portable toilets on flat surfaces away from drainage paths. Stake in areas susceptible to high winds. ▪ Construct concrete washout area and provide signage. ▪ Establish waste disposal areas. ▪ Install sediment basins. ▪ Create dirt perimeter berms and/or brush barriers during grubbing and clearing. ▪ Separate and stockpile topsoil, leave roughened and/or cover. ▪ Protect stockpiles with perimeter control BMPs. Stockpiles should be located away from drainage paths and should be accessed from the upgradient side so that perimeter controls can remain in place on the downgradient side. Use erosion control blankets, temporary seeding, and/or mulch for stockpiles that will be inactive for an extended period. ▪ Leave disturbed area of site in a roughened condition to limit erosion. Consider temporary revegetation for areas of the site that have been disturbed but that will be inactive for an extended period. ▪ Water to minimize dust but not to the point that watering creates runoff.

Project Phase	BMPs
Utility And Infrastructure Installation	**In Addition to the Above BMPs:** ▪ Close trench as soon as possible (generally at the end of the day). ▪ Use rough-cut street control or apply road base for streets that will not be promptly paved. ▪ Provide inlet protection as streets are paved and inlets are constructed. ▪ Protect and repair BMPs, as necessary. ▪ Perform street sweeping as needed.
Building Construction	**In Addition to the Above BMPs:** ▪ Implement materials management and good housekeeping practices for home building activities. ▪ Use perimeter controls for temporary stockpiles from foundation excavations. ▪ For lots adjacent to streets, lot-line perimeter controls may be necessary at the back of curb.
Final Grading	**In Addition to the Above BMPs:** ▪ Remove excess or waste materials. ▪ Remove stored materials.
Final Stabilization	**In Addition to the Above BMPs:** ▪ Seed and mulch/tackify. ▪ Seed and install blankets on steep slopes. ▪ Remove all temporary BMPs when site has reached final stabilization.

EXHIBIT A

STATEMENT OF WORK (SOW)

For

RFP 000499-Jun2023

Steel Pipeline Construction-Marksheffel Connector GPAP Expansion

EXHIBIT A – STATEMENT OF WORK (SOW)
For Steel Pipeline Construction- Marksheffel Connector GPAP Expansion

1. Introduction

1.1. Colorado Springs Utilities ("Utilities") is requesting proposals from qualified Respondents with demonstrated experience in steel gas main construction. The selected Respondent/Bidder ("Contractor") will perform the work described in this Exhibit A.

2. Background

2.1. Utilities is a four service municipally owned utility with a mission to provide safe, reliable, competitively priced electric, natural gas, water and wastewater services to its citizen owners and customers. Utilities operates primarily through functional divisions responsible for planning, financing, constructing, operating, customer service, environmental, strategy, and external affairs associated with the delivery of these utility services.

2.2. Utilities is in need of construction services for the installation of a new 16-inch pipeline operating at an MOP of 145psig. This new pipeline will increase the blending capacity of Utilities' Gas Propane Air Plant by increasing the total amount of gas that flows through the adjoining gate station and provide gas capacity for nearby developments. The newly installed facility will span a minimum of 18,000 linear feet, from the Gas Propane Air Plant located at 7723 North Carefree Circle to a tie-in location near the intersection of Dublin Blvd and Vista Del Valley Rd.

3. Scope

3.1. Contractor shall provide supervision, labor, materials, equipment, facilities, and supplies to install approximately 18,000 lineal feet (LF) of 16-inch-high pressure OD Steel, API 5L, PSL2, Grade X52 STD wall (150psig) pipe, approximately 3,500 LF shall be horizontally directionally drilled and 14,500 LF shall be open trenched. Contractor shall also provide services for traffic control, city/state/county/federal permitting, environmental reviews and permitting, non-destructive testing (must be Utilities approved Contractor *), plating and shoring, polychlorinated biphenyl (PCB) testing, TENORM testing, fitness for duty testing services, commissioning, and cathodic protection must be performed as per Colorado Springs Utilities standard, and Contractor's welders need to be OQ qualified to Utilities' standards. The work includes all appurtenances and associated infrastructure to ensure a complete and efficient installation as detailed in the attached drawings entitled, "Attachment A- Drawings". This project includes the installation of new cathodic protection test stations, the installation of anodes, and the installation of a new valve. This project also will require purging and tie-in procedures to be performed.

*Non-Destructive Testing Contractors:

- DBI Group, LLC
- Inspection Specialties, Inc.
- NVI, LLC

*Preferred Horizontal Directional Drilling Contractor:

- HCD, Inc

3.2. CONTRACTOR SHALL locate and verify the location of all infrastructure to include subsurface infrastructure during the entirety of the project and work closely with UTILITIES to ensure all Work completed meets the Colorado Springs Utilities' (Utilities) and City of Colorado Springs (City) Standards and Specifications:

Work required under this Statement of Work shall be performed in accordance with the following codes and standards. Unless otherwise specified, the version of the code or standard in effect at the time the Work is performed shall apply, unless another version is jurisdictionally mandated, in which case that version shall apply. In case of conflict between the following codes and standards and this Statement of Work and the specifications, the more stringent requirement shall be used. In the event Contractor believes that an inconsistency exists between

this document and the specification(s) and referenced codes and standards, the Contractor shall immediately notify Utilities for resolution.

3.2.1. UTILITIES' Gas Line Extension and Service Standards (LESS) 2022 Natural Gas Line Extension and Service Standards - 2023 Edition (csu.org)
3.2.2. City of Colorado Springs Standard Specification Manual https://coloradosprings.gov/public-works/page/standard-specifications-manual
3.2.3. City of Colorado Springs Permits, Applications https://coloradosprings.gov/public-works/page/permit-fees-contacts
3.2.4. Code of Federal Regulations, meet all 49 CFR 192 requirements.
3.2.5. American Society of Civil Engineers, ASCE 38-02 Subsurface Utility Engineering
3.2.6. Colorado Springs Fire Department (CSFD)
3.2.7. Occupational Safety & Health Administration (OSHA) standards
3.2.8. Colorado Department of Public Health and Environment (CDPHE)
3.2.9. El Paso County (if applicable)
3.2.10. Colorado Department of Transportation (CDOT)
3.2.11. CDOT Survey Manual
3.2.12. American Welding Society (AWS)
3.2.13. American Society of Mechanical Engineers (ASME)

3.3 Attachments

1. Attachment A- Marksheffel Connector Ph1 Running Line
2. Attachment B- Marksheffel Connector Ph2 Tamlin Route
3. Attachment C- As-Built Example
4. Attachment D-Permit Review Summary

3.4 CONTRACTOR's Responsibilities include but are not limited to the following:

Perform restoration in accordance with CSU, city, and county standards.

3.4.1 Maintaining an experienced and qualified project team for the entire duration of the project.

3.4.2 Contractor shall keep all pertinent documents at site at all times, including:

- GLESS
- Permits
- MSDS
- Design

3.4.3 Completing of the construction per the attached drawings to include Field Engineering recommendations/verifications provided by the Contractor

3.4.4 Contractor shall be responsible for securing and complying with all applicable zoning and Federal, State, and Local permit requirements for construction, operation and maintenance including, but not limited to, Site Development Plan approval, which includes applicable El Paso County Commissioner and Planning Commission review and approval.

3.4.5 Contractor shall be licensed and authorized to conduct all work per Federal, State, and local requirements. Seller shall assure compliance with all approvals and Permit conditions relevant to the work, as well as all Applicable Laws and Good Utility Practices. The Seller shall bear all claims, losses, and damages, including, but not limited to, all fees and charges of attorneys and other professionals and all court or other dispute resolution costs arising out of or relating to Permitting

3.4.6 Perform geotechnical testing and survey for HDD construction

3.4.1 Upon receipt of utilities materials contractor is responsible for verifying all materials meet standards prior to installation. Contractor shall JEEP test and take gauss readings less than one week prior to welding and installation.

3.4.2 Capturing and providing as a submittal a VIDEO of Pre-Job site conditions.

3.4.3 Providing completed Red-Line plan set as a submittal no later than 30 days after pipe installation. All as-built drawings must be approved and signed by UTILITIES Quality Control Inspector. Add as-built packet as example and tell contractors to reference attached document.

3.4.4 Any design deviation must be pre-approved by Utilities prior to execution. Any schedule delays resulting from the design change shall be at contractor's expense.

3.4.5 Efficient and cost-effective installation of the new pipeline that meets all applicable quality and safety standards. Installation schedule shall meet and/or exceed the agreed upon schedule.

3.4.6 Attending pre-construction meeting and weekly construction status meeting throughout the project's duration. At a minimum, the site superintendent and Project Manager shall attend.

3.4.7 Providing a weekly progress schedule, as well as a 3-week look ahead schedule, on a weekly basis.

3.4.8 Contractor shall direct all customer questions to Utilities representatives. ALL notifications to customers will be made by UTILITIES Representative.

3.4.9 Having current Colorado Springs Utilities Gas Line Extension and Service Standards (UTILITIES GLESS) and design plan sets on-site at all times during the project.

3.4.10 All applicable permitting.

3.4.11 Site Specific Safety plan which shall be on-site at all times during the project.

3.4.12 Consistent presence (2-3 days per week, or more as required) of Safety Representative from Contactor.

3.4.13 Traffic control, barricading, shoring, and plating.

3.4.14 Prepare, maintain, and restore staging/storage area(s) provided by UTILITIES on Propane air Plant 7723 N. Carefree Cir. Colorado Springs, CO.

3.4.15 Coordination with Utilities Survey Crew for Construction surveying/staking.

3.4.16 Contractor shall assist QC Inspector with Pre-backfill as-built survey of all weld locations with accompanying photos and pipe attributes. Includes heat number, serial numbers, welder information, weld number, electrode lot numbers, and location. Survey should be mapped to datum as specified by Utilities GIS system, coordinated with Utilities QC. Coordinates should be mapped in X-Y-Z plans. Utilities QC approval of data gathered prior to backfill is required. Weld points along with a traditional as-built drawing (includes field notes and any deviations from original plans) and any other auxiliary field notes from installation. Bore logs will accompany any weld points in a bore. Clearances from all crossings and encroachments must be documented.

3.4.17 Subsurface Utility Engineering to quality level A, B, C, & D with a Stamped SUE A Package.

3.4.18 Locating utilities, including private locates.

3.4.19 Corrosion protection of all pipes, fittings, services, and appurtenances per UTILTIES Gas LESS

3.4.20 AC Mitigation via zinc anode installation for approximately 5,500' while paralleling dual 230kV overhead electric transmission lines.

3.4.21 Assistance in installing two coupon test stations to monitor AC on the pipeline.

3.4.22 Pressure Testing construction activities. Contractor shall provide pressure test documents that include pressure and temperature charts, gauge serial and calibration data, as well as pipe and fitting information. Pressure test documents must be signed and reviewed by CSU personnel prior to energizing.

3.4.23 Contractor to perform Non-Destructive Testing (NDT) for 100% of welds completed.

3.4.24 Saw cutting prior to excavation and boring.

3.4.25 Notifying UTILITIES, a minimum of 2 working days prior to any pigging, air test, tie in, and purging/clearing/abandoning process of any pipeline.

3.4.26 If gas outage is required contact Utilities.

3.4.27 Following 811 process for any pipeline damages.

3.4.28 Wrapping both end of pipe on site to keep debris and contaminants out.

3.4.29 Capping/Plugging the pipe at the end of every workday, including installed pipe within open trench (nightcap).

3.4.30 Keeping valves accessible (uncovered and cleaned out) for duration of project.

3.4.31 Erosion and storm water control/BMPs per City Standards and State regulations.

3.4.32 Compaction and compaction testing per City Standards and UTILITIES Operator Qualification Backfilling and Compaction Standards; Contractor shall supply copies of compaction results as requested by UTILITIES.

3.4.33 Transporting and disposal construction debris.

3.4.34 Testing for PCB's, TENORM, and asbestos containing materials and proper removal and disposal of old pipeline and appurtenances.

3.4.35 Abandon pipe must be verified cleared and appropriately foam plugged and sealed.

3.4.36 Importation of select fill, as required, on a per cubic yard basis verified with documentation.

3.4.37 Material stockpiles will be maintained with BMPs per the stormwater management plan.

3.4.38 Corrosion protection of all pipes, fittings, services, and appurtenances per UTILITIES Gas LESS. Also responsible for AC mitigation for approximately 5,500' while paralleling dual 230kV overhead electric transmission lines as shown on the Issued for Construction Drawings

3.4.39 Backfill to grade at the end of each workday, where possible, to allow normal traffic flow and access; road plating may be permitted under authorization of City Traffic Engineering. Other arrangements may be made in collaboration with Utilities.

3.4.40 Keeping entire project area clean including curb and gutter.

3.4.41 Backfill and certified compaction tests upon completion. Contact Utilities Representative for any additional restoration activities that may be required. Provide all dimensions of areas that need to be restored.

3.4.42 Health and safety of employees.

3.4.43 All injuries, near misses, and destruction of property shall be communicated to Utilties PM and /or PTL within an hor of the incident.

3.4.44 Using SharePoint for all submittals on this project.

3.5 Project Management Tasks & Deliverables

3.5.1 Contractor shall collaborate with Utilities PM to agree upon and deliver a communication plan per Attachment E, to include communication frequency (by project phase), communication method/type, and escalation path. Each section of the communication plan shall identify points of contact information to include:

- Contact Name
- Title
- Roles & Responsibilities
- Contact phone numbers
- Contact email address
- Contact email address

3.5.2 Contractor shall monitor and comply with communication plan.

3.5.3 Contractor shall provide bi-weekly status updates via MS Teams to include design status, delays, risks/concerns, milestones % complete & schedule update, scope/financial updates

3.5.4 Contractor shall schedule and provide regular communications and meetings as determined in this SOW.

3.5.5 Contractor shall produce and provide an original estimate for work and then provide a monthly true/realized "Project Financials" update. Project Financials shall be due on the last business day of the month. Project Financials reporting shall include (unless otherwise agreed):

3.5.5.1.1 Construction status

3.5.5.1.2 Contract deliverables with percent complete

3.5.5.1.3 Percent spend against deliverable milestones

3.5.5.1.4 Variance reporting

3.5.5.1.5 Actuals spend versus original estimate

3.5.6 Contractor shall provide a schedule for the Project Construction per this Statement of Work and a projected schedule for installation in Microsoft Project.

3.5.7 Contractor shall collaborate with Utilities PM to agree upon and deliver an Action Items List, per Attachment E Contractor shall update Action Items List throughout work. Action Items be

documented and tracked for all parties.

3.5.8 Contractor shall identify all project risks and track risks throughout Work per Attachment E, Utilities shall provide input to be tracked.

3.5.9 Contractor shall monitor all project deliverables and shall alert Utilities PM to any deliverable problems.

3.5.10 Contractor shall be responsible for the quality and completeness of all Construction deliverables.

3.6. UTILITIES' Responsibilities

3.6.1 Managing / directing customer contact/communication.

3.6.2 Valve operation.

3.6.3 Inspection services. QC visual inspection of welds included.

3.6.4 Restoration work

3.6.5 Supplying pipe and fittings (does not include consumables)

3.6.6 Validation of as-built survey prior to backfill

3.6.7 Utilities QC to collect Weld Data Point through GPS with Contractor's assistance

3.6.8 Coating and Cathodic Protection Materials

3.6.9 Shall provide a limited laydown yard at Propane Air Plant facility.

3.6.10 All Right of Way for construction, including temporary construction and permanent easements for construction and access points to the Right of Way

3.6.11 Issued for Construction Drawings including Landowner property lines and easements for Stormwater Management Plan Submittal

3.6.12 Acquire temporary and permanent easements for construction activity

3.7 CONCTRACTOR Required Daily Activities

3.7.1 Call for utility locates, through UNCC, 3 days prior to beginning construction. Refresh locates after 30 days or as required.

3.7.2 Maintain a positive relationship, at all times, with customers affected by Contractors' work activities. Refer customers to UTILITIES representative.

3.7.3 Always have a copy of UTILITIES Gas LESS and specifications at work site. See Section 9.1 of this Exhibit A.

3.7.4 Have construction plans supplied by UTILITIES on site at all times.

3.7.5 Must have all required permits and supporting documentation on site at all times.

3.7.6 Have daily tailgate meeting each morning during Construction. Discuss safety, proposed daily activities/work requirements, and communicate necessary information related to work, etc.

3.7.7 Have on site necessary equipment, personal safety protection items, shoring, pipe construction tools, to do complete work activities.

3.7.8 Excavate asphalt, dirt, sod and remove concrete and remove from street. Install shoring for safety protection per UTILITIES standards. (Notice: no personnel in open trenches without shoring).

3.7.9 Hand dig around all utility lines/services within 24" of locate mark (gas, water, electric, telephone, fiber optic, etc.).

3.7.10 Keep trench, pipe and all items related to potable water main clean from contamination. Keep water pipe and items clean/free from defects and pristine.

3.7.11 No pipe installation or appurtenance installation shall be covered without UTILITIES representative inspection or approval.

3.7.12 Eliminate cross-contamination between tools and utility infrastructure.

3.7.13 Keep construction site safe, neat, and clean.

3.7.14 Protect public property from damage. Repair to like new if any damage occurs.

3.7.15 Monitor utility locates to verify crossings and missing data.

3.8 Tasks, Deliverables and Schedule

3.8.1 To complete the Project, Contractor must perform the following work and must provide Utilities with the following deliverables, but not limited to:

3.8.1.1 Refer to Section 3 (Scope) for work requirements.

3.8.1.2 Provide performance requirements for each task.

3.8.1.3 List deliverables for each task.
3.8.1.4 Provide start and completion dates for each task or milestones.

3.8.2 Contractor must coordinate its work under this Exhibit A with Utilities' Project Manager ("Utilities' PM"). Any changes to the established schedule must have the Utilities' PM's prior approval and must be modified with an executed Change Order or an Amendment.

3.8.3 Schedule

Contractor's on-site work must normally be performed Monday through Friday during the hours of 7:00 am and 6:00 pm Mountain Time (MT). Changes to these hours must be mutually agreed upon by Utilities and the Contractor. Notice of extended work hours shall be given in the submitted proposal prior to beginning of project. Contractor shall provide a preliminary schedule as part of their proposal. **Proposed schedule shall comply with the contract dates, contain all deliverables, and be reviewed by Utilities PM and PTL and accepted.**

Marksheffel Connector Schedule		
Task/Milestone	Resource	Due Date
Intent to Award	Utilities	11/08/2023
Schedule, Site Specific Safety Plan, Communication Plan, etc.	Contractor	10 days post Award
Phase IV Construction Start	Contractor	
Phase IV Substantial Completion	Contractor	
Phase V Construction Start	Contractor	
Phase V Substantial Completion	Contractor	10/31/2026
Project Acceptance	Utilities	12/30/2026

3.8.4 Deliverables

Deliverables Table				
Document	Format	Date Due	Update Frequency	**Notes**
Communication Plan	Excel	> 30 days prior to Construction	As Needed	An updated communication plan with the Construction Employees contacts information.

CMSR - Construction Minimum Safety Requirements	Microsoft Word or PDF	10 days post award date	N/A	Contractor Minimum Safety Requirements: 1) Attachment A 2) Attachment B 3) Attachment C 4) Attachment D
Weekly Progress Schedule & 3 week look ahead	Microsoft Word or PDF	First Project Meeting	Every Project Meeting	
Construction Schedule	Microsoft Project Version 2016 and PDF	Per Exhibit A	Monthly & as significant schedule changes occur	**Level 5 Task Schedule**: 1) Detail Tasks by discipline 2) Start & End Date 3) Duration 4) Resource 5) Percent Complete 6) Critical Path
Project Management Documents	Microsoft Project 2016 and PDF	Monthly	Monthly & as significant schedule changes occur	<u>Project Financials:</u> Design status, contract deliverables w/ % complete, % spend against deliverable milestones, variance reporting (financial & schedule), Actual spend vs. original estimate
			Monthly & as significant schedule changes occur	<u>Action Items List:</u> Action items for all parties (Contractor, sub-contractor, permitting agencies, & Utilities)
			Monthly & as significant schedule changes occur	<u>Risk Log:</u> Identified risks, impact, likelihood, triggers, potential cost impacts, mitigation strategies
Site Specific Safety Plan	Microsoft Word or PDF	> 60 days prior to Construction	As Needed	Per Attachment D of CMSR
OQ Qualifications	Microsoft Word or PDF	> 60 days prior to Construction	As Needed	OQ Qualification certificate from Utilities for each & every employee touching the gas piping.
Welder Certifications	Microsoft Word or PDF	> 60 days prior to Construction	As Needed	Welder certifications for each and every employee executing welding.
Punchlist	Excel	As Needed	As Needed	Any open items after construction but prior to commissioning or contractual closeout

Standard Operating Procedures	Microsoft Word or PDF	At Commissioning	NA	Description and plans for how Operations employees will operate subsystems/systems
Start Up Procedure	Microsoft Word or PDF	> 30 days prior to Construction	As Needed	Step by Step operation of putting equipment back into service safely
Construction Turn Over Package	Microsoft Word or PDF	At Commissioning	NA	<u>To Include:</u> 1) Non-Conformance Reports 2) Compaction Reports 3) Concrete Test Reports 4) Material Test Reports 5) Rebar & Anchor Bolt Inspections 6) Weld Travel Logs & Weld Maps 7) Material Test Reports (MTR's) 8) Pressure Tests (Air/Hydro) 9) Tie-In Procedure 10) Inspection Certificates
Guarantees/Warranties in Utilities Name	Microsoft Word or PDF	At Commissioning	NA	1) All equipment & material warranties 2) Installation warranty
Construction & Building Permits	Microsoft Word or PDF	Prior to Construction &At Commissioning	NA	These are permits necessary to authorize permit activities be performed that are issued by Authorities Having Jurisdiction (examples : Federal, State, or Local government, Pikes Peak Regional Building Department, CO Department of Transportation, etc.). In many cases in Vertical projects the building permit is required to enable facilities construction activities to be signed off to allow the space to be used for its designed purpose and if appropriate a Certificate of Occupancy to be issued.

Commissioning Turn Over Package	Microsoft Word or PDF	At Commissioning	NA	<u>To Include:</u> 1) Equipment Check Sheets 2) Instrument Test Forms 3) Instrument Check Sheets 4) Pressure Safety Valve Index 5) Electrical Check Sheets 6) Signal Testing & Loop Check Sheets 7) Interlock Check Sheets 8) Action upon Alarm Check Sheets 9) Operational Checks 10) Performance Tests
Spare Parts List	Microsoft Word or PDF	At Commissioning	If needed	List of item numbers of spare parts for Warehouse use, include Max/Min (order up to and order when amounts of each spare part).
O&M Manuals	Microsoft Word or PDF	At Commissioning	NA	Manuals for individual pieces of equipment.
Permitting	PDF or MS Office Tools	3 days Post Permit Approval	As Needed to Execute Design	Governmental agencies have jurisdiction to review or approve the final design of the Project. Contractor shall provide technical criteria, written descriptions and design data required by governmental authorities for obtaining approvals and shall assist UTILITIES in consultations with appropriate authorities while working to obtain permits as needed for Design.
Release of Retainage	Comes as an Invoice	After all deliverables have been received & approved.	NA	Withholding a portion of the final payment for a defined period to assure a contractor and subcontractor has finished a construction project completely and correctly. The funds are held back by CSU accounting as invoices come in and are processed. The funds are typically released to the contractor by accounting through the Final Pay Application.

Final Pay Applications	Comes as an Invoice	After all deliverables have been received & approved.	NA	Payment made to Construction Contractors upon receipt of written notice from the Contractor that the contracted Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, Colorado Springs Utilities will promptly make such inspection and when Colorado Springs Utilities Representative finds the Work satisfies the contract requirements for Final Completion and is acceptable under the Contract Deliverables, and Colorado Springs Utilities representative deems this Contract fully performed, Colorado Springs Utilities will process Final Payment, as required by this Contract.
Certificate of Substantial Completion	PDF or MS Office Tools	After constructed assets have been inspected & accepted.	NA	This is the point in the project where the constructed assets have been inspected and are able to perform to their intended purpose and Colorado Springs Utilities is able to receive beneficial use of the constructed and commissioned assets. The constructed assets may be operated safely in accordance with Prudent Utility Practices and manufacturer's warranties while meeting Industry Standards, Applicable Permits relative to the Work, Applicable Laws, and without damage to the Plant, Project, or any sub-system and without injury to any PersonForm to be provided by Utilities.
Lessons Learned	MS Office Tools	With final Pay Apps	NA	Qualitative information that describes what was learned during the performance of a process, method, or tool.

Project Closeout Documentation	Various formats	Per agreed upon Project Schedule	NA	Closeout documents shall be provided at project closeout, and should include, at a minimum, the following: * Any drawing/document deemed necessary and in accordance with this Statement of Work to complete this contract.

4. Acceptance Responsibilities

4.1 Utilities' Project Manager (Utilities' PM) and Contractor's Project Manager (Contractor's PM) are the duly authorized representatives of their respective organizations to resolve all acceptance issues.

4.2 Contractor must provide all the deliverables identified in Section 4. Utilities' PM will verify that Contractor has successfully completed the work throughout the term of the Project.

4.3 Acceptance Testing

4.3.1 Utilities' PM will ensure that:

4.3.1.1 Utilities performs acceptance testing.

4.3.1.2 Utilities accepts or rejects Contractor's work in the time frame detailed in Section 4.

4.3.2 After Utilities completes acceptance testing, Utilities' PM will provide Contractor's PM with a consolidated response regarding any identified exceptions to the deliverables.

4.4 Utilities will accept the work when it is delivered and in accordance with the criteria set forth above.

5. Performance Measurement Methods/Requirements

Item#	Analysis	Inspection	Physical Measurement	Test Component	Demonstration
1	Quality of Work	Utilities Project Lead/ Manager	Proper compliance to all standards and requirements to achieve Utilities goals	Project Plan and deliverables, compliance with Utilities standards	Acceptance of Contractor's Project Plan and deliverables
2	Schedule	Completion of project on time or before completion date	Completion date	Weekly schedule updates	Meets or exceeds substantial completion date
3	Effective Management	Utilities Project Lead/ Manager	Resolution and flexibility to task order issues; customer service; resource allocation; compliance with scope	Timely response to issues	Issue resolutions which meet or exceed Utilities requirements and resources assigned to contract
4	Cost	Utilities	Cost of Project	Changes to Cost	Cost is equal to or less than Contract Price

5	Other Measurable criteria as needed				

6. Additional Work

Contractor will be responsible for submitting to Utilities all cost and time estimates prior to beginning any additional work. All cost estimates shall be a not to exceed estimate. It will be at Utilities' discretion if additional work will be completed based on the cost estimate presented by Contractor. If approved, a work order will be issued by the PM prior to commencement of additional work.

7. Resource Requirements and Key Personnel

7.6. Contractor Personnel

7.6.1. Utilities requires Contractor's technical, functional, and/or project management expertise. The Services described in this Exhibit A are needed in all phases of the Project, including detail planning, and continuing through the end of the project. Contractor's personnel listed below are essential to the work. Before the Contractor substitutes listed personnel, Contractor must notify Utilities' PM and Utilities Strategic Sourcing Specialist in writing for approval and, if applicable, an executed Amendment must be issued prior to the substitution occurring. Contractor must submit its reason for the substitution and include proposed substitutions. Contractor cannot substitute its essential personnel without Utilities' PM and Utilities Strategic Sourcing Specialist written acceptance.

Resource/Role	Name	Phone	E-mail
Project Manager			
Field Crew Supervisor			
Safety Representative			

7.6.2. Contractor's PM's responsibilities include:

7.6.2.1. Providing all project approvals, project information, and the day-to-day project management.

7.6.2.2. Consulting with Utilities' PM to facilitate the delivery of the services per this Exhibit A.

7.6.2.3. Providing Utilities' PM with regular updates on Contractor's project tasks.

7.6.2.4. Informing Utilities' PM of any issues that come up through the course of the Project.

7.6.2.5. Providing knowledge transfer of work performed as required.

7.6.2.6. Participate in development of test plans and final system Acceptance Testing.

7.6.2.7. Participate in the Project Wrap-up Session.

7.6.3. If Utilities preapproves required subcontract work, Contractor must describe, in detail, the origin of all proposed outsourced services and identify any tasks or services that will be assigned to Subcontractors. If applicable, Contractor must provide a list of Subcontractor and associated personnel.

7.7. Utilities Personnel

7.7.1. Utilities will provide internal project management, business, and technical expertise throughout the life of the Project, and will assign sufficient resources to the project to meet schedule, scope, and budget requirements.

Resource/Role	Name	Phone	E-mail

7.7.2. Utilities' PM's responsibilities include:

7.7.2.1. The technical aspects of the performance of the Contract.

7.7.2.2. Acting as the primary contact with Contractor's team.

7.7.2.2.1. Utilities' PM may designate other personnel to oversee the performance of particular work tasks or deliverables; however, Utilities' PM retains ultimate authority over the Project.
7.7.2.2.2. Should Contractor's PM and Utilities' PM disagree over the technical requirements of the Project, such matters will be immediately referred to Utilities' Management for resolution.
7.7.2.2.3. Utilities' PM does not possess any authority, express or implied, to direct Contractor to deviate from the terms and conditions of the Contract.

7.7.2.3. Providing all project approvals, project information, and the day-to-day project management of the Project.
7.7.2.4. Coordinating with Contractor's PM to facilitate the delivery of the services per this Exhibit A.
7.7.2.5. Providing Subject Matter Experts ("SME") as required.
7.7.2.6. Providing Contractor with supervised access to all locations where services are to be performed.
7.7.2.7. Assisting in the execution of test plans to perform unit testing, system testing, and final testing as required.
7.7.2.8. Assisting in the completion of the final acceptance tasks.
7.7.2.9. Participating in the Project Wrap-Up Session.

7.7.3. Strategic Sourcing Specialist's responsibilities include:
7.7.3.1. Acting as the primary point of contact throughout the solicitation and evaluation process.
7.7.3.2. Negotiating all terms and conditions of the Contract.
7.7.3.3. Acting as the primary point of contact for all contract-related correspondence.
7.7.3.3.1. All contract-related correspondence must be issued and received by the Strategic Sourcing Specialist.
7.7.3.3.2. The Strategic Sourcing Specialist is the only individual authorized who can direct Contractor to deviate from the express, written terms of the Contract. All authorizations to deviate from the Contract must be authorized in writing and signed by Utilities' Strategic Sourcing Specialist and Contractors' designated representative.

8. Project Communication

8.1 Utilities and the Contractor's personnel may be distributed across multiple locations; therefore, consistent and planned communication methodologies are critical to this Project's success.

8.2 Contractor's PM must provide Utilities with, at a minimum:
8.6.1. Check-ins to the Utilities PM as needed to protect the Project progress.
8.6.2. Written weekly progress/status reports to the Utilities PM.
8.6.3. Written milestone completion confirmation to the Utilities PM.

9. Reference Documents

Exhibit A1- UTILITIES' Gas Line Extension and Service Standards (LESS) 2022
Exhibit A2- UTILITIES' General Welding Control Document
City of Colorado Springs Standard Specification Manual https://coloradosprings.gov/public-works/page/standard-specifications-manual

9.1. City of Colorado Springs Permits, Applications Engineering, Inspections, Permitting and Fees | City of Colorado Springs

10. Work Performance

10.1. Some of Contractor's work under this Exhibit A will require Contractor to be on-site at one or more Utilities work sites. Contractor's work may be accomplished remotely via phone or web conferencing by mutual agreement of Utilities and the Contractor. The primary locations for on-site activity(ies) is/are:

Colorado Springs Utilities	1521 Hancock Expy
Leon Young Service Center	Colorado Springs, CO

7723 N Carefree Cir.
Colorado Springs Utilities Colorado Springs, CO
Propane Air Plant

10.2. Cyber Security General Provisions

10.2.1. Contractor must not transfer any Utilities' confidential information and/or data outside Utilities' network. The prohibition includes, but is not limited to, transfer to Contractor/third party workstations, servers, cloud resources, and any location outside Utilities' logical network.

10.2.2. Contractor must not access, read, or make use of Utilities' confidential information and/or data, whether on-site or remotely.

10.2.3. Contractor must not install or run any software, including but not limited to trials and freeware, on any Utilities' asset connected to Utilities' network.

10.3 Contractor must provide Utilities a listing of all the Contractor's Subcontractors (including but not limited to suppliers, distributors, and manufacturers) involved in its supply chain regarding this Contract. The listing should include Subcontractor's geographic location and the product that is being provided in the fulfillment of this Contract.

Subcontractor Name	Geographic Location	Products/Services Provided

10.3.1 Contractor must notify Utilities within seven (7) calendar days of discovering a vulnerability with any product provided by Contractor or one of their Subcontractors.

10.3.2 Contractor must notify Utilities within thirty (30) calendar days if any of these Subcontractors are changed.

10.3.3 Contractor is responsible for verifying the integrity and authenticity of any product provided by the Subcontractor before it is installed on a Utilities purchased/leased system.

APPENDIX D

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Paso County Area, Colorado

CSU Marksheffel Connector

February 21, 2024

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:26,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 350 700 1400 2100

Feet
0 1000 2000 4000 6000

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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Date(s) aerial images were photographed: Aug 19, 2018—Oct 20, 2018

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	22.5	25.3%
10	Blendon sandy loam, 0 to 3 percent slopes	17.6	19.9%
97	Truckton sandy loam, 3 to 9 percent slopes	48.6	54.8%
Totals for Area of Interest		**88.7**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

El Paso County Area, Colorado

8—Blakeland loamy sand, 1 to 9 percent slopes

Map Unit Setting

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

Map Unit Composition

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

Description of Blakeland

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Other soils

Percent of map unit: 1 percent

Hydric soil rating: No

Pleasant

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

10—Blendon sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3671
Elevation: 6,000 to 6,800 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Blendon

Setting

Landform: Terraces, alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium derived from arkose

Typical profile

A - 0 to 10 inches: sandy loam
Bw - 10 to 36 inches: sandy loam
C - 36 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B
Ecological site: R049XB210CO - Sandy Foothill
Hydric soil rating: No

Minor Components

Other soils
Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

97—Truckton sandy loam, 3 to 9 percent slopes

Map Unit Setting
National map unit symbol: 2x0j2
Elevation: 5,300 to 6,850 feet
Mean annual precipitation: 14 to 19 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 85 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition
Truckton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Truckton

Setting
Landform: Interfluves, hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Re-worked alluvium derived from arkose

Typical profile
A - 0 to 4 inches: sandy loam
Bt1 - 4 to 12 inches: sandy loam
Bt2 - 12 to 19 inches: sandy loam
C - 19 to 80 inches: sandy loam

Properties and qualities
Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline (0.1 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

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

Minor Components

Blakeland

Percent of map unit: 8 percent
Landform: Interfluves, hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Ecological site: R049XB210CO - Sandy Foothill
Hydric soil rating: No

Bresser

Percent of map unit: 7 percent
Landform: Interfluves, low hills
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R049XB210CO - Sandy Foothill
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

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

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Colorado Springs Utilities
It's how we're all connected

MILLER PIPELINE
AN ARTERA COMPANY

March 07, 2024

City of Colorado Springs
Stormwater Enterprise
30 S. Nevada Ave
Colorado Springs, CO, 80903

RE: Drainage Evaluation
CSU Marksheffel Connector

Construction for this project includes installation of new 16" natural gas main infrastructure to be conducted within easement along Marksheffel Road, to include all appurtenances and associated infrastructure to ensure a complete and efficient installation. This construction project will specifically include installation of approximately 16000 LF of 16" steel pipe by excavation, installing of new pipe, and associated infrastructures, backfill, and restoration with seeding and mulching as final stabilization.

Although the project will disturb one acre or more, it is excluded from the 4 Step Process as outlined in the 4 Step Process Exclusions Policy Statement, May 31, 2023. All utility installation and maintenance that does not permanently alter the terrain, ground cover, or drainage patterns from those present prior to the project. Utility tie-ins extending beyond the project site are excluded. We respectfully request the approval of this drainage evaluation as it meets the conditions of this exclusion. Please reach out with any questions or requests for information at the numbers and address below.

Thank you,

Randy Hiett, Project Manager
Miller Pipeline LLC
421 E. Industrial Blvd.
Pueblo West, CO 81007
randy.hiett@millerpipeline.com

Colorado Springs Utilities
It's how we're all connected

MILLER PIPELINE
AN ARTERA COMPANY

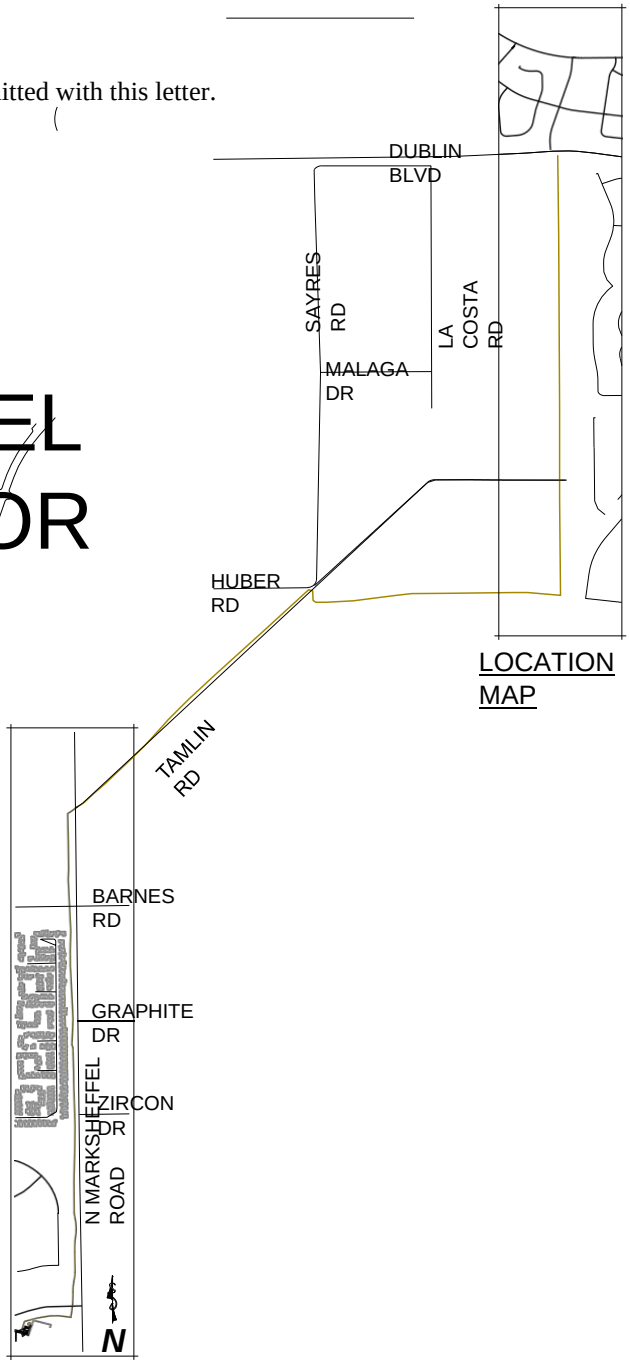
Vicinity Map

Additional maps can be found in GEC Plan submitted with this letter.

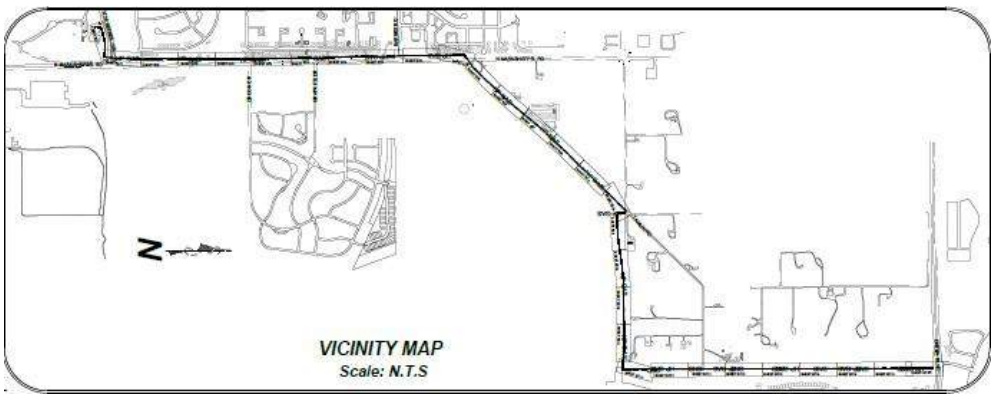
SITE MAP: not to scale

MARKSHEFFEL CONNECTOR

PROJECT SITE



LOCATION MAP



121 South Tejon Street, Fourth Floor
P.O. Box 1103, Mail Code 940
Colorado Springs, CO 80903-2187

Phone 719-668-8426
Fax 719-668-8666
http://www.csu.org

Colorado Springs Utilities
It's how we're all connected

MILLER PIPELINE
AN ARTERA COMPANY

Signature Page

Drainage Evaluation for **CSU Marksheffel Connector**

Colorado Springs Utilities Project Manager's Statement
I hereby certify that the drainage for the *CSU Marksheffel Connector* shall be constructed according to the design presented in this report. I further understand that field changes must be reviewed by the City Review Engineer to ensure conformance with the original design intent. I am employed by and perform engineering services solely for Colorado Springs Utilities, an enterprise of the City of Colorado Springs, and therefore am exempt from Colorado Revised Statute Title 12, Article 25, Part 1 according to § 12-25-103(1), C.R.S.

Mark Muñoz Project Manager 04/16/2024

Authorized Signature and Title Date

City of Colorado Springs Statement:
Filed in accordance with Section 7.7.906 of the Code of the City of Colorado Springs, 2001, as amended.

For SWENT Manager Date

Conditions:

121 South Tejon Street, Fourth Floor
P.O. Box 1103, Mail Code 940
Colorado Springs, CO 80903-2187

Phone 719-668-8426
Fax 719-668-8666
http://www.csu.org

Colorado Springs Utilities
It's how we're all connected

MILLER PIPELINE
AN ARTERA COMPANY

May 09, 2024

El Paso County, Planning and Community Development Department
2880 International Circle, Suite 110
Colorado Spring, CO 80910

RE: 1041 Exemption Request

To Whom It May Concern:

As part of the Marksheffel Connector Gas Main Project, Colorado Springs Utilities ("Utilities"), an enterprise of the City of Colorado Springs, and Miller Pipeline, LLC ("the Contractor") intend to construct a 16" steel natural gas main ("the Project") from existing infrastructure at Barnes Road continuing along Marksheffel Road, turning down Tamlin Road, then tying into existing infrastructure at Dublin Boulevard. Utilities does not know if the Project could meet any exemptions under the El Paso County's Guidelines and Regulations for Areas and Activities of State Interest (a.ka. the "1041 Regulations"). Therefore, Utilities and the Contractor respectfully request El Paso County's guidance on how to navigate the 1041 Regulation process so that they can move forward with the Project.

Construction for this project includes installation of new 16" natural gas main infrastructure to be conducted within easements, to include all appurtenances and associated infrastructure to ensure a complete and efficient installation. This construction project will specifically include installation of approximately 16,000 LF of 16" steel pipe by excavation, installing of new pipe, and associated infrastructures, backfill, and restoration with seeding and mulching as final stabilization. A depiction of the project area is attached to this letter as Attachment A.

Utilities anticipates that the New Gas Main - which will not exceed a hoop stress of 20% or more at its specified minimum yield strength - would start at the Barnes Road Gate Station on the property identified by TSN 5320400007. From this location, the New Gas Main would proceed east and run north along the edge of Marksheffel Road to Tamlin Road and then continue northeast to the property identified by TSN 5300000760 where it will continue north through the following easements; TSN 5315320001, TSN 5315202002, and TSN 5315202001. The new gas main will end at Dublin Boulevard after connecting through these easements. A depiction of the proposed New Gas Main is attached to this Letter as Exhibit B, and the names and qualifications of the persons associated with the Project are attached to this Letter as Exhibit C. Based on the foregoing facts, Utilities and the Contractor would like El Paso County's guidance on how to proceed with the 1041 Regulation process. Please do not hesitate to contact us if you have any questions or require additional documentation.

Sincerely

Randy Hiett

Randy Hiett, Project Manager
Miller Pipeline LLC
421 E. Industrial Blvd.
Pueblo West, CO 81007
randy.hiett@millerpipeline.com

121 South Tejon Street, Fourth Floor
P.O. Box 1103, Mail Code 940
Colorado Springs, CO 80903-2187

Phone 719-668-8426
Fax 719-668-8666
http://www.csu.org

Attachment A

Colorado Springs Utilities
It's how we're all connected

MILLER PIPELINE
AN ARTERA COMPANY

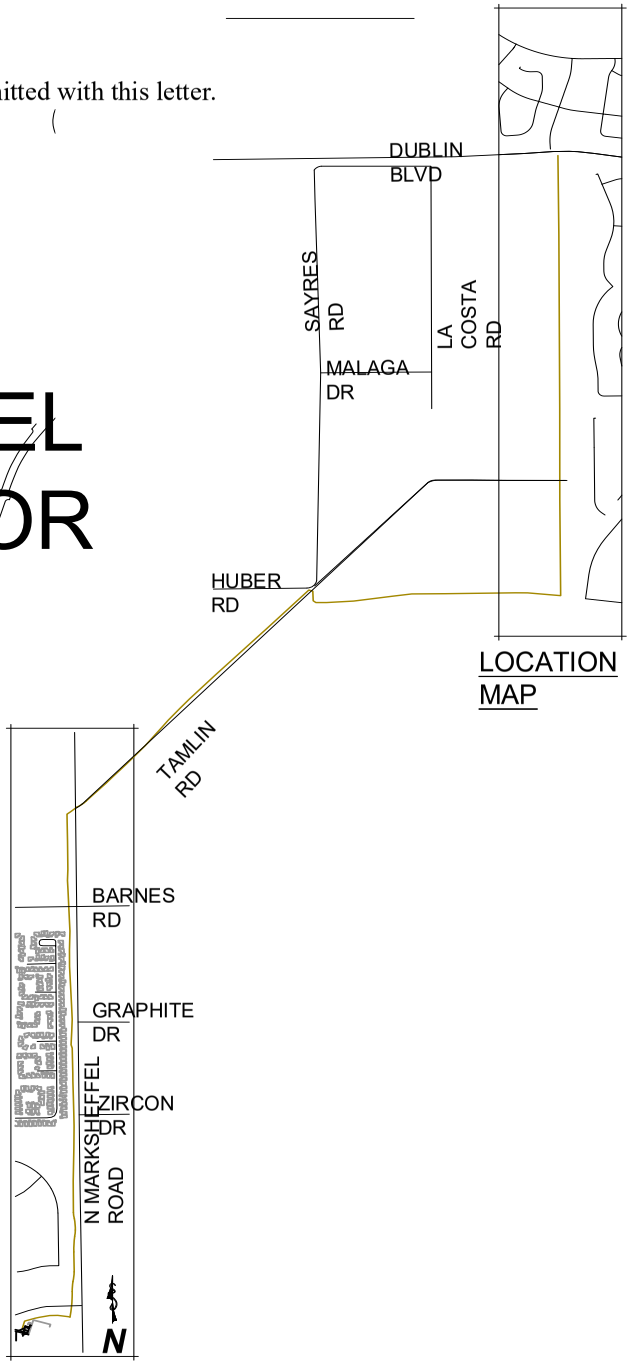
Vicinity Map

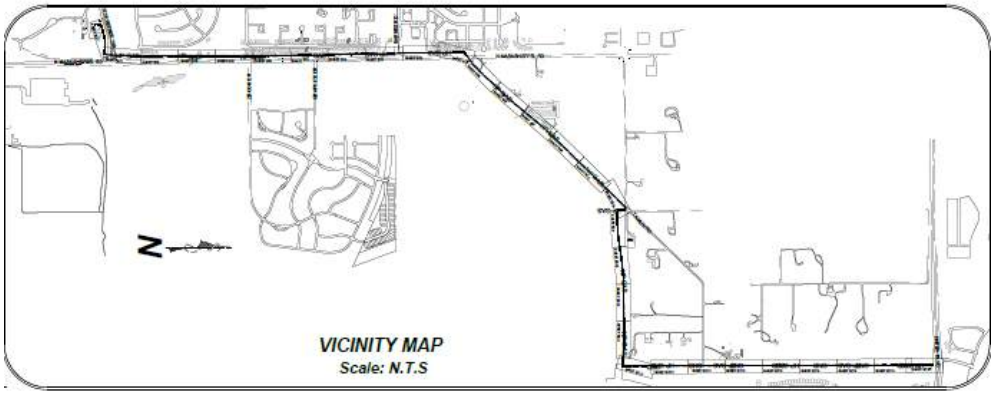
Additional maps can be found in GEC Plan submitted with this letter.

SITE MAP: not to scale

MARKSHEFFEL CONNECTOR

PROJECT SITE



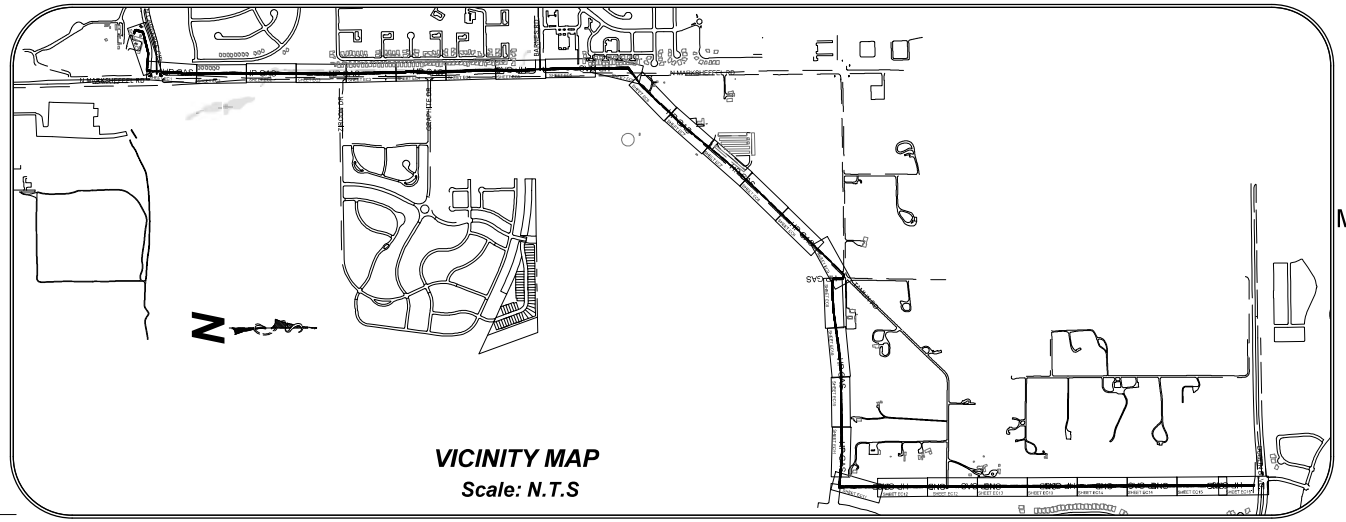


121 South Tejon Street, Fourth Floor
P.O. Box 1103, Mail Code 940
Colorado Springs, CO 80903-2187

Phone 719-668-8426
Fax 719-668-8666
http://www.csu.org

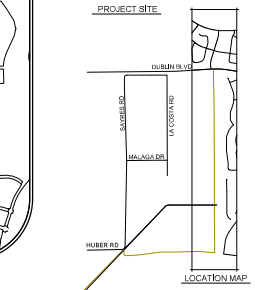
Attachment B

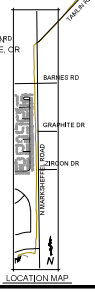
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE GAS MAIN



VICINITY MAP
Scale: N.T.S

MARKSHEFFEL CONNECTOR





SITE MAP
Scale: N.T.S.

CITY OF COLORADO SPRINGS GRADING AND EROSION CONTROL REVIEW. THIS GRADING AND EROSION CONTROL PLAN IS FILED IN ACCORDANCE WITH CITY CODE. THIS PLAN IS REVIEWED IN ACCORDANCE WITH THE STORMWATER CONSTRUCTION MANUAL, LATEST REVISIONS.

SIGNATURE_____ DATE _____

CSU PROJECT MANAGER'S STATEMENT: I HEREBY CERTIFY THAT THE DRAINAGE, GRADING, AND EROSION CONTROL FOR CSU MARKSHEFFEL CONNECTOR SHALL BE CONSTRUCTED ACCORDING TO THE DESIGN PRESENTED IN THIS GRADING AND EROSION CONTROL PLAN. I FURTHER UNDERSTAND THAT FIELD CHANGES MUST BE REVIEWED BY THE SWENT REVIEW ENGINEER TO ENSURE CONFORMANCE WITH THE ORIGINAL DESIGN INTENT. I AM EMPLOYED BY AND PERFORM ENGINEERING SERVICES SOLELY FOR COLORADO SPRINGS UTILITIES, AN ENTERPRISE OF THE CITY OF COLORADO SPRINGS, AND THEREFOFORE AM EXEMPT FROM COLORADO REVISED STATUTE TITLE 12, ARTICLE 25, PART 1 ACCORDING TO § 12-25-103(1), C.R.S.

NAME OF CSU PROJECT MANAGER: Mark Muñoz
SIGNATURE: Mark Muñoz DATE: 04/16/2024
TITLE: Project Manager
PHONE NUMBER: 719-668-2862
EMAIL ADDRESS: mmunoz@csu.org

CONTRACTOR'S STATEMENT: I WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN INCLUDING CONSTRUCTION CONTROL MEASURE INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS.I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

NAME OF CONTRACTOR: Miller Pipeline, LLC
AUTHORIZED SIGNATURE: Randy Hiett DATE: 04/15/2024
TITLE: General Manager
EMAIL ADDRESS: Randy.Hiett@millerpipeline.com
PHONE NUMBER: 719-325-9984 ADDRESS: 3170 Capital Drive-Colo. Spgs, CO 80939

ENGINEER'S STATEMENT: THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL OR OTHER PROPERTY.

SIGNATURE DATE 04/05/24
PRINTED NAME RAYMOND E. PEREZ SEAL

COLORADO 811

PRC ENGINEERING
1865 W. UINTAH STREET, SUITE 114
COLORADO SPRINGS, CO 80904
www.PRCEng.com (719) 291-2744

SHEET INDEX	
TS1	COVERSHEET
GN1	GENERAL NOTES
EC1-EC15	EROSION CONTROL PLANS
DT1-DT2	EROSION CONTROL DETAILS

(PROJECT RELATED INFORMATION)
PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 1 OF 19
REVISIONS:

Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 04/05/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]

GENERAL NOTES

1. ANY LAND DISTURBANCE BY ANY OWNER,DEVELOPER,BUILDER,CONTRACTOR,OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME III.

2. NO CLEARING, GRADING, EXCAVATION, FILLING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGNOFF AND ACCEPTANCE OF THE GRADING PLAN AND EROSION AND STORMWATER QUALITY CONTROL PLAN IS RECEIVED FROM CITY ENGINEERING.

3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 385-5980, 48 HOURS PRIOR TO CONSTRUCTION.

4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY.

5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.

6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF COLORADO SPRINGS ENGINEERING SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN 12 MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP,PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.

8. THE PLAN SHALL NOT CHANGE THE DEPTH OF COVER, OR ACCESS TO UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY COLORADO SPRINGS UTILITIES EASEMENT OR RIGHT-OF-WAY WITHOUT THEIR WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN.THE COST TO RELOCATE OR PROTECT UTILITIES OR TO PROVIDE INTERIM ACCESS IS THE APPLICANT'S EXPENSE.

9. ACCORDING TO FEMA FLOOD INSURANCE RATE MAP 08041C0727F AND 08041C0514F EFFECTIVE MARCH 17, 1997, THERE IS NO FLOODPLAIN WITHIN THE PROJECT LIMITS.

10. STOCKPILE AND TEMPORARY DISPOSAL AREA LOCATIONS WILL BE DETERMINED BY CONTRACTOR.

11. STABILIZED STAGING AREA TO BE OFF-SITE

12. PROPOSED TOPOGRAPHY IS EQUAL TO EXISTING TOPOGRAPHY.

TIMING ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING:

06/01/24
END 05/30/25

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETE:

06/15/24

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

TOTAL PROJECT AREA: 40 ACRES
TOTAL AREA TO BE DISTURBED: 20 ACRES

NAME OF RECEIVING WATERS:
SAND CREEK VIA CITY OF COLORADO SPRINGS STORM SEWER SYSTEM

SOILS INFORMATION:
TRUCKTON SANDY LOAM, 3 TO 9 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: A

BLAKELAND LOAMY SAND, 1 TO 3 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: A

BLEDON SANDY LOAM, 0 TO 3 PERCENT SLOPES
HYDROLOGIC SOIL GROUP: B

13. ALL UTILITIES ARE WITHIN PUBLIC RIGHT-OF-WAY

14. ADJACENT PROPTERTIES ARE NOT ANTICIPATED TO BE AFFECTED BY THIS CONSTRUCTION.

15. NO GEOLOGIC HAZARD STUDY REVIEW WAS COMPLETED TO DETERMINE THERE ARE NO AREAS IDENTIFIED AS "NO-BUILD AREAS".

STANDARD GEC PLAN NOTES

1. NO CLEARING, GRADING, EXCAVATION, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE ALLOWED (EXCEPT FOR WORK DIRECTLY RELATED TO THE INSTALLATION OF INITIAL CONTROL MEASURES) UNTIL A CITY GEC PERMIT HAS BEEN ISSUED.

2. ALL LAND DISTURBING ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH AND THE APPROVED GEC PLAN AND CSWMP.

3. INITIAL CONTROL MEASURES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY LAND DISTURBANCE ACTIVITIES TAKING PLACE, AN INITIAL SITE INSPECTION WILL NOT BE SCHEDULED UNTIL A CITY GEC PERMIT HAS BEEN "CONDITIONALLY APPROVED." CALL CITY STORMWATER INSPECTIONS, 385-5980, AT LEAST 48 HOURS PRIOR TO CONSTRUCTION TO SCHEDULE AN INITIAL INSPECTION AND OBTAIN FULL PERMIT APPROVAL.

4. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), INCLUDING REGULATIONS PROMULGATED AND CERTIFICATIONS OR PERMITS ISSUED. IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE CITY'S MS4 PERMIT, STORMWATER CONSTRUCTION MANUAL, IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

5. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS.

6. ALL CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION MEASURES ARE IMPLEMENTED. TEMPORARY CONSTRUCTION CONTROL MEASURES MUST BE REMOVED PRIOR TO PERMIT CLOSEOUT.

7. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS OR ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.

8. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONSTRUCTION CONTROL MEASURES MAY BE REQUIRED BY THE GEC INSPECTOR IF DEEMED NECESSARY BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).

9. ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

10. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AS A RESULT OF CONSTRUCTION ACTIVITIES.

11. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO THE STORM SEWER SYSTEM AT ANY TIME.

12. SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT ALL STORAGE, EQUIPMENT FUELING, AND EQUIPMENT SERVICING AREAS SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4. INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITY. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT ADEQUATE PROTECTION. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

13. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED AS SOON AS POSSIBLE AFTER DISCOVERY.

14. NO CHEMICALS ARE TO BE ADDED TO THE DISCHARGE UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED BY THE STATE. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

15. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER FINAL GRADING OR FINAL LAND DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS SHALL BE ROUGHENED, MULCHED, TACKIFIED, OR STABILIZED WITH TARPS WITHIN FOURTEEN (14) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDED, UNLESS AN ALTERNATIVE STABILIZATION MEASURE IS ACCEPTED AT THE INSPECTOR'S DISCRETION. ALL TEMPORARY CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED.

16. THE GEC PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE STORMWATER ENTERPRISE SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY'S ACCEPTANCE OF THE PLAN, THE CONSTRUCTION SITE IS IDLE FOR TWELVE (12) CONSECUTIVE MONTHS, A CHANGE IN PROPERTY OWNERSHIP OCCURS, THE PLANNED DEVELOPMENT CHANGES, OR ANY OTHER MAJOR MODIFICATIONS ARE PROPOSED AS DEFINED IN THE STORMWATER CONSTRUCTION MANUAL.

17. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY UTILITY EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL FROM THE UTILITY OWNER. CITY ACCEPTANCE OF THE GEC PLAN AND CSWMP DOES NOT SATISFY THIS REQUIREMENT. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS SHALL BE AT THE APPLICANT'S EXPENSE.

18. APPLICANT REPRESENTS AND WARRANTS THAT THEY HAVE THE LEGAL AUTHORITY TO GRADE AND/OR CONSTRUCT IMPROVEMENTS ON ADJACENT PROPERTY. THE CITY HAS NOT REVIEWED THE DEVELOPER'S AUTHORITY TO MODIFY ADJACENT PROPERTY. AN APPROVED GEC PERMIT DOES NOT PROVIDE APPROVAL FOR THE APPLICANT TO PERFORM WORK ON ADJACENT PROPERTY.

19. AFTER THE GEC PLAN AND CSWMP ARE BOTH SIGNED, SUBMIT THE GEC PERMIT APPLICATION AND PAY THE PERMIT FEE. AFTER YOUR GEC PERMIT APPLICATION HAS BEEN APPROVED, A CITY GEC PERMIT MUST BE OBTAINED, PLEASE USE THE CITY'S SOFTWARE, ACCELA, TO COMPLETE. YOU WILL RECEIVE AN EMAIL WITH FURTHER INSTRUCTIONS. CONSTRUCTION ACTIVITIES SHALL NOT BEGIN UNTIL A GEC PERMIT HAS BEEN OBTAINED. FOR ADDITIONAL INFORMATION, CALL (719) 385-5980.

20. THE CONCRETE WASHOUT LOCATION WILL BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL MARK THE LOCATION ON THESE PLANS.

21. NO CONCRETE OR ASPHALT BATCH PLANTS AND/OR MASONRY MIX STATIONS ARE PLANNED FOR THIS PROJECT. NONE ARE INTEDED TO BE IMPLEMENTED OR INSTALLED IN CONJUNCTION WITH THIS PROJECT.

22. NON-STRUCTURAL CONTROLS ARE CONSTRUCTION CONTROL MEASURES (CCMS) THAT DO NOT INVOLVE A STRUCTURED, OR ENGINEERED SOLUTION. THEY INCLUDE SUCH MEASURES AS EDUCATION, SITE PLANNING, AND STORMWATER MANAGEMENT REGULATIONS IN ADDITION TO SWEEPING AND GOOD HOUSEKEEPING.

QUANTITIES

BMP

	(UNIT)	(AMOUNT)	
ROCK SOCK	EA	50	(ROCK SOCKS WILL BE RE-USED DAILY)
SEEDING AND MULTCHING	AC	3.84	
SILT FENCE	LF	14,775	
INLET PROTECTION	EA	1	

THIS PROJECT IS EXEMPT FROM ASSURANCES.

LEGEND

AS-BUILT HP GAS MAIN
AS-BUILT GAS MAIN
AS-BUILT GAS SERVICE
EXISTING HP GAS MAIN
EXISTING GAS MAIN
EXISTING GAS SERVICE
GAS LINE TO BE ABANDONED
GASLIGHT
GAS VALVE
EXCESS FLOW VALVE
RELIEF VALVE
COUPLINGS
BOND OVER
TEST POINT
INSULATOR
REGULATOR STATION
MONITORS
ANODE
SCADA
METER SET ASSEMBLY
PURGE POINT
BRANCH,CVT,LINE STOPPER
PROPOSED HP GAS MAIN
PROPOSED GAS MAIN
PROPOSED GAS SERVICE
PROPOSED CATHODIC GROUND
EXISTING EASEMENT
PROPOSED EASEMENT
ROW LINE
PROPERTY LINE
STREET CENTERLINE
EDGE OF PAVEMENT
CONCRETE/ASPHALT
CABLE LINE - UNDERGROUND
ELECTRIC - OVERHEAD
ELECTRIC - UNDERGROUND
FIBER OPTIC - UNDERGROUND
PHONE - OVERHEAD
PHONE - UNDERGROUND
RECLAIMED WATER
SEWER
STORMWATER
PROPOSED STORMWATER
WATER
FENCE LINE
UTILITY PEDESTALS
FIRE HYDRANT
MANHOLE
WATER VALVE
SURVEY MONUMENT
POWER POLE
TRAFFIC SIGNAL
GAS FLOW ARROW

COLORADO 811

PRC ENGINEERING
1865 W. UINTAH STREET, SUITE 114
COLORADO SPRINGS, CO 80904
www.PRCEng.com (719) 291-2744

COLORADO REGISTERED RAYMOND E. PRICE 37713 PROFESSIONAL ENGINEER

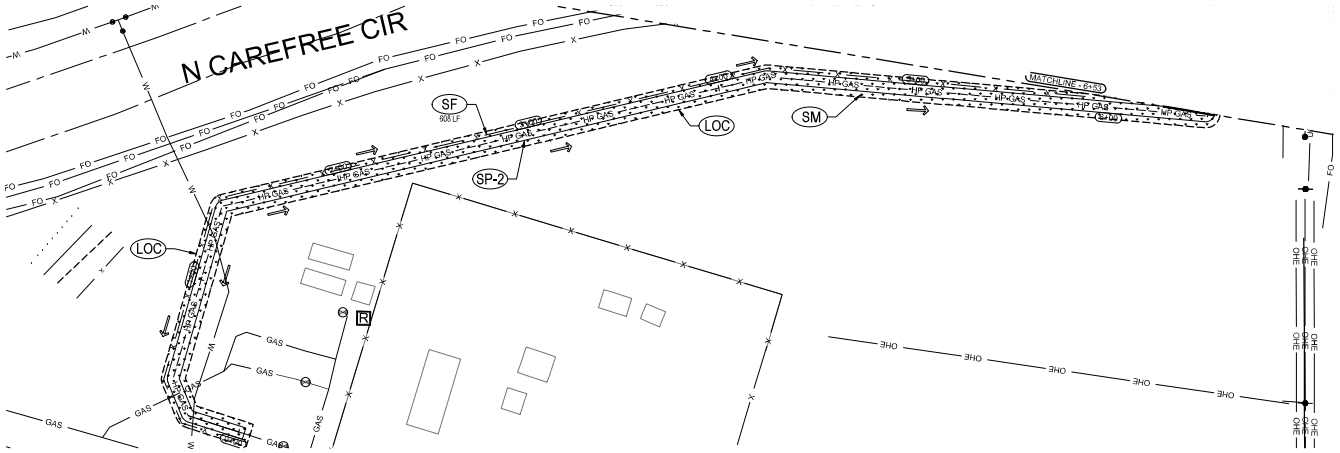
ABBREVIATIONS

@, AT
ACT, ACTUAL
BFV, BUTTERFLY VALVE
BOT, BOTTOM OF PIPE
BOV, BLOW OFF ASSEMBLY AND VALVE
CR, CURB RETURN
CMP, CORRUGATED METAL PIPE
CPLG.(INS.),(RED.), (STR.), COUPLING (INSULATING), (REDUCING), (STRAIGHT)
CR, CURB RETURN
CRA, CONCRETE REVERSE ANCHOR
CTRB, CONCRETE THRUST REACTION BLOCK
DEFL, DEFLECT
DI, DUCTILE IRON PIPE
EL, ELEVATION
FLG, FLANGE
GPM, GALLONS PER MINUTE
GR.BK.(OR V.P.I.), V.P.I. GRADE BREAK
HDPE, HIGH DENSITY POLYETHYLENE PIPE
HYD. ASSY., INCLUDES FIRE HYDRANT, LATERAL VALVE, TIE RODS AND REVERSE ANCHOR
INV., INVERT
M, MECHANICAL JOINT
N, S, E, W, NORTH, SOUTH, EAST, WEST
PI, POTHOLE
PL, PROPERTY LINE
PP, POWER POLE
PSI, POUNDS PER SQUARE INCH
PUPS, 12" OR SMALLER, USE PLAIN END BY PLAIN END, 30" LENGTH, 18" OR LARGER USE PLAIN END BY PLAIN END, 24" LENGTH
PVC, POLYVINYL CHLORIDE PIPE
RCP, REINFORCED CONCRETE PIPE
RED, REDUCER
RSTNT, MJ RESTRAINT (i.e. MEGALUG)
SLI, SLIP JOINT
SS, SANITARY SEWER
STA, STATION
STM, STORM SEWER
TOP, TOP OF PIPE
TS, TEST STATION
WL, WATER LINE
.333, 4" ABOVE EXIST. TOP OF CURB OR GROUND

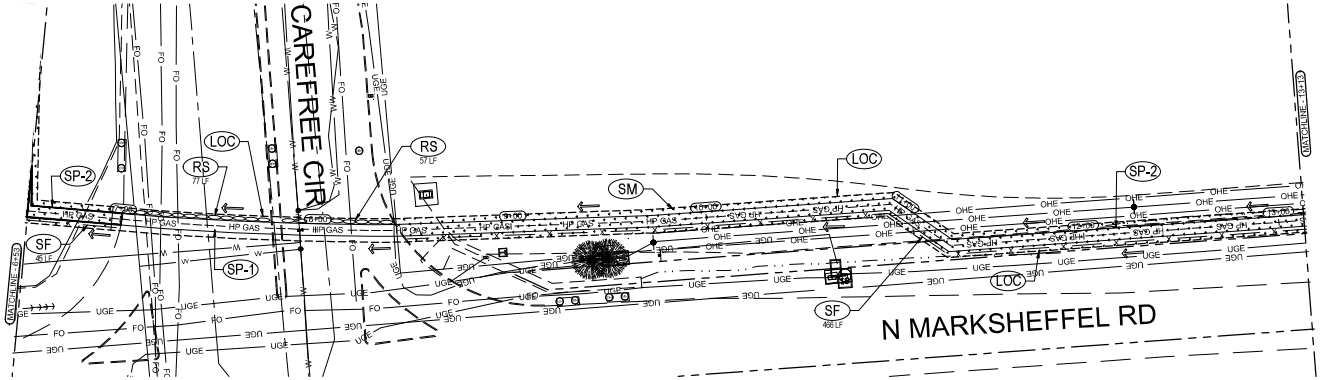
(AS BUILT INFORMATION)
DATE STARTED:
DATE COMPLETED:
FOREMAN:
INSPECTOR:
CONTRACTOR:

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

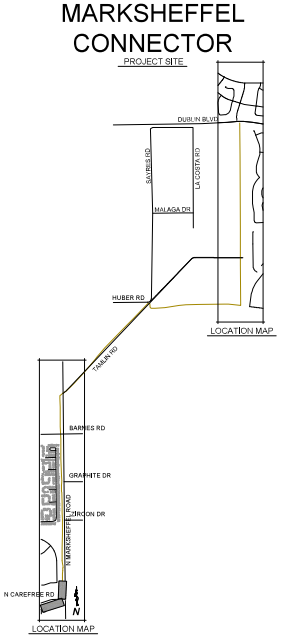
(PROJECT RELATED INFORMATION)
PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FMS MAP:
SHEET NO: 2 OF 19
REVISIONS:



VP#1



VP#2



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 3 OF 19

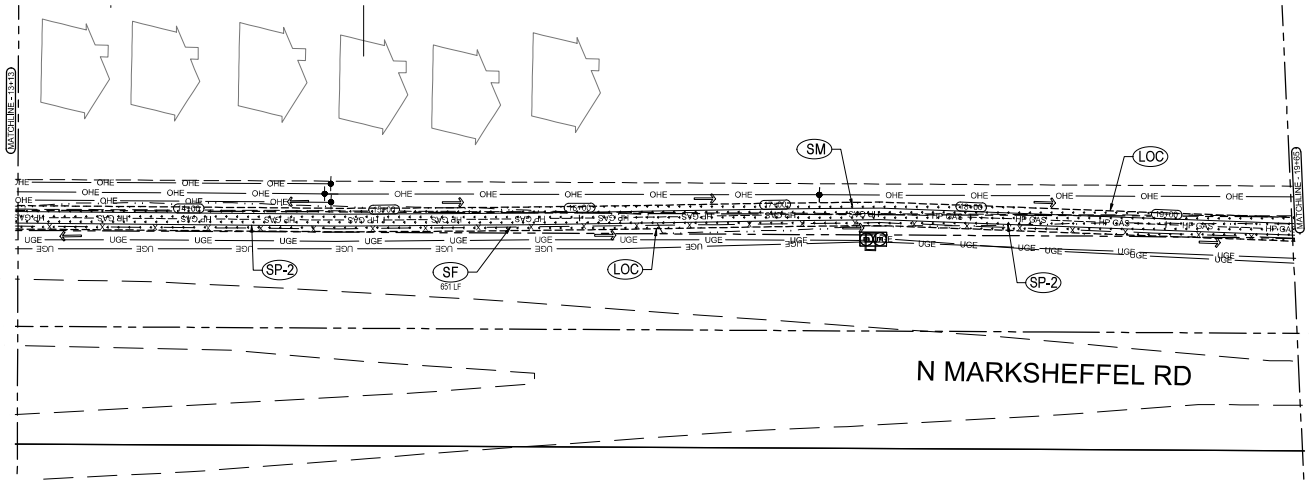
REVISIONS:

Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

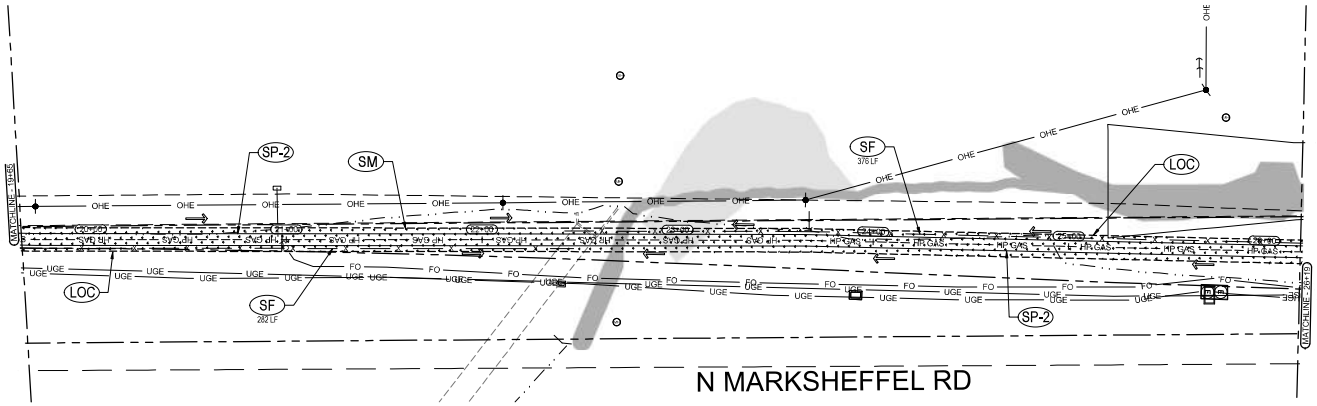
[INSERT TASK]



30 15 0 30 60

1 INCH = 30 FT

VP#3

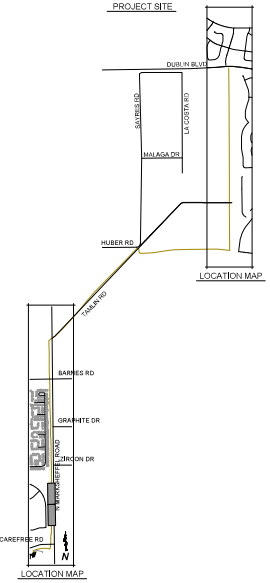


30 15 0 30 60

1 INCH = 30 FT

VP#4

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 4 OF 19

REVISIONS:

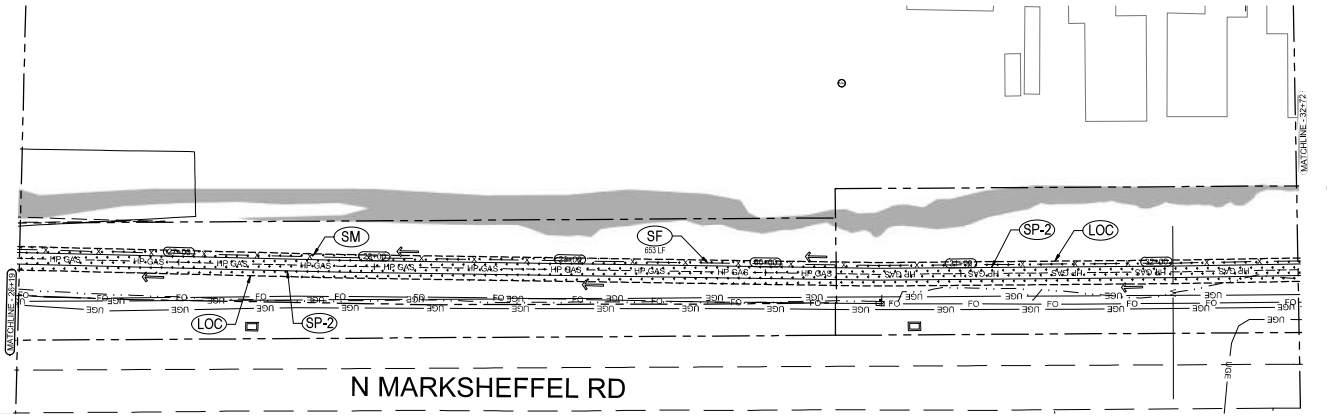
Colorado Springs Utilities

It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

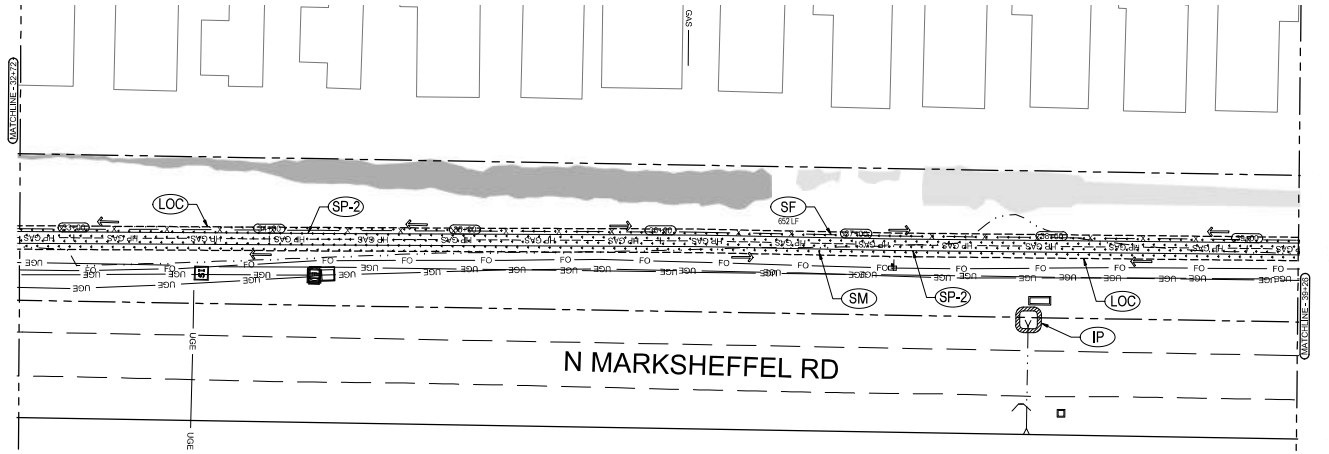
[INSERT TASK]



30 15 0 30 60

1 INCH = 30 FT

VP#5

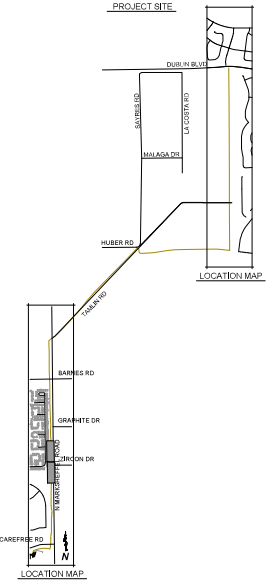


30 15 0 30 60

1 INCH = 30 FT

VP#6

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 5 OF 19

REVISIONS:

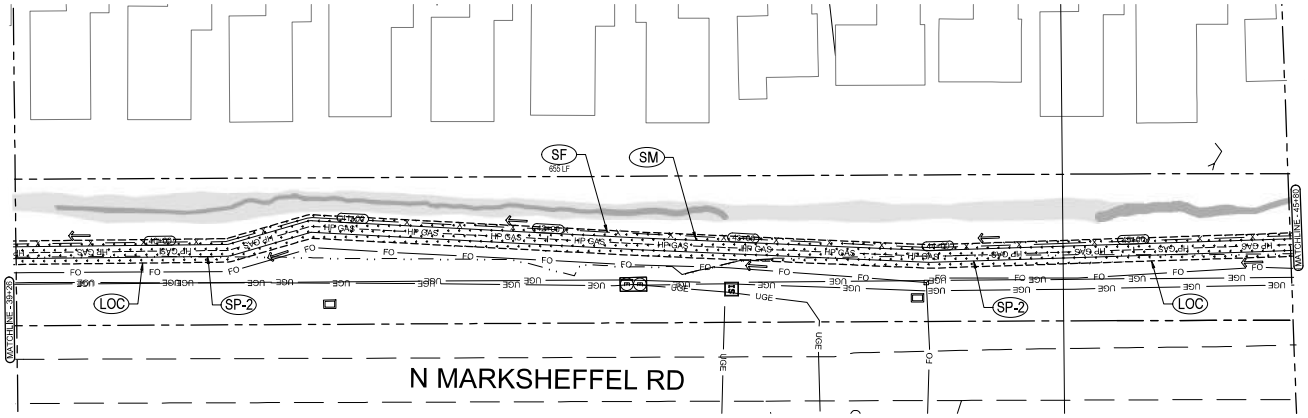
Colorado Springs Utilities

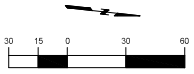
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

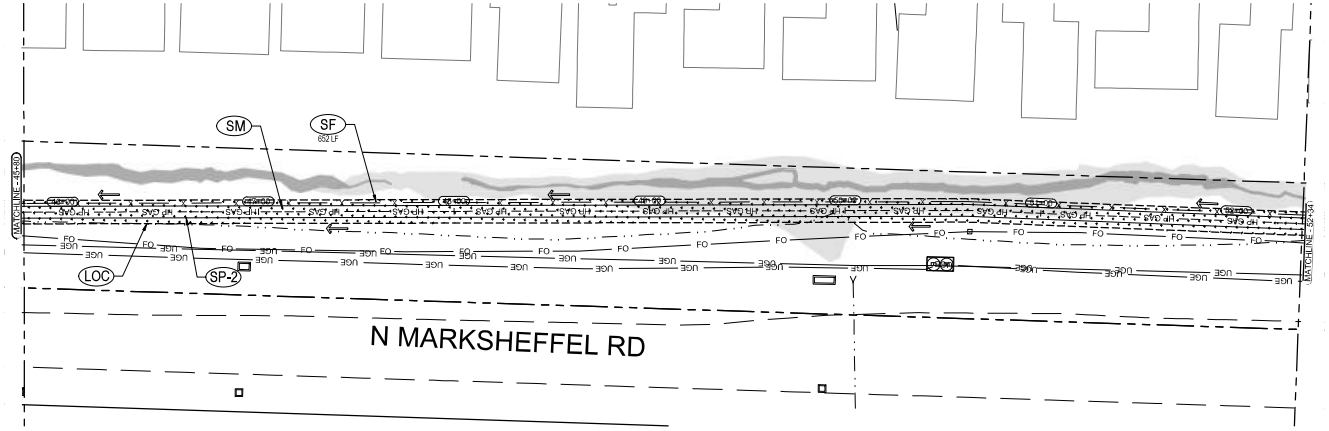
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

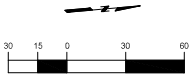
[INSERT TASK]





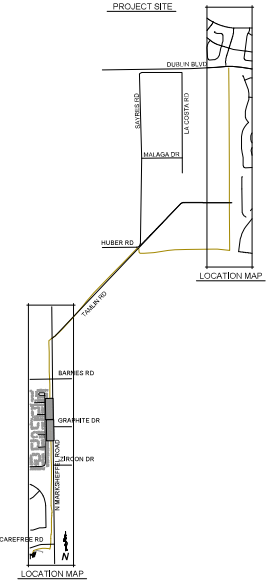
VP#7





VP#8

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- (SM) SEEDING AND MULCHING
- (SP-1) (SP-2) MATERIALS STAGING
- (RS) ROCK SOCK
- (LOC) LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- (IP) INLET PROTECTION
- (W) EXISTING SANITARY SEWER
- EXISTING WATER
- (SF) SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

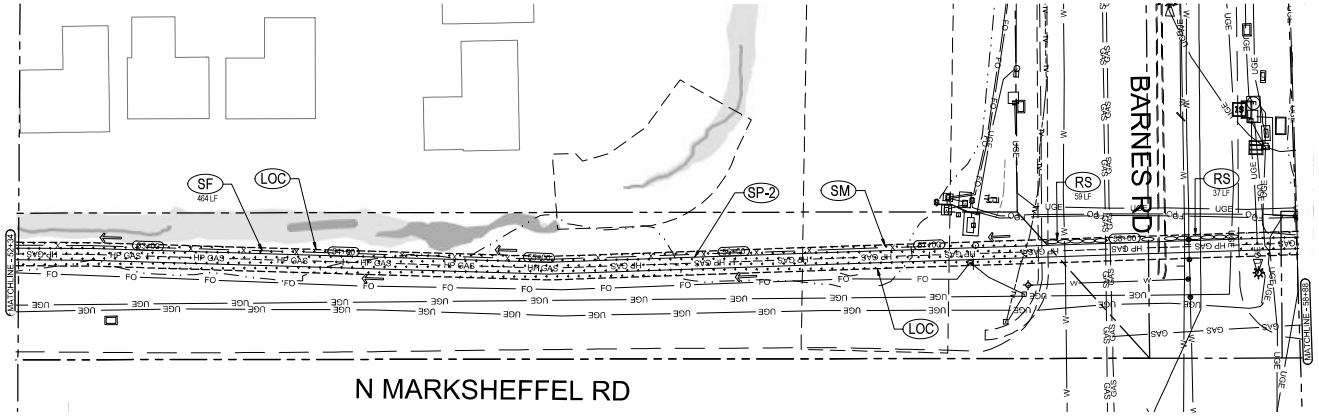
(PROJECT RELATED INFORMATION)	
PARENT WORK ORDER NUMBER: 3988813	
PROJECT NUMBER:	
FIMS MAP:	
SHEET NO: 6 OF 19	
REVISIONS:	

Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

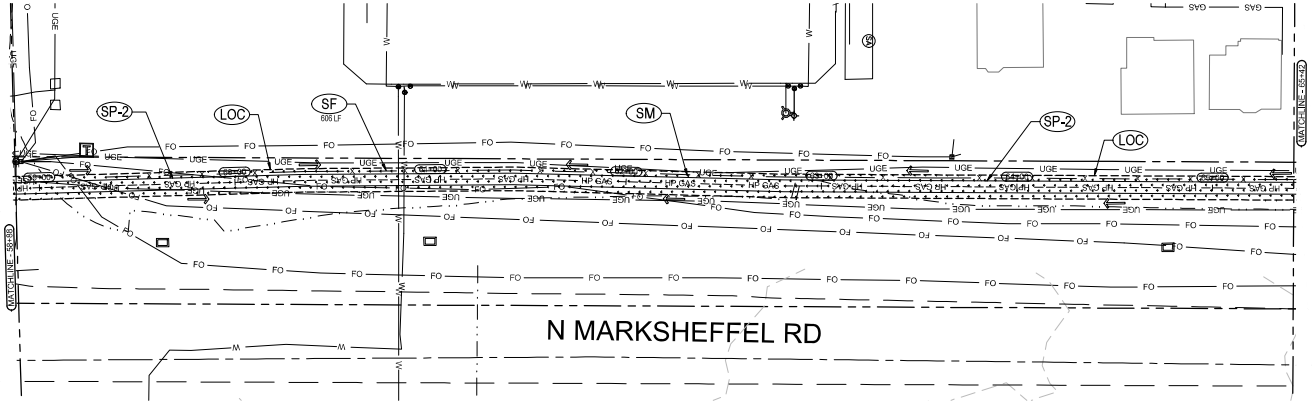
[INSERT TASK]



30 15 0 30 60

1 INCH = 30 FT

VP#9

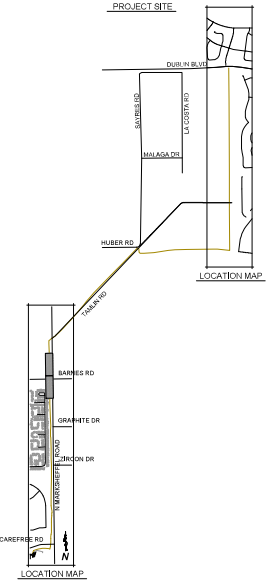


30 15 0 30 60

1 INCH = 30 FT

VP#10

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 7 OF 19

REVISIONS:

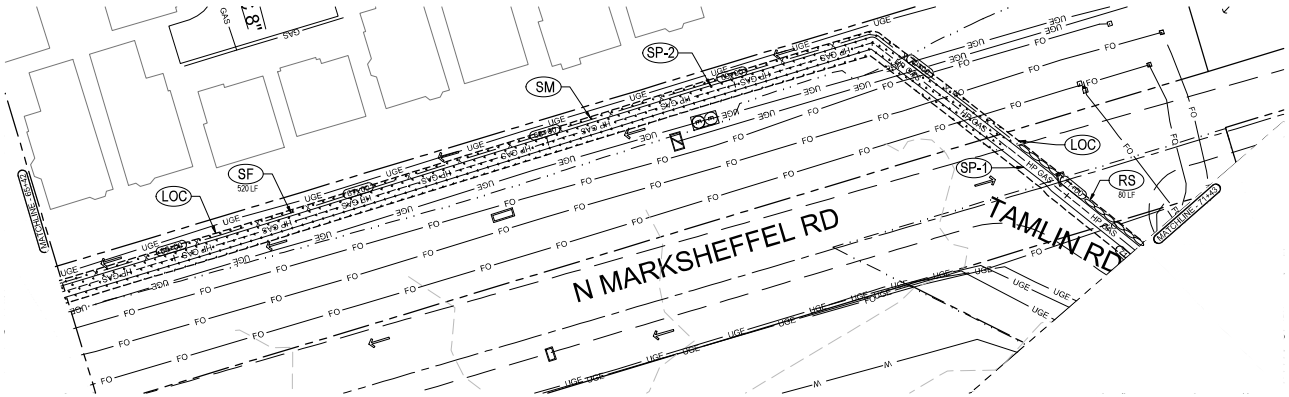
Colorado Springs Utilities

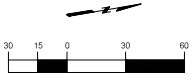
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: ---
SURVEYED BY:	DATE: ---
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

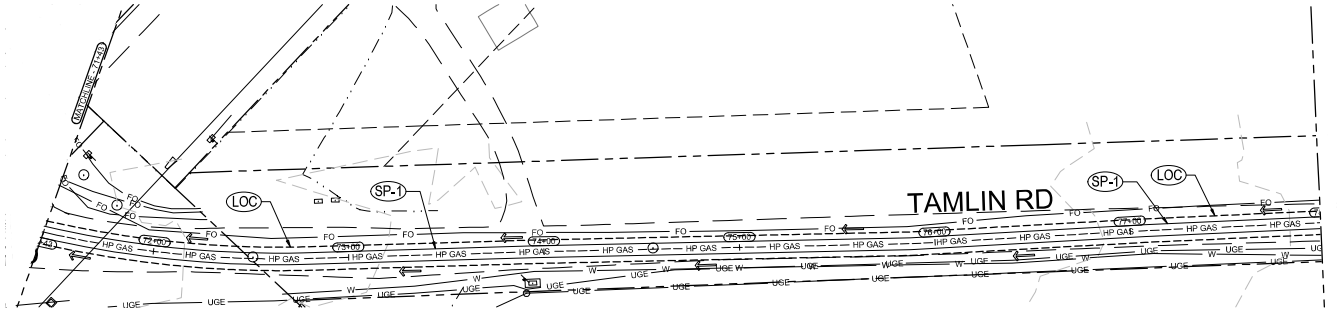
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]



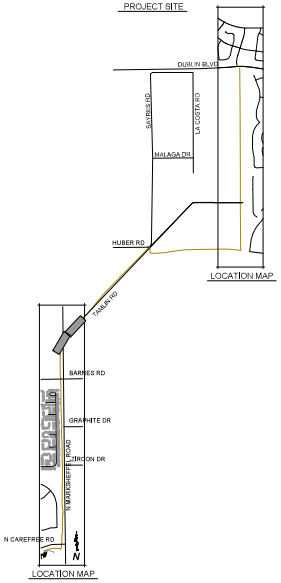


VP#11



VP#12

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	SF SILT FENCE
SP-1 SP-2 MATERIALS STAGING	SOIL DISTURBANCE AREA
RS ROCK SOCK	EXISTING FLOW DIRECTION
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP INLET PROTECTION	

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 8 OF 19

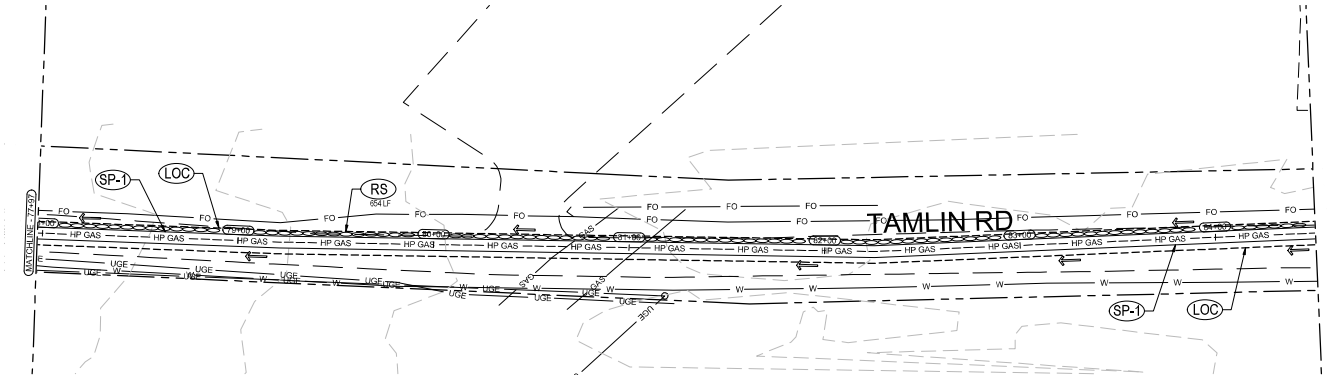
REVISIONS:

Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: ---
SURVEYED BY:	DATE: ---
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

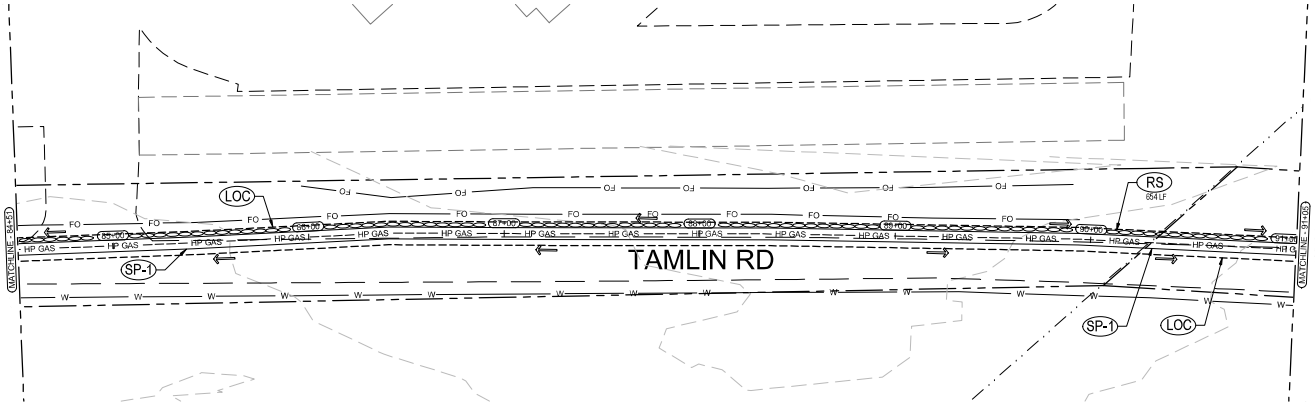
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]



1 INCH = 30 FT

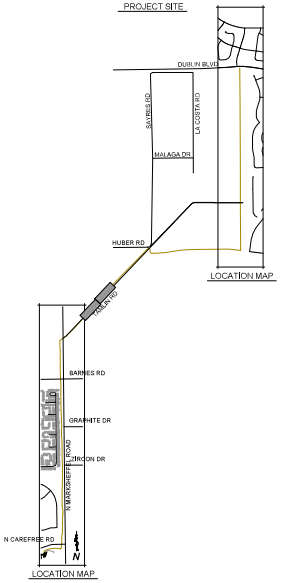
VP#13



1 INCH = 30 FT

VP#14

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM — SEEDING AND MULCHING	SF — SILT FENCE
SP-1 SP-2 — MATERIALS STAGING	SOIL DISTURBANCE AREA
RS — ROCK SOCK	EXISTING FLOW DIRECTION
LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	
IP — INLET PROTECTION	

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 9 OF 19

REVISIONS:

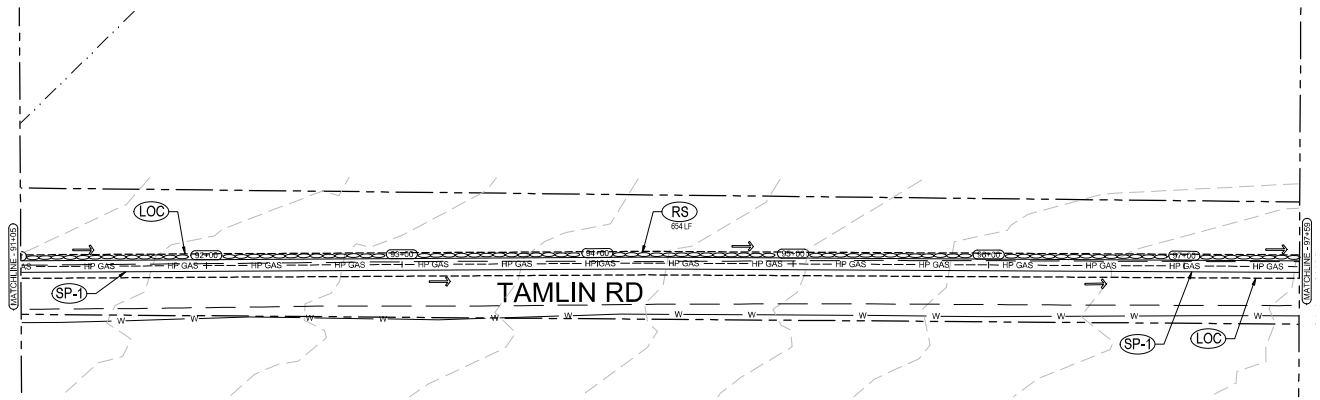
Colorado Springs Utilities

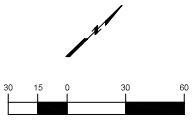
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

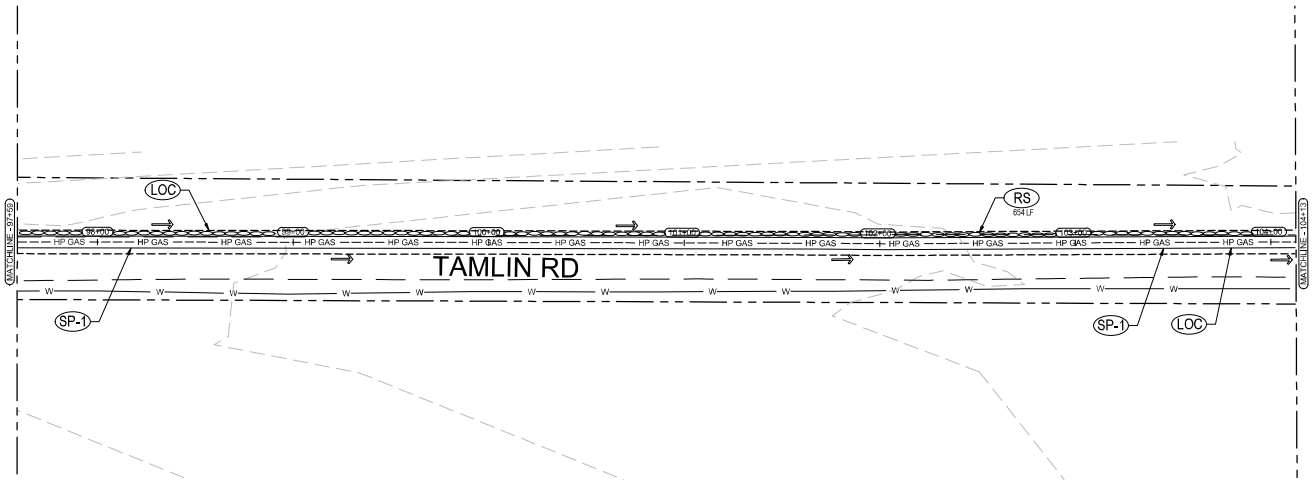
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

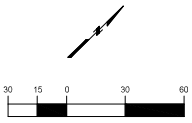
[INSERT TASK]





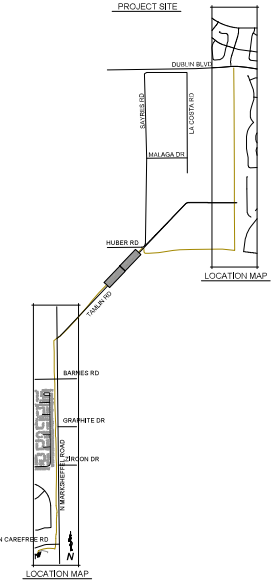
VP#15





VP#16

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1, SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 10 OF 19

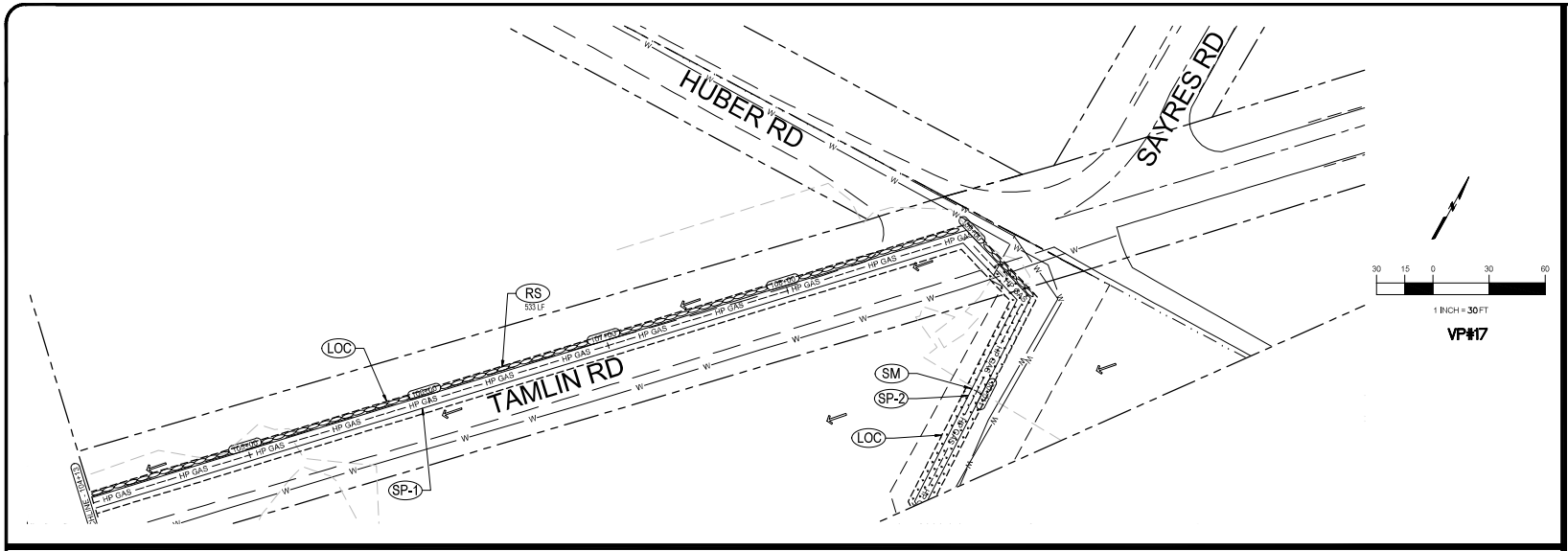
REVISIONS:

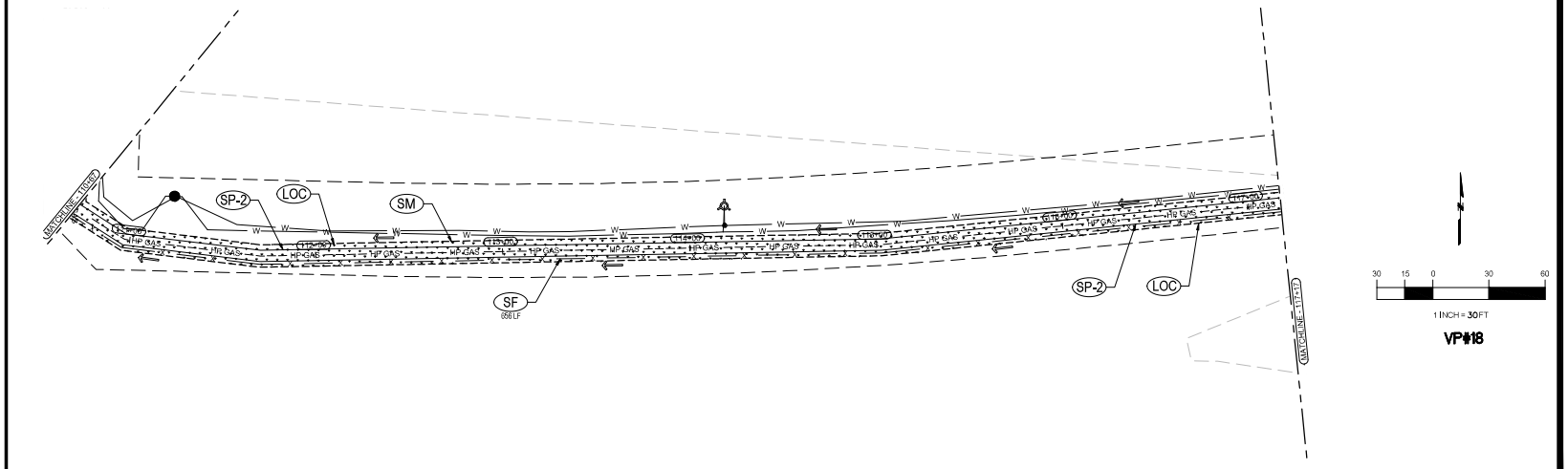
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

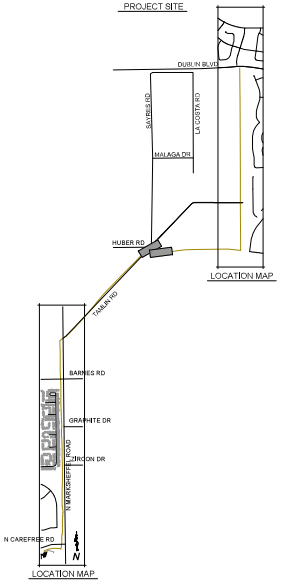
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]





MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	
SP-1 SP-2 MATERIALS STAGING	SF SILT FENCE
RS ROCK SOCK	SOIL DISTURBANCE AREA
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	EXISTING FLOW DIRECTION
IP INLET PROTECTION	

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 11 OF 19

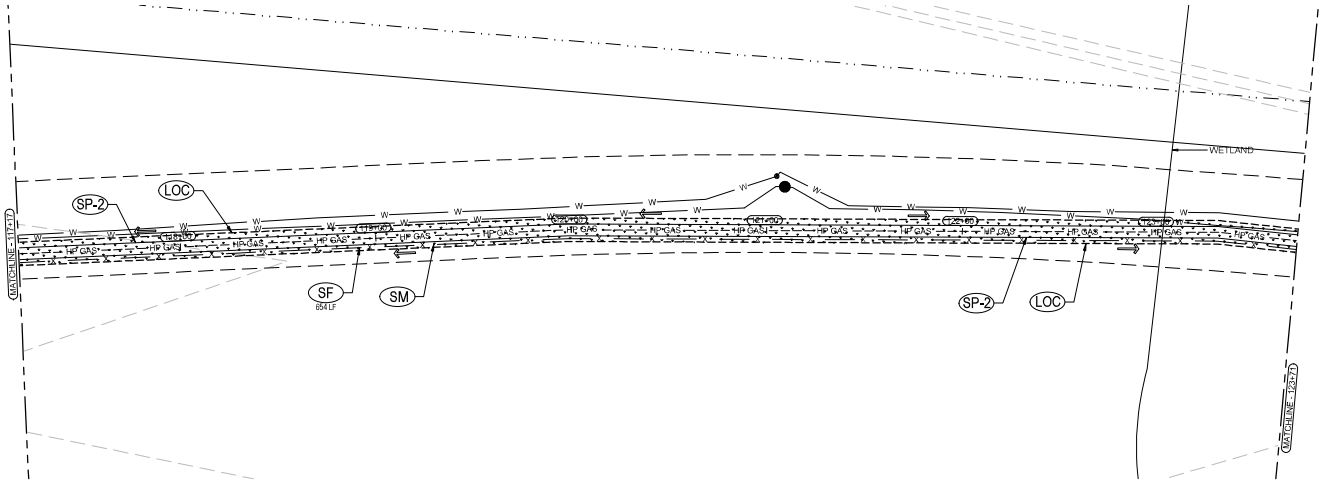
REVISIONS:

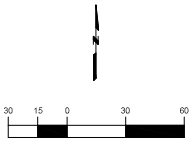
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

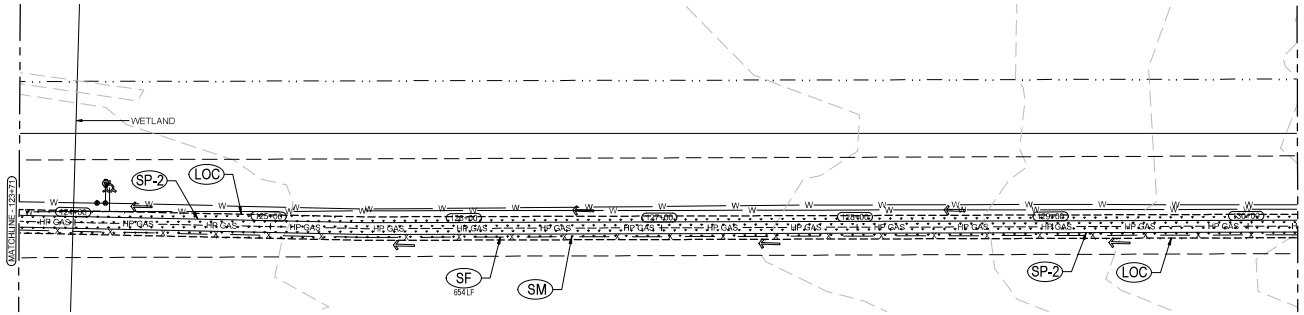
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

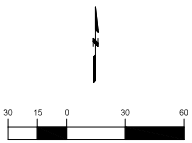
[INSERT TASK]





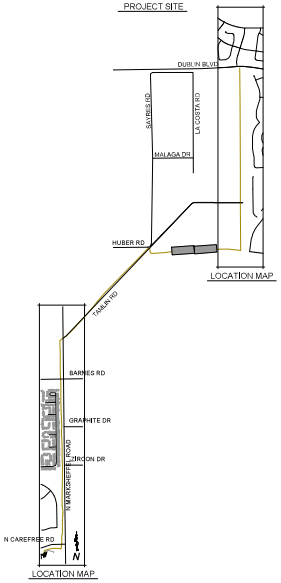
VP#19





VP#20

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- (SM) SEEDING AND MULCHING
- (SP-1) (SP-2) MATERIALS STAGING
- (RS) ROCK SOCK
- (LOC) LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- (IP) INLET PROTECTION
- (W) EXISTING SANITARY SEWER
- EXISTING WATER
- (SF) SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

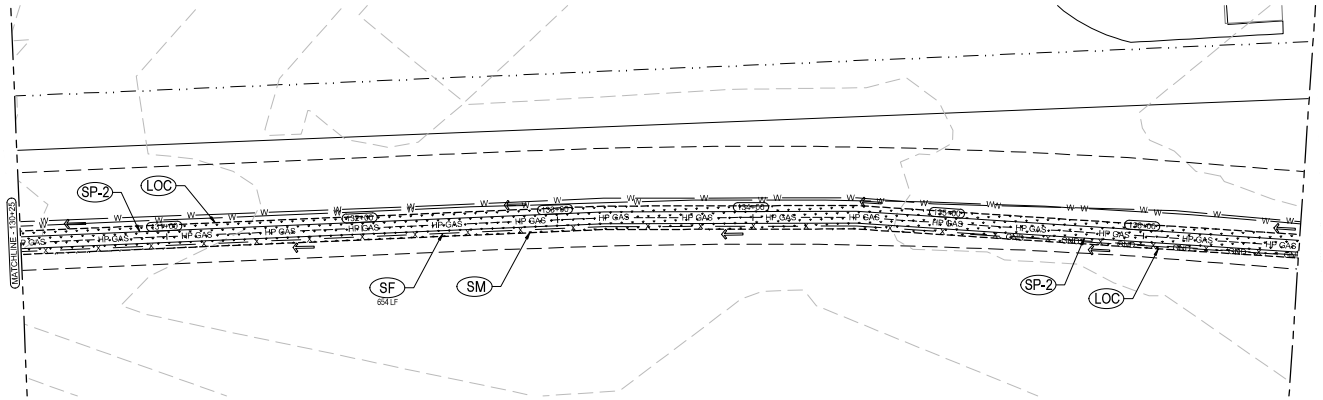
(PROJECT RELATED INFORMATION)	
PARENT WORK ORDER NUMBER: 3988813	
PROJECT NUMBER:	
FIMS MAP:	
SHEET NO:	12 OF 19
REVISIONS:	

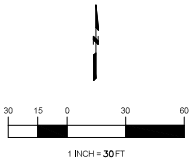
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

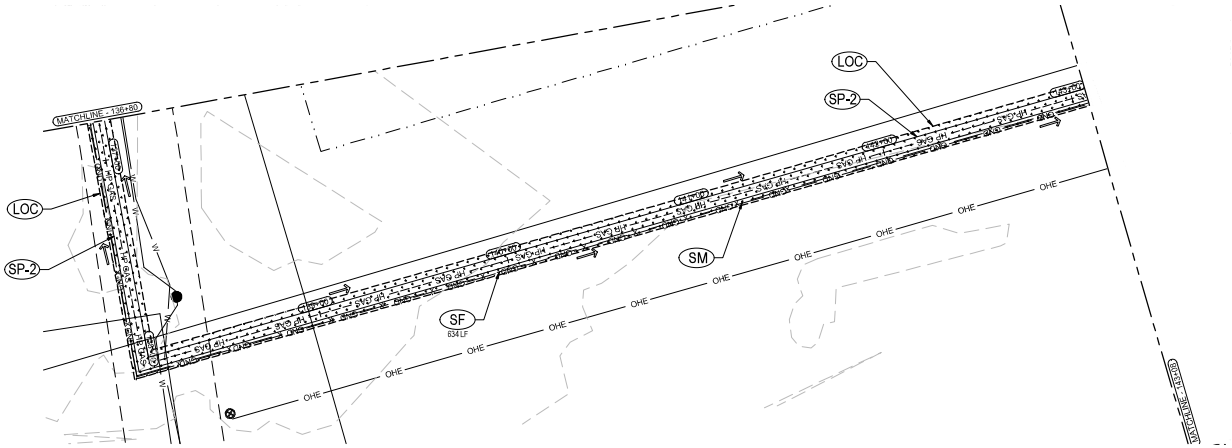
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

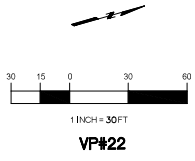
[INSERT TASK]





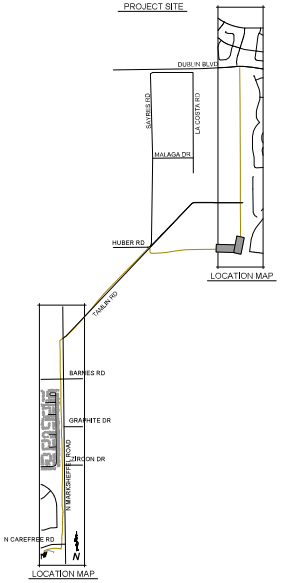
VP#21





VP#22

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	
SP-1 SP-2 MATERIALS STAGING	SF SILT FENCE
RS ROCK SOCK	
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	SOIL DISTURBANCE AREA
IP INLET PROTECTION	EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 13 OF 19

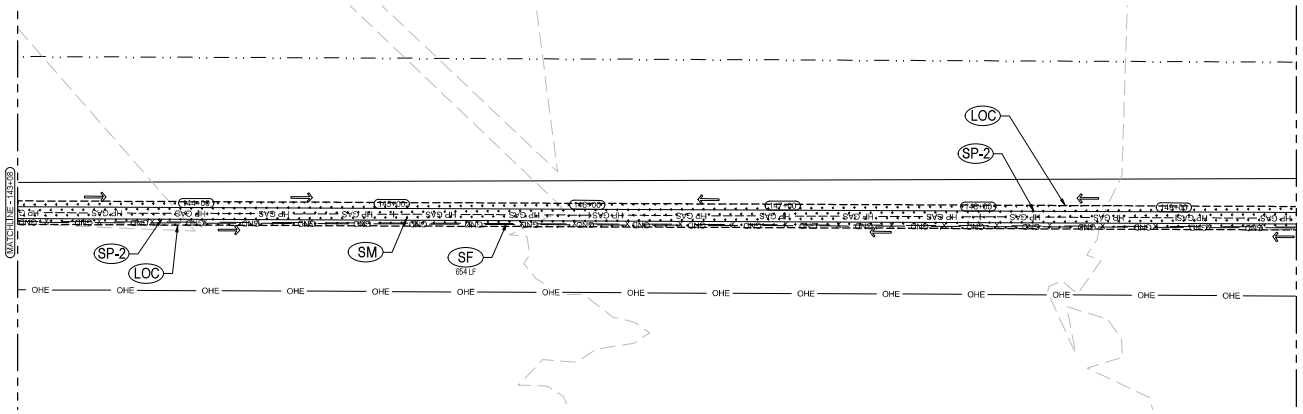
REVISIONS:

Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

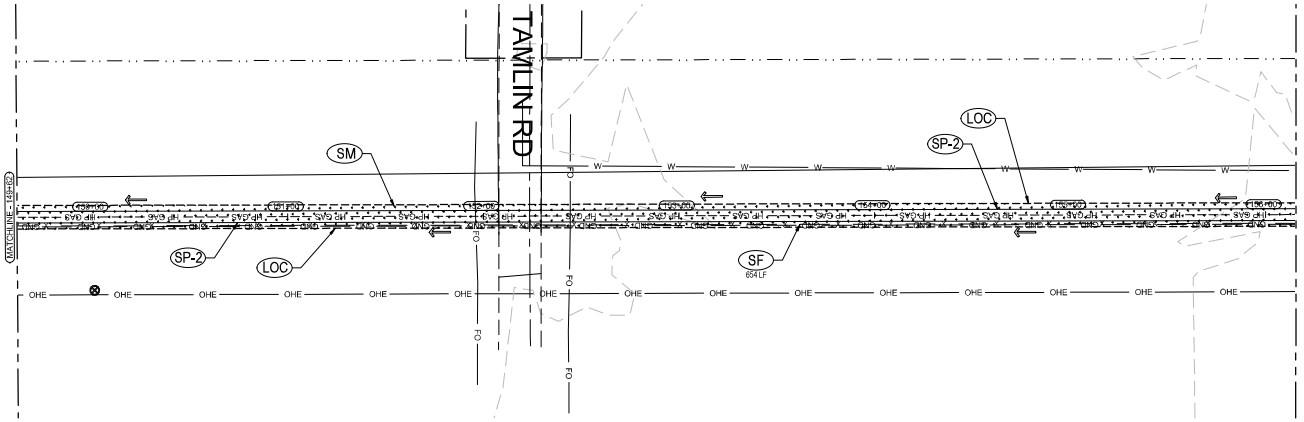
[INSERT TASK]



30 15 0 30 60

1 INCH = 30 FT

VP#23

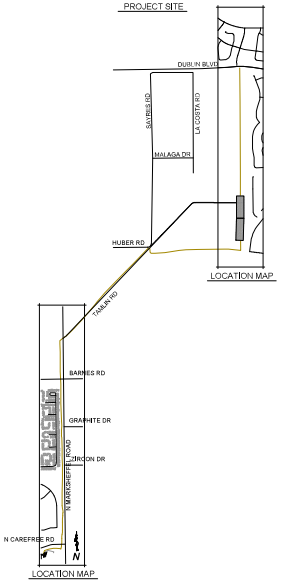


30 15 0 30 60

1 INCH = 30 FT

VP#24

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- (SM) SEEDING AND MULCHING
- (SP-1) (SP-2) MATERIALS STAGING
- (RS) ROCK SOCK
- (LOC) LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- (IP) INLET PROTECTION
- (W) EXISTING SANITARY SEWER
- EXISTING WATER
- (SF) SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 14 OF 18

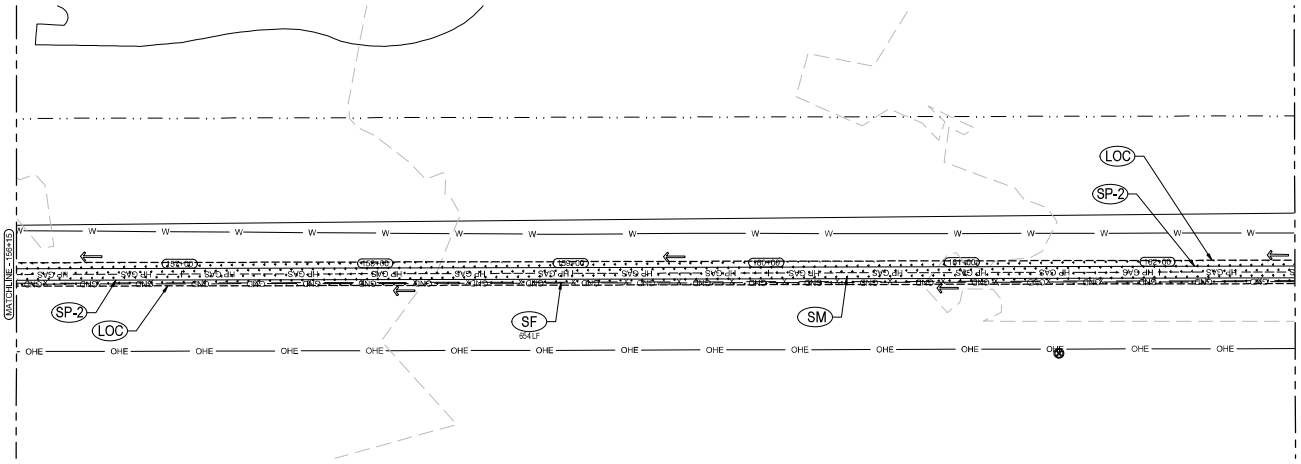
REVISIONS:

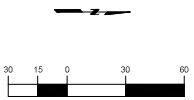
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

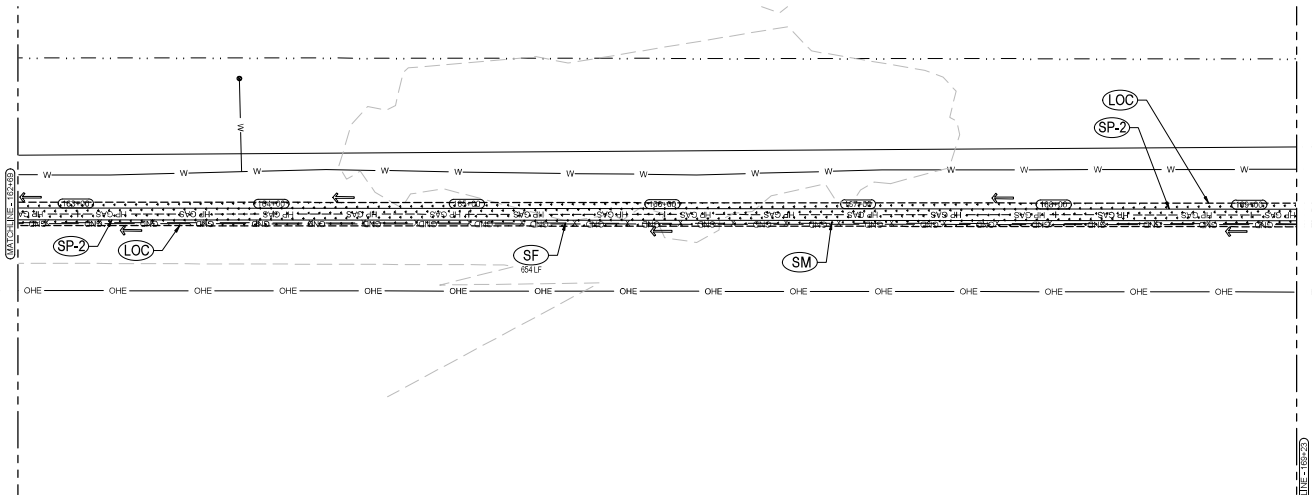
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

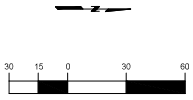
[INSERT TASK]





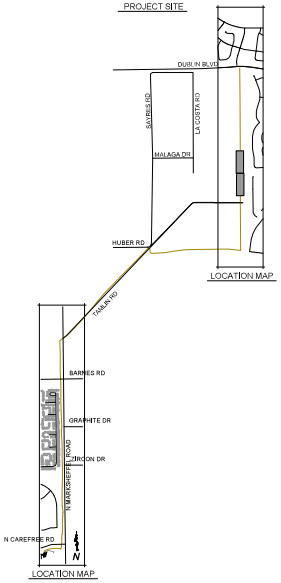
VP#25





VP#26

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

EXISTING ROW/PROPERTY LINE	EXISTING SANITARY SEWER
EXISTING CURB LINE	EXISTING WATER
SM SEEDING AND MULCHING	
SP-1 SP-2 MATERIALS STAGING	SF SILT FENCE
RS ROCK SOCK	
LOC LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE	SOIL DISTURBANCE AREA
IP INLET PROTECTION	EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 15 OF 19

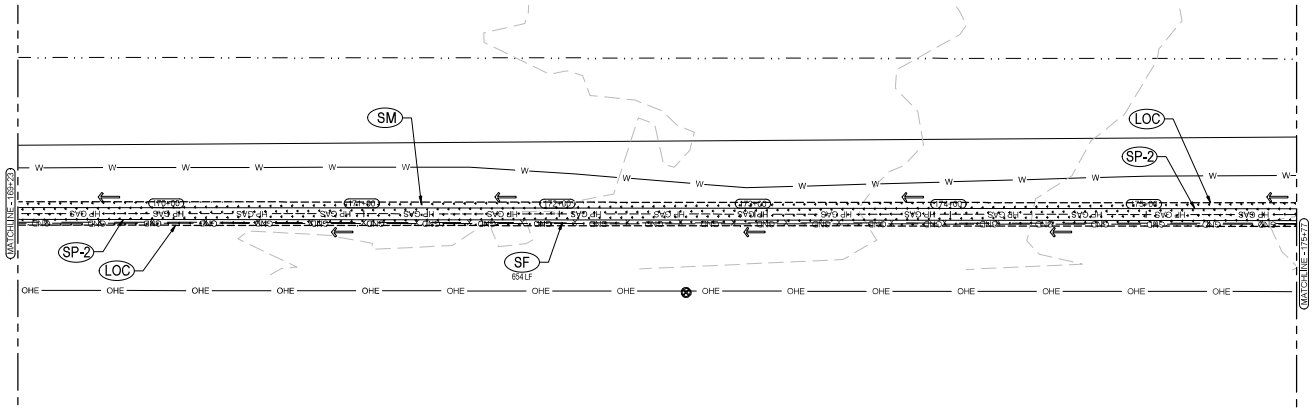
REVISIONS:

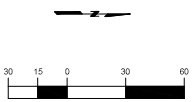
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

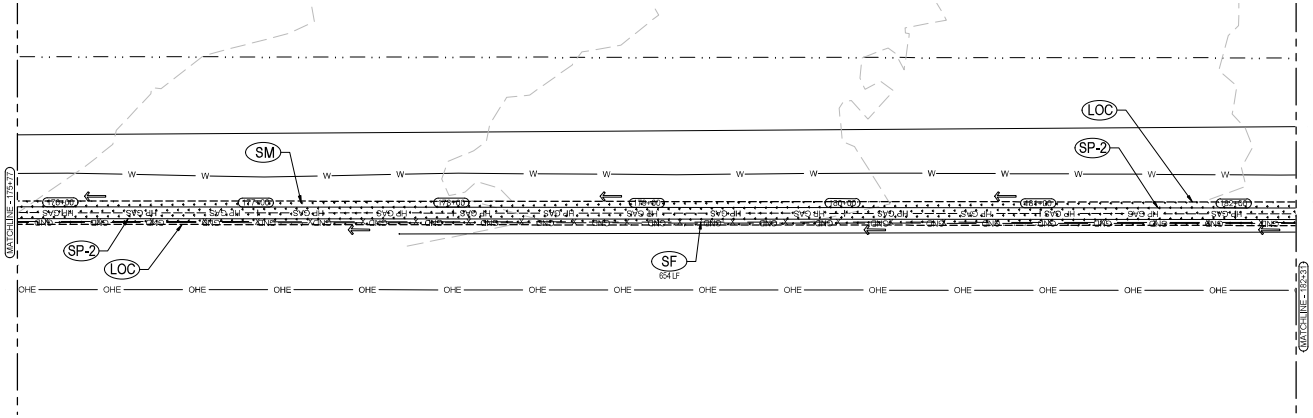
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

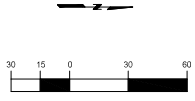
[INSERT TASK]





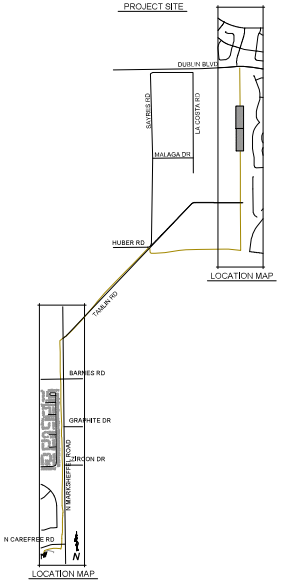
VP#27





VP#28

MARKSHEFFEL CONNECTOR



LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FIMS MAP:
SHEET NO: 16 OF 19

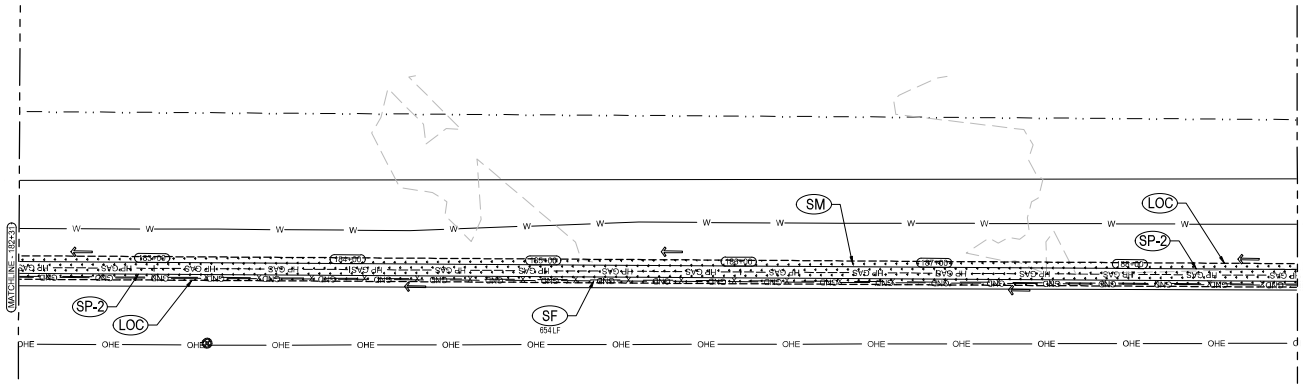
REVISIONS:

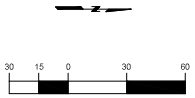
Colorado Springs Utilities
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

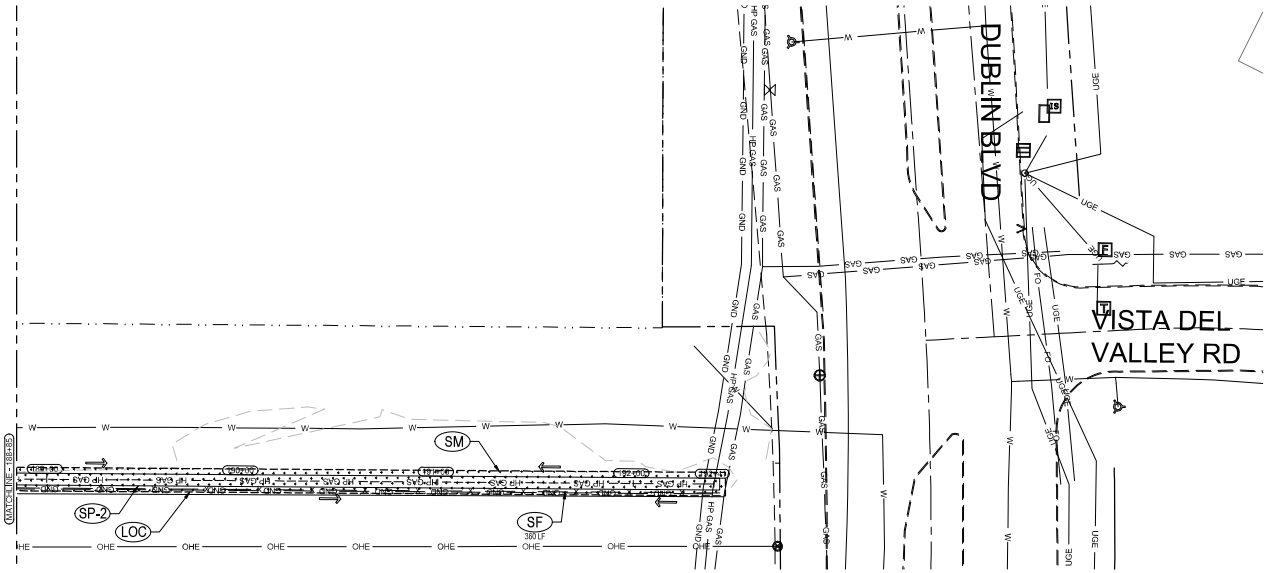
GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

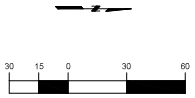
[INSERT TASK]





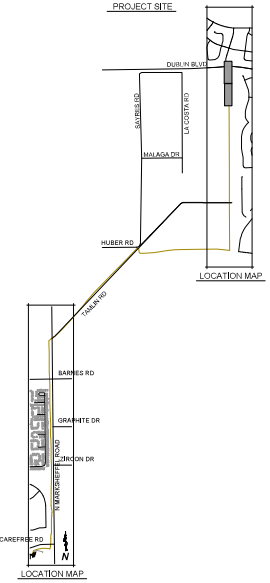
VP#29





VP#30

MARKSHEFFEL CONNECTOR



COLORADO 811

PRC ENGINEERING

LEGEND

- EXISTING ROW/PROPERTY LINE
- EXISTING CURB LINE
- SM — SEEDING AND MULCHING
- SP-1 SP-2 — MATERIALS STAGING
- RS — ROCK SOCK
- LOC — LIMITS OF CONSTRUCTION/LIMITS OF DISTURBANCE
- IP — INLET PROTECTION
- W — EXISTING SANITARY SEWER
- EXISTING WATER
- SF — SILT FENCE
- SOIL DISTURBANCE AREA
- EXISTING FLOW DIRECTION

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813

PROJECT NUMBER:

FIMS MAP:

SHEET NO: 17 OF 19

REVISIONS:

Colorado Springs Utilities

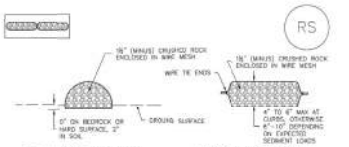
It's how we're all connected

DESIGN BY: REP	DATE: 03/XX/24
APPROVED BY:	DATE: --
SURVEYED BY:	DATE: --
FIELD ENGINEER:	
WORK TYPE: CAPITAL	
ACTIVITY CODE:	

GRADING, EROSION, AND SEDIMENT CONTROL
MARKSHEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

[INSERT TASK]

SC-5 Rock Sock (RS)



ROCK SOCK SECTION ROCK SOCK PLAN

ROCK SOCK JOINTING

GRADATION TABLE

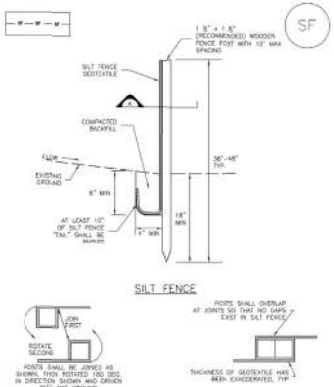
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
6"	100
4"	80 – 100
1"	20 – 55
¾"	5 – 15
⅜"	0 – 5
	MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE ALL SIDES

ROCK SOCK INSTALLATION NOTES

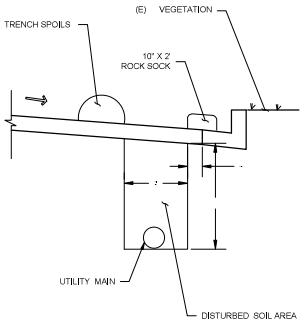
1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE ½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (½" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MINIMUM SPREAD OF 6". RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 3' CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL

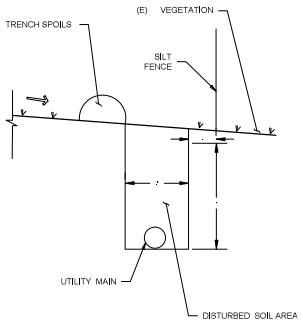
Silt Fence (SF) SC-1



SF-1. SILT FENCE



TYPICAL TRENCH SECTION
SP–1
NOT TO SCALE



TYPICAL TRENCH SECTION
SP–2
NOT TO SCALE

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.
5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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

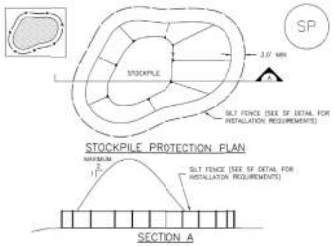
MM-2 Stockpile Management (SM)

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.
5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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

Stockpile Management (SP) MM-2

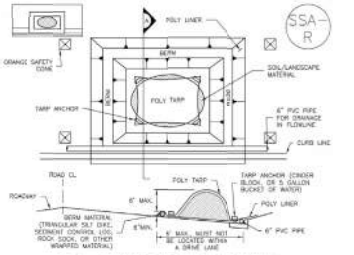


SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.
2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).
4. FOR TEMPORARY 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.

Stockpile Management (SP) MM-2



SP-2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF MATERIAL STAGING AREA(S)
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.
3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.
4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.
5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.
6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.
7. THIS FEATURE CAN BE USED FOR:
   –UTILITY REPAIRS
   –WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
   –OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

COLORADO 811

COLORADO REGISTERED PROFESSIONAL ENGINEER 37773

(AS BUILT INFORMATION)

DATE STARTED:
DATE COMPLETED:
FOREMAN:
INSPECTOR:
CONTRACTOR:

GRADING, EROSION, AND SEDIMENT CONTROL
MARKS-HEFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

(PROJECT RELATED INFORMATION)

PARENT WORK ORDER NUMBER: 3988813
PROJECT NUMBER:
FMS MAP:
SHEET NO: 18 OF 19

REVISIONS:

PARENT WORK ORDER NUMBER: 398813 (PROJECT RELATED INFORMATION)

PROJECT NUMBER:

FMS MAP:

SHEET NO: 19 OF 19

REVISIONS:

GRADING, EROSION, AND SEDIMENT CONTROL
MARSH-EFFEL CONNECTOR
16IN HIGH PRESSURE MAIN

DATE STARTED: (AS BUILT INFORMATION)

DATE COMPLETED:

FOREMAN:

INSPECTOR:

CONTRACTOR:

Attachment C

Contacts:

Colorado Springs Utilities (Owner)
Mark Munoz
Project Manager
719-668-2862
mmunoz@csu.org

Miller Pipeline, LLC (Contractor/Operator)
Randy Hiett
General Manager
719-325-9984
randy.hiett@millerpipeline.com

Era Environmental, Inc. (Environmental Consultant)
Emily Chamberlain
President
719-924-0519
era@eraenvironmental.com

121 South Tejon Street, Fourth Floor
P.O. Box 1103, Mail Code 940
Colorado Springs, CO 80903-2187

Phone 719-668-8426
Fax 719-668-8666
http://www.csu.org

APPENDIX E

ALTITUDE TRAINING ASSOCIATES

Awards this Certificate of Completion to

Emily Chamberlain

Who on May 29, 2019 Successfully Completed
The Following Training Class:

Stormwater Management and Erosion Control During Construction (GEC)

Instructor
Altitude Training Associates

altitudeta.com

ALTITUDE TRAINING ATA ASSOCIATES

ALTITUDE TRAINING ASSOCIATES

Awards this Certificate of Completion to

Emily Chamberlain

Who on May 31, 2019 Successfully Completed
The Following Training Class:

Stormwater Best Management Practices
Field Academy

Instructor
Altitude Training Associates

altitudeta.com

ALTITUDE TRAINING ATA ASSOCIATES

CISEC, Inc.

Board of Directors

certifies that

Emily Archambault

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 27th day of February, 2018

Lina T. Evans

CISEC, Inc. President

CISEC, Inc. Board of Director

2349

Certification Number

Rocky Mountain Education Center

This is to certify that on March 10, 2015

Emily R. Archambault

diligently and with merit completed training in

CETC 145 – Certified Stormwater Management Plan Administrator Training Program

ROCKY MOUNTAIN EDUCATION CENTER
RED ROCKS COMMUNITY COLLEGE

Ivan W. Smith Executive Director

RED ROCKS COMMUNITY COLLEGE

1.2 Continuing Education Units (CEU)

Rocky Mountain Education Center Red Rocks Community College Lakewood, Colorado

Rocky Mountain Education Center

This is to certify that on February 20, 2015

Emily R. Archambault

diligently and with merit completed training in

CETC 150 – Stormwater Management and Erosion Control Course

Rocky Mountain Education Center
Red Rocks Community College

John W. Smith Executive Director

Red Rocks Community College

0.9 Continuing Education Units (CEU)/0.9 TU's Approval # 15-OM-0052

Rocky Mountain Education Center Red Rocks Community College Lakewood, Colorado

Rocky Mountain Education Center

This is to certify that on April 9, 2015

Emily R. Archambault

diligently and with merit completed training in

CETC 151 – Developing & Implementing Stormwater Plans

Rocky Mountain Education Center
Red Rocks Community College

John W. Smith Executive Director

Red Rocks Community College

0.8 Continuing Education Units (CEU)

Rocky Mountain Education Center Red Rocks Community College Lakewood, Colorado

Rocky Mountain Education Center

This is to certify that on September 17, 2015

Emily R. Archambault

diligently and with merit completed training in

CETC 154 – Construction Dewatering Course

ROCKY MOUNTAIN EDUCATION CENTER
RED ROCKS COMMUNITY COLLEGE

John W. Smith Executive Director

RED ROCKS COMMUNITY COLLEGE

0.3 Continuing Education Units (CEU)

Rocky Mountain Education Center Red Rocks Community College Lakewood, Colorado

Rocky Mountain Education Center

This is to certify that on September 17, 2015

Emily R. Archambault

diligently and with merit completed training in

CETC 157 – Best Management Practices for Construction in Waterways

ROCKY MOUNTAIN EDUCATION CENTER
RED ROCKS COMMUNITY COLLEGE

Joan W. Smith Executive Director

RED ROCKS COMMUNITY COLLEGE

0.3 Continuing Education Units (CEU)

Rocky Mountain Education Center Red Rocks Community College Lakewood, Colorado

ALTITUDE TRAINING ASSOCIATES, LLC

Awards this Certificate of Completion to

Emily Archambault

Who on May 24th & 25th, 2017 Successfully Completed The Following Training Class

Conducting Stormwater Compliance Inspections

Instructor
Altitude Training Associates, LLC

ALTITUDE TRAINING ATA ASSOCIATES

Transportation Erosion Control Supervisor (TECS) Certification

COLORADO
Department of Transportation
Division of Transportation Development

Emily Archambault

In accordance to the Standard Specifications for Road and Bridge Construction per section 208.03 stating, ..."The ECS shall be experienced in all aspects of construction and have satisfactorily completed an ECS training program authorized by the Department."; I hereby certify that the person noted on this certificate has successfully completed training and is a certified CDOT Transportation Erosion Control Supervisor.

Tripp Minges

CDOT Hydrologic Resources

MS4 Construction Program Lead

Certification Number: 20810

Class 2 Completion Date: 4/21/2015

Expiration Date: 1/1/2018

ALTITUDE TRAINING ASSOCIATES

Awards this Certificate of Completion to

Brandon Westhoff

Who on May 31, 2019 Successfully Completed
The Following Training Class:

Stormwater Best Management Practices Field Academy

Instructor
Altitude Training Associates

altitudeta.com

ALTITUDE TRAINING ATA ASSOCIATES

ALTITUDE TRAINING ASSOCIATES

Awards this Certificate of Completion to

Brandon Westhoff

Who on May 29, 2019 Successfully Completed
The Following Training Class:

Stormwater Management and Erosion Control During Construction (GEC)

Instructor
Altitude Training Associates

altitudeta.com

ALTITUDE TRAINING ATA ASSOCIATES

APPENDIX F

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

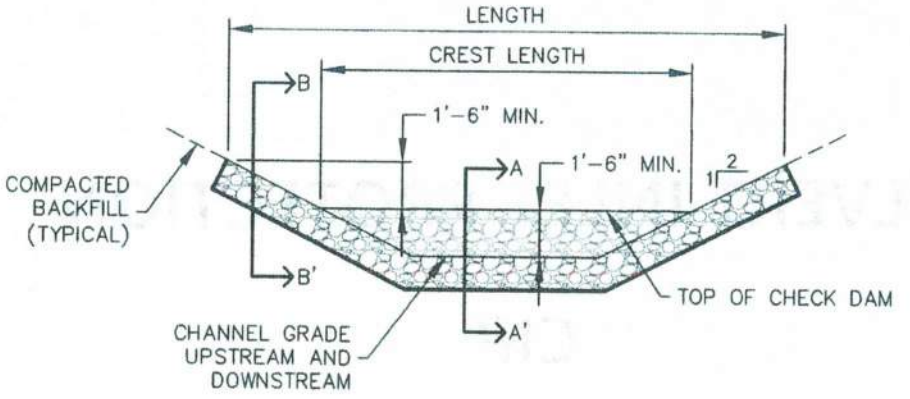
- Place check dams at regular intervals perpendicular to the direction of flow.
- Use check dams on mild or moderately steep slopes.
- Install wide enough check dams to reach from bank to bank of the ditch or swale.
- In general, the maximum spacing between check dams should be such that the toe of the 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

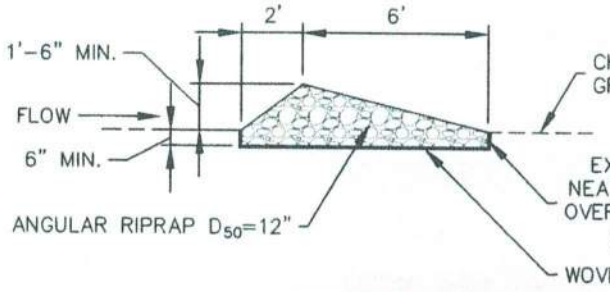
- Install prior to land disturbing activities.
- Remove after surrounding area has been permanently stabilized, or immediately prior to installation of a non-erodible lining. Permanently stabilize bare areas caused by check dams after removal.

5.0 MAINTENANCE

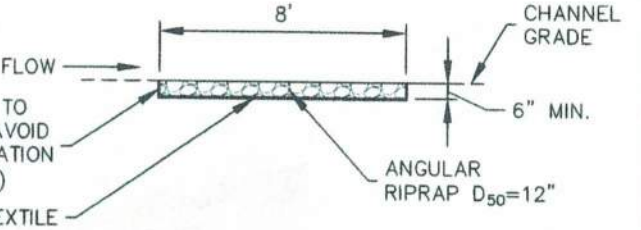
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the check dam crest.
- Replace missing rocks causing voids in the check dam.
- Inspect for erosion along the ends of check dams and repair when necessary.



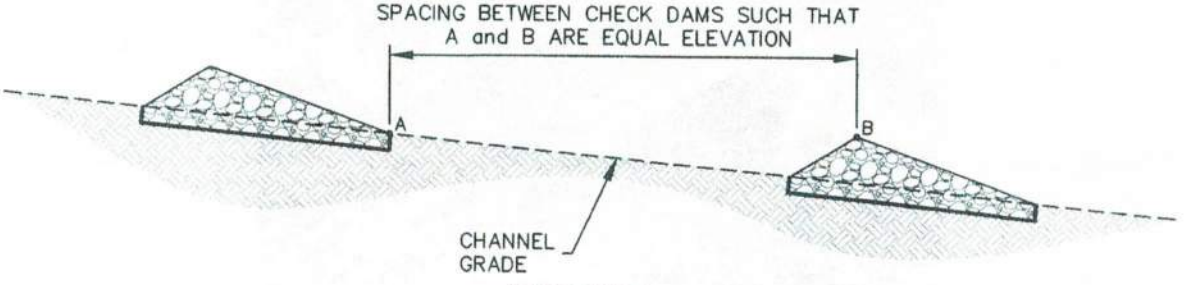
CHECK DAM ELEVATION VIEW



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

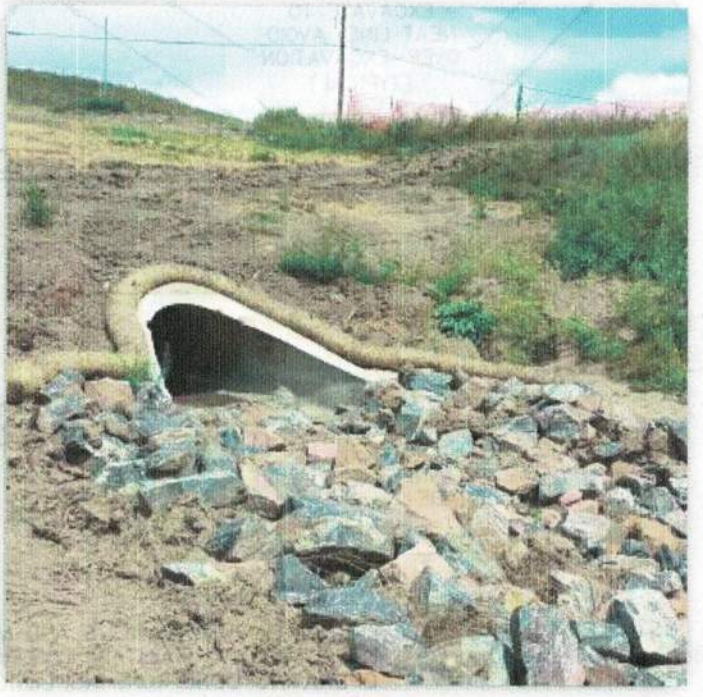
APPROVED:

SWENT MANAGER

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

CULVERT INLET PROTECTION

CIP



1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

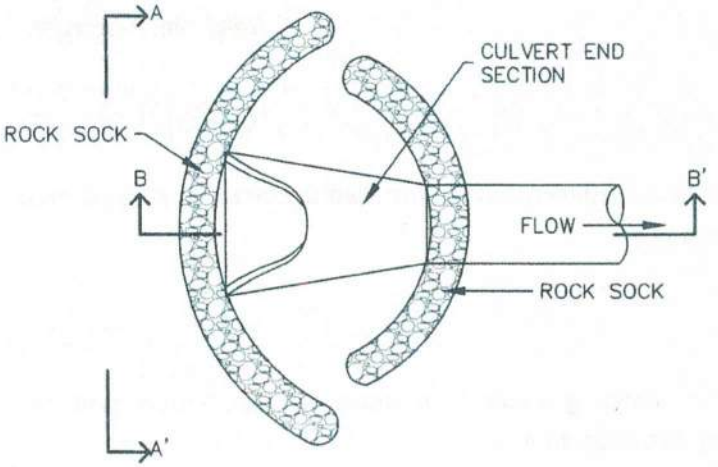
- Install culvert inlet protection at flared end section inlets to culverts and storm sewers that are operable and receiving runoff from disturbed areas during construction.
- Culvert inlet protection is not a stand-alone control measure and should be used in conjunction with other upgradient control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

4.0 TIMING

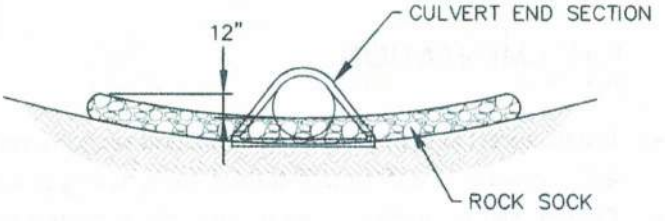
- Install prior to land disturbing activities, or immediately after pipe installation.
- Remove and properly dispose of culvert inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

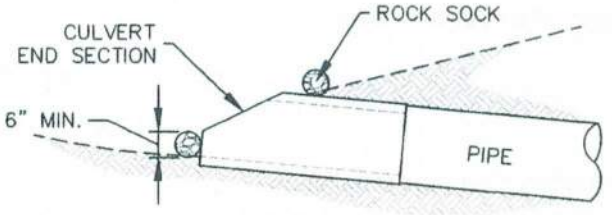
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.
- Inspect for displaced rock socks that are no longer protecting the inlet.



CULVERT INLET PROTECTION PLAN



SECTION A-A'



SECTION B-B'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.

CIP

STORMWATER ENTERPRISE

CULVERT INLET PROTECTION

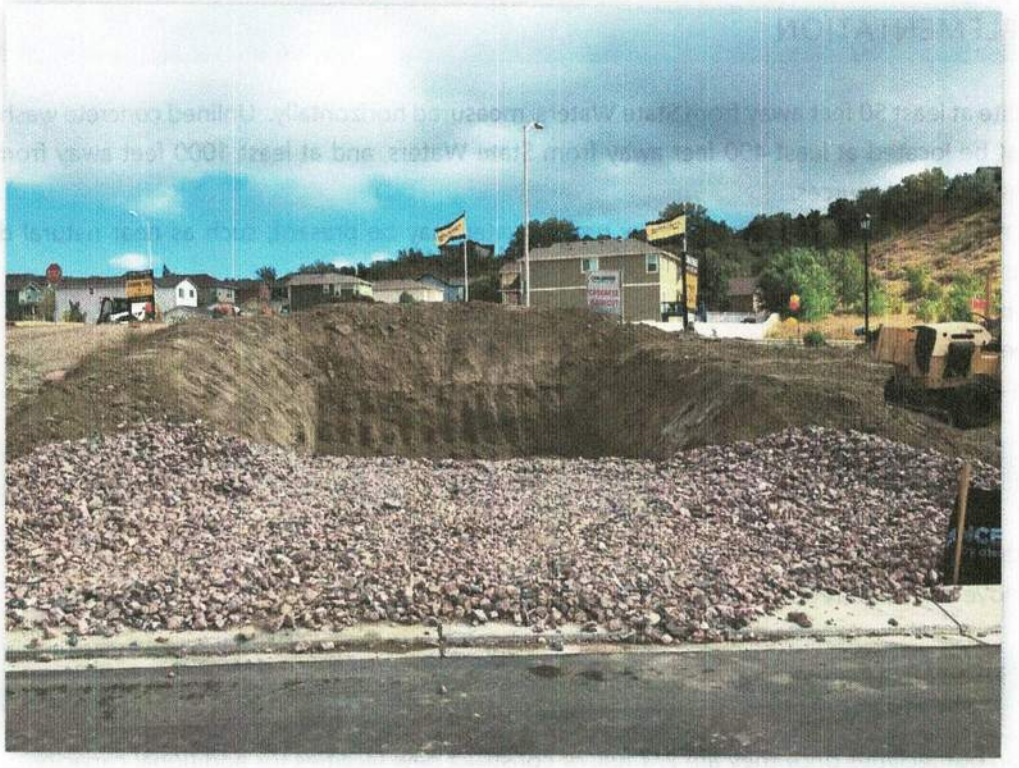
APPROVED:

SWENT MANAGER

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

CONCRETE WASHOUT AREA

CWA



City of Colorado Springs
Stormwater Enterprise

CWA-i

Construction Control Measures
December 2020

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

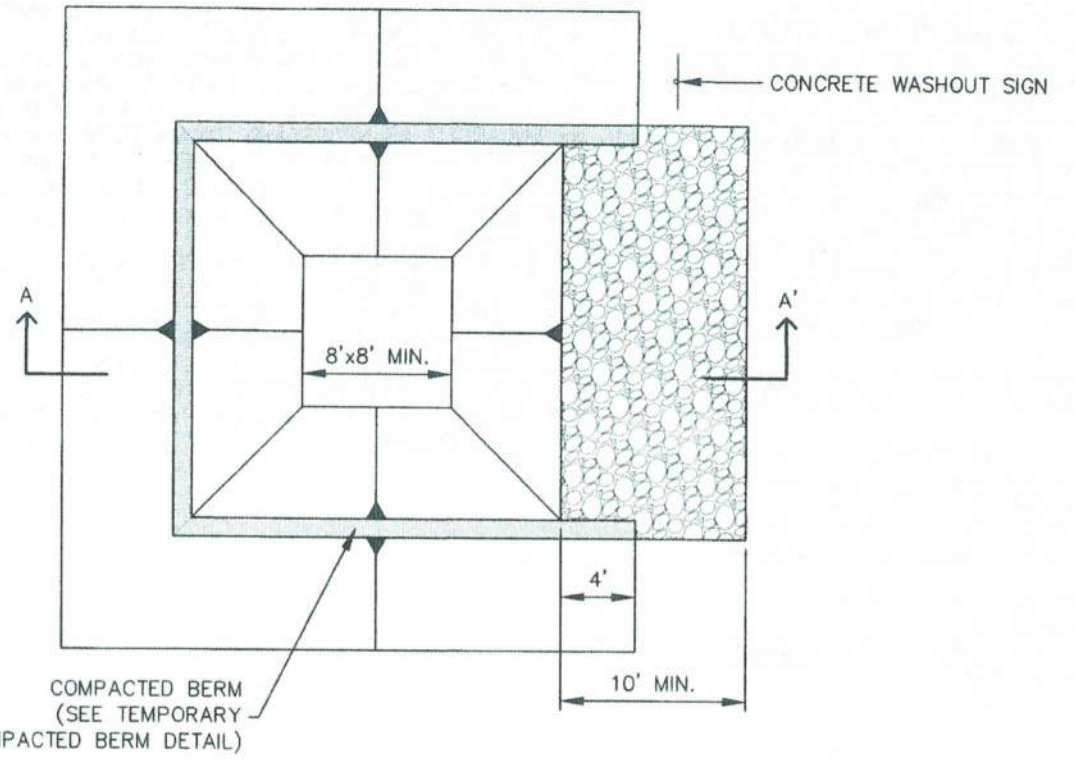
- Locate at least 50 feet away from State Waters, measured horizontally. Unlined concrete washout areas must be located at least 400 feet away from State Waters, and at least 1000 feet away from wells or drinking water sources.
- Do not locate in areas where shallow groundwater may be present, such as 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

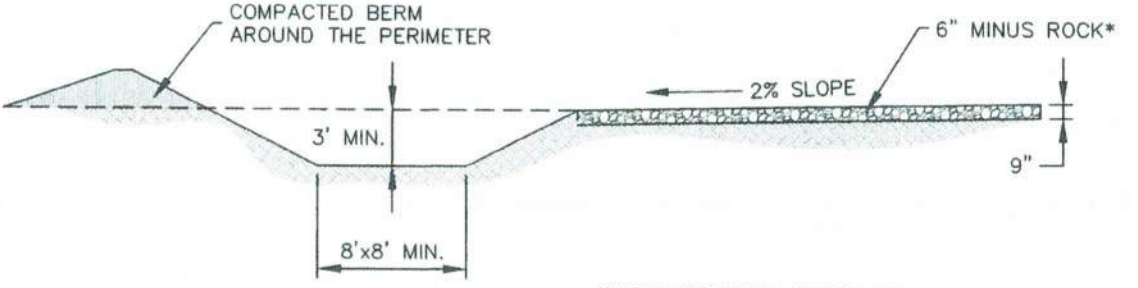
- Install prior to concrete activities.
- Remove after concrete activities have concluded.

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

EROSION CONTROL BLANKET

ECB

City of Colorado Springs
Stormwater Enterprise

ECB-i

Construction Control Measures
December 2020

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

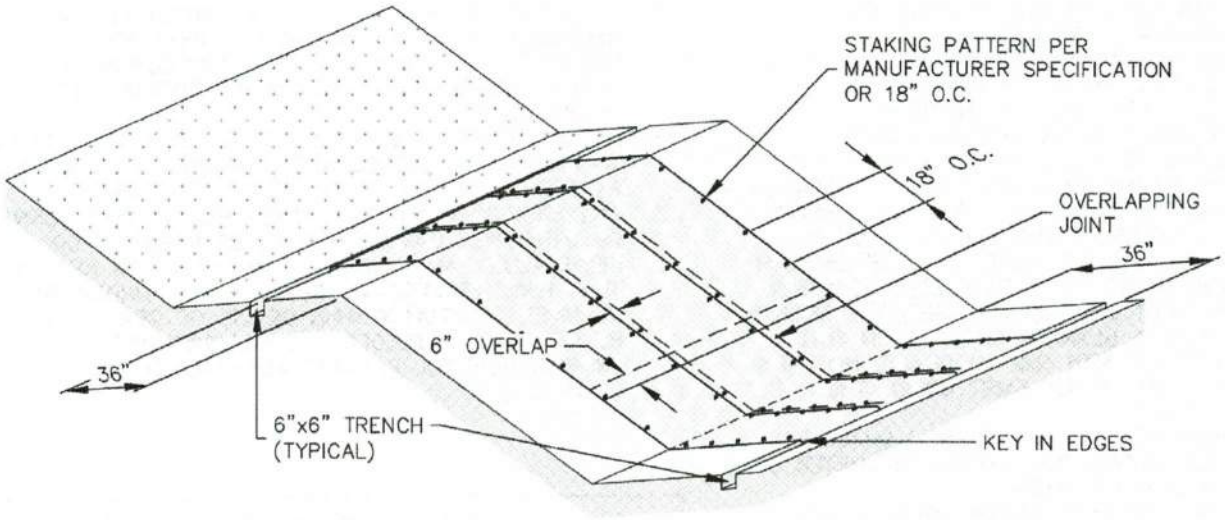
- Install erosion control blankets over uniform surfaces, with no large rocks, vegetation, or rills.
- Properly prepare topsoil and apply seed prior to blanket installation.
- Erosion control blankets must be made from 100% natural and biodegradable materials.
- Turf reinforcement mats may be used in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

4.0 TIMING

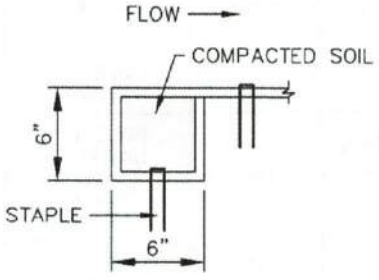
- Install in disturbed areas after final grading and seeding has been completed.
- Leave erosion control blankets in place to biodegrade, or remove if required by the GEC Inspector.

5.0 MAINTENANCE

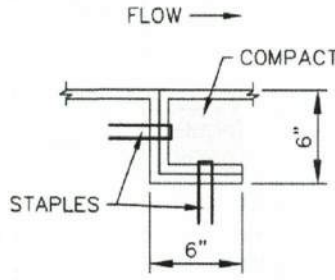
- Any erosion control blanket pulled out, torn, or otherwise damaged shall be repaired or reinstalled.
- Any subgrade areas below the geotextile that have eroded to create a void under the blanket, or that remain devoid of grass shall be repaired, reseeded and mulched and the erosion control blanket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



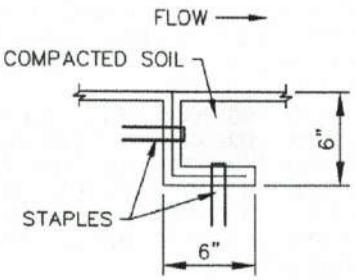
EROSION CONTROL BLANKET



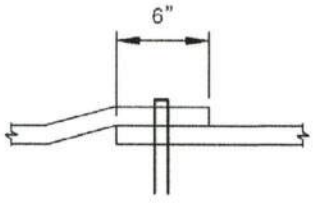
PERIMETER
ANCHOR TRENCH



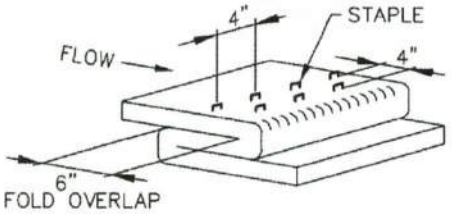
JOINT
ANCHOR TRENCH



INTERMEDIATE
CHECK SLOT



OVERLAPPING
JOINT



STAPLE CHECK
TO BE USED ON SLOPE EVERY 15 FEET

ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

APPROVED:

SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	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 GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, 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:

SWENT MANAGER

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

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

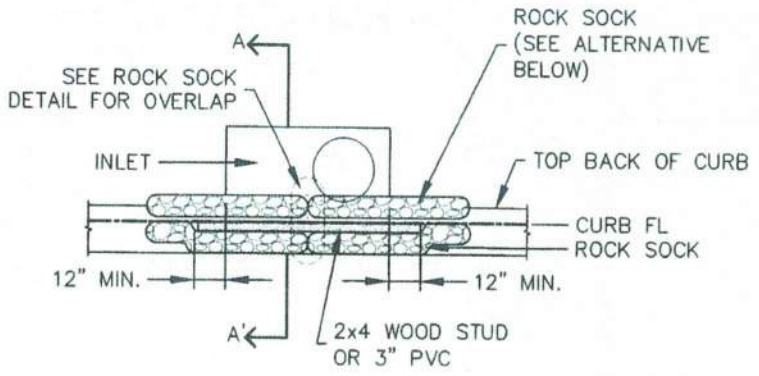
- Install inlet protection at storm sewer inlets that are operable and receiving runoff from disturbed areas during construction.
- Place inlet protection to allow the inlet to function without completely blocking flows into the inlet in a manner than causes localized flooding.
- Inlet protection is 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

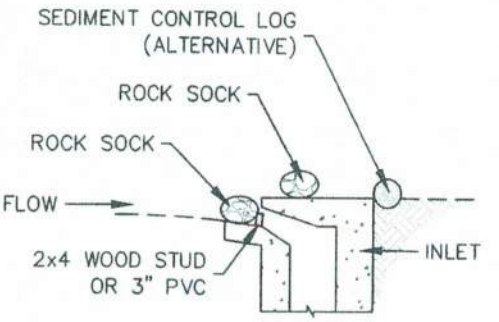
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

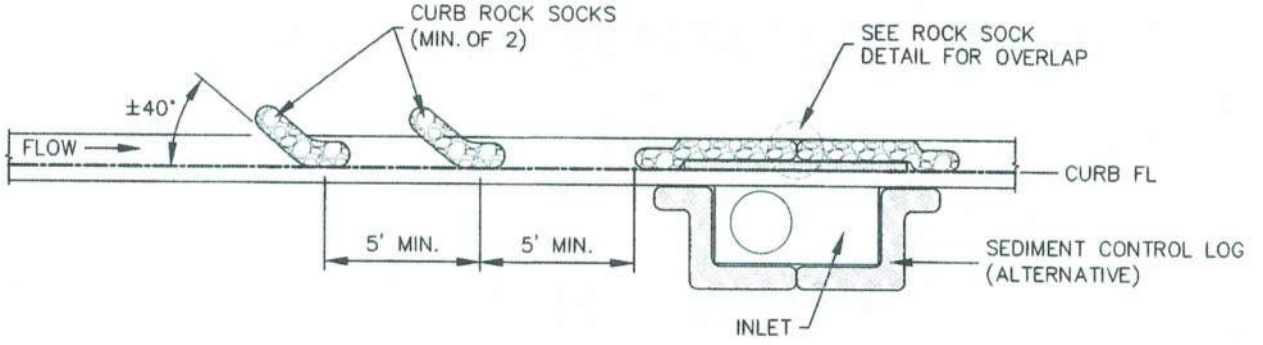
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the design depth of the inlet barrier.
- Inspect for holes or tears that can result in sediment directly entering the inlet.
- Inspect for displaced inlet protection that is no longer protecting the inlet.



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

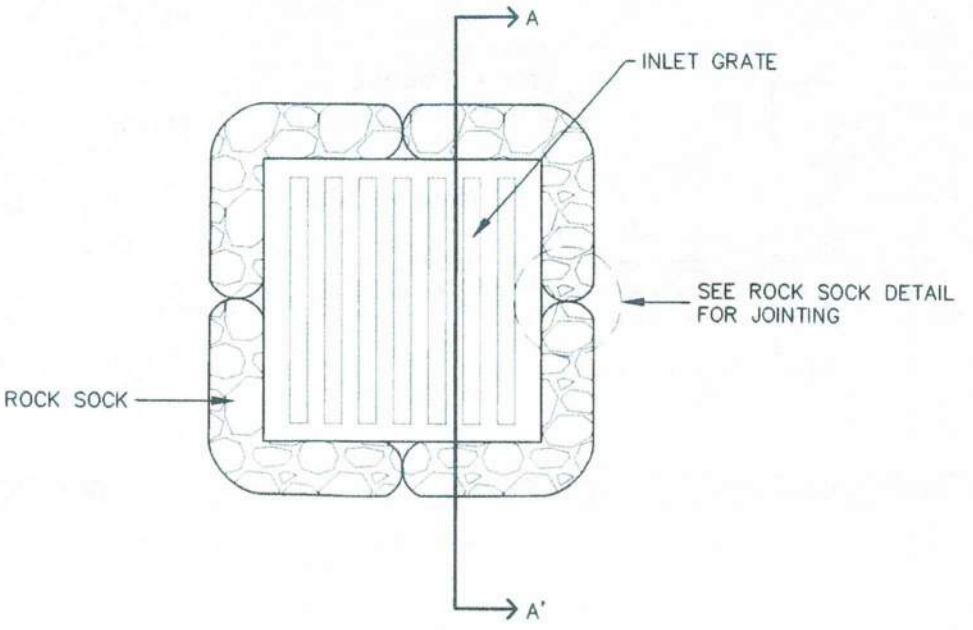
STORMWATER ENTERPRISE

ON-GRADE INLET PROTECTION

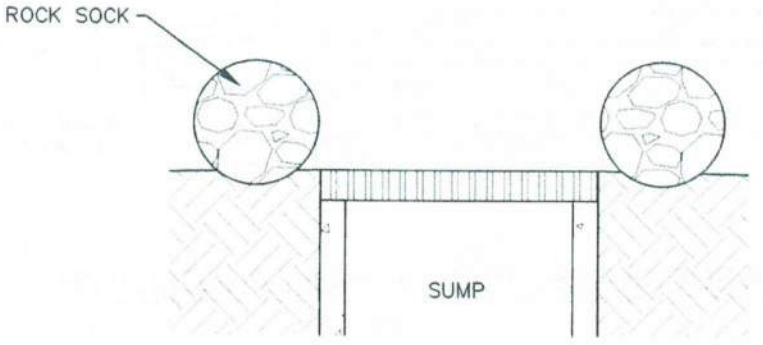
APPROVED:

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

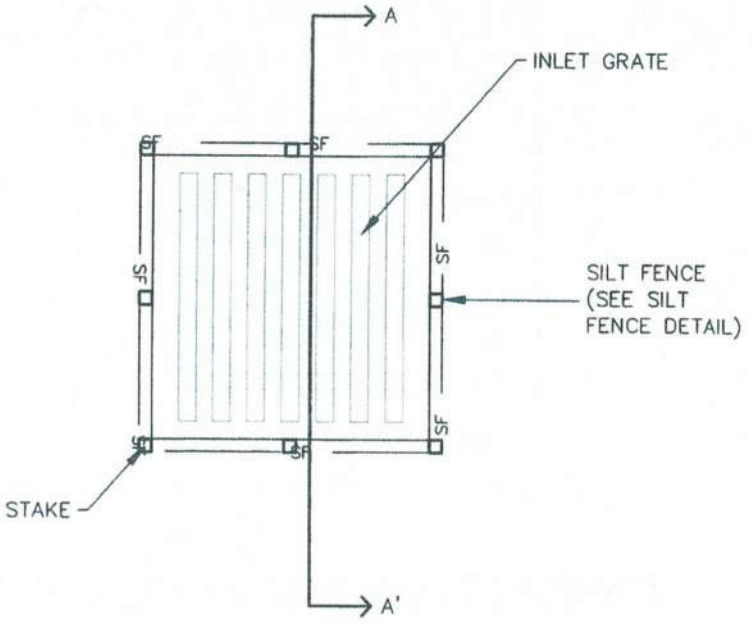
STORMWATER ENTERPRISE

SUMP INLET PROTECTION

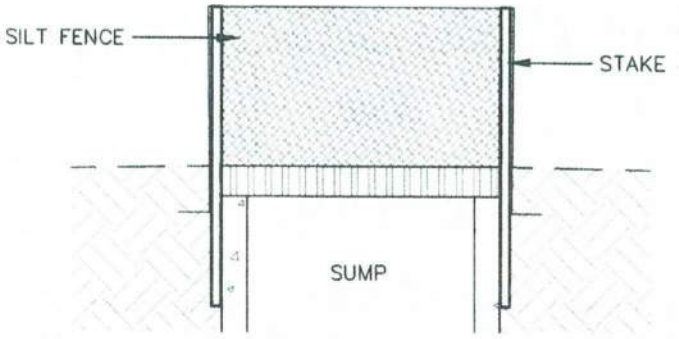
APPROVED:

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

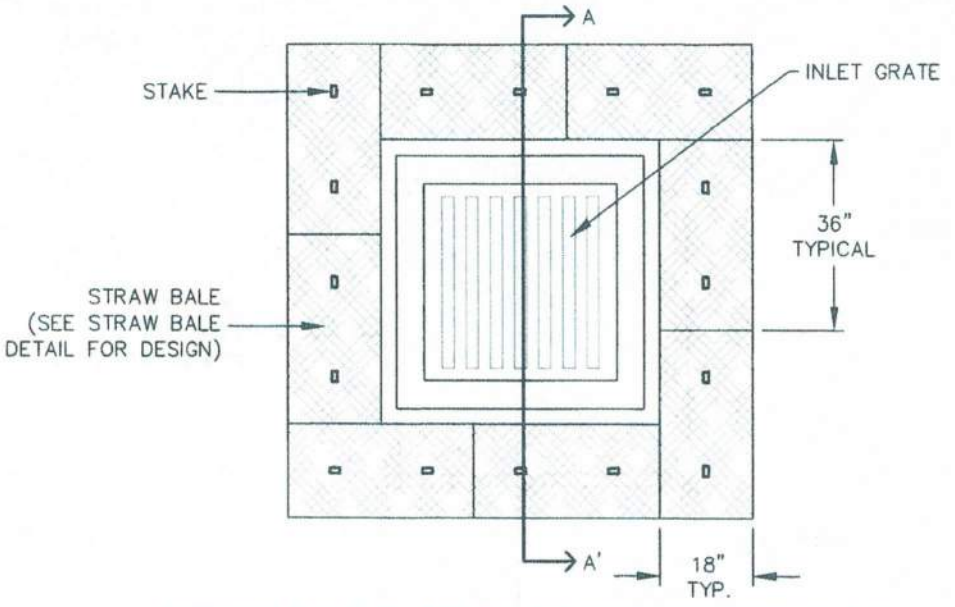
STORMWATER ENTERPRISE

SUMP INLET PROTECTION

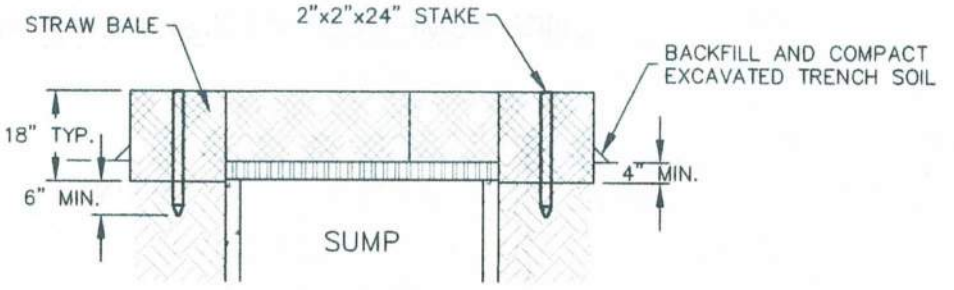
APPROVED:

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

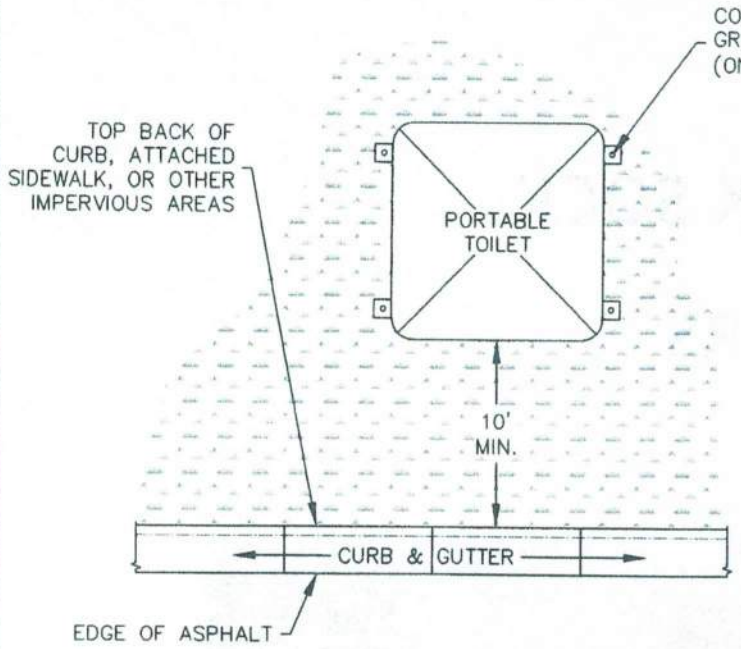
- Place portable toilet a minimum of 10 feet from the back of curb or on a trailer for road projects or sites that are mostly paved.
- Anchor portable toilet to the ground, at a minimum of two opposing corners (on a diagonal) using U-shaped rebar stakes.

4.0 TIMING

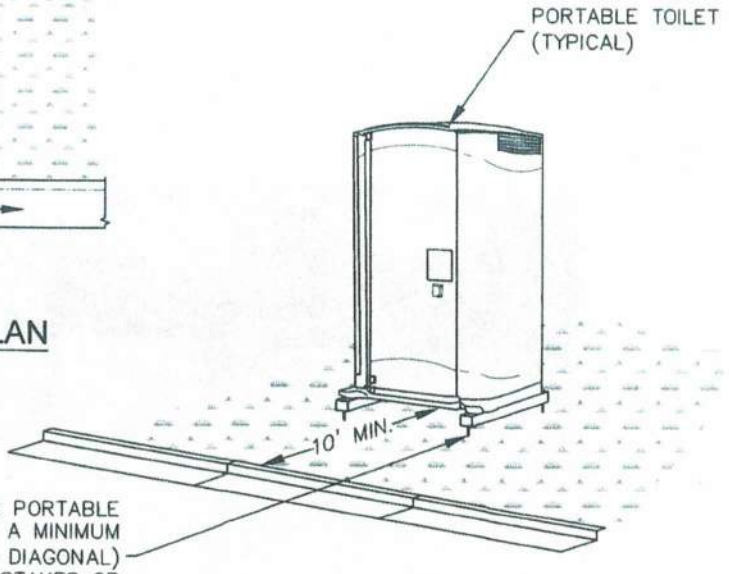
- Install as needed.
- Remove prior to the end of construction. Permanently stabilize any disturbed areas associated with the installation, maintenance, and/or removal of the toilets.

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

ROCK SOCK

RS

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

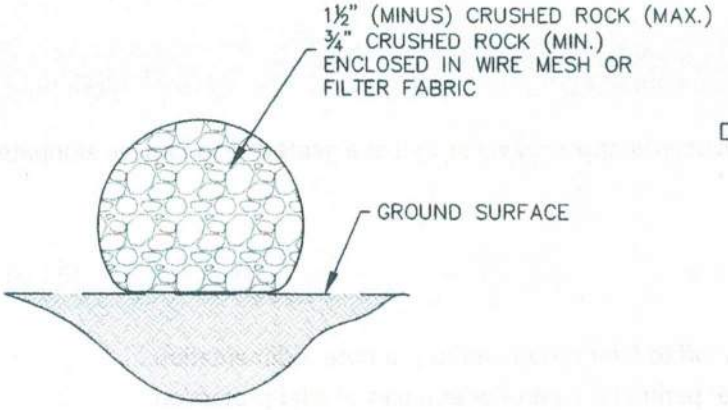
- Rock socks do not require trenching or staking, and are able to be placed on hard surfaces where trenching or staking would be impossible.
- The maximum tributary drainage area per 100 liner feet of rock socks is 1/4 acre.
- When placed in a gutter adjacent to a curb, rock socks should protrude no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

4.0 TIMING

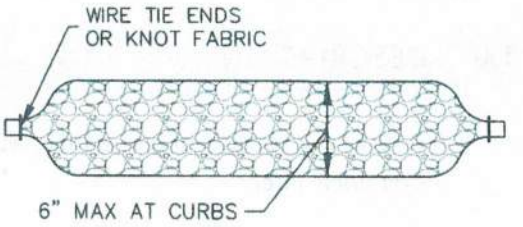
- Install prior to land disturbing activities, or immediately after inlet installation.
- Remove and properly dispose of inlet protection after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

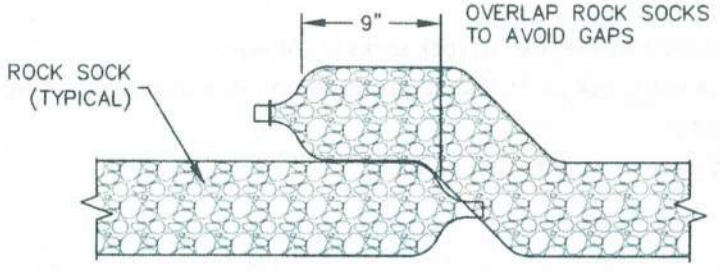
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the rock sock.
- Inspect for and replace damaged or displaced rock socks.



ROCK SOCK SECTION



ROCK SOCK PLAN



ROCK SOCK OVERLAP

GRADATION TABLE	
	MASS PERCENT PASSING SQUARE MESH SIEVES
	No. 4
2"	100
1½"	90–100
1"	20–55
¾"	0–15
⅜"	0–5
MATCHES SPECIFICATIONS FOR No. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M–43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES	

INSTALLATION NOTES

1. CRUSHED ROCK SHALL BE BETWEEN MAX. 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. ¾" CRUSHED ROCK.
2. WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
3. WIRE MESH SHALL BE SECURED USING 'HOG RINGS' OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES ½ OF THE HEIGHT OF THE ROCK SOCK.
4. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
5. PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

RS

STORMWATER ENTERPRISE

ROCK SOCK

APPROVED:

SWENT MANAGER

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

SEDIMENT CONTROL LOG

SCL

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

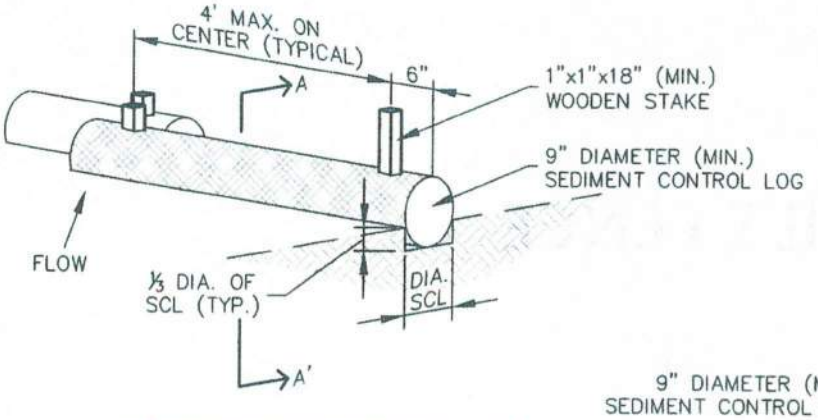
- Install sediment control logs to intercept sheet flow runoff from disturbed areas.
- Install sediment control logs along the contour of slopes or in a manner to avoid creating concentrated flow.
- Place sediment control logs against sidewalk or back of curb when adjacent to these features.
- The maximum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

4.0 TIMING

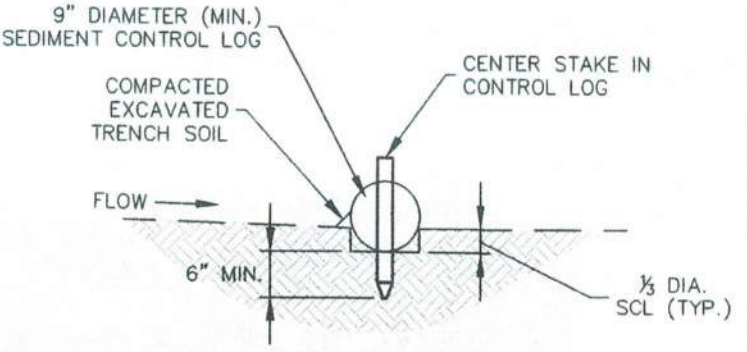
- Install prior to land disturbing activities.
- Remove sediment control logs after the upstream area has been permanently stabilized.

5.0 MAINTENANCE

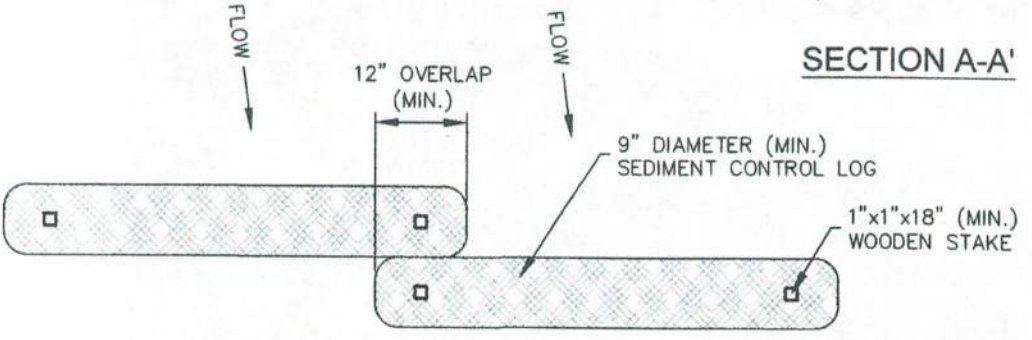
- Remove and properly dispose of sediment when it has accumulated to 1/2 of the height of the exposed sediment control log.
- Inspect for and repair or replace damaged sediment control logs.



SEDIMENT CONTROL LOG



SECTION A-A'



SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

1. ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO ⅓ OF THE HEIGHT OF THE LOG
2. LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
3. PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
4. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BR FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
5. IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
3. PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

SCL

STORMWATER ENTERPRISE

SEDIMENT CONTROL LOGS

APPROVED: SWENT MANAGER

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

SILT FENCE

SF

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

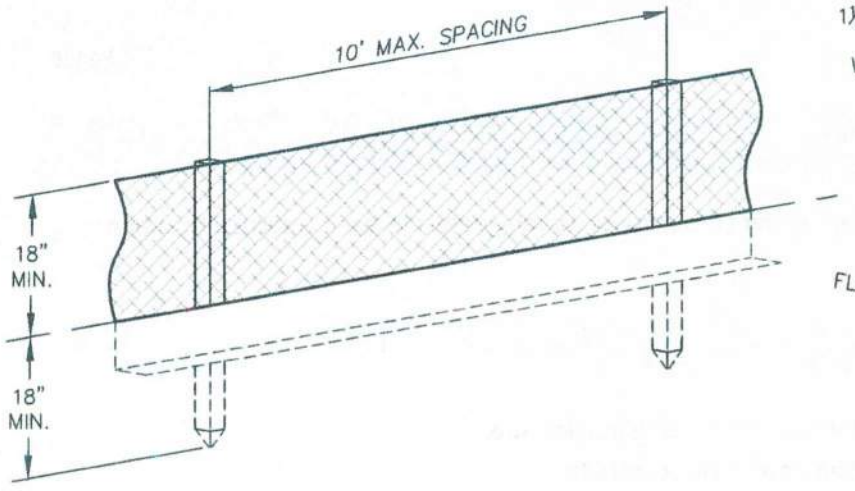
- Install silt fence to intercept sheet flow runoff from disturbed areas.
- Silt fence is not designed to be used as a filter fabric.
- Do not install silt fence across streams, channels, swales, ditches, or other drainageways.
- Install silt fence along the contour of slopes or in a manner to avoid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

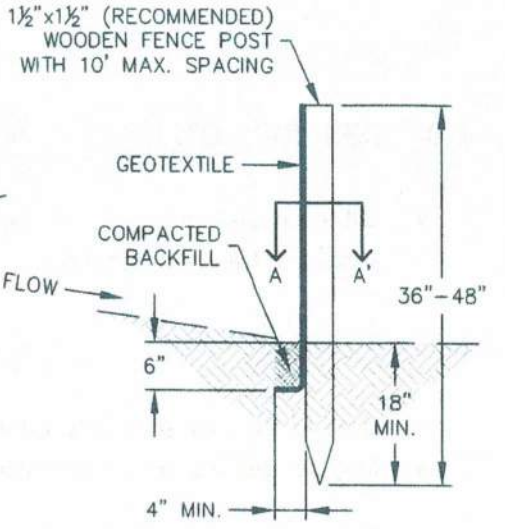
4.0 TIMING

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

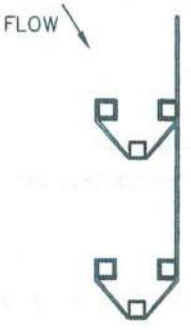
5.0 MAINTENANCE

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

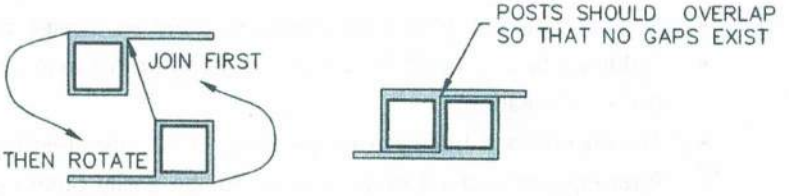




SILT FENCE



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

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

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

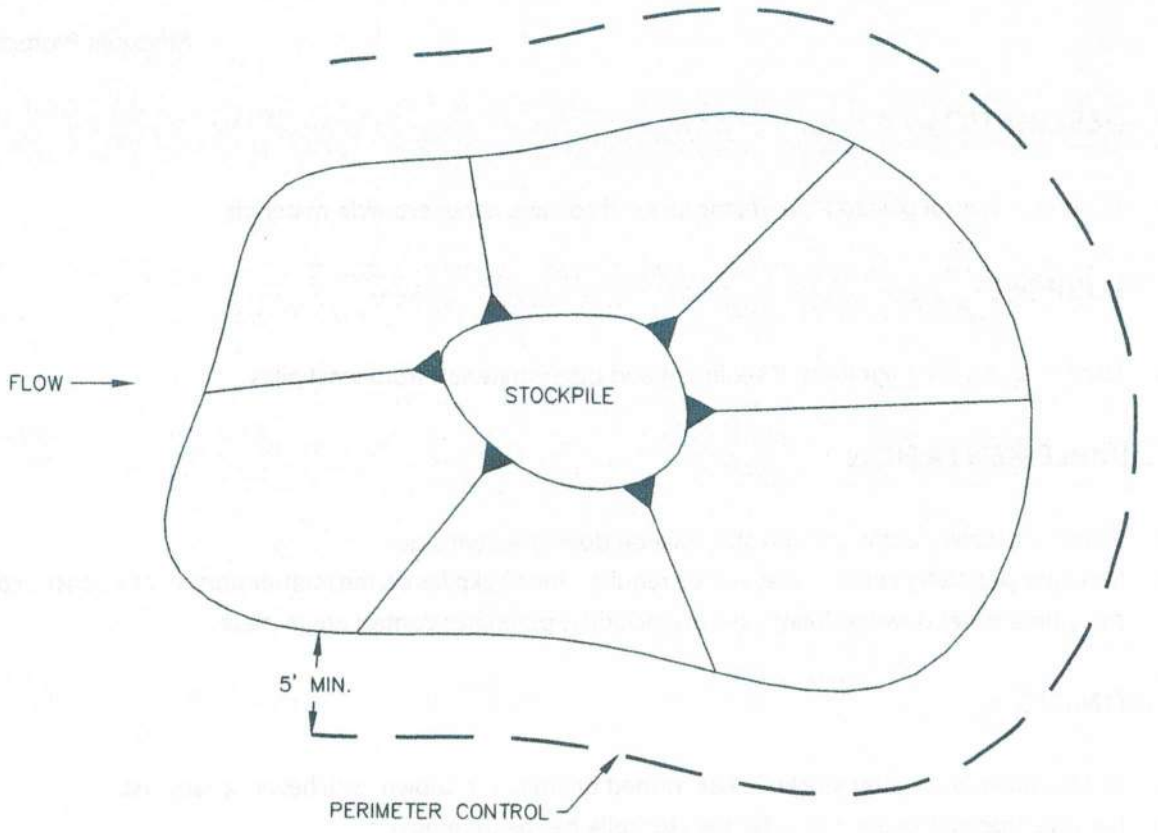
- Install perimeter control around stockpile on downgradient side.
- Stockpile perimeter controls may not be required for stockpiles on the interior portion of a construction site where other downgradient controls including perimeter control are in place.

4.0 TIMING

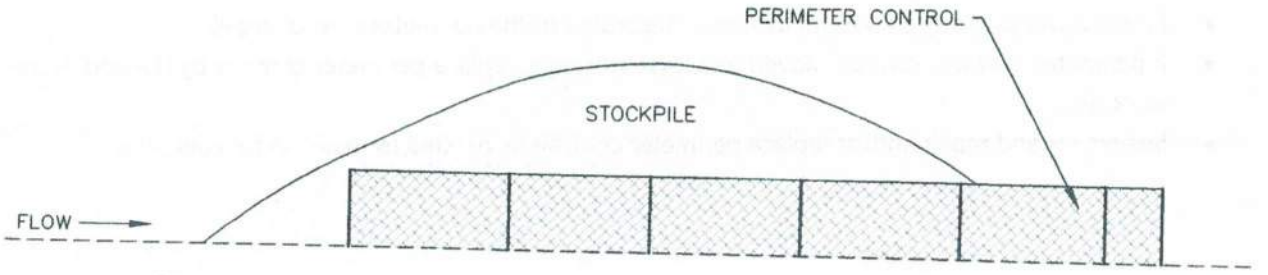
- Install immediately after stockpile has formed or limits are known, whichever occurs first.
- Remove stockpile protection after the stockpile has been removed.

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

SURFACE ROUGHENING

SR

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

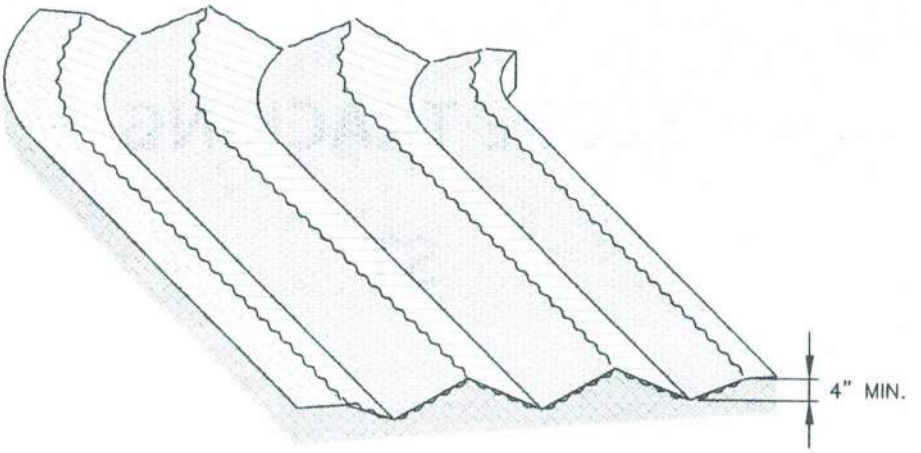
- Roughen soil in areas flatter than 3:1.
- Surface roughening may be completed by furrowing, scarifying, ripping, or disking soil.
- Grooves must be installed along contours to avoid concentrating flow.
- Do not use in areas with extremely sandy or rocky soils.

4.0 TIMING

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

5.0 MAINTENANCE

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



SURFACE ROUGHENING

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

SR

STORMWATER ENTERPRISE

SURFACE ROUGHENING

APPROVED:

SWENT MANAGER

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

SLOPE TRACKING

ST

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

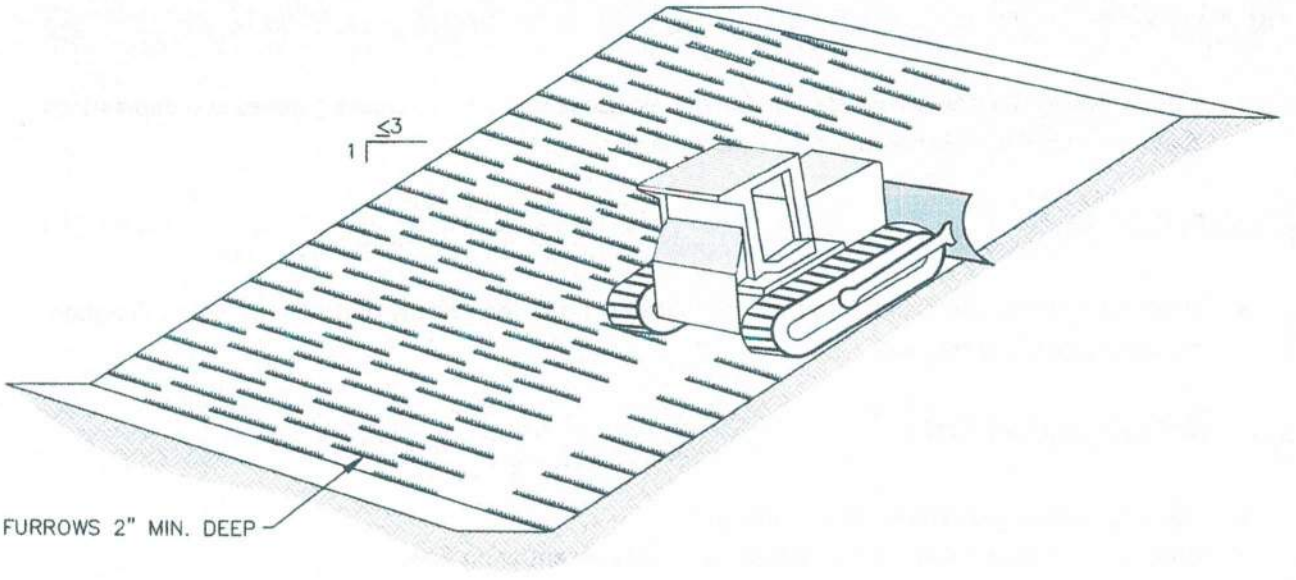
- Use slope tracking on slopes 3:1 or steeper.
- Grooves must be installed along contours to avoid concentrating flow.
- Do not use in areas with extremely sandy or rocky soils.

4.0 TIMING

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

5.0 MAINTENANCE

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



SLOPE TRACKING

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SLOPE TRACKED.

ST

STORMWATER ENTERPRISE

SLOPE TRACKING

APPROVED:

SWENT MANAGER

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

TEMPORARY COMPACTED BERM

TCB

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

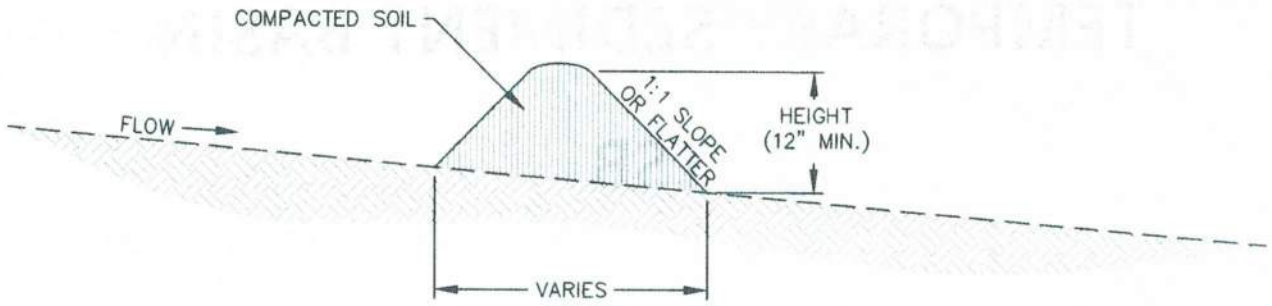
- Compacted berms must be a minimum height of one foot.
- Adequately compact berms. Not all soils are suitable for compacted berms. Soils may need to be adequately watered down to facilitate compaction.
- Install compacted berms along the contour of slopes or in a manner to avoid creating concentrated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

4.0 TIMING

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

5.0 MAINTENANCE

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



TEMPORARY COMPACTED BERM

INSTALLATION NOTES

1. COMPACTED BERM MUST BE A MINIMUM HEIGHT OF ONE FOOT. BASE WIDTH IS DETERMINED BY HEIGHT.
2. COMPACTED BERMS MUST BE ADEQUATELY COMPACTED. NOT ALL SOILS ARE SUITABLE FOR COMPACTED BERMS.
3. INSTALL COMPACTED BERMS ALONG CONTOUR; DO NOT INSTALL PERPENDICULAR TO SLOPE.
4. THE MAXIMUM TRIBUTARY DRAINAGE AREA PER 100 LINEAR FEET OF COMPACTED BERMS SHALL BE ¼ ACRE.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN DEPTH OF THE BERM.

TCB

STORMWATER ENTERPRISE

TEMPORARY COMPACTED BERM

APPROVED: SWENT MANAGER

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

TEMPORARY SEDIMENT BASIN

TSB

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

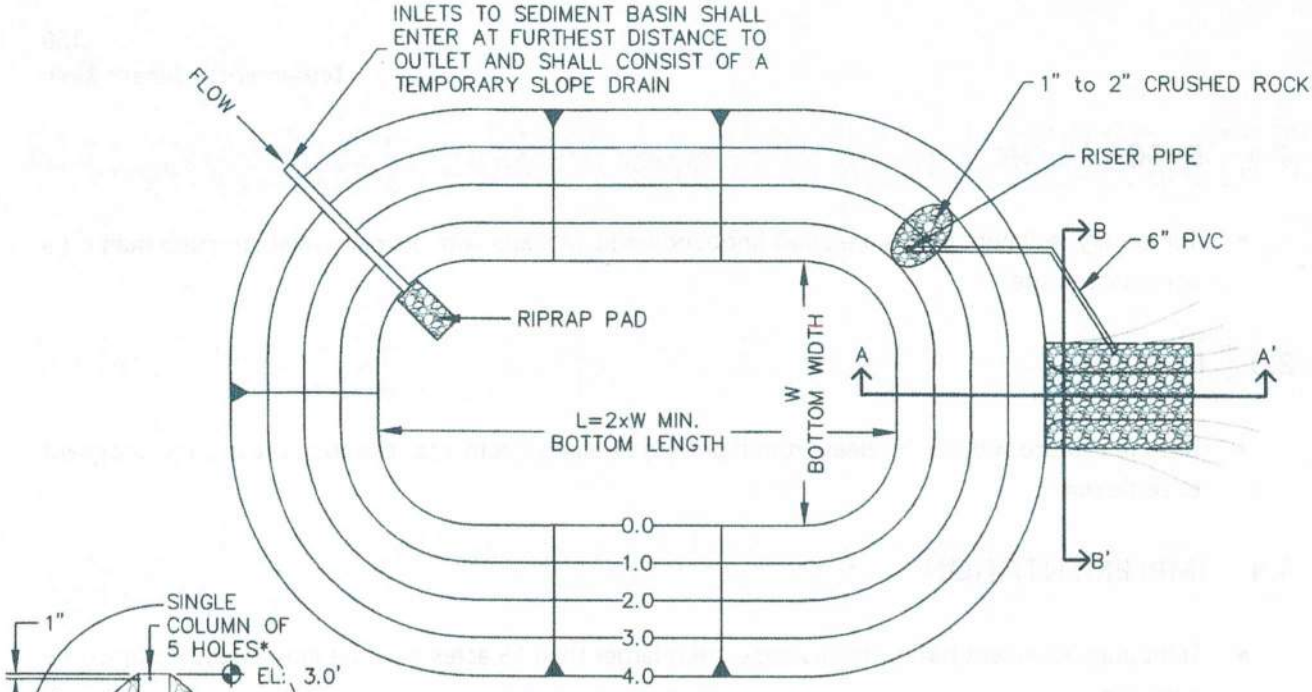
- Temporary sediment basins for drainage areas larger than 15 acres must be individually designed by engineer.
- Erosion and other sediment controls should be implemented upstream of temporary sediment basins.

4.0 TIMING

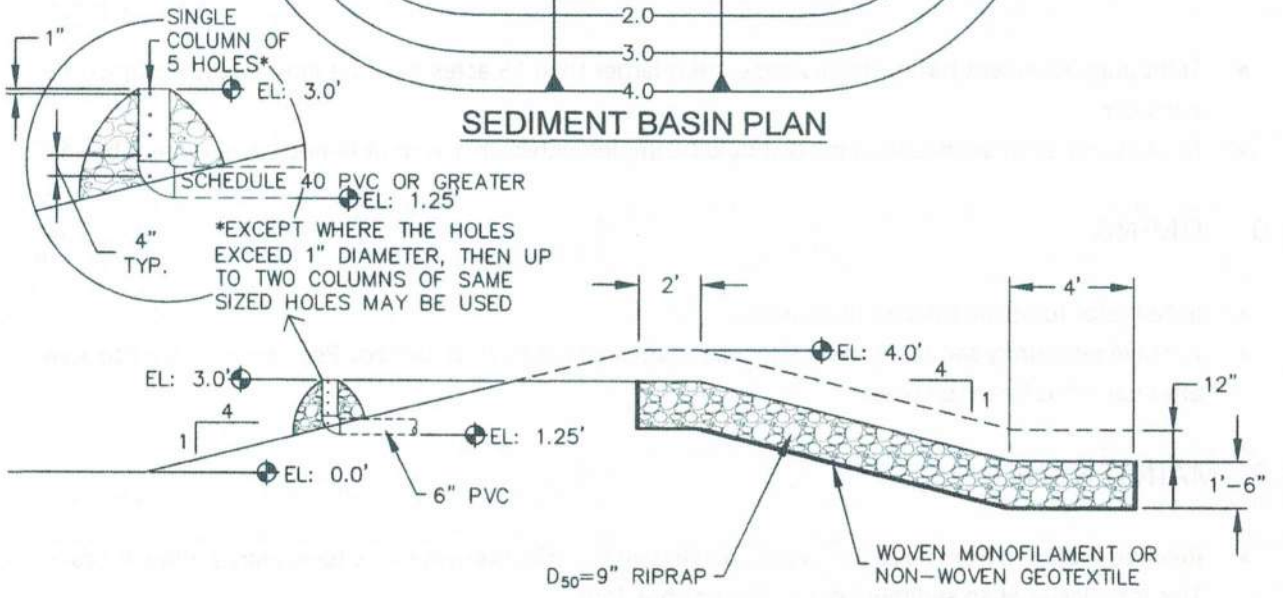
- Install prior to upstream land disturbance.
- Remove temporary sediment basin after upstream area has been stabilized. Permanently stabilize area after basin has been removed.

5.0 MAINTENANCE

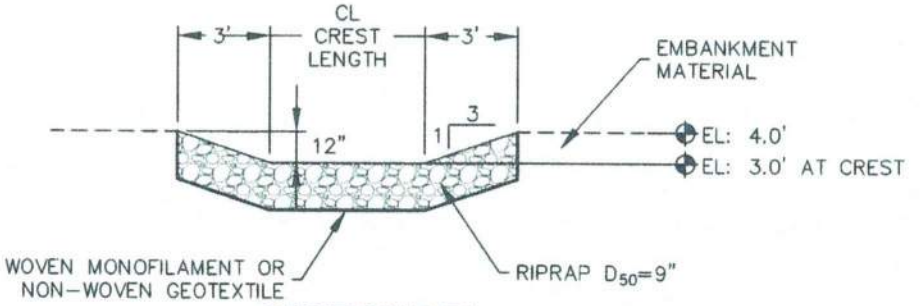
- Remove sediment from basin as needed to maintain the effectiveness of the temporary sediment basin. This is typically when sediment depth reaches one foot.
- Inspect sediment basin embankments for stability and seepage.
- Inspect the inlet and outlet of the basin, repair damage, and remove debris.



SEDIMENT BASIN PLAN



SECTION A-A'



SECTION B-B'

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

TEMPORARY SLOPE DRAIN

TSD

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

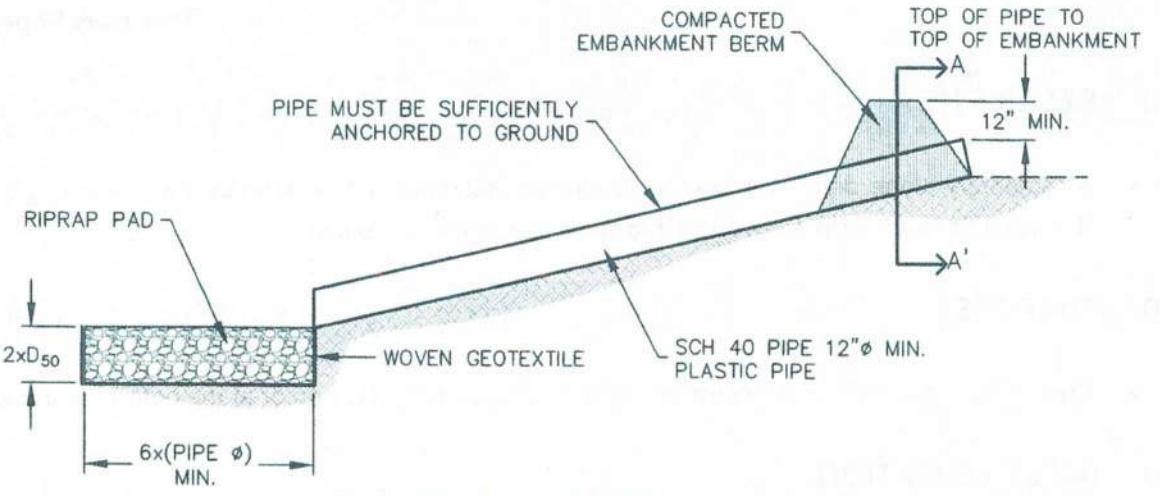
- Direct runoff into flexible pipe using a temporary compacted embankment berm.
- Anchor pipe to slope.
- Install riprap pad at pipe outlet.

4.0 TIMING

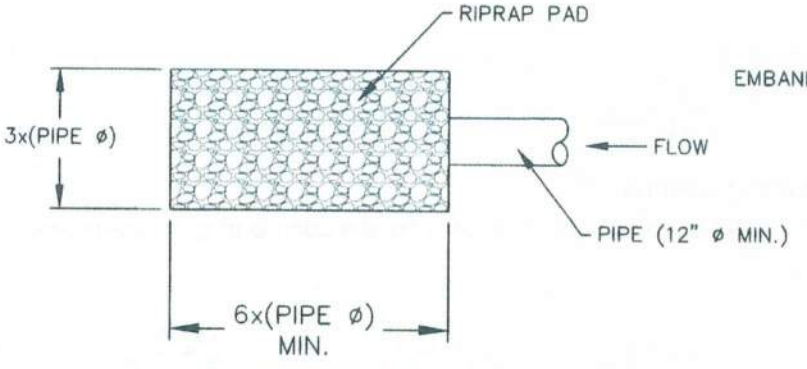
- Install prior to upstream land disturbing activities.
- Remove temporary slope drain prior to the end of construction after the contributing drainage area has been permanently stabilized.

5.0 MAINTENANCE

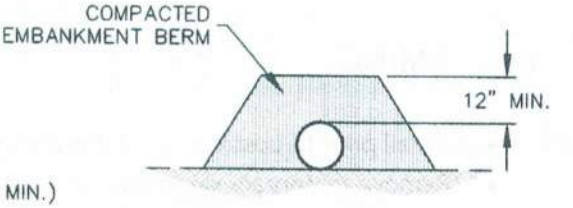
- Inspect for erosion and accumulated debris at the inlet and outlet.
- Breaches in pipes should be repaired as soon as feasibly possible.



TEMPORARY SLOPE DRAIN



RIPRAP PAD PLAN



SECTION A-A'

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. INSPECT INLETS AND OUTLETS AFTER STORMS TO PREVENT EXCESS CLOGGING. BREACHES IN PIPES SHOULD BE REPAIRED AS SOON AS FEASIBLY POSSIBLE.
3. INSPECT RIPRAP PAD AT OUTLET FOR SIGNS OF EROSION. IF SIGNS OF EROSION EXIST, ADDITIONAL ARMORING MAY BE INSTALLED.
4. TEMPORARY SLOPE DRAINS SHOULD REMAIN UNTIL THEY ARE NOT NEEDED, BUT SHOULD BE REMOVED BEFORE THE END OF CONSTRUCTION.
5. PERMANENTLY STABILIZE AREA AFTER TEMPORARY SLOPE DRAINS ARE REMOVED.

TSD

STORMWATER ENTERPRISE

TEMPORARY SLOPE DRAIN

APPROVED:

SWENT MANAGER

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

VEHICLE TRACKING CONTROL

VTC

City of Colorado Springs
Stormwater Enterprise

VTC-i

Construction Control Measures
December 2020

1.0 DESCRIPTION

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

2.0 PURPOSE

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

3.0 IMPLEMENTATION

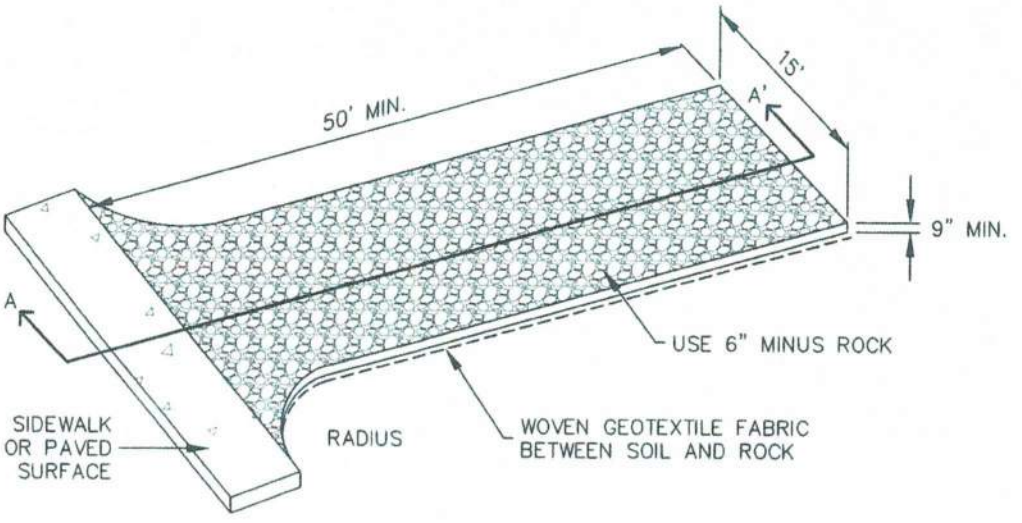
- Locate at construction entrance/exit.
- Organize site to ensure that all vehicles use the vehicle tracking control device.
- Where possible, grade VTC device to drain to construction site rather than to street.
- Proprietary VTC devices may be used if approved as an alternative Construction Control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

4.0 TIMING

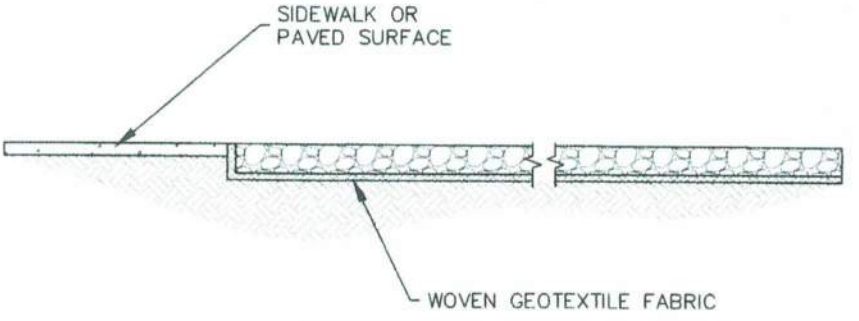
- Install prior to land disturbing activities.
- Remove when the potential for sediment migration onto adjacent roadways no longer exists (typically after site has been stabilized). Permanently stabilized area after vehicle tracking control is removed.

5.0 MAINTENANCE

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



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

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

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.

VTC

STORMWATER ENTERPRISE

VEHICLE TRACKING CONTROL

APPROVED:

SWENT MANAGER

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

APPENDIX G

CONSTRUCTION STORMWATER SITE INSPECTION REPORT

Facility Name		Permittee	
Date of Inspection		Weather Conditions	
Permit Certification #		Disturbed Acreage	
Phase of Construction		Inspector Title	Qualified Stormwater Manager
Inspector Name	Emily Chamberlain		CISEC, TECS, Certified SWMP Admin.

Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)	YES	NO
	☒	☐

INSPECTION FREQUENCY

Check the box that describes the minimum inspection frequency utilized when conducting each inspection

At least one inspection every 7 calendar days	☐
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	☐
• This is this a post-storm event inspection. Event Date: _____	☐
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	☐
• Post-storm inspections at temporarily idle sites	☐
• Inspections at completed sites/area	☐
• Winter conditions exclusion	☐

Have there been any deviations from the minimum inspection schedule? If yes, describe below.	YES	NO
	☐	☐

INSPECTION REQUIREMENTS*

i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications

ii. Determine if there are new potential sources of pollutants

iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges

iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action

*Use the attached **Control Measures Requiring Routine Maintenance** and **Inadequate Control Measures Requiring Corrective Action** forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED

Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?

	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions **Inadequate Control Measures Requiring Corrective Action** form
Construction site perimeter	☐	☐	
All disturbed areas	☐	☐	
Designated haul routes	☐	☐	
Material and waste storage areas exposed to precipitation	☐	☐	
Locations where stormwater has the potential to discharge offsite	☐	☐	
Locations where vehicles exit the site	☐	☐	
Other: _____	☐	☐	

CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

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

Are there control measures requiring maintenance?	NO	YES	
	☐	☐	If "YES" document below

Date Observed	Location	Control Measure	Maintenance Required	Date Completed

INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

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

	NO	YES	
Are there inadequate control measures requiring corrective action?	☐	☐	If "YES" document below

	NO	YES	
Are there additional control measures needed that were not in place at the time of inspection?	☐	☐	If "YES" document below

Date Discovered	Location	Description of Inadequate Control Measure	Description of Corrective Action	Was deficiency corrected when discovered? YES/NO if "NO" provide reason and schedule to correct	Date Corrected

REPORTING REQUIREMENTS

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

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit

a. Endangerment to Health or the Environment

Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit)

This category would primarily result from the discharge of pollutants in violation of the permit

b. Numeric Effluent Limit Violations

- o Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit)
- o Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit)
- o Daily maximum violations (See Part II.L.6.d of the Permit)

Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.

Has there been an incident of noncompliance requiring 24-hour notification?	NO	YES	
	☐	☐	If "YES" document below

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

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

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

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

Emily Chamberlain	Certified SWMP Administrator, TECS, CISEC
Name of Qualified Stormwater Manager	Title of Qualified Stormwater Manager
Signature of Qualified Stormwater Manager	Date

Notes/Comments

APPENDIX H

COLORADO
Department of Public Health & Environment

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

ASSIGNED PERMIT NUMBER
Date Received
MM DD YYYY HH:MM:SS
Revised: 3-2016

STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES APPLICATION
COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

PHOTO COPIES, FAXED COPIES, PDF COPIES OR EMAILS WILL NOT BE ACCEPTED.

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

Beginning July 1, 2016, invoices will be based on acres disturbed.
DO NOT PAY THE FEES NOW – Invoices will be sent after the receipt of the application.

Disturbed Acreage for this application (see page 4)

- ☐ Less than 1 acre ($83 initial fee, $165 annual fee)
- ☐ 1-30 acres ($175 initial fee, $350 annual fee)
- ☐ Greater than 30 acres ($270 initial fee, $540 annual fee)

A. PERMIT INFORMATION

Reason for Application

- ☑ **NEW CERT**
- ☐ **RENEW CERT**
- ☐ **MODIFICATION**
- ☐ **TRANSFER**
- ☐ **CHANGE OF CONTACT**
- ☐ **TERMINATION**

Existing Cert # _____

B. PERMITTED PROJECT/FACILITY INFORMATION

Facility Name: CSU Marksheffel Connector
Original ID:
Property Address 1: SW Marksheffel Road and Barnes Road
Property Address 2:
County: El Paso
City: Colorado Springs
State: CO
Zip Code: 80922
Latitude : 38.900996
Longitude : -104.682956

SIC Code	Description
1629	Heavy construction, nec
1623	Water, sewer, and utility lines

Receiving Water Name	Receiving Water Type
Roadside ditch	Immediate
Sand Creek	Ultimate

C. CONTACT INFORMATION

1) *OPERATOR – RESPONSIBLE OFFICIAL - the party that has operation control over day to day activities – may be the same as the Owner

Responsible Person (Title): Project Manager | First Name: Andy | Last Name: Brennan

Telephone No: 719-248-0319 | Email Address: andy.brennan@millerpipeline.com | Organization: Miller Pipeline, LLC

Mailing Address: 421 E. Industrial Blvd.

City: Pueblo West | State: CO | Zip Code: 81007

2) *PROPERTY OWNER (CO-PERMITTEE) RESPONSIBLE OFFICIAL

Responsible Person (Title): Chief Environmental Officer | First Name: David | Last Name: Padgett

Telephone No: 719-668-8679 | Email Address: dpadgett@csu.org | Organization: Colorado Springs Utilities

Mailing Address: 121 S. Tejon Avenue

City: Colorado Springs | State: CO | Zip Code: 80903

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

Responsible Person (Title): Environmental Consultant | First Name: Emily | Last Name: Chamberlain

Telephone No: 719-924-0519 | Email Address: era@eraenvironmental.com | Organization: Era Environmental, Inc.

Mailing Address: PO Box 8492

City: Pueblo | State: CO | Zip Code: 81008

4) *BILLING CONTACT

Responsible Person (Title): Project Manager | First Name: Andy | Last Name: Brennan

Telephone No: 719-248-0319 | Email Address: andy.brennan@millerpipeline.com | Organization: Miller Pipeline, LLC

Mailing Address: 421 E. Industrial Blvd.

City: Pueblo West | State: CO | Zip Code: 81007

5) OTHER CONTACT TYPES

Title	First Name	Last Name	Phone	Email	Address	City	State	Zip	Contact Type	Other

6) Former Permittee (transfer)

Responsible Person (Title): | First Name: | Last Name:

Email Address: | Company:

D. LEGAL DESCRIPTION

Legal description: if subdivided, provide the legal description below, or indicate that it is not applicatable. Do not supply Township/Range/Section or metes and bounds description of the site.

Subdivision(s): | Lot(s): | Block(s):

OR

☑ Not applicable (site has not been subdivided)

☐ Facility additional description info

E. AREA OF CONSTRUCTION SITE

Total area of construction site 40 acres

Total area of project disturbance 20 acres

F. NATURE OF CONSTRUCTION ACTIVITY

Check the appropriate box(s) or provide a brief description that indicates the general nature of the construction activities. (The full description of activities must be included in the Stormwater Management Plan.)

☐ Commercial Development ☐ Residential Development ☐ Highway and Transportation Development

☑ Pipeline and Utilities (including natural gas, electricity, water, and communications)

☐ Oil and Gas Exploration and Well Pad Development

☐ Non-structural and other development (i.e. parks, trails, stream realignment, bank stabilization, demolition, etc.)

☐ Other

G. ANTICIPATED CONSTRUCTION SCHEDULE

Construction Start Date: 04/01/2024 Final Stabilization Date: 12/31/2025

• Construction Start Date - This is the day you expect to begin ground disturbing activities, including grubbing, stockpiling, excavating, demolition, and grading activities.
• Final Stabilization Date - in terms of permit coverage, this is when he site is finally stabilized. This means that all ground surface disturbing activities at the site have been completed and all disturbed areas have either been built on, paved, or a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels.
• Permit coverage must be maintained until the site is finally stabilized. Even if you are only doing one part of the project, the estimated final stabilization date must be for the overall project. If permit coverage is still required once your part is completed, the permit certification may be transferred to a new responsible operator.

SIGNATURE REQUIREMENTS:

TERMINATION CERTIFICATION

☐ By checking this box I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity by the general permit. I understand that discharging pollutants in stormwater associated with construction activities to the waters of the State of Colorado, where such discharges are not authorized by a CDPS permit, is unlawful under the Colorado Water Quality Control Act and the Clean Water Act.

☑ **STORMWATER MANAGEMENT PLAN CERTIFICATION (on new and renewals)**
By checking this box "I certify under penalty of law that a complete Stormwater Management Plan, has been/or will be completed, prior to the commencement of any construction activity. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the Stormwater Management Plan is/or will be, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment for knowing violations."

THIS PORTION OF THE SIGNATURE LANGUAGE IS REQUIRED ON ALL SUBMITTALS
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

"I understand that submittal of this application is for coverage under the State of Colorado General Permit for Stormwater Discharges Associated with Construction Activity for the entirety of the construction site/project described and applied for, until such time as the application is amended or the certification is transferred, inactivated, or expired."

Signature of Operator Date Signed

Name (printed) Title

Signature of Owner Date Signed

Name (printed) Title

Signature: The applicant must be either the owner and operator of the construction site. Refer to Part B of the instructions for additional information. The application must be signed by the applicant to be considered complete. In all cases, it shall be signed as follows:
(Regulation 61.4 (1ei)
a) In the case of corporations, by the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the form originates
b) In the case of a partnership, by a general partner.
c) In the case of a sole proprietorship, by the proprietor.
d) In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, (a principal executive officer has responsibility for the overall operation of the facility from which the discharge originates).

FORMER PERMITTEE used for transfers

Signature (Legally Responsible Party) _____ Date _____

Name (printed) _____ Title _____

STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
Water Quality Control Division

CDPS GENERAL PERMIT

STORMWATER DISCHARGES ASSOCIATED WITH

CONSTRUCTION ACTIVITY

AUTHORIZATION TO DISCHARGE UNDER THE

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), this permit authorizes the discharge of stormwater associated with construction activities (and specific allowable non-stormwater discharges in accordance with Part I.A.1. of the permit) certified under this permit, from those locations specified throughout the State of Colorado to specified waters of the State.

Such discharges shall be in accordance with the conditions of this permit. This permit specifically authorizes the facility listed on the certification to discharge in accordance with permit requirements and conditions set forth in Parts I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

This permit becomes effective on April 1, 2019, and shall expire at midnight March 31, 2024.

Issued and signed this 1st day of November 2018.

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Ellen Howard Kutzer, Permits Section Manager
Water Quality Control Division

Permit History
Originally signed and issued October 31, 2018; effective April 1, 2019.

Table of Contents

Part I
Note: At the first mention of terminology that has a specific connotation for the purposes of this permit, the terminology is electronically linked to the definitions section of the permit in Part I.E.

A. COVERAGE UNDER THIS PERMIT

1. Authorized Discharges

This general permit authorizes permittee(s) to discharge the following to state waters: stormwater associated with construction activity and specified non-stormwater associated with construction activity. The following types of stormwater and non-stormwater discharges are authorized under this permit:

a. Allowable Stormwater Discharges

i. Stormwater discharges associated with construction activity.

ii. Stormwater discharges associated with producing earthen materials, such as soils, sand, and gravel dedicated to providing material to a single contiguous site, or within ¼ mile of a construction site (i.e. borrow or fill areas)

iii. Stormwater discharges associated with dedicated asphalt, concrete batch plants and masonry mixing stations (Coverage under this permit is not required if alternative coverage has been obtained.)

b. Allowable Non-Stormwater Discharges

The following non-stormwater discharges are allowable under this permit if the discharges are identified in the stormwater management plan in accordance with Part I.C. and if they have appropriate control measures in accordance with Part I.B.1.

i. Discharges from uncontaminated springs that do not originate from an area of land disturbance.

ii. Discharges to the ground of concrete washout water associated with the washing of concrete tools and concrete mixer chutes. Discharges of concrete washout water must not leave the site as surface runoff or reach receiving waters as defined by this permit.

iii. Discharges of landscape irrigation return flow.

c. Emergency Fire Fighting

Discharges resulting from emergency firefighting activities are authorized by this permit.

2. Limitations on Coverage

Discharges not authorized by this permit include, but are not limited to, the discharges and activities listed below. Permittees may seek individual or alternate general permit coverage for the discharges, as appropriate and available.

a. Discharges of Non-Stormwater

Discharges of non-stormwater, except the authorized non-stormwater discharges listed in Part I.A.1.b., are not eligible for coverage under this permit.

b. Discharges Currently Covered by another Individual or General Permit

c. Discharges Currently Covered by a Water Quality Control Division (division) Low Risk Guidance Document

3. Permit Certification and Submittal Procedures

a. Duty to apply
The following activities shall apply for coverage under this permit:

i. Construction sites that will disturb one acre or more; or

ii. Construction sites that are part of a common plan of development or sale; or

iii. Stormwater discharges that are designated by the division as needing a stormwater permit because the discharge:

(a) Contributes to a violation of a water quality standard; or

(b) is a significant contributor of pollutants to state waters.

b. Application Requirements
To obtain authorization to discharge under this permit, applicants applying for coverage following the effective date of the renewal permit shall meet the following requirements:

i. Owners and operators submitting an application for permit coverage will be co-permittees subject to the same benefits, duties, and obligations under this permit.

ii. Signature requirements: Both the owner and operator (permittee) of the construction site, as defined in Part I.E., must agree to the terms and conditions of the permit and submit a completed application that includes the signature of both the owner and the operator. In cases where the duties of the owner and operator are managed by the owner, both application signatures may be completed by the owner. Both the owner and operator are responsible for ensuring compliance with all terms and conditions of the permit, including implementation of the stormwater management plan.

iii. Applicants must use the paper form provided by the division or the electronic form provided on the division's web-based application platform when applying for coverage under this permit.

iv. The applicant(s) must develop a stormwater management plan (SWMP) in accordance with the requirements of Part I.C. The applicant(s) must also certify that the SWMP is complete, or will be complete, prior to commencement of any construction activity.

v. The applicant(s) must submit a complete, accurate, and signed permit application electronically, by mail or hand delivery to the division at least 10 days prior to the commencement of construction activity except that construction activities that are in response to a public emergency related site shall apply for coverage no later than 14 days after the commencement of construction activities. The provisions of this part in no way remove a violation of the Colorado Water Quality Control Act if a point source discharge occurs prior to the issuance of a CDPS permit.

vi. The application must be signed in accordance with the requirements of Part IA. Applications submitted by mail or hand delivered should be directed to:

Colorado Department of Public Health and Environment
Water Quality Control Division
Permits Section, WQCD-PS-B2
4300 Cherry Creek Drive South
Denver, CO 80246

vii. The applicant(s) must receive written notification that the division granted permit coverage prior to conducting construction activities except for construction activities that are in response to a public emergency related site

c. Division Review of Permit Application

Within 10 days of receipt of the application, and following review of the application, the division may:

i. Issue a certification of coverage;

ii. request additional information necessary to evaluate the discharge;

iii. delay the authorization to discharge pending further review;

iv. notify the applicant that additional terms and conditions are necessary; or

v. deny the authorization to discharge under this general permit.

d. Alternative Permit Coverage

i. Division Required Alternate Permit Coverage:
The Division may require an applicant or permittee to apply for an individual permit or an alternative general permit if it determines the discharge does not fall under the scope of this general permit. In this case, the Division will notify the applicant or permittee that an individual permit application is required.

ii. Permittee Request for alternate permit coverage:
A permittee authorized to discharge stormwater under this permit may request to be excluded from coverage under this general permit by applying for an individual permit. In this case, the permittee must submit an individual application, with reasons supporting the request, to the Division at least 180 days prior to any discharge. When an individual permit is issued, the permittee's authorization to discharge under this permit is terminated on the effective date of the individual permit.

e. Submittal Signature Requirements

Documents required for submittal to the division in accordance with this permit, including applications for permit coverage and other documents as requested by the division, must include signatures by both the owner and the operator, except for instances where the duties of the owner and operator are managed by the owner.

Signatures on all documents submitted to the division as required by this permit must meet the Standard Signatory Requirements in Part II.K. of this permit in accordance with 40 C.F.R. 122.41(k).

i. Signature Certification
Any person(s) signing documents required for submittal to the Division must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

f. Compliance Document Signature Requirements
Documents which are required for compliance with the permit, but for which submittal to the division is not required unless specifically requested by the division, must be signed by the individual(s) designated as the Qualified Stormwater Manager, as defined in Part I.E.

i. Any person(s) signing inspection documents required for compliance with the permit must make the following statement:

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

g. Field Wide Permit Coverage for Oil and Gas Construction
At the discretion of the division, a single permit certification may be issued to a single oil and gas permittee to cover construction activity related discharges from an oil and gas field at multiple locations that are not necessarily contiguous.

h. Permit Coverage without Application
Qualifying Local Program: When a small construction site is within the jurisdiction of a qualifying local program, the owner and operator of the construction activity are authorized to discharge stormwater associated with small construction activity under this general permit without the submittal of an application to the division. Sites covered by a qualifying local program are exempt from the following sections of this general permit:

Part I.A.3.a.; Part I.A.3.b.; Part I.A.3.c.; Part I.A.3.d.; Part I.A.3.g.; Part I.A.3.i.; Part I.A.3.j.; Part I.A.3.k.

Sites covered by a qualifying local program are subject to the following requirements:

i. Local Agency Authority: This permit does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control discharges of stormwater to storm drain systems or other water courses within their jurisdiction.

ii. Permit Coverage Termination: When a site under a Qualifying Local Program is finally stabilized, coverage under this permit is automatically terminated.

iii. Compliance with Qualifying Local Program: Qualifying Local Program requirements that are equivalent to the requirements of this permit are incorporated by reference. Permittees authorized to discharge under this permit, must comply with the equivalent requirements of the Qualifying Local Program that has jurisdiction over the site as a condition of this permit.

iv. Compliance with Remaining Permit Conditions. Requirements of this permit that are in addition to or more stringent than the requirements of the Qualifying Local Program apply in addition to the requirements of the Qualifying Local Program.

v. Written Authorization of Coverage: The division or local municipality may require any permittee within the jurisdiction of a Qualifying Local Program covered under this permit to apply for, and obtain written authorization of coverage under this permit. The permittee must be notified in writing that an application for written authorization of coverage is required.

i. Permittee Initiated Permit Actions

Permittee initiated permit actions, including but not limited to modifications, contact changes, transfers, reassignments, and terminations, shall be conducted following division guidance and using appropriate division-provided forms.

j. Sale of Residence to Homeowner

Residential construction sites only: The permittee may remove residential lots from permit coverage once the lot meets the following criteria:

i. the residential lot has been sold to the homeowner(s) for private residential use;

ii. a certificate of occupancy, or equivalent, is maintained on-site and is available during division inspections;

iii. the lot is less than one acre of disturbance;

iv. all construction activity conducted on the lot by the permittee is complete;

v. the permittee is not responsible for final stabilization of the lot; and

vi. the SWMP was modified to indicate the lot is no longer part of the construction activity.

If the residential lot meets the criteria listed above then activities occurring on the lot are no longer considered to be construction activities with a duty to apply and maintain permit coverage. Therefore, the permittee is not required to meet the final stabilization requirements and may terminate permit coverage for the lot.

k. Permit Expiration and Continuation of Permit Coverage

Authorization to discharge under this general permit shall expire at midnight on March 31, 2024. While Regulation 61.4 requires a permittee to submit an application for continuing permit coverage 180 days before the permit expires, the division is requiring that permittees desiring continued coverage under this general permit must reapply at least 90 days in advance of this permit expiration. The Division will determine if the permittee may continue to discharge stormwater under the terms of the general permit. An individual permit may be required for any facility not reauthorized to discharge under the reissued general permit.

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued and remain in force and effect. For permittees that have applied for continued permit coverage, discharges authorized under this permit prior to the expiration date will automatically remain covered by this permit until the earliest of:

i. An authorization to discharge under a reissued permit, or a replacement of this permit, following the timely and appropriate submittal of a complete application requesting authorization to discharge under the new permit and compliance with the requirements of the new permit; or

ii. The issuance and effect of a termination issued by the Division; or

iii. The issuance or denial of an individual permit for the facility's discharges; or

iv. A formal permit decision by the Division not to reissue this general permit, at which time the Division will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease when coverage under another permit is granted/authorized; or

v. The Division has informed the permittee that discharges previously authorized under this permit are no longer covered under this permit.

B. EFFLUENT LIMITATIONS

1. Requirements for Control Measures Used to Meet Effluent Limitations

The permittee must implement control measures to minimize the discharge of pollutants from all potential pollutant sources at the site. Control measures must be installed prior to commencement of activities that may contribute pollutants to stormwater discharges. Control measures must be selected, designed, installed and maintained in accordance with good engineering, hydrologic and pollution control practices. Control measures implemented at the site must be designed to prevent pollution or degradation of state waters.

a. Stormwater Pollution Prevention

The permittee must implement structural and/or nonstructural control measures that effectively minimize erosion, sediment transport, and the release of other pollutants related to construction activity.

i. Control Measures for Erosion and Sediment Control

Control measures for erosion and sediment control may include, but are not limited to, wattles/sediment control logs, silt fences, earthen dikes, drainage swales, sediment traps, subsurface drains, pipe slope drains, inlet protection, outlet protection, gabions, sediment basins, temporary vegetation, permanent vegetation, mulching, geotextiles, sod stabilization, slope roughening, maintaining existing vegetation, protection of trees, and preservation of mature vegetation. Specific non-structural control measures must meet the requirements listed below.

Specific control measures must meet the requirements listed below.

(a) Vehicle tracking controls shall either be implemented to minimize vehicle tracking of sediment from disturbed areas, or the areas where vehicle tracking occurs shall meet subsection Part I.B.1.a.i(b);

(b) Stormwater runoff from all disturbed areas and soil storage areas for which permanent or temporary stabilization is not implemented, must flow to at least one control measure to minimize sediment in the discharge. This may be accomplished through filtering, settling, or straining. The control measure must be selected, designed, installed and adequately sized in accordance with good engineering, hydrologic and pollution control practices. The control measure(s) must contain or filter flows in order to prevent the bypass of flows without treatment and must be appropriate for stormwater runoff from disturbed areas and for the expected flow rate, duration, and flow conditions (i.e., sheet or concentrated flow);

(c) Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless infeasible.

(d) Maintain pre-existing vegetation or equivalent control measures for areas within 50 horizontal feet of receiving waters as defined by this permit, unless infeasible.

(e) Soil compaction must be minimized for areas where infiltration control measures will occur or where final stabilization will be achieved through vegetative cover.

(f) Unless infeasible, topsoil shall be preserved for those areas of a site that will utilize vegetative final stabilization.

(g) Minimize the amount of soil exposed during construction activity, including the disturbance of steep slopes.

ii. Practices for Other Common Pollutants

(a) Bulk storage, 55 gallons or greater, for petroleum products and other liquid chemicals must have secondary containment, or equivalent protection, in order to contain spills and to prevent spilled material from entering state waters.

(b) Control measures designed for concrete washout waste must be implemented. This includes washout waste discharged to the ground as authorized under this permit and washout waste from concrete trucks and masonry operations contained on site. The permittee must ensure the washing activities do not contribute pollutants to stormwater runoff, or receiving waters in accordance Part I.A.1.b.ii. Discharges that may reach groundwater must flow through soil

that has buffering capacity prior to reaching groundwater, as necessary to meet the effluent limits in this permit, including Part I.B.3.a. The concrete washout location shall be not be located in an area where shallow groundwater may be present and would result in buffering capacity not being adequate, such as near natural drainages, springs, or wetlands. This permit authorizes discharges to the ground of concrete washout waste.

iii. Stabilization Requirements
The following requirements must be implemented for each site.

(a) Temporary stabilization must be implemented for earth disturbing activities on any portion of the site where ground disturbing construction activity has permanently ceased, or temporarily ceased for more than 14 calendar days. Temporary stabilization methods may include, but are not limited to, tarps, soil tackifier, and hydroseed. The permittee may exceed the 14-day schedule when either the function of the specific area of the site requires it to remain disturbed, or, physical characteristics of the terrain and climate prevent stabilization. The SWMP must document the constraints necessitating the alternative schedule, provide the alternate stabilization schedule, and identify all locations where the alternative schedule is applicable on the site map.

(b) Final stabilization must be implemented for all construction sites. Final stabilization is reached when all ground surface disturbing activities at the construction site are complete; and, for all areas of ground surface disturbing activities, either a uniform vegetative cover with an individual plant density of at least 70 percent of pre-disturbance levels is established, or equivalent permanent alternative stabilization methods are implemented. The division may approve alternative final stabilization criteria for specific operations.

(c) Final stabilization must be designed and installed as a permanent feature. Final stabilization measures for obtaining a vegetative cover or alternative stabilization methods include, but are not limited to, the following as appropriate:

(1) Seed mix selection and application methods;

(2) Soil preparation and amendments;

(3) Soil stabilization methods (e.g., crimped straw, hydro mulch or rolled erosion control products);

(4) Appropriate sediment control measures as needed until final stabilization is achieved;

(5) Permanent pavement, hardscape, xeriscape, stabilized driving surfaces;

(6) Other alternative stabilization practices as applicable;

(d) The permittee(s) must ensure all temporary control measures are removed from the construction site once final stabilization is achieved, except when the control measure specifications allow the control measure to be left in place (i.e., bio-degradable control measures).

b. Maintenance

The permittee must ensure that all control measures remain in effective operating condition and are protected from activities that would reduce their effectiveness. Control measures must be maintained in accordance with good engineering, hydrologic and pollution control practices. Observations leading to the required maintenance of control measures can be made during a site inspection, or during general observations of site conditions. The necessary repairs or modifications to a control measure requiring routine maintenance, as defined in Part I.E., must be conducted to maintain an effective operating condition. This section is not subject to the requirements in Part I.B.1.c. below.

c. Corrective Actions

The permittee must assess the adequacy of control measures at the site, and the need for changes to those control measures, to ensure continued effective performance. When an inadequate control measure, as defined in Part I.E., is identified (i.e., new or replacement control measures become necessary), the following corrective action requirements apply. The permittee is in noncompliance with the permit until the inadequate control measure is replaced or corrected and returned to effective operating condition in compliance with Part I.B.1. and the general requirements in Part I.B.3. If the inadequate control measure results in noncompliance that meets the conditions of Part II.L., the permittee must also meet the requirements of that section.

i. The permittee must take all necessary steps to minimize or prevent the discharge of pollutants, until a control measure is implemented and made operational and/or an inadequate control measure is replaced or corrected and returned to effective operating condition. If it is infeasible to install or repair of control measure immediately after discovering the deficiency, the following must be documented and kept on record in accordance with the recordkeeping requirements in Part II.

(a) Describe why it is infeasible to initiate the installation or repair immediately; and

(b) Provide a schedule for installing or repairing the control measure and returning it to an effective operating condition as soon as possible.

ii. If applicable, the permittee must remove and properly dispose of any unauthorized release or discharge (e.g., discharge of non-stormwater, spill, or leak not authorized by this permit.) The permittee must also clean up any contaminated surfaces to minimize discharges of the material in subsequent storm events.

2. Discharges to an Impaired Waterbody

a. Total Maximum Daily Load (TMDL)

If the permittee's discharge flows to or could reasonably be expected to flow to any water body for which a TMDL has been approved, and stormwater discharges

associated with construction activity were assigned a pollutant-specific Wasteload Allocation (WLA) under the TMDL, the division may:

i. ensure the WLA is implemented properly through alternative local requirements, such as by a municipal stormwater permit; or

ii. notify the permittee of the WLA and amend the permittee's certification to add specific effluent limits and other requirements, as appropriate. The permittee may be required to do the following:

(a) under the permittee's SWMP, implement specific control measures based on requirements of the WLA, and evaluate whether the requirements are met through implementation of existing stormwater control measures or if additional control measures are necessary. Document the calculations or other evidence demonstrating that the requirements are expected to be met; and

(b) if the evaluation shows that additional or modified control measures are necessary, describe the type and schedule for the control measure additions or modifications.

iii. Discharge monitoring may also be required. The permittee may maintain coverage under the general permit provided they comply with the applicable requirements outlined above. The division reserves the right to require individual or alternate general permit coverage.

3. General Requirements

a. Discharges authorized by this permit shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any applicable water quality standard, including narrative standards for water quality.

b. The division may require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that the SWMP is not adequately minimizing pollutants in stormwater or in order to measure the effectiveness of the control measures in removing pollutants in the effluent. Such monitoring may include Whole Effluent Toxicity testing.

c. The permittee must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts and other local agencies including applicable requirements in Municipal Stormwater Management Programs developed to comply with CDPS permits. The permittee must comply with local stormwater management requirements, policies and guidelines including those for erosion and sediment control.

d. All construction site wastes must be properly managed to prevent potential pollution of state waters. This permit does not authorize on-site waste disposal.

e. This permit does not relieve the permittee of the reporting requirements in 40 CFR 110, 40 CFR 117 or 40 CFR 302. Any discharge of hazardous material must be handled in accordance with the division's Noncompliance Notification Requirements (see Part II.L. of the permit).

C. STORMWATER MANAGEMENT PLAN (SWMP) REQUIREMENTS

1. SWMP General Requirements

   a. A SWMP shall be developed for each construction site covered by this permit. The SWMP must be prepared in accordance with good engineering, hydrologic and pollution control practices.

      i. For public emergency related sites a SWMP shall be created no later than 14 days after the commencement of construction activities.

   b. The permittee must implement the provisions of the SWMP as written and updated, from commencement of construction activity until final stabilization is complete. The division may review the SWMP.

   c. A copy of the SWMP must be retained onsite or be onsite when construction activities are occurring at the site unless the permittee specifies another location and obtains approval from the division.

2. SWMP Content

   a. The SWMP, at a minimum, must include the following elements.

      i. Qualified Stormwater Manager. The SWMP must list individual(s) by title and name who are designated as the site's qualified stormwater manager(s) responsible for implementing the SWMP in its entirety. This role may be filled by more than one individual.

      ii. Spill Prevention and Response Plan. The SWMP must have a spill prevention and response plan. The plan may incorporate by reference any part of a Spill Prevention Control and Countermeasure (SPCC) plan under section 311 of the Clean Water Act (CWA) or a Spill Prevention Plan required by a separate CDPS permit. The relevant sections of any referenced plans must be available as part of the SWMP consistent with Part I.C.4.

      iii. Materials Handling. The SWMP must describe and locate all control measures implemented at the site to minimize impacts from handling significant materials that could contribute pollutants to runoff. These handling procedures can include control measures for pollutants and activities such as, exposed storage of building materials, paints and solvents, landscape materials, fertilizers or chemicals, sanitary waste material, trash and equipment maintenance or fueling procedures.

      iv. Potential Sources of Pollution. The SWMP must list all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the site. This shall include, but is not limited to, the following pollutant sources:

         (a) disturbed and stored soils;

         (b) vehicle tracking of sediments;

         (c) management of contaminated soils;

         (d) loading and unloading operations;

(e) outdoor storage activities (erodible building materials, fertilizers, chemicals, etc.);

(f) vehicle and equipment maintenance and fueling;

(g) significant dust or particulate generating processes (e.g., saw cutting material, including dust);

(h) routine maintenance activities involving fertilizers, pesticides, herbicides, detergents, fuels, solvents, oils, etc.;

(i) on-site waste management practices (waste piles, liquid wastes, dumpsters);

(j) concrete truck/equipment washing, including washing of the concrete truck chute and associated fixtures and equipment;

(k) dedicated asphalt, concrete batch plants and masonry mixing stations;

(l) non-industrial waste sources such as worker trash and portable toilets.

v. Implementation of Control Measures. The SWMP must include design specifications that contain information on the implementation of the control measure in accordance with good engineering hydrologic and pollution control practices; including as applicable drawings, dimensions, installation information, materials, implementation processes, control measure-specific inspection expectations, and maintenance requirements.

The SWMP must include a documented use agreement between the permittee and the owner or operator of any control measures located outside of the permitted area, that are utilized by the permittee's construction site for compliance with this permit, but not under the direct control of the permittee. The permittee is responsible for ensuring that all control measures located outside of their permitted area, that are being utilized by the permittee's construction site, are properly maintained and in compliance with all terms and conditions of the permit. The SWMP must include all information required of and relevant to any such control measures located outside the permitted area, including location, installation specifications, design specifications and maintenance requirements.

vi. Site Description. The SWMP must include a site description which includes, at a minimum, the following:

(a) the nature of the construction activity at the site;

(b) the proposed schedule for the sequence for major construction activities and the planned implementation of control measures for each phase. (e.g.: clearing, grading, utilities, vertical, etc.);

(c) estimates of the total acreage of the site, and the acreage expected to be disturbed by clearing, excavation, grading, or any other construction activities;

(d) a summary of any existing data used in the development of the construction site plans or SWMP that describe the soil or existing potential for soil erosion;

(e) a description of the percent of existing vegetative ground cover relative to the entire site and the method for determining the percentage;

(f) a description of any allowable non-stormwater discharges at the site, including those being discharged under a division low risk discharge guidance policy;

(g) a description of areas receiving discharge from the site. Including a description of the immediate source receiving the discharge. If the stormwater discharge is to a municipal separate storm sewer system, the name of the entity owning that system, the location of the storm sewer discharge, and the ultimate receiving water(s); and

(h) a description of all stream crossings located within the construction site boundary.

vii. Site Map. The SWMP must include a site map which includes, at a minimum, the following:

(a) construction site boundaries;

(b) flow arrows that depict stormwater flow directions on-site and runoff direction;

(c) all areas of ground disturbance including areas of borrow and fill;

(d) areas used for storage of soil;

(e) locations of all waste accumulation areas, including areas for liquid, concrete, masonry, and asphalt;

(f) locations of dedicated asphalt, concrete batch plants and masonry mixing stations;

(g) locations of all structural control measures;

(h) locations of all non-structural control measures;

(i) locations of springs, streams, wetlands and other state waters, including areas that require pre-existing vegetation be maintained within 50 feet of a receiving water, where determined feasible in accordance with Part I.B.1.a.i.(d).; and

(j) locations of all stream crossings located within the construction site boundary.

viii. Final Stabilization and Long Term Stormwater Management. The SWMP must describe the practices used to achieve final stabilization of all disturbed areas at the site and any planned practices to control pollutants in stormwater discharges that will occur after construction operations are completed. Including but not limited to, detention/retention ponds, rain gardens, stormwater vaults, etc.

ix. Inspection Reports. The SWMP must include documented inspection reports in accordance with Part ID.

3. SWMP Review and Revisions

Permittees must keep a record of SWMP changes made that includes the date and identification of the changes. The SWMP must be amended when the following occurs:

a. a change in design, construction, operation, or maintenance of the site requiring implementation of new or revised control measures;

b. the SWMP proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;

c. control measures identified in the SWMP are no longer necessary and are removed; and

d. corrective actions are taken onsite that result in a change to the SWMP.

For SWMP revisions made prior to or following a change(s) onsite, including revisions to sections addressing site conditions and control measures, a notation must be included in the SWMP that identifies the date of the site change, the control measure removed, or modified, the location(s) of those control measures, and any changes to the control measure(s). The permittee must ensure the site changes are reflected in the SWMP. The permittee is noncompliant with the permit until the SWMP revisions have been made.

4. SWMP Availability

A copy of the SWMP must be provided upon request to the division, EPA, and any local agency with authority for approving sediment and erosion plans, grading plans or stormwater management plans within the time frame specified in the request. If the SWMP is required to be submitted to any of these entities, the submission must include a signed certification in accordance with Part I.A.3.e., certifying that the SWMP is complete and compliant with all terms and conditions of the permit.

All SWMPs required under this permit are considered reports that must be available to the public under Section 308(b) of the CWA and Section 61.5(4) of the CDPS regulations. The permittee must make plans available to members of the public upon request. However, the permittee may claim any portion of a SWMP as confidential in accordance with 40 CFR Part 2.

D. SITE INSPECTIONS

Site inspections must be conducted in accordance with the following requirements. The required inspection schedules are a minimum frequency and do not affect the permittee's responsibility to implement control measures in effective operating condition as prescribed in the SWMP. Proper maintenance of control measures may require more frequent inspections. Site inspections shall start within 7 calendar days of the commencement of construction activities on site.

1. Person Responsible for Conducting Inspections

The person(s) inspecting the site may be on the permittee's staff or a third party hired to conduct stormwater inspections under the direction of the permittee(s). The permittee is responsible for ensuring that the inspector is a qualified stormwater manager.

2. Inspection Frequency

Permittees must conduct site inspections in accordance with one of the following minimum frequencies, unless the site meets the requirements of Part ID.3

a. At least one inspection every 7 calendar days. Or

b. At least one inspection every 14 calendar days, if post-storm event inspections are conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Post-storm inspections may be used to fulfill the 14-day routine inspection requirement.

c. When site conditions make the schedule required in this section impractical, the permittee may petition the Division to grant an alternate inspection schedule. The alternative inspection schedule may not be implemented prior to written approval by the division and incorporation into the SWMP.

3. Inspection Frequency for Discharges to Outstanding Waters

Permittees must conduct site inspections at least once every 7 calendar days for sites that discharge to a water body designated as an Outstanding Water by the Water Quality Control Commission.

4. Reduced Inspection Frequency

The permittee may perform site inspections at the following reduced frequencies when one of the following conditions exists:

a. Post-Storm Inspections at Temporarily Idle Sites
For permittees choosing to combine 14-day inspections and post-storm-event-inspections, if no construction activities will occur following a storm event, post-storm event inspections must be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. The delay of any post-storm event inspection must be documented in the inspection record. Routine inspections must still be conducted at least every 14 calendar days.

b. Inspections at Completed Sites/Areas
When the site, or portions of a site are awaiting establishment of a vegetative ground cover and final stabilization, the permittee must conduct a thorough inspection of the stormwater management system at least once every 30 days. Post-storm event inspections are not required under this schedule. This reduced inspection schedule is allowed if all of the following criteria are met:

i. all construction activities resulting in ground disturbance are complete;

ii. all activities required for final stabilization, in accordance with the SWMP, have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts; and

iii. the SWMP has been amended to locate those areas to be inspected in accordance with the reduced schedule allowed for in this paragraph.

c. Winter Conditions Inspections Exclusion

Inspections are not required for sites that meet all of the following conditions: construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions posing a risk of surface erosion do not exist. This inspection exception is applicable only during the period where melting conditions do not exist, and applies to the routine 7-day, 14-day and monthly inspections, as well as the post-storm-event inspections. When this inspection exclusion is implemented, the following information must be documented in accordance with the requirements in Part II:

i. dates when snow cover existed;

ii. date when construction activities ceased; and

iii. date melting conditions began.

5. Inspection Scope

a. Areas to be Inspected

When conducting a site inspection the following areas, if applicable, must be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters:

i. construction site perimeter;

ii. all disturbed areas;

iii. designated haul routes;

iv. material and waste storage areas exposed to precipitation;

v. locations where stormwater has the potential to discharge offsite; and

vi. locations where vehicles exit the site.

b. Inspection Requirements

i. Visually verify whether all implemented control measures are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.

ii. Determine if there are new potential sources of pollutants.

iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges.

iv. Identify all areas of non–compliance with the permit requirements and, if necessary, implement corrective action in accordance with Part IB.1.c.

c. Inspection Reports

The permittee must keep a record of all inspections conducted for each permitted site. Inspection reports must identify any incidents of noncompliance with the terms and conditions of this permit. Inspection records must be retained in accordance with Part II.O. and signed in accordance with Part I.A.3.f. At a minimum, the inspection report must include:

i. the inspection date;

ii. name(s) and title(s) of personnel conducting the inspection;

iii. weather conditions at the time of inspection;

iv. phase of construction at the time of inspection;

v. estimated acreage of disturbance at the time of inspection

vi. location(s) of discharges of sediment or other pollutants from the site;

vii. location(s) of control measures needing maintenance;

viii. location(s) and identification of inadequate control measures;

ix. location(s) and identification of additional control measures are needed that were not in place at the time of inspection;

x. description of the minimum inspection frequency (either in accordance with Part I.D.2., I.D.3. or I.D.4.) utilized when conducting each inspection.

xi. deviations from the minimum inspection schedule as required in Part I.D.2.;

xii. after adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the report shall contain a statement as required in Part I.A.3.f.

E. DEFINITIONS

For the purposes of this permit:

(1) Bypass - the intentional diversion of waste streams from any portion of a treatment facility in accordance with 40 CFR 122.41(m)(1)(i) and Regulation 61.2(12).

(2) Common Plan of Development or Sale - A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules, but remain related. The Division has determined that "contiguous" means construction activities located in close proximity to each other (within ¼ mile). Construction activities are considered to be "related" if they share the same development plan, builder or contractor, equipment, storage areas, etc. "Common plan of development or sale" includes construction activities that are associated with the construction of field wide oil and gas permits for facilities that are related.

(3) Construction Activity - Ground surface disturbing and associated activities (land disturbance), which include, but are not limited to, clearing, grading, excavation, demolition, installation of new or improved haul roads and access roads, staging areas, stockpiling of fill materials, and borrow areas. Construction does not include routine maintenance to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. Activities to conduct repairs that are not part of routine maintenance or for replacement are construction activities and are not routine maintenance. Repaving activities where underlying and/or surrounding soil is exposed as part of the repaving operation are considered construction activities. Construction activity is from initial ground breaking to final stabilization regardless of ownership of the construction activities.

(4) Control Measure - Any best management practice or other method used to prevent or reduce the discharge of pollutants to state waters. Control measures include, but are not limited to, best management practices. Control measures can include other methods such as the installation, operation, and maintenance of structural controls and treatment devices.

(5) Control Measure Requiring Routine Maintenance - Any control measure that is still operating in accordance with its design and the requirements of this permit, but requires maintenance to prevent a breach of the control measure. See also inadequate control measure.

(6) Dedicated Asphalt, Concrete Batch Plants and Masonry Mixing Stations – are batch plants or mixing stations located on, or within ¼ mile of, a construction site and that provide materials only to that specific construction site.

(7) Final Stabilization - The condition reached when all ground surface disturbing activities at the site have been completed, and for all areas of ground surface disturbing activities where a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

(8) Good Engineering, Hydrologic and Pollution Control Practices: are methods, procedures, and practices that:
   a. Are based on basic scientific fact(s).
   b. Reflect best industry practices and standards.
   c. Are appropriate for the conditions and pollutant sources.
   d. Provide appropriate solutions to meet the associated permit requirements, including practice based effluent limits.

(9) Inadequate Control Measure - Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. See also Control Measure Requiring Routine Maintenance.

(10) Infeasible – Not technologically possible, or not economically practicable and achievable in light of best industry practices.

(11) Minimize - reduce or eliminate to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice.

(12) Municipality - A city, town, county, district, association, or other public body created by, or under, State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or a designated and approved management agency under section 208 of CWA (1987).

(13) Municipal Separate Storm Sewer System (MS4) - A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

   a) owned or operated by a State, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to state waters;

      i. designed or used for collecting or conveying stormwater;
      ii. are not a combined sewer; and
      iii. are not part of a Publicly Owned Treatment Works (POTW). See 5 CCR 1002-61.2(62).

(14) Municipal Stormwater Management Program - A stormwater program operated by a municipality, typically to meet the requirements of the municipalities MS4 discharge certification.

(15) Operator - The party that has operational control over day-to-day activities at a project site which are necessary to ensure compliance with the permit. This party is authorized to direct individuals at a site to carry out activities required by the permit.(e.g. the general contractor)

(16) Owner - The party that has overall control of the activities and that has funded the implementation of the construction plans and specifications. This is the party with ownership of, a long term lease of, or easements on the property on which the construction activity is occurring (e.g., the developer).

(17) Permittee(s) - The owner and operator named in the discharge certification issued under this permit for the construction site specified in the certification.

(18) Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. Point source does not include irrigation return flow. See 5 CCR 102-61.2(75).

(19) Pollutant - Dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal or agricultural waste. See 5 CCR 1002-61.2(76).

(20) Presentation of credentials – a government issued form of identification, if in person; or (ii) providing name, position and purpose of inspection if request to enter is made via telephone, email or other form of electronic communication. A Permittee's non-response to a request to enter upon presentation of credentials constitutes a denial to such request, and may result in violation of the Permit.

(21) Process Water - Any water which, during manufacturing or processing, comes into contact with or results from the production of any raw material, intermediate product, finished product, by product or waste product.

(22) Public Emergency Related Site - a project initiated in response to an unanticipated emergency (e.g., mud slides, earthquake, extreme flooding conditions, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services.

(23) Qualified Stormwater Manager - An individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with the skills to assess conditions at construction sites that could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of this permit.

(24) Qualifying Local Program - A municipal program for stormwater discharges associated with small construction activity that was formally approved by the division as a qualifying local program.

(25) Receiving Water - Any classified or unclassified surface water segment (including tributaries) in the State of Colorado into which stormwater associated with construction activities discharges. This definition includes all water courses, even if they are usually dry, such as borrow ditches, arroyos, and other unnamed waterways.

(26) Severe Property Damage - substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR 122.41(m)(1)(ii).

(27) Significant Materials - Include, but not limited to, raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the permittee is required to report under section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

(28) Small Construction Activity - The discharge of stormwater from construction activities that result in land disturbance of equal to, or greater than, one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan ultimately disturbs equal to, or greater than, one acre and less than five acres.

(29) Spill - An unintentional release of solid or liquid material which may pollute state waters.

(30) State Waters - means any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.

(31) Steep Slopes: where a local government, or industry technical manual (e.g., stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 3:1 or greater.

(32) Stormwater - Precipitation runoff, snow melt runoff, and surface runoff and drainage. See 5 CCR 1002-61.2(103).

(33) Total Maximum Daily Loads (TMDLs) -The sum of the individual wasteload allocations (WLA) for point sources and load allocations (LA) for nonpoint sources and natural background. For the purposes of this permit, a TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes WLAs, LAs, and must include a margin of safety (MOS), and account for seasonal variations. See section 303(d) of the CWA and 40 C.F.R. 130.2 and 130.7.

(34) Upset - an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation in accordance with 40 CFR 122.41(n) and Regulation 61.2(114).

F. MONITORING

The division may require sampling and testing, on a case-by-case basis. If the division requires sampling and testing, the division will send a notification to the permittee. Reporting procedures for any monitoring data collected will be included in the notification.

If monitoring is required, the following applies:

1. the thirty (30) day average must be determined by the arithmetic mean of all samples collected during a thirty (30) consecutive-day period; and

2. a grab sample, for monitoring requirements, is a single "dip and take" sample.

G. Oil and Gas Construction

Stormwater discharges associated with construction activities directly related to oil and gas exploration, production, processing, and treatment operations or transmission facilities are regulated under the Colorado Discharge Permit System Regulations (5 CCR 1002-61), and require coverage under this permit in accordance with that regulation. However, references in this permit to specific authority under the CWA do not apply to stormwater discharges associated with these oil and gas related construction activities, to the extent that the references are limited by the federal Energy Policy Act of 2005.

Part II: Standard Permit Conditions

A. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for:

a. enforcement action;

b. permit termination, revocation and reissuance, or modification; or

c. denial of a permit renewal application.

B. DUTY TO REAPPLY

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain authorization as required by Part I.A.3.k. of the permit.

C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. DUTY TO MITIGATE

A permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. PROPER OPERATION AND MAINTENANCE

A permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit. This requirement can be met by meeting the requirements for Part I.B., I.C., and I.D. above. See also 40 C.F.R. § 122.41(e).

F. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. The permittee request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Any request for modification, revocation, reissuance, or termination under this permit must comply with all terms and conditions of Regulation 61.8(8).

G. PROPERTY RIGHTS

In accordance with 40 CFR 122.41(g) and 5 CCR 1002-61, 61.8(9):

1. The issuance of a permit does not convey any property or water rights in either real or personal property, or stream flows or any exclusive privilege.

2. The issuance of a permit does not authorize any injury to person or property or any invasion of personal rights, nor does it authorize the infringement of federal, state, or local laws or regulations.
3. Except for any toxic effluent standard or prohibition imposed under Section 307 of the Federal act or any standard for sewage sludge use or disposal under Section 405(d) of the Federal act, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 318, 403, and 405(a) and (b) of the Federal act. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in Section 61.8(8) of the Colorado Discharge Permit System Regulations.

H. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the division, within a reasonable time, any information which the division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the division, upon request, copies of records required to be kept by this permit in accordance with 40 CFR 122.41(h) and/or Regulation 61.8(3)(q).

I. INSPECTION AND ENTRY

The permittee shall allow the division and the authorized representative, upon the presentation of credentials as required by law, to allow for inspections to be conducted in accordance with 40 CFR 122.41(i), Regulation 61.8(3), and Regulation 61.8(4):

1. to enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
2. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit;
3. at reasonable times, inspect any monitoring equipment or monitoring method required in the permit; and
4. to enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect or investigate, any actual, suspected, or potential source of water pollution, or any violation of the Colorado Water Quality Control Act. The investigation may include: sampling of any discharges, stormwater or process water, taking of photographs, interviewing site staff on alleged violations and other matters related to the permit, and assessing any and all facilities or areas within the site that may affect discharges, the permit, or an alleged violation.

The permittee shall provide access to the division or other authorized representatives upon presentation of proper credentials. A permittee’s non-response to a request to enter upon presentation of credentials constitutes a denial of such request, and may result in a violation of the permit.

J. MONITORING AND RECORDS

1. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.

2. The permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of the division at any time.

3. Records of monitoring information must include:
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

4. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

K. SIGNATORY REQUIREMENTS

1. Authorization to Sign:

   All documents required to be submitted to the division by the permit must be signed in accordance with the following criteria:

   a. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means:

      i. a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

      ii. the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

   b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

   c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes

      i. (i) the chief executive officer of the agency, or

ii. (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. (e.g., Regional Administrator of EPA)

2. Electronic Signatures

For persons signing applications for coverage under this permit electronically, in addition to meeting other applicable requirements stated above, such signatures must meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication). Compliance with this requirement can be achieved by submitting the application using the Colorado Environmental Online Service (CEOS) system.

3. Change in Authorization to Sign

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the division, prior to the re-authorization, or together with any reports, information, or applications to be signed by an authorized representative.

L. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give advance notice to the division, in writing, of any planned physical alterations or additions to the permitted facility in accordance with 40 CFR 122.41(l) and Regulation 61.8(5)(a). Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.41(a)(1).

2. Anticipated Non-Compliance

The permittee shall give advance notice to the division, in writing, of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. The timing of notification requirements differs based on the type of non-compliance as described in subparagraphs 5, 6, 7, and 8 below.

3. Transfer of Ownership or Control

The permittee shall notify the division, in writing, ten (10) calendar days in advance of a proposed transfer of the permit. This permit is not transferable to any person except after notice is given to the division.

a. Where a facility wants to change the name of the permittee, the original permittee (the first owner or operators) must submit a Notice of Termination.

b. The new owner or operator must submit an application. See also signature requirements in Part II.K, above.

c. A permit may be automatically transferred to a new permittee if:

i. The current permittee notifies the Division in writing 30 calendar days in advance of the proposed transfer date; and

ii. The notice includes a written agreement between the existing and new permittee(s) containing a specific date for transfer of permit responsibility, coverage and liability between them; and

iii. The division does not notify the existing permittee and the proposed new permittee of its intent to modify, or revoke and reissue the permit.

iv. Fee requirements of the Colorado Discharge Permit System Regulations, Section 61.15, have been met.

4. Monitoring reports

Monitoring results must be reported at the intervals specified in this permit per the requirements of 40 CFR 122.41(l)(4).

5. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in the permit, shall be submitted on the date listed in the compliance schedule section. The fourteen (14) calendar day provision in Regulation 61.8(4)(n)(i) has been incorporated into the due date.

6. Twenty-four hour reporting

In addition to the reports required elsewhere in this permit, the permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances:

a. Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident;

b. Circumstances leading to any unanticipated bypass which exceeds any effluent limitations in the permit;

c. Circumstances leading to any upset which causes an exceedance of any effluent limitation in the permit;

d. Daily maximum violations for any of the pollutants limited by Part I of this permit. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.

e. The division may waive the written report required under subparagraph 6 of this section if the oral report has been received within 24 hours.

7. Other non-compliance

A permittee must report all instances of noncompliance at the time monitoring reports are due. If no monitoring reports are required, these reports are due at least annually in accordance with Regulation 61.8(4)(p). The annual report must contain all instances of non-compliance required under either subparagraph 5 or subparagraph 6 of this subsection.

8. Other information

Where a permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Permitting Authority, it has a duty to promptly submit such facts or information.

M. BYPASS

1. Bypass not exceeding limitations

The permittees may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.M.2 of this permit. See 40 CFR 122.41(m)(2).

2. Notice of bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, the permittee must submit prior notice, if possible at least ten days before the date of the bypass. ee 40 CFR §122.41(m)(3)(i) and/or Regulation 61.9(5)(c).

b. Unanticipated bypass. The permittee must submit notice of an unanticipated bypass in accordance with Part II.L.6. See 40 CFR §122.41(m)(3)(ii) .

3. Prohibition of Bypass

Bypasses are prohibited and the division may take enforcement action against the permittee for bypass, unless:

i. the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

iii. proper notices were submitted to the division.

N. UPSET

1. Effect of an upset

An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of Part II.N.2. of this permit are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review in accordance with Regulation 61.8(3)(j).

2. Conditions necessary for demonstration of an Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that

a. an upset occurred and the permittee can identify the specific cause(s) of the upset;

b. the permitted facility was at the time being properly operated and maintained; and

c. the permittee submitted proper notice of the upset as required in Part II.L.6.(24-hour notice); and

d. the permittee complied with any remedial measure necessary to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition to the demonstration required above, a permittee who wishes to establish the affirmative defense of upset for a violation of effluent limitations based upon water quality standards shall also demonstrate through monitoring, modeling or other methods that the relevant standards were achieved in the receiving water.

3. Burden of Proof

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

O. RETENTION OF RECORDS

1. Post-Expiration or Termination Retention

Copies of documentation required by this permit, including records of all data used to complete the application for permit coverage to be covered by this permit, must be

retained for at least three years from the date that permit coverage expires or is terminated. This period may be extended by request of EPA at any time.

2. On-site Retention

The permittee must retain an electronic version or hardcopy of the SWMP at the construction site from the date of the initiation of construction activities to the date of expiration or inactivation of permit coverage; unless another location, specified by the permittee, is approved by the division.

P. REOPENER CLAUSE

1. Procedures for modification or revocation

Permit modification or revocation of this permit or coverage under this permit will be conducted according to Regulation 61.8(8).

2. Water quality protection

If there is evidence indicating that the stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, the permittee may be required to obtain an individual permit, or the permit may be modified to include different limitations and/or requirements.

Q. SEVERABILITY

The provisions of this permit are severable. If any provisions or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

R. NOTIFICATION REQUIREMENTS

1. Notification to Parties

All notification requirements, excluding information submitted using the CEOS portal, shall be directed as follows:

a. Oral Notifications, during normal business hours shall be to:
Clean Water Compliance Section
Water Quality Control Division
Telephone: (303) 692-3500

b. Written notification shall be to:
Clean Water Compliance Section
Water Quality Control Division
Colorado Department of Public Health and Environment
WQCD-WQP-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

S. RESPONSIBILITIES

1. Reduction, Loss, or Failure of Treatment Facility

   The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the effluent limitations of the permit. It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

T. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the CWA.

U. Emergency Powers

Nothing in this permit shall be construed to prevent or limit application of any emergency power of the division.

V. Confidentiality

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Water Quality Control Commission or the division, but shall be kept confidential. Any person seeking to invoke the protection of of this section shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

W. Fees

The permittee is required to submit payment of an annual fee as set forth in the 2016 amendments to the Water Quality Control Act. Section 25-8-502 (1.1) (b), and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 61.15 as amended. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S.1973 as amended.

X. Duration of Permit

The duration of a permit shall be for a fixed term and shall not exceed five (5) years. If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least ninety (90) calendar days before this permit expires. Filing of a timely and complete application shall cause the expired permit to continue in force to the effective date of the new permit. The permit's duration may be extended only through administrative extensions and not through interim modifications. If the permittee anticipates there will be no discharge after the expiration date of this permit, the division should be promptly notified so that it can terminate the permit in accordance with Part I.A.3.i.

Y. Section 307 Toxics

If a toxic effluent standard or prohibition, including any applicable schedule of compliance specified, is established by regulation pursuant to Section 307 of the Federal Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the discharge permit, the division

shall institute proceedings to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition