GRADING, EROSION AND SEDIMENT CONTROL PLAN FOR LYRIC AT RIDGEGATE

Prepared For:

Lokal Communities LLC

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January 10, 2023

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This Grading, Erosion and Sediment Control Plan has been placed in the Lone Tree file for this project and appears to fulfill the applicable Douglas County Grading, Erosion and Sediment Control, as amended. I understand that additional grading, erosion and sediment control measures may be required of the Permitees, due to unforeseen erosion problems or if the submitted plan does not function as intended. The requirements of this plan shall run with the land and be the obligation of the Permitees until such time as the plan is properly completed, modified or voided.

PROJECT OWNER/DEVELOPER SIG	<u>GNATURE BLOCK</u>	
I have reviewed the information contain Plan and accept responsibility for the re	ned within this Grading, Erosion and Sedimen quirements set forth.	t Control
Project Owner/Developer	Date	
PLAN PREPARE SIGNATURE BLOCK		
prepared by me (or under my direct super	on and Sediment Control Plan for Lyric at Ricervision) in accordance with the provisions of Sediment Control Manual for the owners then	fthe
Aaron Clutter, P.E. State of Colorado No. 36742	Date	
For and on Behalf of JR Engineering, L	LC	

Introduction

This report represents the Grading, Erosion and Sediment Control Plan for Lyric at Ridgegate. It was prepared to meet the regulatory requirements of the Douglas County *Grading, Erosion and Sediment Control Manual* as well as the Colorado Department of Health, Water Quality Control Division in compliance with the provisions of the Colorado Water Quality Control Act, and the Federal Water Pollution Control Act.

This plan serves as a consolidated document for information on water quality protection for the subject site and areas immediately adjacent. It should also be noted that **this plan is a living document that will need to be updated and maintained throughout the construction process.** The intent of this plan is to provide the contractor a tool to consolidate records, logs, permits, applications, etc. as well as guidance on water quality protection. The plan incorporates elements that can be found in the contract plans and specifications as well as the following:

- Douglas County Grading, Erosion and Sediment Control Manual
- Drainage Report for the Ridgegate Southwest Village

Lyric at Ridgegate is located in, the Northeast quarter of Section 23 and the Southwest quarter of Section 24, Township 6 South, Range 67 West of the Sixth Principal Meridian, Douglas County, Colorado. The site is bound on the west by Lyric Street, on the east by parcel owned by the City of Lone Tree (Rec. No.: 2021076830), on the north by Ridgegate Parkway, and on the south by Octave Avenue. The site is approximately located at Latitude 39°31'9"N, Longitude 104°50'58" W. The site is shown on the Figure 1, Vicinity Map located within the Appendices. The total disturbance area created by the project is approximately 14.8 acres.

Part 1– Site Description

1-A. - Description of the Construction Activity

The Lyric at Ridgegate project includes construction of 19 condos, 18 townhomes, and Soprano Circles road which will connect into existing Octave Avenue. The scope of working includes installation of water, sanitary sewer, storm sewer infrastructure, paving/parking, detached concrete sidewalk and landscape/irrigation areas. The site will be in both cut and fill.

1-.B. - Proposed Sequence of Major Activities

The project will follow standard construction sequences for construction, i.e., clearing and grubbing, over excavation, overlot grading, utility installation, curb and gutter, street paving, and building construction. The contractor will be responsible for implementing and maintaining the erosion and sediment control measures described in this document and the accompanying design drawings. The Contractor may designate these tasks to certain subcontracts as they see fit, but the ultimate responsibility for implementing these controls and their proposer function at each phase of the project remains with the Contractor. The order of major activities will be as follows:

- 1. Install VTC, silt fence and other perimeter and initial soil erosion control measures.
- 2. Demolition, clearing and grubbing.
- 3. Complete over lot grading and over excavation.
- 4. Install temporary seeding and mulching and final stabilization.
- 5. Clean up.

1-C. - Estimated Total and Disturbance Areas of the Site

	CUT (C.Y)	FILL (C.Y)	NET (C.Y)		ACRES
LYRIC AT RIDGEGATE	50,299	27,653	22,646	CUT	14.8
TOTAL	50,299	27,653	22,646	CUT	14.8

The platted area of the Lyric at Ridgegate is approximately 15.4 acres. The total disturbance area of the proposed construction activities associated with this report is 14.8 acres. The values shown in the table above are estimates of usable fill and cut materials to be moved within the site. These values were calculated by comparing the existing grade versus the proposed overlot grade using

AutoCAD Civil3D surface analysis tools. In addition, these earthwork values make assumptions for roadway cut and compaction values.

1-D - Estimated Runoff Coefficient and Soil Classification

The estimated 5-year and 100-year developed runoff coefficients are 0.58/0.65 and 0.65/0.79, respectively. The existing ground is currently undeveloped with a natural vegetative cover with slopes varying from 0-25%, with some areas up to 33%. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panels No. 08035C0063H dated September 4, 2020, the majority of the site lies within Zone X which is the flood insurance rate zone that corresponds to areas outside the one percent annual chance floodplain. The site soils are mostly described as Englewood clay loam, Fondis-Kutch association, Newlin-Satanta complex, and Renohill-Buick complex by the NRCS soil survey. The majority of soil in the proposed development is classified by the Natural Resource Conservation Service (NRCS) as Hydrologic Group C and D with small portions of the site consisting of Hydrologic Group B. Hydrologic Group B soils are described as "soils that have a moderate infiltration rate when thoroughly wetted and consists primarily of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures." Hydrologic Group C soils are described as "soils that have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure." Hydrologic Group D soils are described as "soils that have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious material."

1-E. – Existing Vegetation

Currently, the site is undeveloped and unoccupied and is vegetated with native grasses and shrubs.

<u>1-F – Other Potential Pollution</u>

While vehicle fueling is expected on-site, there is no designated area for fueling at this time. It will be the responsibility of the contractor to designate a fueling area and take the appropriate

actions to insure that no pollution of the storm water occurs. Fueling areas shall be located a minimum of 100 feet from all drainage courses whenever possible. A 12-inch high compacted earthen ridge capable of retaining potential spills shall enclose fueling areas. If the fueling area is located on porous soil, the area shall be covered with a non-porous lining to prevent soil contamination. The following is a list of other possible potential pollution sources and prevention measures that may occur during construction.

- Portable Toilets should be kept a minimum of 50 feet from a storm drain inlet and secured to the ground on all four sides.
- Landscaping Materials may be stored in the street until work is completed on each lot (which is usually less than 48 hours). If topsoil, mulch, or similar material is to be kept in the street or gutter over-night, containment measures should be taken to minimize any pollution discharge potential.
- Stockpiles silt fence or similar barrier should be installed as needed around long-term stockpiles (30 days+), as well as Vehicle Tracking Control should be installed at the access point to minimize sediment from leaving the area.

1-G. – Non-stormwater Discharge

Non-stormwater discharges such as construction dewatering are not allowed under the general State permit. If groundwater is encountered during construction, a construction dewatering permit will need to be obtained through CDPHE.

1-H. – Receiving Waters

In the existing condition, storm runoff drains in two different directions from the undeveloped site. Runoff from the large south section of the site drains west via sheet flow and existing natural drainage channels and out falls into Happy Canyon Creek. The small north sections of the site drains north into the existing Ridgegate Parkway right of way. Storm runoff is then collected in Curb and Gutter, and drains west into existing inlets. Once collected, storm runoff continues west via storm pipe into an existing water quality pond before outflowing into Happy Canyon Creek. Happy Canyon Creek is left bank tributary of Cherry Creek.

In the proposed condition, the majority of the runoff will be captured using proposed storm sewer infrastructure. The southwest half of the site will sheet flow into the proposed parking/drive lanes were it will collect in the proposed inlets. Collected flows from the inlets will travel south into the existing Octave Avenue storm pipes, flow from this system will be treated by the existing EURV pond located at the southwest corner of Ridgegate Parkway and Lyric Street intersection before out falling into Happy Canyon Creek. The north half of the site will either sheet flow into Ridgegate Parkway and get collected in the existing Ridgegate Parkway inlets or sheet flow into the proposed parking/drive lanes which will collect and drain into the proposed inlets. Once collected by the proposed inlets, drainage will travel north to connect with the existing Ridgegate Parkway storm pipes. Drainage will then follow the existing condition drainage path west into the existing water quality pond before outflowing into Happy Canyon Creek.

Part 2. – Site Map

Refer to the erosion control drawing located within the map pockets for locations of best management practices (BMP).

Part 3. - Stormwater Management Controls

3-A. – Stormwater Management Plan (SWMP) Administrator

The SWMP administrator shall also be known as the erosion and sediment control manager (ESC manager). The ESC manager shall henceforth be the contractor to be named upon completion of the bidding process. The ESC manager shall be the individual(s), position, or title who is responsible for developing, implementing, maintaining, and revising the erosion and sediment control plans. The activities and responsibilities of the administrator shall address all aspects of the facility's SWMP.

3-B. – Identification of Potential Pollutant Sources

Potential pollution sources include debris, emissions from construction vehicles, possible refueling incidents and accidental materials or chemical spills. Specific pollution components and their solutions are listed below:

• All exposed and stored soils – all exposed soils will be seeded and mulched upon

completion of construction within the vicinity. Silt fence will be utilized to contain sediment deposited by runoff until seeding can take. Silt fence or similar barrier should be installed as needed around long-term stockpiles (30 days+), as well as Vehicle Tracking Control should be installed at access points to minimize sediment from leaving the area.

- Vehicle tracking of sediments if sediment is tracked onto the street, a reasonable attempt will be made to clean up any large deposits as soon as possible and if necessary, a street sweeper shall be used.
- Management of contaminated soils appropriate measures will be taken to cleanup the
 cause of the contaminated soil. All contaminated soils must be disposed of in an
 appropriate manner off-site.
- Loading and unloading operations should a spill occur during a loading or unloading operation it shall be cleaned up immediately and the on-site personnel should be contacted.
- Outdoor storage activities materials with potential for contamination of stormwater runoff will be stored so as to prevent/minimize the presence of toxic materials, and designated accordingly. The areas on the construction site used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system.
- Vehicle and equipment maintenance and fueling all designated fueling and maintenance
 areas shall be located a minimum of 100 feet from all drainage courses whenever
 possible. If the fueling area is located on porous soil, the area shall be covered with a
 non-porous lining to prevent soil contamination and any spillage shall be cleaned up
 immediately.
- Significant dust or particulate generating processes dust-reducing measures will be taken during construction until appropriate seeding and mulching can be placed.
- Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc. oil, grease, coolants, etc. that leak onto the soil or impervious surface should be cleaned up as soon as possible and on-site personnel should be contacted as well.
- On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.) –

dumpsters will be utilized as needed to remove trash from the site. Any waste material found on-site or generated by construction will be disposed of in a manner as to not cause pollutants in storm water discharges. In the event that waste is to be stored on-site, it shall be in an area located a minimum of 100 feet from all drainage courses whenever possible. Whenever waste is not stored in a non-porous container, it shall be in an area enclosed by a 12-inch high compacted earthen ridge. If the enclosed waste area is located on porous soil, the area shall be covered with a non-porous lining to prevent soil contamination. Whenever precipitation is predicted or the receptacle is not in use, the waste shall be covered with a non-porous cover, anchored on all sides to prevent its removal by wind, in order to prevent precipitation from leaching out potential pollutants from the waste.

- Non-industrial waste sources such as worker trash and portable toilets all portable toilets should be kept a minimum of 50 feet from a storm drain inlet and secured to the ground.
- Other areas or procedures where potential spills can occur no other areas have been identified at this time.
- General litter/construction debris dumpsters will be utilized as needed to remove trash from the site. Any waste material found on-site or generated by construction will be disposed of in a manner as to not cause pollutants in storm water discharges. In the event that waste is to be stored on-site, it shall be in an area located a minimum of 100 feet from all drainage courses whenever possible. Whenever waste is not stored in a non-porous container, it shall be in an area enclosed by a 12-inch high compacted earthen ridge. If the enclosed waste area is located on porous soil, the area shall be covered with a non-porous lining to prevent soil contamination. Whenever precipitation is predicted, the waste shall be covered with a non-porous cover, anchored on all sides to prevent its removal by wind, in order to prevent precipitation from leaching out potential pollutants from the waste.

3-C. – Structural Practices

Silt Fence

Purpose:

• To act as a barrier to interrupt runoff to allow sediment to settle out

Typical Applications:

- Perimeter control on lots or tracts
- Around dirt stockpiles

Vehicle Tracking Control

Purpose:

• To reduce the amount of sediment leaving an area via vehicle's tires

Typical Applications:

- Long-term stockpiles (30 days or more)
- Construction access points
- On-site trailer parking/access
- A barrier between destabilized and stabilized areas

Sediment Logs, Reinforced Rock Bag

Purpose:

• To act as a barrier to interrupt runoff and allow sediment to settle out

Typical Applications:

- In channels and swales
- Perimeter control on lots, tracts, and medians
- Slope protection
- As part of inlet protection

Temporary Sediment Basin

Purpose:

 To pond water and collect the sediment that falls out before being discharged into the storm system

Typical Applications:

• During overlot grading before onsite storm system is in place

• Located typically by outfall for the site

Check Dam, Reinforced Check Dam

Purpose:

• To act as a barrier to interrupt runoff, slow runoff, and allow sediment to settle out

Typical Applications:

• In channels and swales

Temporary Slope Drain

Purpose:

• To convey runoff over steep slopes with minimal erosion potential

Typical Applications:

• Steep slopes prone to erosion

Drainage Ditch

Purpose:

• To convey surface water to sediment basins

Typical Applications:

- Transport surface water
- Intercept surface water

Stabilized Staging Area

Purpose:

 To provide a stabilized area for construction vehicles and equipment to minimize erosion and disturbance areas

Typical Applications:

- Storage and stock pile location
- Vehicle parking and storage
- Staging area
- Construction trailer location

Construction Fence

Purpose:

• To control vehicle and foot traffic by creating physical barriers

Typical Applications:

- Site boundary
- Sensitive area protection

Surface Roughening

Purpose:

• To slow and limit erosion on destabilized areas

Typical Applications:

- Large destabilized areas that need temporary stabilization
- Sloped areas without established vegetation

3-C.2. – Non-Structural Practices

Temporary/Permanent Seeding

Purpose:

• To provide stabilization of disturbed soil

Typical Applications:

- Any disturbed areas
- Stockpiles
- Slopes

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Mulch

Purpose:

- To reduce erosion from rain & wind
- To reduce raindrop impact (soil displacement)
- To protect seed from drying and vermin

Typical Applications:

Any disturbed areas

- Stockpiles
- Slopes

Erosion Control Blanket

Purpose:

- To prevent erosion of the soil surface
- To promote seed germination & vegetation establishment
- To minimize rain drop impact

Typical Applications:

- Slopes greater than 4:1
- In swales (on lots)
- Fine grade stabilization

3-C.3. – Phased BMP Implementation

The site will be graded in three (3) phases. Plans for each phase have been created to stage the BMPs in order to aid the contractor in the implementation of BMPs as construction progresses.

3-C.4. – Materials Handling and Spill Prevention

There will be a designated individual on-site who will receive training on what to do when a hazardous spill occurs.

There will be a small spill kit on-site containing clean-up supplies, emergency contact information, and report(s) to document occurrences.

Spills must be cleaned up as soon as possible and contaminated soil/materials must be properly disposed of off-site.

3-C.5. – Dedicated Concrete or Asphalt Batch Plant

A dedicated asphalt or concrete batch plant will not be utilized. If at such time a batch plant is used it will be the responsibility of the contractor to update the GESC report and plans in

addition to receiving/obtaining all necessary permits.

3-C.6. – Vehicle Tracking Control

The contractor will be responsible for placement of vehicle tracking control measures at the locations of major site entrances. Vehicle tracking control measures include, but are not limited to: minimizing site access; street sweeping or scraping; tracking pads; graveled parking areas; wash racks; and contractor education. As well, if sediment is tracked onto the street, a reasonable attempt will be made to clean up any large deposits as soon as possible and if necessary, a street sweeper may be used.

3-C.7. – Waste Management and Disposal

The contractor will be responsible for placement of concrete washout areas. They will be placed such that concrete washout activities do not result in the discharge of materials, or contribute pollutants to stormwater runoff.

3-C.8. – BMP Specifications

The contractor shall reference the Douglas County *Grading, Erosion and Sediment Control Manual* for information regarding the installation and implementation for each BMP identified in the erosion and sediment control plans.

Part 4. – Final Stabilization & Long-term Stormwater Management

Final Stabilization will be reached when construction activities have ceased and the site has reached 70% vegetative cover in comparison to pre-disturbance levels, or equivalent permanent erosion control measures have been used (pavement, concrete, etc.).

Part 5. – Inspection & Maintenance

Inspections of erosion & sediment control measures will occur every 7 days and within 24 hours of any wet weather event or snowmelt 'event' that incurs erosion. The operator shall keep a record of inspections. Uncontrolled releases of mud or muddy water or measurable quantities of sediment found off the site shall be recorded with a brief explanation as to the measures taken to

prevent future releases as well as any measure taken to clean up the sediment that has left the site. Any items in need of correction will occur within 7 days of the inspection.

Based on the results of the inspection, the description of potential pollutant sources and the pollution prevention and control measures shall be revised and modified as appropriate as soon as practicable after such inspection. The GESC plan shall also be updated to reflect current conditions, installed BMP's, disturbed areas, and design changes.

All temporary and permanent erosion and sediment control facilities shall be maintained, repaired, and inspected as detailed in the Douglas County Grading, Erosion, and Sediment Control Manual. Silt fences will require periodic replacement. Sediment traps and sediment basins shall be cleaned when accumulated sediments equal approximately one-half of trap storage capacity. Vehicle tracking pads will need to be maintained with fresh or cleaned aggregate on an as-need basis. Accumulated sediment at inlet protection, silt fence, rock socks, and check dams shall be removed on an as needed basis. The result of each inspection will be recorded & be made available upon request.

5-A. – Inspection Reports

The General Contractor shall be responsible for the reporting of all BMP inspections. A report summarizing the scope of each inspection, the qualification of personnel performing the inspection, the date(s) of the inspection, major observation relating to the implementation of the GESC and action taken shall be made and retained at the site or be readily available at a designated alternate location until the Inactivation Notice has been submitted. All inspection reports shall be submitted to the owner when the Inactivation Notice is filed. A recommended inspection form has been included in the Appendices. A separate report shall be made to identify any incident of non-compliance.

The General Contractor shall also be responsible for ensuring the required Douglas County Inspections and pre-construction meetings are scheduled and requirements are fulfilled.

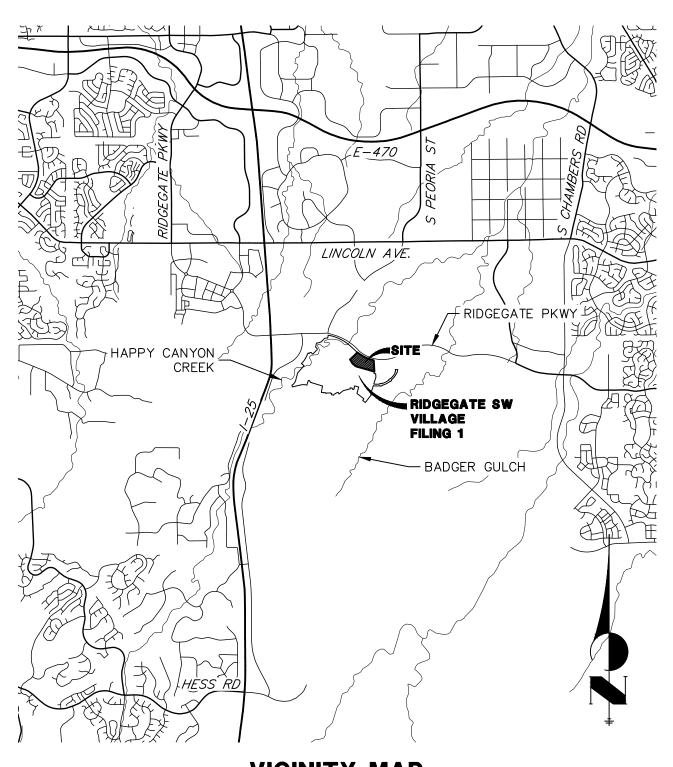
The operator shall keep a record of inspections onsite or a designated alternative location.

Uncontrolled releases of mud or muddy water or measurable quantities of sediment found off the site shall be recorded with a brief explanation as to the measures taken to prevent future releases as well as any measure taken to clean up the sediment that has left the site. This record shall also include the following information:

- Dates
- Names of inspectors
- □ Purpose of inspection i.e. routine, spill event, post wet weather, etc.
- ☐ An assessment of the entire property as related to erosion and sediment control issues
- □ An evaluation of onsite BMPs
- □ Action items needed to assure the site continually complies with the GESC guidelines
- □ Documentation of any suggested changes to the plan due to field conditions
- Training events
- □ All record related to this plan including inspection logs shall be maintained by the administrator for a minimum of 3 years from the date that the site is finally stabilized







VICINITY MAP

SCALE 1'=5000'

15950.02 01/10/2022 SHEET 1 OF 1



Centennial 303-740-9393 • Colorado Springs 719-593-2593 Fort Collins 970-491-9888 • www.jrengineering.com





MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at Area of Interest (AOI) С 1:20.000. Area of Interest (AOI) C/D Soils Warning: Soil Map may not be valid at this scale. D Soil Rating Polygons Enlargement of maps beyond the scale of mapping can cause Not rated or not available Α misunderstanding of the detail of mapping and accuracy of soil **Water Features** line placement. The maps do not show the small areas of A/D Streams and Canals contrasting soils that could have been shown at a more detailed Transportation B/D Rails ---Please rely on the bar scale on each map sheet for map measurements. Interstate Highways C/D Source of Map: Natural Resources Conservation Service **US Routes** Web Soil Survey URL: D Major Roads Coordinate System: Web Mercator (EPSG:3857) Not rated or not available -Local Roads Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts Soil Rating Lines Background distance and area. A projection that preserves area, such as the Aerial Photography 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: Castle Rock Area, Colorado Survey Area Data: Version 14, Aug 31, 2021 Soil map units are labeled (as space allows) for map scales 1:50.000 or larger. Not rated or not available Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021 **Soil Rating Points** The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background A/D imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident. B/D

Hydrologic Soil Group

	_			
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
En	Englewood clay loam	С	13.5	44.7%
Fu	Fondis-Kutch association	С	2.8	9.3%
NsE	Newlin-Satanta complex, 5 to 20 percent slopes	В	1.1	3.6%
RmE	Renohill-Buick complex, 5 to 25 percent slopes	D	12.8	42.5%
Totals for Area of Interest			30.2	100.0%

Description

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

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

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

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

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

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

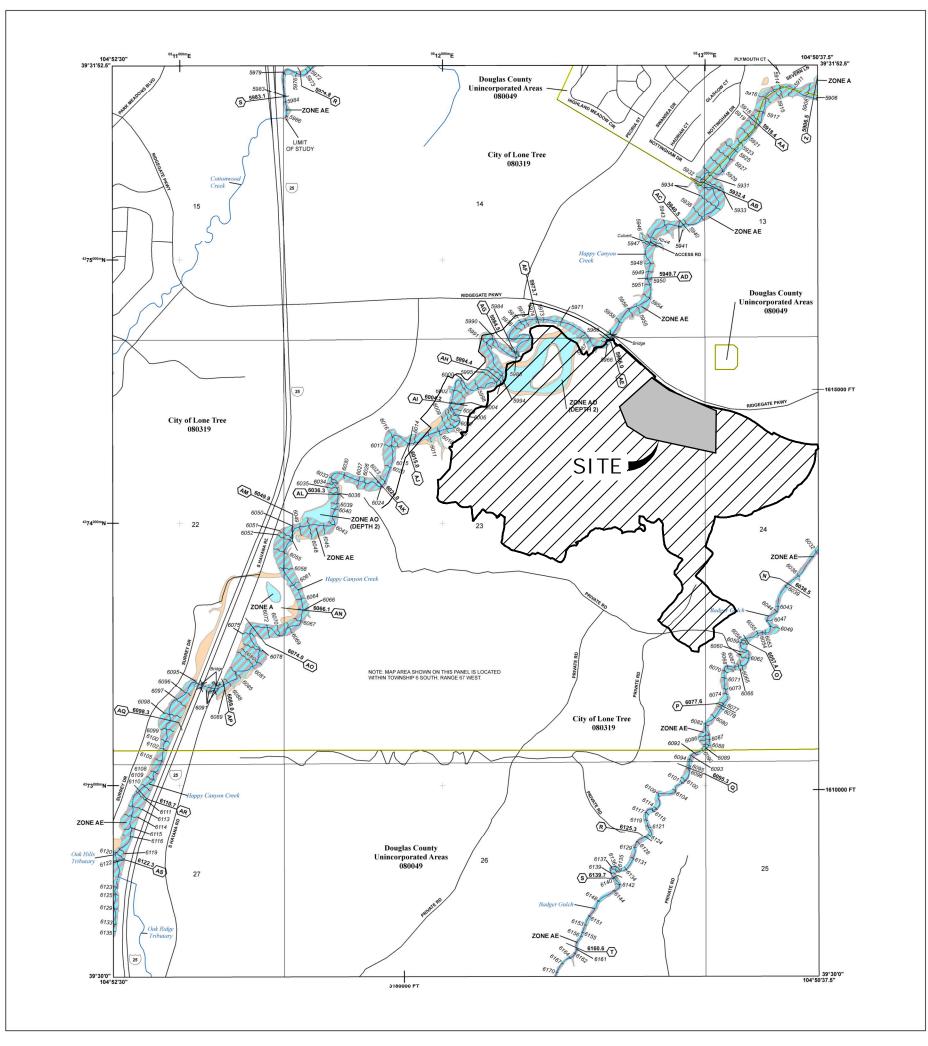
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

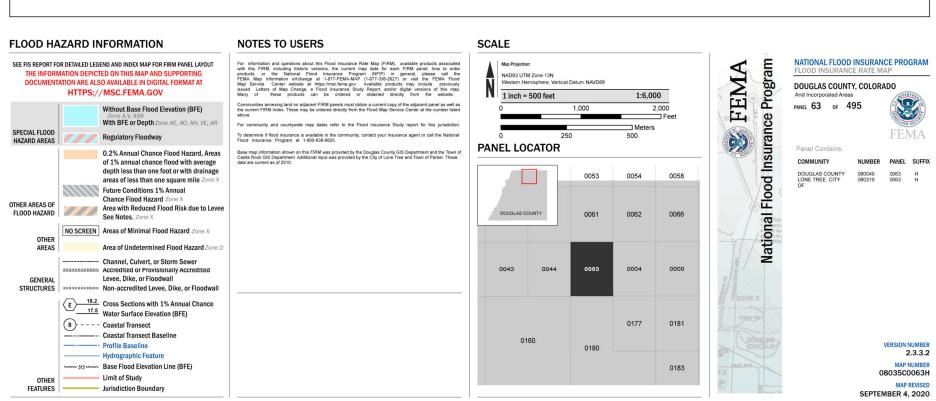
Rating Options

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified

Tie-break Rule: Higher











GESC Permit Opinion of Probable Cost

Project: Lyric at Ridgegate Date: September 16, 2022

BMP No.	BMP ID Unit Installation Unit Cost Quantity			Cost				
1	Check Dam	CD	LF	\$	24.00		\$	-
2	Compost Blanket	СВ	SF		\$0.36		\$	-
3	Compost Filter Berm	CFB	LF	\$	2.00		\$	-
4	Concrete Washout Area	CWA	EA	\$	100.00	1	\$	100.00
5	Construction Fence	CF	LF	\$	2.00		\$	-
6	Construction Markers	CM	LF	\$	0.20		\$	-
7	Curb Sock	cs	LF	\$	8.00		\$	-
8	Dewatering	DW	EA	\$	600.00		\$	-
9	Diversion Ditch	DD	LF	\$	1.60	1,076	\$	1,721.60
10	Erosion Control Blanket	ECB	SY	\$	5.00	3,813	\$	19,065.00
11	Inlet Protection	ΙP	LF	\$	20.00	39	\$	780.00
12	Reinforced Check Dam	ck Dam RCD LF \$ 36.00			\$	-		
13	Reinforced Rock Berm	RRB LF \$ 9.00			\$	-		
14	RRB for Culvert Protection	RRC	LF	\$	9.00	0		-
15	Sediment Basin	SB	AC (1)		(2)	15		4,000.00
16	Sediment Control Log	SCL	LF	\$	2.00	0 7,992		15,984.00
17	Sediment Trap	ST	EA	\$	\$ 600.00		\$	-
18A	Seeding and Mulching - Mobilization	SM	EA	\$	1,000.00	1 \$		1,000.00
18B	Seeding and Mulching - Installation	SM	AC	\$	\$ 750.00 3		\$	2,250.00
19	Silt Fence	SF	LF	\$	2.00	3,627		7,254.00
20	Stabilized Staging Area	SSA	SY	\$	2.00	1,656 \$		3,312.00
21	Surface Roughening	SR	AC	\$	600.00	3	\$	1,800.00
22	Temporary Slope Drain	TSD	LF	\$	30.00	39 \$ 1		1,170.00
23	Temporary Stream Crossing	TSC	EA	\$	1,000.00		\$	-
24	Terracing	TER	AC	\$	600.00		\$	-
25	Vehicle Tracking Control VTC EA \$ 1,000.00 2		2	\$	2,000.00			
26	VTC with Wheel Wash	ww	EA	\$	1,500.00		\$	-
27	Temporary Batch Plant Restoration		AC	\$	5,000.00		\$	-
	(1) Upstream Tributary Acre SUB-TOTAL						\$	60,436.60
	(2) SB Cost = \$1000 +\$200(Upstream Tributary Acres) 15% CONTINGENCY					\$	9,065.49	
			G	ES	C SURET	Y TOTAL (1)	\$	69,502.09





ASSIGNED	PERMIT	NUM	1BER
Date Received			/
	MM	DD	YYYY - 1- 2-2014
		Revise	ed: 3-2016

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

STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES APPLICATION COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

PHOTO COPIES, FAXED COPIES, PDF COPIES OR EMAILS WILL NOT BE ACCEPTED.

For Applications submitted on paper - Please print or type. Original signatures are required.

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

Colorado Department of Public Health and Environment, 4300 Cherry Creek Drive South, WQCD-P-B2, Denver, CO 80246-1530

For Applications submitted electronically

Please note that you can ONLY complete the feedback form by downloading it to a PC or Mac/Apple computer and opening the Application with Adobe Reader or a similar PDF reader. The form will NOT work with web browsers, Google preview, Mac preview software or on mobile devices using iOS or Android operating systems.

If application is submitted electronically, processing of the application will begin at that time and not be delayed for receipt of the signed document.

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 PA	AY 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)
PERMIT INFORMATION	
Reason for Application:	NEW CERT RENEW CERT EXISTING CERT#
Applicant is:	Property Owner Contractor/Operator
A. CONTACT INFORMATION	I - *indicates required
* PERMITTED ORGANIZATION	ON FORMAL NAME:
1) * PERMIT OPERATOR - th	ne party that has operational control over day to day activities - may be the same as owner.
Responsible Person (Title):	
Currently Held By (Person):	FirstName: LastName:
Telephone:	Email Address:
Organization:	
Mailing Address:	
City:	State: Zip Code:

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

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

(iii) The written authorization is submitted to the Division

2)	OWNER - party has owned		m lease of property - may be the	e same as the operator.	
	, ,				
	Telephone:			Edstriume.	
	Organization:	-	Email/ladicss.		
	Mailing Address:				
	City:			State	Zip Code:
	City.			State	
	authorized representative o i. The authorization ii. The authorization activity such as the individual or posit	f that person. A peris made in writing specifies either are position of plantion having overall individual or any	erson is a duly authorized represts by the permittee. In individual or a position having the manager, operator of a well or responsibility for environmentate individual occupying a named propersion in the manager.	sentative only if: responsibility for the overall opera a well field, superintendent, posit I matters for the company. (A duly	ened by the permittee or by a duly a duly ation of the regulated facility or ion of equivalent responsibility, or an authorized representative may thus
3)	*SITE CONTACT local contact Same as 1) Permit Opera		relating to the facility & dischar	ge authorized by this permit for th	e facility
	Responsible Person (Title):				
	Currently Held By (Person):	FirstName:		LastName:	
	Telephone:		Email Address:		
	Organization:				
	Mailing Address:				
	City:			State:	Zip Code:
4)	*BILLING CONTACT if diff Same as 1) Permit Opera	•	rmittee.		
	Responsible Person (Title):				
	Currently Held By (Person):	FirstName:		LastName:	
	Telephone:		Email Address:		
	Organization:				
	Mailing Address:				
	City:			State:	Zip Code:
5)	OTHER CONTACT TYPES (check below) Add	I pages if necessary:		
	Responsible Person (Title):				
	Currently Held By (Person):	FirstName:		LastName:	
	Telephone:		Email Address:		
	Organization:				
	Mailing Address:				
	City:			State:	Zip Code:
	Environmental Contact		Consultant		VIS4 Responsible Person
	Inspection Facility Contact	ct	Compliance Contact	Stormwater A	Authorized Representative

SW Construction Application for: page 2 of 5

D)	Project/Facility Name		
	· · · · · · · · · · · · · · · · · · ·		
	Street Address or Cross Streets (e.g., Park St and 5 Ave; CR 21 and Hwy 10; 44 Ave and Clear Creek); identifying information describing the location of the project is <u>not</u> as best as possible using the starting point for the address and latitude a	dequate. For linear	projects, the route of the project should be described as
	City:	County:	Zip Code:
	Facility Latitude/Longitude - List the latitude and longitude of the exare not known, list the latitude and longitude of the center point of the center point of construction activity. The preferred method is GP	the construction proj	ect. If using the center point, be sure to specify that it is
	Latitude . Longitude Decimal Degrees (to 5 decimal places) Decimal Degrees (to 5	,	9.70312°, 104.93348°)
	 This information may be obtained from a variety of sources, including Surveyors or engineers for the project should have, o U.S. Geological Survey topographical map(s), available Using a Global Positioning System (GPS) unit to obtain Google - enter address in search engine, select the management 	r be able to calculate le at area map stores in a direct reading.	5.
	Note : the latitude/longitude required above is not the directional deg property boundaries.	grees, minutes, and s	econds provided on a site legal description to define
C)	C) MAP (Attachment) If no map is submitted, the application ca Map: Attach a map that indicates the site location and that CLEARLY adequate for this purpose.		
D)	D) LEGAL DESCRIPTION - only for Subdivisions Legal description: If subdivided, provide the legal description below,	or indicate that it is	not applicable (do not supply Township/Pange/Section
	or metes and bounds description of site)	or indicate that it is	not applicable (uo not supply Township/Kange/Section
	Subdivision(s): Lot(s):		Block(s)
	OR Not applicable (site has not been subdivided)		
E)	E) AREA OF CONSTRUCTION SITE - SEE PAGE 1 - WILL DETERMIN	NE FEE	
	Provide both the total area of the construction site, and the area that will und	dergo disturbance, in a	cres.
	Total area of project disturbance site (acres):		
	Note: aside from clearing, grading and excavation activities, disturbed areas a with heavy equipment/vehicle traffic and storage that disturb existing vegeta		ving overburden (e.g., stockpiles), demolition areas, and areas
	Part of Larger Common Plan of Development or Sale, (i.e., total, includin	g all phases, filings, lots	s, and infrastructure not covered by this application)
F)	F) NATURE OF CONSTRUCTION ACTIVITY		
	Check the appropriate box(es) or provide a brief description that indicates the included in the Stormwater Management Plan.)	e general nature of the	construction activities. (The full description of activities must be
	Commercial Development		
	Residential Development		
	Highway and Transportation Development		
	Pipeline and Utilities (including natural gas, electricity, water, and commu	unications)	
	Oil and Gas Exploration and Well Pad Development		
	Non-structural and other development (i.e. parks, trails, stream realignm	ent, bank stabilization,	demolition, etc.)

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SW Construction Application for:

G) ANTICIPATED CONSTRUCTION SCHEDULE

Construction Start Date:	Final Stabilization Date:	

- 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 the site is finally stabilized. This means that all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either 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 or reassigned to a new responsible entity(s).

RECEIVING WATERS (If discharge is to a ditch or storm sewer, include the name of the ultimate receiving values.)

Immediate Receiving Water(s):	
Ultimate Receiving Water(s):	

Identify the receiving water of the stormwater from your site. Receiving waters are any waters of the State of Colorado. This includes all water courses, even if they are usually dry. If stormwater from the construction site enters a ditch or storm sewer system, identify that system and indicate the ultimate receiving water for the ditch or storm sewer. **Note:** a stormwater discharge permit does <u>not</u> allow a discharge into a ditch or storm sewer system without the approval of the owner/ operator of that system.

SW Construction Application for: page 4 of 5

I) SIGNATURE PAGE

I. You may print and sign this document and mail the hard copy to the State along with required documents (address on page one).

2. Electronic Submission Signature

You may choose to submit your application electronically, along with required attachments. To do so, click the SUBMIT button below which will direct you, via e-mail, to sign the document electronically using the DocuSign Electronic Signature process. Once complete, you will receive via e-mail, an electronically stamped Adobe pdf of this application. Print the signature page from the electronically stamped pdf, sign it and mail it to the WQCD Permits Section to complete the application process (address is on page one of the application).

- The Division encourages use of the electronic submission of the application and electronic signature. This method meets signature requirements as required by the State of Colorado.
- The ink signed copy of the electronically stamped pdf signature page is also required to meet Federal EPA Requirements.
- Processing of the application will begin with the receipt of the valid electronic signature.

STOR	MWATER	MANAGEMENT	PLAN CERTIF	-ICATION

By checking this box "I certify under penalty of law that a complete Stormwater Management Plan, as described in the stormwater management plan guidance, has been pre-pared for my 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, 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."

"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." [Reg 61.4(1)(h)]

For Docusign Electronic Signature	_ Ink Signature	Date:					
Signature of Legally Responsible Person or Authorized Agent (submission must include original signature)							
Name (printed)	Title						
The state of the s							

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 <u>must be signed</u> 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).

3rd Party Preparer: If this form was prepared by an authorized agent on behalf of the Permittee, please complete the field below.

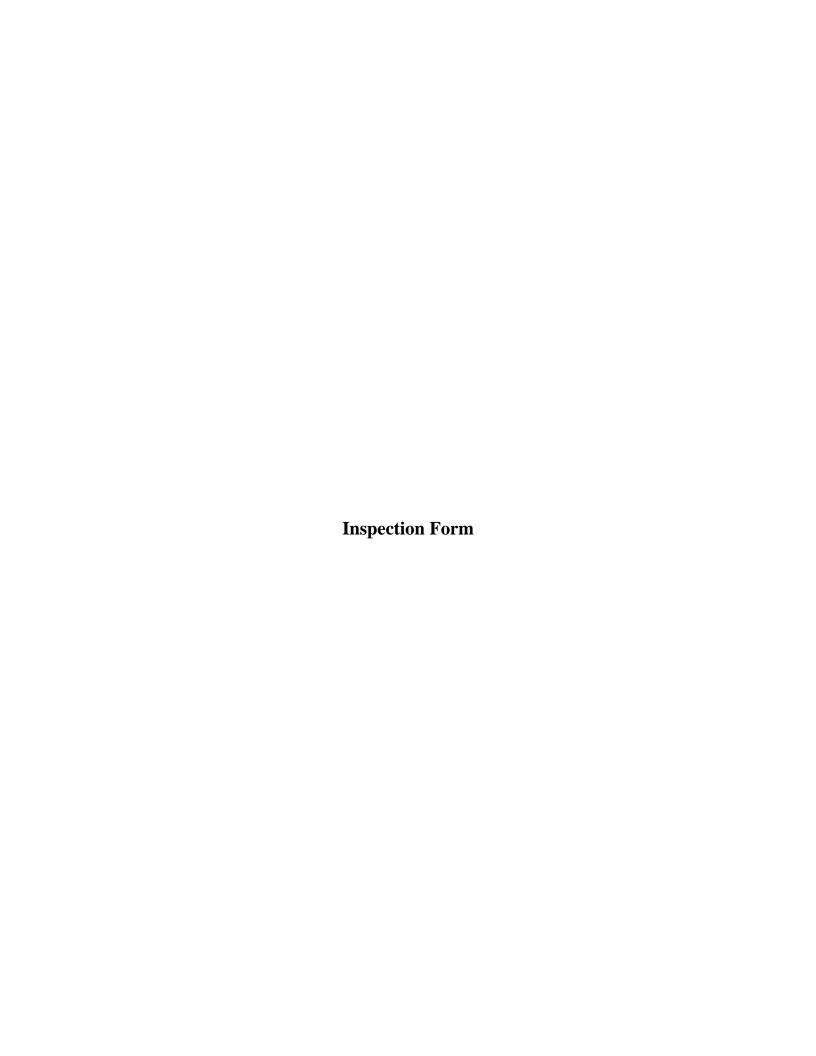
Preparer Name (printed)

Email Address

DO NOT INCLUDE A COPY OF THE STORMWATER MANAGEMENT PLAN
DO NOT INCLUDE PAYMENT—AN INVOICE WILL BE SENT AFTER THE CERTIFICATION IS ISSUED.

Attach Map
Attach File
Attach File
Attach File
Attach File

SW Construction Application for: page 5 of 5



COLORADO DEPARTMENT OF TRANSPORTATION STORMWATER FIELD INSPECTION REPORT - ACTIVE CONSTRUCTION (3) Erosion Control Supervisor/SWMP Administrator: (2) Project Contractor: (1) Project Name: Lyric at Ridgegate (4) CDOT Project Engineer/Representative: (5) Inspector(s) (Name and Title): (6) CDOT Project Number: N/A (7) Project Code (Sub Account #): (9) CDOT (8) CDPS-SCP Certification#: (10) Date of Project Inspection: Region: (11) Weather at Time of Inspection: (12) REASON FOR INSPECTION / EXCLUSION Routine Inspection: (minimum every 7 Calendar Days) Runoff Event: (Post-storm event inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. If no construction activities will occur following a storm event, post-storm event inspections shall be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. The occurrence of any such delayed inspection must be documented in the inspection record.) Routine inspections still must be conducted every 7 calendar days. Storm Start Date: Approximate End Time of Storm (hrs): Third Party Request: Winter Conditions Inspections Exclusion: Inspections are not required at sites where 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 exception is applicable only during the period where melting conditions do not exist, and applies to the routine 7-day inspections, as well as the post-storm-event inspections. If visual inspection of the site verifies that all of these conditions are satisfied, document the conditions in section 18 (General Notes) and proceed to section 19 (Inspection Certification). Documentation must include: dates when snow cover occurred, date when construction activities ceased, and date when melting conditions began. Other: (13) SWMP MANAGEMENT (14) CURRENT CONSTRUCTION ACTIVITIES: Yes No NA (a) Is the SWMP notebook located on site? (b) Are changes to the SWMP documents noted and approved? (c) Are the inspection reports retained in the SWMP notebook? (d) Are corrective actions from the last inspection completed? (e) Is a Spill Prevention Control and Countermeasure Plan retained at the project site? Estimate of disturbed area at the time of (f) Is a list of potential pollutants retained at the site? the inspection: Acres (15) BMPs ON SITE AT TIME OF INSPECTION *See Inspection Report Instructions for more detail.

(10) Divil 3 ON ONE AT THE OF I	100	<u> </u>	ooo mope	spection rieport manuacions for more detail.			
	In SWMP	Used	Not Needed at this time		In SWMP	Used	Not Needed at this time
(a) EROSION CONTROL BMPs ON S	ITE			(b) SEDIMENT CONTROL BMPs ON SITE			
Seeding				Stabilized Const. Entrance			
Mulching/Mulch Tackifier				Sediment Trap			
Soil Binder				Inlet Protection*			
Soil Retention Blankets				Sediment Basin			
Embankment Protector*				Perimeter Control*			
Grading Techniques*				Other:			
Berm/Diversion				(d) MATERIALS HANDLING, SPILL PREVENTION, WASTE		TE	
Check Dams*				MANAGEMENT AND GENERAL POL	LUTION F	PREVENT	ION
Outlet Protection*				Stockpile Management*			
Other:				Materials Management*			
(a) DMD - FOD ODEOLAL CONDITION	10			Concrete Waste Management*			
(c) BMPs FOR SPECIAL CONDITION	15			Saw Water Management*			
Dewatering Structure				Solid Waste/Trash Management			
Temp. Stream Crossing				Street Sweeping			
Clear Water Diversion				Sanitary Facility*			
Sensitive Area Fencing				Vehicle and Equip. Management			
Other:				Other:			

Off site Pollutant Discharges are a Violation of the Permit and Reason for Immediate Project Suspension vehicles access the site shall be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage The construction site perimeter, all disturbed areas, material and/or waste storage areas that are exposed to precipitation, discharge locations, and locations where system, or discharging to state waters. If there is evidence of sediment or other pollutants discharging from the site, see section 17 (Construction Site Assessment) (16) CONSTRUCTION SITE ASSESSMENT & CORRECTIVE ACTIONS

condition of the BMP, using more than one letter if necessary: (I) Incorrect Installation; (M) Maintenance is needed; (F) BMP failed to operate; (A) Additional BMP is All erosion and sediment control practices identified in the SWMP shall be evaluated to ensure that they are maintained and operating correctly. Identify the needed; (R) Remove BMP. Keep copies of this blank page for additional room if needed.

Continuous maintenance is required on all BMPs. BMPs that are not operating effectively, have proven to be inadequate, or have failed must be addressed as soon as possible immediately in most ose

as soon as possible, immediately in most cases.	r cases.			
noiteoo	BMP	Condition	Comments:	Completed
			Description of Corrective Action and Preventative Measure Taken	& Initials
CD				
OT Form #				
1176 7/11				

Eq. (19) the to endergoor of descriptor of conforment or other of section in actions in section i	(17) CONSTRUCTION SITE ASSESSMENT:**OFF SITE POLLUTANT DISCHARGES ARE A VIOLATION OF THE PERMIT AND REASON FOR IMMEDIATE PROJECT SUSPENSION**	IMMEDIATE PROJECT SUSPENSION**
		tion 18 (General Notes).
	(18) GENERAL NOTES	
	(19) INSPECTION CERTIFICATION	
	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accord that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for	nce with a system designed to assure ho manage the system, or those rue, accurate, and complete. I am lowing violations.
	Contractor's Erosion Control Supervisor/SWMP Administrator (Signature Required)	Date:
	CDOT Project Engineer/CDOT Designee (Signature Required)	Date:
	(20) COMPLIANCE CERTIFICATION	
Contractor's Erosion Control Supervisor/SWMP Administrator (Signature Required) CDOT Project Engineer/CDOT Designee (Signature Required)		contain a signed statement
CDOT Project Engineer/CDOT Designee (Signature Required)		Date:
1		Date:

Stormwater Management Field Inspection Report Instructions

State waters are defined to be any and all surface and subsurface waters which are contained in or flow through the state, including, streams, rivers, lakes, drainage ditches, storm drains, ground water, and wetlands, but not including waters in sewage systems, waters in treatment works or disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed. (Per subsection 107.25 and 25-8-103 (19) CRS)

- (3) Erosion Control Supervisor/SWMP Administrator: Indicate the name of the individual responsible for implementing, maintaining and revising the SWMP.
- **(4) CDOT Project Engineer/Representative:** Indicate the name of the CDOT representative performing the inspection with the ECS/SWMP Administrator. This person should be the Project Engineer or an authorized representative.
- (9) CDPS-SCP Certification #: Indicate the Colorado Discharge Permit System (CDPS) Stormwater Construction Permit (SCP) (for Stormwater Discharges Associated with Construction Activities) certification number, issued by CDPHE, for the project which the report is being completed. Certification number can be found on the first page of the SCP.
- (12) Reason(s) for Inspection / Exclusion: Indicate the purpose for the inspection or exclusion. These inspections are required to comply with the CDOT Specifications and the CDPS-SCP.
- □ Routine Inspections. These inspections are required at least every 7 calendar days during active construction. Suspended projects require the 7 calendar day inspection unless snow cover exists over the entire site for an extended period of time, and melting conditions do not exist (see, Winter Conditions Inspections Exclusions).
- ☐ Runoff Event Inspection for Active Sites. See page 1 for definition.
- ☐ Third Party Request. Indicate the name of the third party requesting the inspection and, if known, the reason the request was made.
- ☐ Winter Conditions Inspections Exclusions. See page 1 for definition. An inspection does not need to be completed, but use this form to document the conditions that meet the Exclusion.
- ☐ Other. Specify any other reason(s) that resulted in the inspection.
- (13) SWMP Management: Review the SWMP records and documents and use a ✓ to answer the question. To comply with CDOT Standard Specifications and the CDPS-SCP, all of the items identified must be adhered to. If No is checked, document the reason and indicate the necessary corrective action in section 16 (Construction Site Assessment & Corrective Actions). If NA is checked, indicate why in the space provided or indicate in section 18 (General Notes).
- (a) Is the SWMP notebook located on site? A copy of the SWMP notebook must be retained on site, unless another location, specified by the permit, is approved by the Division.
- (b) Are changes to the SWMP documents noted and approved? Indicate all changes that have been made to any portion of the SWMP notebook documents during construction. Changes shall be dated and signed at the time of occurrence. Amendments may include items listed in subsection 208.03(c).
- **(c)** Are the inspection reports retained in the SWMP notebook? The ECS/Engineer shall keep a record of inspections. Inspection reports must identify any incidents of non-compliance with the terms and conditions of the CDOT specifications or the CDPS-SCP. Inspection records must be retained for three years from expiration or inactivation of permit coverage.
- (d) Are corrective actions from the last inspection completed? Have corrective actions from the last inspection been addressed? Is a description of the corrective action(s), the date(s) of the corrective action(s), and the measure(s) taken to prevent future violations (including changes to the SWMP, as necessary) documented?
- (e) Is a Spill Prevention Control and Countermeasure (SPCC) Plan retained in the SWMP notebook? Subsection 208.06(c) requires that a SPCC plan be developed and implemented to establish operating procedures and that the necessary employee training be provided to minimize accidental releases of pollutants that can contaminate stormwater runoff. Records of spills, leaks or overflows that result in the discharge of pollutants must be documented and maintained. Information that should be recorded for all occurrences include the time and date, weather conditions, reasons for spill, etc. Some spills may need to be reported to the Water Quality Control Division immediately.
- (f) Is a list of potential pollutants retained at the site? Subsection 107.25(b)6 requires the Erosion Control Supervisor to identify and describe all potential pollutant sources, including materials and activities, and evaluate them for the potential to contribute pollutants to stormwater discharge.
- (14) Current Construction Activities: Provide a short description of the current construction activities/phase at the project site; include summary of grading activities, installation of utilities, paving, excavation, landscaping, etc.
- Estimate the acres of disturbed area at the time of the inspection. Include clearing, grading, excavation activities, areas receiving overburden (e.g. stockpiles), demolition areas and areas with heavy equipment/vehicle traffic, installation of new or improved haul roads and access roads, staging areas, borrow areas and storage that will disturb existing vegetative cover.
- (15) BMPs On Site at Time of Inspection: Indicate the BMPs that are installed on-site at the time of inspection. All BMP details (e.g., Standard Plan M-208-1) shall be included with the SWMP documents.

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Stormwater Management Field Inspection Report Instructions (continued)

BMPs In SWMP/Used/Not Needed at this Time. This section can be used as follows:

- ☐ If the BMP is required by the SWMP and implemented, indicate by placing a ✔ in both the "In SWMP" and "Used" columns.
- ☐ If the BMP is required by the SWMP, but not implemented, indicate by placing a ✔ in the "In SWMP" and "Not Needed at this Time" columns.

(a) Erosion Control BMPs On Site

- Embankment Protector (e.g., temporary slope drains, open-chute drains, etc.)
- Grading Techniques (e.g., vertical tracking, scarifying, or disking the surface on the contour, etc.)
- Check Dams (e.g., rock check, erosion logs, erosion bales, silt berms, etc.)
- Outlet Protection (e.g., riprap, erosion log around top of headwall, etc.)

(b) Sediment Control BMPs On Site

- Inlet Protection (e.g., erosion logs, erosion bales, sand bags, gravel bags, etc.)
- Perimeter Control (e.g., silt fence, erosion logs, berms, etc.)

(d) Materials Handling, Spill Prevention, Waste Management and General Pollution Prevention

- Stockpile Management. Stockpiles shall be located away from sensitive areas. All erodible stockpiles (including topsoil) shall be contained by silt fence, berms or other sediment control devices throughout construction (also see subsection 208.07).
- Materials Management. Material that could contribute pollutants to stormwater shall have secondary containment or other equivalent protection (also see subsection 208.06(a).
- Concrete Waste Management. All concrete residue shall be contained in a signed structure as designed per subsection 208.02(j) and subsection 208.05(n). It shall be located a minimum of 50 feet from state waters.
- Saw Water Containment (e.g., pick-up broom or vacuum). Street washing is not allowed.
- Sanitary Facility. Temporary sanitary facilities shall be located 50 feet away from drainage ways, inlets, receiving waters, and located away from areas of high traffic, and areas susceptible to flooding or damage by construction equipment.
- (16) Construction Site Assessment & Corrective Actions: Inspect the construction site and indicate where BMP feature(s) identified in section 15 (BMPs On Site at Time of Inspection), require corrective action. Erosion and sediment control practices identified in the SWMP shall be evaluated to ensure that they are operating correctly.
- Location. Site location (e.g., project station number, mile marker, intersection quadrant, etc.).
- BMP. Indicate the type of BMP at this location that requires corrective action (e.g., silt fence, erosion logs, soil retention blankets, etc.).
- Condition. Identify the condition of the BMP, using more than one letter (identified in section 16) if necessary.
- Description of Corrective Action and Preventative Measure Taken. Provide the proposed corrective action needed to bring the area or BMP into compliance. Once corrective actions are completed, state the measures taken to prevent future violations and ensure that the BMPs are operating correctly, including the required changes made to the SWMP.
- Date Completed & Initials. Date and initial when the corrective action was completed and the preventative measure statement finished.
- (17) Construction Site Assessment: Was there any off site discharge of sediment at this site since the last inspection?

 (a) Is there evidence of discharge of sediment or other pollutants from the site? Off site pollutant discharges are a violation of the permit. The construction site perimeter, all disturbed areas, material and/or waste storage areas that are exposed to precipitation, discharge locations, and locations where vehicles access the site shall be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state water.
- **(b)** Has sediment or other pollutants discharging from the site reached state waters? **Off site pollutant discharges are a violation of the permit.** If off site discharge has occurred, explain the discharge and the corrective actions in section 16 (Construction Site Assessment & Corrective Actions) or section 18 (General Notes).
- (18) General Notes: Indicate any additional notes that add detail to the inspection; this may include positive practices noted on the project.
- (19) Inspection Certification: In accordance with Part I, F.1.c of the CDPS-SCP, all reports for submittal shall be signed and certified for accuracy.
- (20) Compliance Certification: In accordance with Part I, D.6.b.2.viii of the CDPS-SCP, compliance shall be certified through signature.

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FOR DIVIISION USE ONLY

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

Effective date		
_		-

COLORADO WATER QUALITY CONTROL DIVISION TERMINATION APPLICATION

Print or type all information. Mail original form with ink signature to the following address. Emailed and Faxed forms will not be accepted. All items must be filled out completely and correctly. If the form is not complete, you will be asked to resubmit it.

> Colorado Dept of Public Health and Environment Water Quality Control Division WQCD-P-B2 4300 Cherry Creek Drive South Denver CO 80246-1530

PART A. IDENTIFICATION OF PERMIT OR AUTHORIZATION - Please limit submission to one permit, certification, or authorization per form. All permit termination dates are effective on the date approved by the division

	Processing times va information in this a	ry by type of discharge. Some discapplication.	charge types require onsite inspections to verify ER (DOES NOT END IN 0000)
PART	B. PERMITTEE INFOR	MATION	
	Company Name		
	•	Name e_Permits_SWConstruction	Last Name
	Mailing Address		
	City	State	Zip Code
	Phone	Email address_	
PART	C. FACILITY OR PROJ	JECT INFORMATION	
	Facility/Project nar	ne	
	Location/Address _		
	City	(County
	Local contact name	<u> </u>	Title
	Phone	Email address	
			formation for Part D that applies to your facility and d-only the part that applies to your facility.
		ilities no longer in operation.	
		ning facilities no longer in operati	ion discharging or needing permit coverage.
			where construction is complete and the site is stabilized.
			st in timely approval of this termination request.**
	ן D1. FACILITY IS NO	LONGER IN OPERATION AT THIS I	LOCATION
	removed; all indust	rial wastes have been disposed of p	e ceased; all potential pollutant sources have been properly; all DMR's, Annual Reports, and other reports er Management Plan have been completed (if this
		ACOONS, places reference "inform	and the annual transport of the second of th

FOR LAGOONS: please reference "information regarding Domestic Treatment Works Closure at Wastewater Treatment Facilities"

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	IING FACILITY IS NO LONGER IN OPERATION AT THIS LOCATION. d and Gravel, Coal or Hard Rock Mining
	Mining operation is no longer discharging process/treated water. Bond has not been released by DRMS. A stormwater only permit is requested at this time. Attach application for Stormwater Only permit.
В.	Reclamation of mining site is completed. Bond has been released by DRMS. YES Attach a copy of the Bond release letter. NO Explain below:
	Reclamation of mining site is complete. Is there any continued mine drainage? Eg. Adits or unreclaimed waste piles? YES, Please explain, attach additional pages as necessary.
D3. F	ACILITY IS STILL IN OPERATION BUT IS NO LONGER DISCHARGING OR NO LONGER NEEDS A PERMIT
A.	Facility continues to operate, however the activity producing the discharge has ceased (including changes in SIC Code resulting in change in duty to apply).
В.	Termination is based on alternate disposal of discharges (discharge is being disposed of in another way a. Solid waste disposal unit (e.g. evaporative ponds) b. No Exposure Exclusion (for industrial stormwater facilities only.) NOX Number
	c. Combined with another authorized discharge. Permit Number
_	d. Permit is not required (includes coverage by low risk policy, etc.) - please explain, attach additional pages if necessary
c.	. PERMITTEE IS NO LONGER THE OWNER/OPERATOR OF THE SITE and all efforts have been made to transfer the permit to appropriate parties. Please attach copies of registered mail receipts, letters, etc.
D4. S	TORMWATER CONSTRUCTION FACILITIES WHERE CONSTRUCTION IS COMPLETE (Select A, B, or C)
A.	. SITE IS FINALLY STABILIZED OR CONSTRUCTION WAS NOT STARTED
	 a. The permitted activities meet the requirements for FINAL stabilization in accordance with the permit, the Stormwater Management Plan, and as described in item b. (explanation can be construction activities were not started). b. Describe the methods used to meet final stabilization. (Required)
[b. Describe the methods used to meet final stabilization. (Required)

*Final Stabilization defined on page 3

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D4. STORMWATER CONSTRUCTION FACILITIES WHERE CONSTRUCTION IS COMPLETE (Continue	∍d)
B. ALTERNATIVE PERMIT COVERAGE OR FULL REASSIGNMENT a. All ongoing construction activities including all disturbed areas, covered under the permit certification listed in Part B have coverage under a separate CDPS Stomwater Construction permit. The Division's Reassignment form was used by the permittee to reassign all activities. b. Permit certification number covering the ongoing activities (Required)	ruction
C. PERMITTEE IS NO LONGER THE OWNER OR OPERATOR OF THE FACILITY All efforts have been made to transfer the permit to appropriate parties. Please attach copies of registered mail receipt, letters, etc.	
*Final stabilization is reached when: all ground surface disturbing activities at the site have been comincluding removal of all temporary erosion and sediment control measure, and uniform vegetative cove established with an individual plant density of at least 70 percent of predisturbance levels, or equivale permanent, physical erosion reduction methods have been employed.	r has been
PART E. CERTIFICATION SIGNATURE REQUIRED FOR ALL TERMINATION REQUESTS	
I certify under penalty of law that this document and all attachments were prepared under my directions in accordance with a system designed to assure that qualified personnel properly gather evaluate the information submitted. Based on my inquiry of the person or persons who manage the those individuals immediately responsible for gathering the information, the information submitted best of my knowledge and belief, true, accurate, and complete. I am aware that there are significated penalties for submitting false information, including the possibility of fine and imprisonment for knowledge. "(See 18 USC 1001 and 33 USC 1319)	er and e system, or d is to the ant
I certify that I am the legal representative of the above named company (PART B page 1).	
Applies to Stormwater Construction terminations: I understand that by submitting this notice of termination, I am no longer authorized to discharge associated with construction activity by the general permit. I understand that discharging pollutan stormwater associated with construction activities to the waters of the State of Colorado, where s discharges are not authorized by a CDPS permit, is unlawful under the Colorado Water Quality Conthe Clean Water Act.	its in such
Signature of Legally Responsible Party Date Signed	
Name (printed) Title	

Signatory requirements: This termination request shall be signed, dated, and certified for accuracy by the permittee in accord with the following criteria:

- 1. In the case of a corporation, by a principal executive officer of at least the level of vice-president, or his or her duly authorized representative, if such representative is responsible for the overall operation of the operation from which the discharge described herein originates;
- 2. In the case of a partnership, by a general partner;
- 3. In the case of a sole proprietorship, by the proprietor;
- 4. In the case of a municipal, state, or other public operation, by either a principal executive officer, ranking elected official, or other duly authorized employee.

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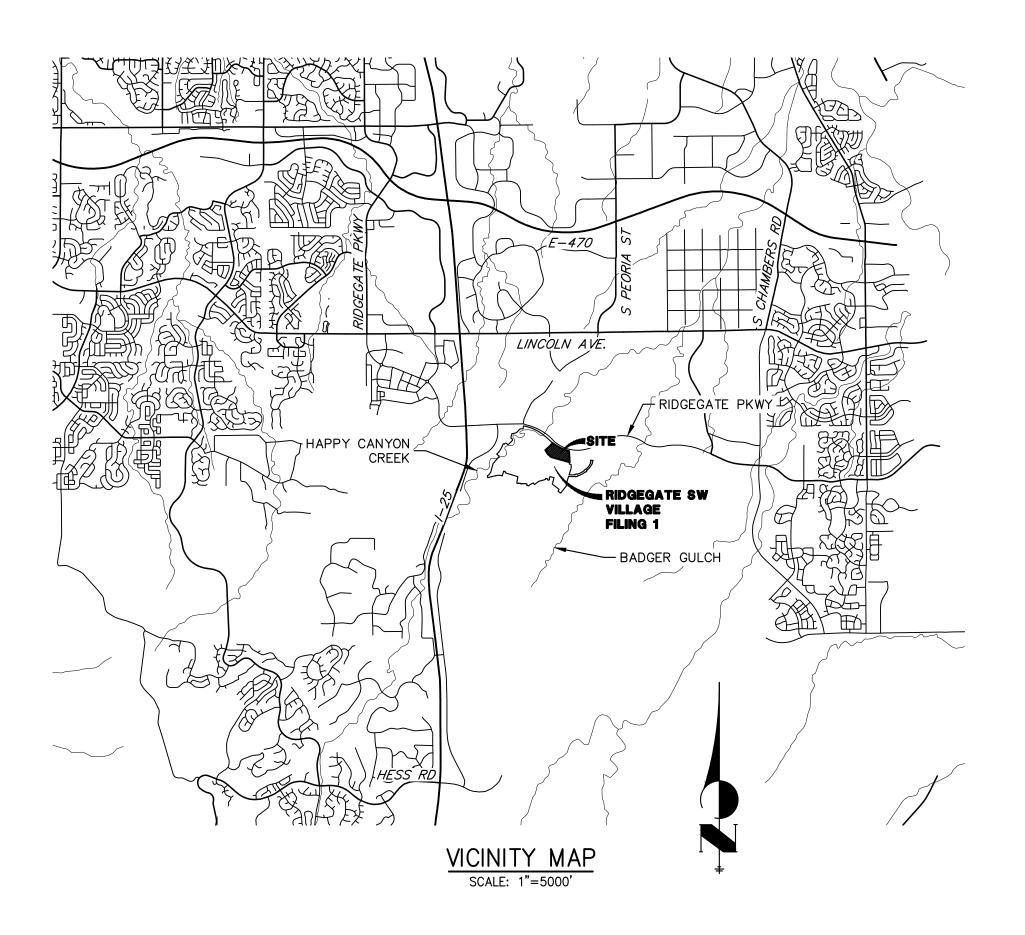
LYRIC AT RIDGEGATE

A PORTION OF THE RIDGEGATE PLANNED DEVELOPMENT DISTRICT, EAST SIDE PROPERTY LOCATED IN THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 6 SOUTH, RANGE 67 WEST OF THE 6TH P.M., CITY OF LONE TREE, COUNTY OF DOUGLAS, STATE OF COLORADO

GRADING, EROSION, AND SEDIMENT CONTROL PLANS

ABBREVIATIONS

ADE	BREVIATIONS				
AC	ACRE ALGEBRAIC DIFFERENCE AHEAD ARCHITECT AMERICAN SOCIETY OF CIVIL ENGINEERS ASSEMBLY AVENUE BOX BASE BACK BOUNDARY BOTTOM OF PIPE BLOW OFF VALVE BUTTERFLY VALVE BOULEVARD BOTTOM OF WALL CURB & GUTTER CABLE TELEVISION CATCH BASIN CONCRETE BOX CULVERT COLORADO DEPARTMENT OF TRANSPORTATION CUL—DE—SAC CUBIC FEET PER SECOND CENTER LINE CONDITIONAL LETTER OF MAP REVISION CLEAR CORRUGATED METAL PIPE CLEAN OUT CONCRETE CIRCLE CORRUGATED STEEL PIPE COURT CONCRETE THRUST REDUCER BLOCK CUBIC YARD DRAINAGE BASIN PLANNING STUDY DRAINAGE EASEMENT DIAMETER DUCTIF IRON PIPE	FDP	FINAL DEVELOPMENT PLAN	PL	PROPERTY LINE
AD	ALGEBRAIC DIFFERENCE	FDR	FINAL DRAINAGE REPORT	PR	PROPOSED
AH	AHEAD	FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVATURE
ARCH	ARCHITECT	FG	FINISHED GRADE	PT	POINT OF TANGENCY
ASCE	AMERICAN SOCIETY OF CIVIL	FH	FIRE HYDRANT	PV	PLUG VALVE
	ENGINEERS	FL.	FLOWLINE	PVC	POLYVINYL CHLORIDE
ASS'Y	ASSEMBLY	FIL	FILING	R	RADIUS
AVE	AVENUE BOY BACE	FU	CRADE DREAK	RCP	REINFORCED CONCRETE PIPE
	BACK BACK	GB CF	CAS FASEMENT	ROW	PICHT OF WAY
RNDY	BOUNDARY	GIS	GEOGRAPHIC INFORMATION	RT	RIGHT
BOP	BOTTOM OF PIPE	0.0	SYSTEM	S	SOUTH
BOV	BLOW OFF VALVE	GL	GAS LINE	STE	STEEL
BFV	BUTTERFLY VALVE	GPS	GLOBAL POSITIONING SYSTEM	SAN	SANITARY SEWER
BLVD	BOULEVARD	GV	GATE VALVE	SF	SQUARE FEET
BW	BOTTOM OF WALL	HC	HANDICAP	ST	STREET
C&G	CURB & GUTTER	HDC	HIGH DEFLECTION COUPLING	STA	STATION
CAIV	CABLE TELEVISION	HDPE	HIGH DENSITY POLYETHYLENE	SIM	STURM SEWER
CBC	CONCRETE BOY CHILVERT	HOA	HOME OWNERS ASSOCIATION	21 21	SOLIARE YARD INCH
CDOT	COLORADO DEPARTMENT OF	HP	HIGH POINT	TR	THRUST BLOCK
ODOI	TRANSPORTATION	i"	INLET	TBC	TOP BACK OF CURB
CDS	CUL-DE-SAC	İE	IRRIGATION EASEMENT	TBW	TOP BACK OF WALK
CFS	CUBIC FEET PER SECOND	INT	INTERSECTION	TEL	TELEPHONE
CL	CENTER LINE	INV	INVERT	TOA	TOP OF ASPHALT
CLOMR	CONDITIONAL LETTER OF MAP	IRR	IRRIGATION	TOB	TOP OF BOX
0.5	REVISION	KB	KICK (THRUST) BLOCK	TOC	TOP OF CURB OR CONCRETE
CLR	CLEAR	LE	LANDSCAPE EASEMENT	TOE	TOP OF FOUNDATION
CMP	CIFAN OUT	LF I NI	LINEAR FEET	TOP	TOP OF POUNDATION
CONC	CONCRETE	LOMR	LETTER OF MAP REVISION	TS	TOP OF SLOPE
CR	CIRCLE	LP	LOW POINT	ŤW	TOP OF WALL
CSP	CORRUGATED STEEL PIPE	LS	LUMP SUM	TYP	TYPICAL
CT	COURT	LT	LEFT	UDFCD	URBAN DRAINAGE AND FLOOD
CTRB	CONCRETE THRUST REDUCER	MAX	MAXIMUM		CONTROL DISTRICT
0.4	BLOCK	MDDP	MASTER DEVELOPMENT	UE	UTILITY EASEMENT
CY	CUBIC YARD	1411	DRAINAGE PLAN	U&DE	UTILITY & DRAINAGE EASEMENT
DR52	DRAINAGE BASIN PLANNING	MH	MANHULE	VCB	UNDERGROUND ELECTRIC
DE	DRAINAGE EASEMENT	N	NORTH	VPC	VERTICAL POINT OF CURVATURE
DIA	DIAMETER	NRCP	NON-REINFORCED CONCRETE	VPI	VERTICAL POINT OF
DIP	DUCTILE IRON PIPE		PIPE		INTERSECTION
DR	DRIVE	ODP	OFFICIAL DEVELOPMENT PLAN	VPT	VERTICAL POINT OF TANGENCY
DRC	DESIGN REVIEW COMMITTEE	OHE	OVERHEAD ELECTRIC	VTC	VEHICLE TRACKING CONTROL
DU	DWELLING UNITS	OHU	OVERHEAD UTILITY	W	WEST
E	EAST	PC	POINT OF CURVATURE	WL	WATER LINE
EA	EACH	PCC	POINT OF COMPOUND	WM	WATER MAIN
EGL EL	ENERGY GRADE LINE ELEVATION	PCR	CURVATURE POINT OF CURB RETURN	WRD	WATER RESOURCES DEPARTMENT
ELEC	ELECTRIC	PDP	PRELIMINARY DEVELOPMENT	WS	WATER SURFACE
EOA	EDGE OF ASPHALT	1 01	PLAN	WSE	WATER SURFACE ELEVATION
ESMT	EASEMENT	PE	PROFESSIONAL ENGINEER	WTR	WATER
EST	ESTIMATE	PI	POINT OF INTERSECTION	YR	YEAR
EX	EXISTING	PKWY	PARKWAY		



SHEET INDEX

7-10: GESC NOTES AND DETAILS

1: COVER SHEET

5: INTERIM GESC 6: FINAL GESC

3: LEGEND4: INITIAL GESC

TOTAL: 10

2: GENERAL NOTES

20" ROAD CORE SEE NOTE 3 12" MOISTURE CONDITIONED AND COMPACTED SUBGRADE, REF. GEOTECHNICAL PAVING REPORT

SOIL PREPARATION NOTE:

SOIL PREPARATION SHALL BE PER RECOMMENDATIONS FROM THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE:

GEOTECHNICAL ENGINEER: CTL THOMPSON PROJECT NUMBER: DN51,551-115-R1

THE CONTRACTOR IS TO REVIEW THIS REPORT IN FULL PRIOR TO BID.
INFORMATION IN THE GEOTECHNICAL REPORT SUPERCEDES ANY CONFLICTING
INFORMATION CONTAINED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS.

MINIMUM RESIDENTIAL LOCAL PAVEMENT SECTION

MINIMUM PAVEMENT SECTIONS FOR BUDGETING PURPOSES
ARE PRESENTED HEREON. SUBGRADE INVESTIGATION AND
PAVEMENT DESIGNS ARE TO BE COMPLETED BY THE
GEOTECHNICAL ENGINEER AFTER OVERLOT GRADING.
 ASPHALT, BASE COURSE DEPTH, AND SUBGRADE
PRAPARTATION IS TO BE IN ACCORDANCE WITH

GEOTECHNICAL PAVING RECOMMENDATIONS.

3. CONTOURS SHOWN WITHIN THIS PLAN SET ARE TO TOP OF PAVING. ROAD CORE IS TO EXTEND 3" BELOW BOTTOM OF PAVING AND ROAD BASE SECTION.

RIDGEGATE INVESTMENTS, INC. 9878 SCHWAB WAY, SUITE 415 LONE TREE, CO 80124

DEVELOPER

OWNER

LOKAL HOMES 8310 S. VALLEY HWY, SUITE 115 ENGLEWOOD, CO 80112 TOMMY PUCCIANO P~720.234.4728

ARCHITECT

LOKAL STUDIOS 8310 S. VALLEY HWY, SUITE 115 ENGLEWOOD, CO 80112

CIVIL ENGINEER

JR ENGINEERING 7200 SOUTH ALTON WAY, SUITE C400 CENTENNIAL, CO P~303.740.9393



J·R ENGINEERING

LANDSCAPE ARCHITECT

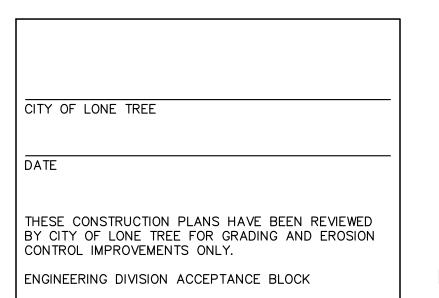
PCS GROUP, INC.
P.O. BOX 18287
DENVER, CO 80218
PAUL SHOUKAS
P~303.531.4905

GEOTECHNICAL ENGINEER

CTL THOMPSON 1971 WEST 12TH AVENUE DENVER, CO 80204

CAUTION - NOTICE TO CONTRACTOR

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE BASED ON THE RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF THE UTILITIES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.





THE GRADING, EROSION, AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF LONE TREE GRADING, EROSION, AND SEDIMENT CONTROL (GESC) CRITERIA

ENGINEER'S STATEMENT

KURTIS WILLIAMS, P.E.
COLORADO P.E. 34270
FOR AND ON BEHALF OF JR ENGINEERING OLLIC

LYRIC AT RIDGEGATE	COVER SHEET		
SHEET	1	OF	10

JOB NO. 15950.10

GENERAL NOTES:

- 1. THE SITE SHALL BE STRIPPED OF ALL VEGETATIVE AND ORGANIC MATERIAL A MINIMUM OF 6" IN ALL AREAS. ALL STRIPPING MATERIALS SHALL BE STOCKPILED ON SITE TO BE USED IN LANDSCAPING.
- 2. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY TO THE PROJECT WORK SITE (SEE THE GESC PLAN APPROVED BY CITY OF LONE TREE).
- 3. ALL SILT FENCE SHALL BE INSTALLED ALONG THE CONTOUR.
- 4. THE MAXIMUM HEIGHT OF ALL STOCKPILES SHALL BE 20' FROM FINISHED GROUND.
- 5. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF IMPROVEMENTS SHALL MEET OR EXCEED THE GOVERNING CITY, COUNTY, AND/OR STATE AND APPLICABLE UTILITY DISTRICT STANDARDS AND SPECIFICATIONS, AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS A CONFLICT BETWEEN THESE PLANS AND ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE CITY AND APPLICABLE UTILITY DISTRICT(S).
- 6. THE SITE CONSTRUCTION PLANS LISTED WITHIN THIS PLAN SET ARE NOT FOR CONSTRUCTION UNLESS APPROVED BY THE APPROPRIATE GOVERNING JURISDICTION. THE CONTRACTOR SHALL CONFIRM SAID APPROVAL PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL KEEP ONE (1) SIGNED COPY OF THE APPROVED SET OF PLANS, APPROPRIATE SPECIFICATIONS AND STANDARDS, AND APPROVED PERMITS ONSITE AT ALL TIMES.
- 7. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARDS, UNLESS SPECIFICALLY STATED OTHERWISE.
- 8. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND LICENSES FOR WORK INCLUDING, BUT NOT LIMITED TO DEMOLITION, STREET CUTS, UTILITY INTERFERENCES, TRAFFIC CONTROL, GRADING, AND UTILITY FROM ALL APPLICABLE AGENCIES; AND FOR COMPLYING WITH ALL PROVISIONS INCLUDED THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL OTHER APPLICABLE PERMITS NOT SPECIFICALLY REQUIRED BY THE AUTHORITY HAVING
- 9. ANY DISRUPTION OF UTILITY SERVICE THAT IS REQUIRED TO ADJUST, EXTEND, RELOCATE OR OTHERWISE REARRANGE ANY UTILITY WITHIN THE PROJECT AREA SHALL BE COORDINATED IN ADVANCE WITH THE AFFECTED UTILITY ENTITY.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF PROJECT SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND
- 11. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE M.U.T.C.D. TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY (CITY, COUNTY, OR STATE) FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES. ALL WORK WITHIN THE RIGHT OF WAY SHALL BE DONE IN ACCORDIANCE WITH THE GOVERNING AUTHORITY'S STANDARDS AND SPECIFICATIONS.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING AND RESTORATION OF ANY EXISTING IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO STREET PAVEMENT, FENCES, SOD, LANDSCAPING, SPRINKLER SYSTEMS, AND UTILITIES DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL LOCATION AND CONDITION.
- 13. ALL DEMOLITION, REMOVAL, DISPOSAL, AND ABANDONMENT OF UTILITIES, STRUCTURES, SITE IMPROVEMENTS, AND SITE FURNISHINGS SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STANDARDS AND SPECIFICATIONS, AND PERMIT REQUIREMENTS.
- 14. ALL DISTURBED SOIL, ON- OR OFF-SITE AND RELATED TO WORK AT THIS PROJECT SITE, IS REQUIRED TO BE PROTECTED FROM WIND AND STORM WATER EROSION. TO MITIGATE EROSION, THE CONTRACTOR SHALL USE STANDARD EROSION CONTROL TECHNIQUES DESCRIBED IN THESE PLANS.
- 15. ALL STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREA IS STABILIZED WITH HARD SURFACE OR PERMANENT LANDSCAPING. THE CONTRACTOR IS RESPONSIBLE FOR REFERRING TO ANY EROSION AND SEDIMENT CONTROL, STORMWATER MANAGEMENT, STORMWATER POLLUTION PREVENTION, OR SIMILAR PLAN AND/OR NARRATIVE AND ASSOCIATED PERMITS INCLUDING, BUT NOT LIMITED TO GRADING PERMITS, AND COMPLYING WITH THE REQUIREMENTS THEREIN.
- 16. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE OWNER/DEVELOPER AND THE ENGINEER IMMEDIATELY.
- 17. BENCHMARK VERIFICATION: THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AND THE PROPOSED ELEVATIONS IN THIS CONSTRUCTION PLAN SET AGAINST THE PROJECT BENCHMARK, IDENTIFIED HEREIN, PRIOR TO COMMENCING WORK.
- 18. IF DEWATERING IS REQUIRED, A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT IS REQUIRED FOR DISCHARGES TO A STORM SEWER, CHANNEL, IRRIGATION DITCH, ANY STREET THAT IS TRIBUTARY TO THE AFOREMENTIONED FACILITIES OR ANY WATER OF THE UNITED STATES.
- 19. A STATE AIR QUALITY PERMIT IS REQUIRED FOR LAND DISTURBANCE ACTIVITIES THAT ARE MORE THAN 25 CONTIGUOUS ACRES OR MORE THAN 6 MONTHS IN DURATION. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL BE RESPONSIBLE FOR OBTAINING THE REQUIRED AIR QUALITY PERMIT AND FOR COMPLYING WITH ALL PROVISIONS INCLUDED THEREIN.
- 20. ALL ROADWAY OVER EXCAVATION TO BE DONE IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. FINAL PAVEMENT DESIGN TO BE PROVIDED BY GEOTECHNICAL ENGINEER AFTER OVERLOT GRADING IS COMPLETE. CONTRACTOR TO CONFIRM ROADWAY OVER EXCAVATION REQUIREMENTS WITH OWNER AND GEOTECHNICAL ENGINEER.

COMPACTION REQUIREMENTS

SOIL COMPACTION SHALL BE PER RECOMMENDATIONS FROM THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE:

- PRIOR TO FILL PLACEMENT, THE GROUND SURFACE IN AREAS TO BE FILLED SHOULD BE STRIPPED OF DEBRIS, VEGETATION/ORGANICS AND OTHER DELETERIOUS MATERIAS, SCARIFIED AND MOISTURE CONDITIONED TO BETWEEN 1 AND 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR CLAY OR WITHIN 2 PERCENT OF OPTIMUM FOR SAND AND GRAVEL, AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698)
- UTILITY TRENCH BACKFILL SHOULD BE MOISTENED BETWEEN OPTIMUM AND 4 PERCENT WETTER AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY FOR CLAY AND MOISTENED WITHIN 2 PERCENT OF OPTIMUM AND COMPACTED TO 100 PERCENT OF STANDARD PROCTOR FOR SAND.
- SUB-EXCAVATION FILL SHOULD BE MOISTURE-CONDITIONED BETWEEN OPTIMUM AND 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR CLAY OR WITHIN 2 PERCENT OF OPTIMUM FOR SAND. FILL SHOULD BE COMPACTED AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY.

EXCAVATION SCOPE OF WORK:

THE SCOPE OF WORK

A. SITE PREPARATION

1. PRIOR TO COMMENCEMENT OF EXCAVATION, THE SITE SHALL BE STRIPPED IN CONFORMANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER AND APPROVED PLANS. REMOVAL OF STRIPPINGS SHALL EXTEND 5 FEET AT ALL TIMES BEYOND THE BOUNDARIES OF THE AREAS RECEIVING FILL. THE DEPTH OF THE STRIPPING SHALL BE AT THE SOLE DISCRETION OF AND DIRECTED BY THE SOILS ENGINEER. ALL STRIPPINGS SHALL BE STORED ON SITE AND PLACED AT THE DIRECTION OF THE BUILDER.

2. WITHIN THE GRADING LIMITS, ALL EXISTING STRUCTURES SUCH AS FENCES, DRAINAGE DEVICES, ASPHALT, ETC., SHALL BE REMOVED, EXCEPT AS OTHERWISE DIRECTED BY THE BUILDER OR CONSTRUCTION PLANS. NO PROCESSING OF THIS MATERIAL WILL BE ALLOWED, UNLESS APPROVED BY SOILS ENGINEER OR BY BUILDER. NO ONSITE BURNING

3. ONCE THE VEGETATION HAS BEEN REMOVED TO THE SATISFACTION OF THE SOILS ENGINEER, THE AREA OF THE SITE TO RECEIVE THE FILL SHALL BE SCARIFIED AND RE-COMPACTED TO A DEPTH OF AT LEAST 12 INCHES OR AS DIRECTED BY THE SOILS ENGINEER. THE CONTRACTOR SHALL NOT PLACE FILL UNTIL THE SOILS ENGINEER HAS RELEASED THE AREA FOR FILL PLACEMENT WITH VERBAL APPROVAL.

4. DURING ALL CLEARING, GRUBBING, STRIPPING, SITE PREPARATION, EXCAVATION AND GRADING, DUST CONTROL SHALL BE MAINTAINED BY THE CONTRACTOR TO THE SPECIFICATIONS OF THE BUILDER, SOILS ENGINEER, LOCAL GOVERNING JURISDICTION, TRI-COUNTY HEALTH AND CDPHE. DUST CONTROL SHALL BE REQUIRED UNTIL THE BUILDER HAS ACCEPTED THE SITE.

5. ALL VEGETATION, WITH THE EXCEPTION OF TOPSOIL, AND DEBRIS RESULTING FROM CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND HAULED TO AN APPROPRIATE WASTE DISPOSAL FACILITY, UNLESS OTHERWISE DIRECTED BY BUILDER.

B. EXCAVATION AND GRADING

1. THE WORK SHALL CONSIST OF ALL LABOR, FUEL, EQUIPMENT AND MATERIALS, NECESSARY TO COMPLETE THE EXCAVATION AND EMBANKMENT (MASS GRADING) IN CONFORMANCE WITH THE APPROVED GRADING PLANS, TO A TOLERANCE OF TWO TENTHS OF ONE FOOT.

2. THE CONTRACTOR SHALL HAVE SUITABLE AND SUFFICIENT EQUIPMENT ON THE JOB SITE TO PROCESS AND COMPACT THE AMOUNT OF FILL BEING PLACED, IN CONFORMANCE WITH THE SPECIFICATIONS DEFINED BY THE PROJECT SOILS REPORT AND THE SITE SOILS ENGINEER.

3. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER ITS ENTIRE AREA AND THE COMPACTION EQUIPMENT SHALL MAKE SUFFICIENT TRIPS TO ENSURE THAT THE REQUIRED DENSITY HAS BEEN OBTAINED, PER SOILS ENGINEERS TESTING AND APPROVALS.

4. COMPACTION, MOISTURE-DENSITY TESTING SHALL BE PROVIDED BY THE BUILDER IN THE LOCATIONS AND FREQUENCY DIRECTED BY THE SOILS ENGINEER. THIS TESTING SHALL BE CONDUCTED BY THE SOILS ENGINEER TO ENSURE THAT THE FILL CONFORMS TO THE REQUIREMENTS OF THE PROJECT SOILS REPORT. THE CONTRACTOR AND HIS EMPLOYEES SHALL PROVIDE ASSISTANCE TO THE SOILS ENGINEER AS REQUESTED. TO FACILITATE FIELD COMPACTION AND MOISTURE-DENSITY TESTING, THE CONTRACTOR SHALL EXCAVATE TEST PITS IN LOCATIONS AND AT DEPTHS REQUESTED BY THE SOILS ENGINEER. IN THE EVENT OF A FAILED COMPACTION TEST, AS DETERMINED BY THE SOILS ENGINEER, THE CONTRACTOR SHALL REWORK THE MATERIAL UNTIL IT CONFORMS TO THE SPECIFICATIONS OF THE PROJECT SOILS REPORT TO THE SATISFACTION OF THE SOILS ENGINEER. THE COST OF ANY REWORKING SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND NO ADDITIONAL COMPENSATION SHALL BE CONSIDERED. ALL REWORK SHALL BE AT THE SOLE EXPENSE OF THE CONTRACTOR.

- 5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND TRANSPORTING ALL CONSTRUCTION WATER NECESSARY TO COMPLETE THE WORK AT THEIR SOLE EXPENSE.
- 6. ALL STOCKPILING AND WASTING OF MATERIAL WILL BE CONSIDERED INCIDENTAL TO THE CONTRACTOR'S PRICING, AND NO COMPENSATION WILL BE MADE FOR STOCKPILING OR RETURNING THE STOCKPILED MATERIAL TO THE PROJECT AS COMPACTED FILL OR OTHERWISE. STOCKPILE LOCATIONS SHALL BE APPROVED BY THE BUILDER.
- 7. ROCK ENCOUNTERED, BOTH RIPPABLE AND NON-RIPPABLE, SHALL BE REMOVED FROM THE SITE AT THE DISCRETION OF THE SOILS ENGINEER AND BUILDER AND SHALL BE INCLUDED AS A CONTRACTOR'S UNIT BID PRICE.

- 1. DELETERIOUS MATERIAL NOT DISPOSED OF DURING CLEARING OR DEMOLITION SHALL BE REMOVED FROM THE FILL AS DIRECTED BY THE SOILS ENGINEER
- 2. MATERIAL THAT IS CONSIDERED UNSUITABLE BY THE SOILS ENGINEER SHALL NOT BE USED IN THE COMPACTED FILL.

3. WHERE THE SLOPE RECEIVING FILL EXCEEDS A RATIO OF FIVE-HORIZONTAL TO ONE VERTICAL, THE FILL SHALL BE KEYED WITH A MINIMUM KEY WIDTH OF 6 FEET AND BENCHED THROUGH ALL UNSUITABLE TOPSOIL, COLLUVIUM, ALLUVIUM OR CREEP MATERIAL INTO SOUND BEDROCK OR FIRM MATERIAL OR AS DIRECTED BY THE SOILS ENGINEER. ALL NECESSARY EXCAVATION PROCESSES MUST CONFORM TO ALL OSHA REGULATIONS AND GUIDELINES.

4. NO FILL MATERIAL SHALL BE PLACED UPON FROZEN SUB-GRADE, SPREAD OR ROLLED WHILE IT IS FROZEN OR THAWING OR DURING UNFAVORABLE WEATHER CONDITIONS.

D. CERTIFICATION

1. CERTIFICATION OF THE GRADING SHALL BE DONE IN A TIMELY MANNER. CONTRACTOR SHALL PROVIDE NOTICE TO BUILDER WHEN AN AREA IS READY TO BE CERTIFIED. CONTRACTOR SHALL HAVE 2 DAYS FROM THE TIME THE GRADE CERTIFICATION STAKING IS COMPLETE TO REGRADE ALL AREAS GREATER THAN 0.20' VARIANCE FROM THE APPROVED PLAN GRADES. . UNTIL THE SITE IS ACCEPTED BY BUILDER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DRAIN AND/OR PUMP ALL AREAS WHERE WATER HAS COLLECTED AND PROTECT THE WORK SITE FROM DAMAGE AS A RESULT OF RAIN, SNOW, SLEET, HAIL OR ANY OTHER FORM OF PRECIPITATION, AT CONTRACTOR'S SOLE

ADDITIONAL PROVISIONS

- A. UPON COMPLETION OF THE WORK, THE SITE SHALL BE RIPPED OR SURFACE RUFFENED PERPENDICULAR TO SLOPE AS DIRECTED BY BUILDER, AND ALL TRASH REMOVED, TO THE SATISFACTION OF THE BUILDER.
- B. ALL HAUL ROADS OR OTHER AREAS OUTSIDE OF THE PROJECT THAT HAVE BEEN DISTURBED BY THE GRADING OPERATION SHALL BE RETURNED TO THEIR ORIGINAL GRADE, BLADED SMOOTH AND/OR RIPPED TO THE SATISFACTION OF THE BUILDER.
- C. THE CONTRACTOR, AT HIS EXPENSE, SHALL REMOVE SPILLAGE AND/OR TRACKING RESULTING FROM HAULING OR CONSTRUCTION OPERATIONS ALONG OR ACROSS ANY PUBLICLY TRAVELED ROADWAYS, IMMEDIATELY.
- D. CONTRACTOR SHALL COMPLY WITH THE APPROVED EROSION CONTROL PLAN. CONTRACTOR SHALL REPAIR/REPLACE ANY DAMAGE CAUSED BY THE CONTRACTOR DURING THE PERFORMANCE OF THEIR WORK. THE COST OF REPAIR OR REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR AND INCLUDED IN THEIR SCOPE OF WORK.
- E. CONTROL OF NUISANCE WATER OR CONSTRUCTION WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE SCOPE OF WORK. CONTRACTOR SHALL CONTROL SURFACE RUNOFF WATER TO AVOID DAMAGE TO ADJOINING PROPERTIES OR TO FINISHED WORK ON THE SITE. THE CONTRACTOR SHALL EMPLOY APPROPRIATE MEASURES TO PREVENT EROSION OF GRADED AREAS UNTIL SUCH TIME AS PERMANENT DRAINAGE AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED OR UNTIL ROUGH GRADE ACCEPTANCE. ALL MEASURES SHALL BE IN CONFORMANCE WITH GESC AND SWMP PLANS FOR THE SITE.
- F. ALL ON-SITE MATERIALS, HAZARDOUS MATERIALS, SHALL BE MAINTAINED, CONTROLLED, STORED AND CONTAINED IN ACCORDANCE WITH ALL LOCAL, STATE. AND FEDERAL RULES AND REGULATIONS. ALL COSTS ASSOCIATED SHALL BE THE CONTRACTORS RESPONSIBILITY.
- G. EXCAVATION OF SUBSURFACE MATERIAL WHICH CANNOT BE REMOVED BY RIPPING WITH D8 DOZER SHALL BE APPROVED BY THE BUILDER IN ADVANCE AND SHALL BE PAID AT STANDARD EQUIPMENT RATES. NO PAYMENT SHALL BE MADE FOR LOSS TIME AND CONTRACTOR SHALL SUBMIT EXTRA WORK TIME SHEET EACH DAY FOR SIGNATURE BY THE BUILDER. PAYMENT SHALL BE LIMITED TO RIPPING EQUIPMENT ONLY.

Know what's **below**.

ENGINEERING DIVISION ACCEPTANCE BLOCK

ENGINEER'S STATEMENT

THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY CITY OF LONE TREE FOR GRADING AND EROSION

THE GRADING, EROSION, AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF LONE TREE GRADING, EROSION, AND SEDIMENT CONTROL (GESC) CRITERIA

KURTIS WILLIAMS, P.E. COLORADO P.E. 34270 FOR AND ON BEHALF OF JR ENGINEERING ONLO

CITY OF LONE TREE

CONTROL IMPROVEMENTS ONLY.

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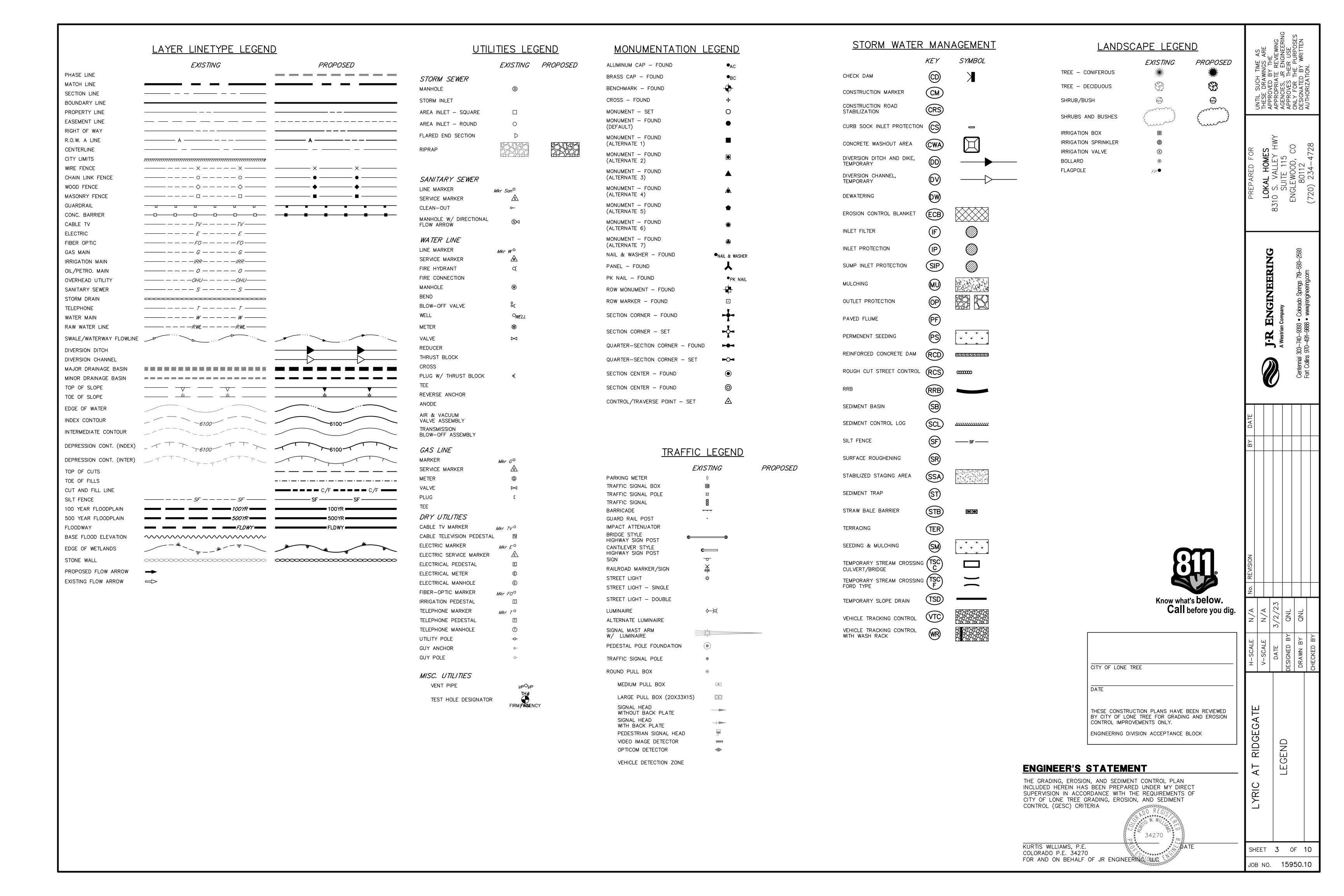
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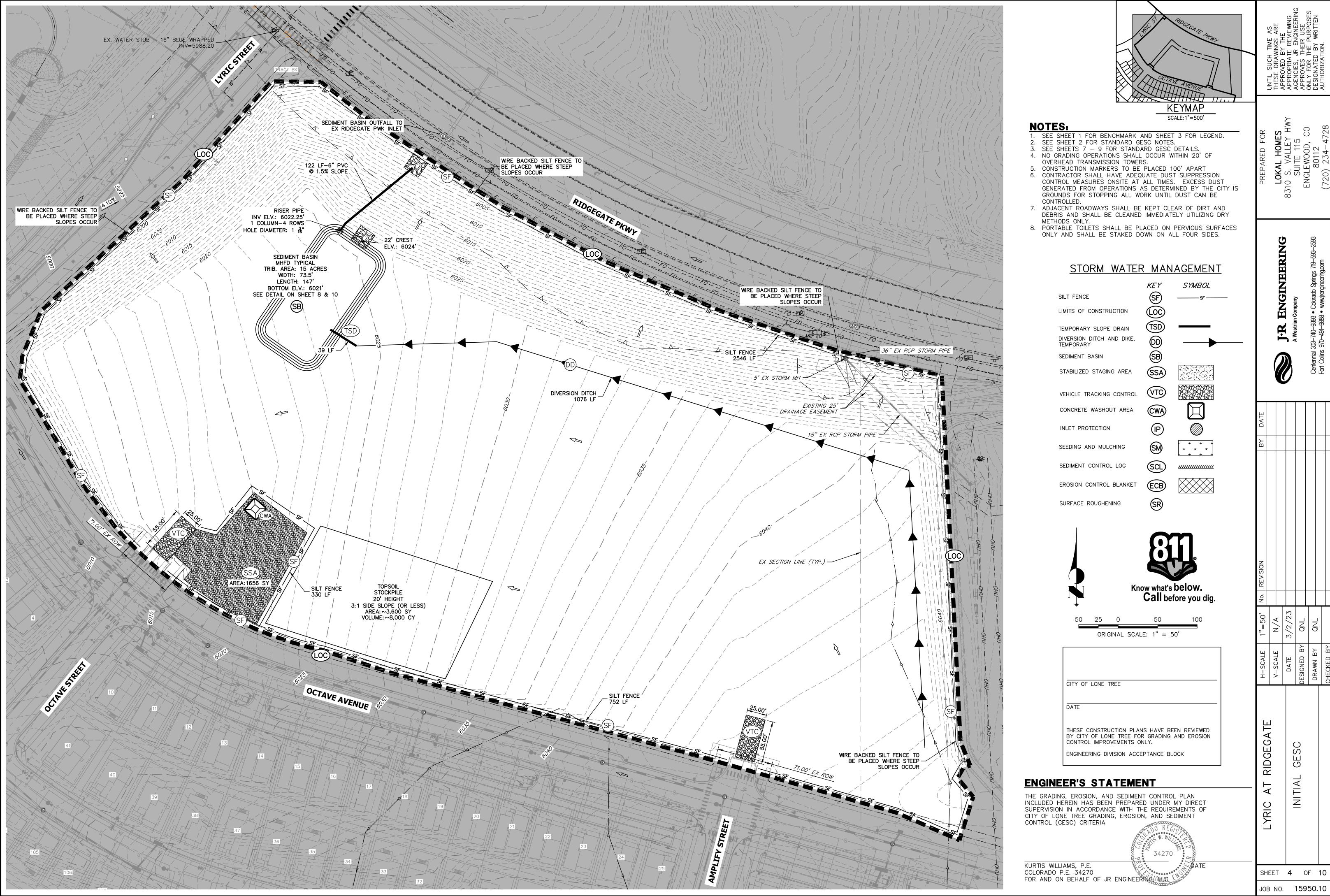
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SHEET 2 OF 10

JOB NO. 15950.10

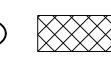




SHEET 4 OF 10



- SEE SHEET 1 FOR BENCHMARK AND SHEET 3 FOR LEGEND.
- CONTRACTOR SHALL HAVE ADEQUATE DUST SUPPRESSION
- 7. ADJACENT ROADWAYS SHALL BE KEPT CLEAR OF DIRT AND
- 8. PORTABLE TOILETS SHALL BE PLACED ON PERVIOUS SURFACES



Know what's below. Call before you dig.

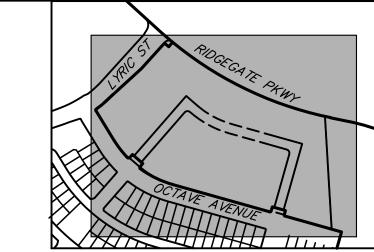
INCLUDED HEREIN HAS BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF LONE TREE GRADING, EROSION, AND SEDIMENT

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SHEET 5 OF 10 JOB NO. 15950.10





NOTES:

- . SEE SHEET 1 FOR BENCHMARK AND SHEET 3 FOR LEGEND. SEE SHEET 2 FOR STANDARD GESC NOTES.
 SEE SHEETS 7 - 9 FOR STANDARD GESC DETAILS.
 NO GRADING OPERATIONS SHALL OCCUR WITHIN 20' OF OVERHEAD TRANSMISSION TOWERS.
- 5. CONSTRUCTION MARKERS TO BE PLACED 100' APART CONTRACTOR SHALL HAVE ADEQUATE DUST SUPPRESSION CONTROL MEASURES ONSITE AT ALL TIMES. EXCESS DUST
- GENERATED FROM OPERATIONS AS DETERMINED BY THE CITY IS GROUNDS FOR STOPPING ALL WORK UNTIL DUST CAN BE CONTROLLED. 7. ADJACENT ROADWAYS SHALL BE KEPT CLEAR OF DIRT AND DEBRIS AND SHALL BE CLEANED IMMEDIATELY UTILIZING DRY
- METHODS ONLY.

 8. PORTABLE TOILETS SHALL BE PLACED ON PERVIOUS SURFACES ONLY AND SHALL BE STAKED DOWN ON ALL FOUR SIDES.

FINAL GESC PLAN NOTES:

1. REFERENCE LANDSCAPE PLANS FOR MORE DETAIL ON SEEDING AND MULCHING LOCATION AND TYPE.

STORM WATER MANAGEMENT

SILT FENCE LIMITS OF CONSTRUCTION

TEMPORARY SLOPE DRAIN DIVERSION DITCH AND DIKE, TEMPORARY

SEDIMENT BASIN STABILIZED STAGING AREA

VEHICLE TRACKING CONTROL

CONCRETE WASHOUT AREA

INLET PROTECTION SEEDING AND MULCHING

ORIGINAL SCALE: 1" = 50'

SEDIMENT CONTROL LOG

EROSION CONTROL BLANKET

SURFACE ROUGHENING

Know what's below. Call before you dig.

CITY OF LONE TREE
DATE

THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY CITY OF LONE TREE FOR GRADING AND EROSION CONTROL IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

ENGINEER'S STATEMENT

THE GRADING, EROSION, AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF LONE TREE GRADING, EROSION, AND SEDIMENT CONTROL (GESC) CRITERIA

KURTIS WILLIAMS, P.E. COLORADO P.E. 34270 FOR AND ON BEHALF OF JR ENGINEERING OMAC

RIDGE

SHEET 6 OF 10 JOB NO. 15950.10



CITY OF LONE TREE ENGINEER'S SIGNATURE AFFIXED TO THIS DOCUMENT INDICATES THE CITY OF LONE TREE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION, HAS REVIEWED THE DOCUMENT AND FOUND IT IN GENERAL COMPLIANCE WITH THE CITY OF LONE TREE SUBDIVISION REGULATIONS AND/OR THE GRADING, EROSION AND SEDIMENT CONTROL (GESC) CRITERIA MANUAL. THE CITY OF LONE TREE ENGINEER, THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY (OTHER THAN AS STATED ABOVE) FOR THE COMPLETENESS AND/OR ACCURACY OF THESE DOCUMENTS.

- THE ADEQUACY OF THIS GESC PLAN LIES WITH THE ORIGINAL DESIGN ENGINEER.
- GESC PLAN SHALL BE CONSIDERED VALID FOR TWO (2) YEARS FROM THE DATE OF ACCEPTANCE BY THE CITY OF LONE TREE, AFTER WHICH TIME THE PLAN SHALL BE VOID AND WILL BE SUBJECT TO RE-REVIEW AND
- ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF LONE TREE ENGINEERING DIVISION. THE CITY OF LONE TREE RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO THE GESC MANUAL, GESC PLAN OR GESC PERMIT.
- THE PLACEMENT OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE IN ACCORDANCE WITH THE CITY OF LONE TREE ACCEPTED GESC PLAN AND THE CITY OF LONE TREE GESC MANUAL
- VARIATION IN MATERIAL, TYPE OR LOCATION OF EROSION AND SEDIMENT CONTROL BMPs FROM THE CITY OF
- LONE TREE ACCEPTED GESC PLAN WILL REQUIRE APPROVAL FROM AN ACCOUNTABLE REPRESENTATIVE OF THE CITY OF LONE TREE ENGINEERING DIVISION.
- AFTER THE GESC PLAN HAS BEEN ACCEPTED, THE GESC PERMIT APPLIED FOR, FEES AND FISCAL SECURITY SUBMITTED TO THE CITY, AND THE GESC FIELD MANUAL OBTAINED AND REVIEWED, THE CONTRACTOR MAY INSTALL THE INITIAL—STAGE EROSION AND SEDIMENT CONTROL BMPs INDICATED ON THE ACCEPTED GESC PLAN.
- THE FIRST BMP TO BE INSTALLED ON THE SITE SHALL BE CONSTRUCTION FENCE, MARKERS, OR OTHER APPROVED MEANS OF DEFINING THE LIMITS OF CONSTRUCTION, INCLUDING CONSTRUCTION LIMITS ADJACENT TO STREAM CORRIDORS AND OTHER AREAS TO BE PRESERVED.
- AFTER INSTALLATION OF THE INITIAL-STAGE EROSION AND SEDIMENT CONTROL BMPs, THE PERMITTEE SHALL CALL THE CITY OF LONE TREE CONSTRUCTION INSPECTOR AT (303) 662-8112 TO SCHEDULE A PRECONSTRUCTION MEETING AT THE PROJECT SITE. THE REQUEST SHALL BE MADE A MINIMUM OF THREE BUSINESS DAYS PRIOR TO THE REQUESTED MEETING TIME. NO CONSTRUCTION ACTIVITIES SHALL BE PLANNED WITHIN 24 HOURS AFTER THE
- THE OWNER OR OWNER'S REPRESENTATIVE, THE GESC MANAGER, THE GENERAL CONTRACTOR, AND THE GRADING SUBCONTRACTOR, IF DIFFERENT FROM THE GENERAL CONTRACTOR, MUST ATTEND THE PRECONSTRUCTION MEETING. IF ANY OF THE REQUIRED PARTICIPANTS FAIL TO ATTEND THE PRECONSTRUCTION MEETING, OR IF THE GESC FIELD MANUAL IS NOT ON SITE, OR IF THE INSTALLATION OF THE INITIAL BMPs ARE NOT APPROVED BY THE CITY OF LONE TREE GESC INSPECTOR, THE APPLICANT WILL HAVE TO PAY A REINSPECTION FEE, ADDRESS ANY PROBLEMS WITH BMP INSTALLATION, AND CALL TO RESCHEDULE THE MEETING, WITH A CORRESPONDING DELAY IN THE START OF CONSTRUCTION. THE CITY OF LONE TREE STRONGLY ENCOURAGES THE APPLICANT TO HAVE THE ENGINEER OF RECORD AT THE PRECONSTRUCTION MEETING. FAILURE OF THE ENGINEER OF RECORD TO ATTEND MAY RESULT IN A
- CONSTRUCTION SHALL NOT BEGIN UNTIL THE CITY OF LONE TREE GESC INSPECTOR APPROVES THE INSTALLATION OF THE INITIAL BMPs AND THE APPROVED GESC PERMIT IS PICKED UP FROM THE CITY AND IS IN-HAND ON THE SITE. THE COMPLETED PERMIT WILL BE AVAILABLE WITHIN 24-HOURS AFTER THE INSTALLATION OF THE INITIAL BMPs ARE
- . THE GESC MANAGER SHALL STRICTLY ADHERE TO THE CITY OF LONE TREE—APPROVED LIMITS OF CONSTRUCTION AT ALL TIMES. THE CITY OF LONE TREE ENGINEERING DIVISION MUST APPROVE ANY CHANGES TO THE LIMITS OF CONSTRUCTION AND, AT THE DISCRETION OF THE ENGINEERING DIVISION, ADDITIONAL EROSION/SEDIMENT CONTROLS MAY BE REQUIRED IN ANY ADDITIONAL AREAS OF CONSTRUCTION.
- 3. THE MAXIMUM AREA OF CONSTRUCTION SHALL BE LIMITED TO 40 ACRES (70 ACRES IF APPROVED FOR SOIL MITIGATION OPERATIONS) TO REDUCE THE AMOUNT OF LAND DISTURBED AT ANY ONE TIME. LARGER SITES SHALL BE DIVIDED INTO PHASES THAT ARE EACH 40 (OR 70) ACRES OR LESS IN SIZE, THESE PROJECTS SHALL CONDUCT CITY OF LONE TREE AT THE START AND COMPLETION OF EACH PHASE SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE GESC MANUAL AND/OR GESC FIELD MANUAL.
- 14. PRIOR TO ACTUAL CONSTRUCTION, THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES. FOR INFORMATION, CONTACT THE DENVER INTER-UTILITY GROUP AT 1-800-922-1987 OR FAX AT (303) 534-6700.
- 15. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS.
- 16. THE GESC PERMIT SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR, UNLESS EXTENDED. 17. A COPY OF THE GESC PERMIT, ACCEPTED GESC PLANS AND THE GESC FIELD MANUAL SHALL BE ON SITE AT ALL
- 18. THE GESC MANAGER SHALL BE RESPONSIBLE FOR ENSURING THAT THE SITE REMAINS IN COMPLIANCE WITH THE GESC PERMIT AND SHALL BE THE PERMITTEE'S CONTACT PERSON WITH THE CITY FOR ALL MATTERS PERTAINING TO THE GESC PERMIT. THE GESC MANAGER SHALL BE PRESENT AT THE SITE THE MAJORITY OF THE TIME AND SHALL E AVAILABLE THROUGH A 24-HOUR CONTACT NUMBER. IN THE EVENT THAT THE CONTRACTOR'S GESC MANAGER IS NOT ON SITE AND CANNOT BE REACHED DURING A VIOLATION, THE ALTERNATE GESC MANAGER SHALL BE CONTACTED. IF NEITHER THE GESC MANAGER NOR ALTERNATE GESC MANAGER CAN BE CONTACTED DURING ANY
- 19. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE THROUGH THE CITY OF LONE TREE—APPROVED ACCESS POINT. A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT ALL ACCESS POINTS ON THE SITE. ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES MAY BE ADDED WITH AUTHORIZATION FROM THE CITY OF LONE TREE
- 20. THE GESC MANAGER IS RESPONSIBLE FOR CLEANUP OF SEDIMENT OR CONSTRUCTION DEBRIS TRACKED ONTO ADJACENT PAVED AREAS. PAVED AREAS INCLUDING STREETS ARE TO BE KEPT CLEAN THROUGHOUT BUILD—OUT AND SHALL BE CLEANED, WITH A STREET SWEEPER OR SIMILAR DEVICE, AT FIRST NOTICE OF ACCIDENTAL TRACKING OR AT THE DISCRETION OF THE CITY OF LONE TREE GESC INSPECTOR. STREET WASHING IS NOT ALLOWED. THE CITY OF LONE TREE RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO ENSURE AREA STREETS ARE KEPT FREE

APPROVED EROSION AND SEDIMENT CONTROL BMPS SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE GESC MANAGER SHALL INSPECT ALL BMPS IN ACCORDANCE WITH THE ACCEPTED GESC PLAN AND GESC MANUAL. ALL NECESSARY MAINTENANCE AND REPAIR ACTIVITIES SHALL BE COMPLETED WITHIN 48 HOURS FOR LEVEL III VIOLATIONS, ON DIMMEDIATELY FOR LEVEL II VIOLATIONS, OR AS DIRECTED BY A CITY OF LONE TREE GESC INSPECTOR. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED.

DETAIL SHEET

<u>NO.</u> <u>NO.</u>

(1)

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(RRB) REINFORCED ROCK BERM

(SCL) SEDIMENT CONTROL LOG

(SM) SEEDING AND MULCHING

(SSA) STABILIZED STAGING AREA

(TSD) TEMPORARY SLOPE DRAIN

(TSC) TEMPORARY STREAM CROSSING

(VTC) VEHICLE TRACKING CONTROL

ROCK AND RIPRAP GRADATIONS

(WW) VTC WITH WHEEL WASH

(SR) SURFACE ROUGHENING

(SB) SEDIMENT BASIN

(ST) SEDIMENT TRAP

(SF) SILT FENCE

(TER) TERRACING

(CS) CURB SOCK

LOC LIMITS OF CONSTRUCTION

(RRC) RRB FOR CULVERT PROTECTION

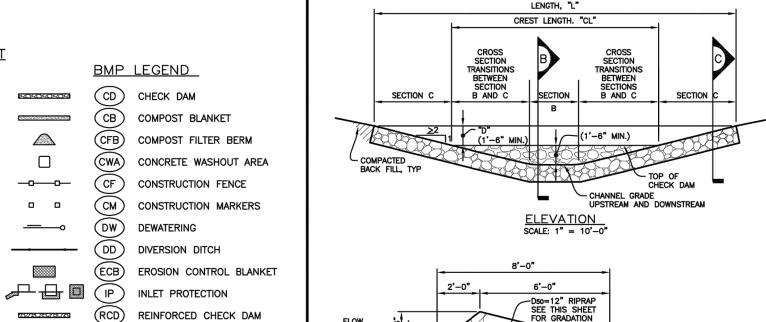
- 22. STRAW BALES ARE NOT A GESC-ACCEPTED SEDIMENT CONTROL BMP.
- 23. TOPSOIL SHALL BE STRIPPED AND STOCKPILED IN THE LOCATION SHOWN ON THE ACCEPTED GESC PLAN. THE GESC MANAGER SHALL SCHEDULE AN INSPECTION WITH THE CITY OF LONE TREE GESC INSPECTOR AS SOON AS TOPSOIL STRIPPING IS COMPLETED. FAILURE TO SCHEDULE SUCH INSPECTION OR FAILURE TO STOCKPILE TOPSOIL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER. THE STOP WORK ORDER SHALL REMAIN IN PLACE UNTIL TOPSOIL IS STOCKPILED ON SITE OR APPROPRIATE SOIL AMENDMENTS ARE STOCKPILED ON SITE.
- 24. THE ACCEPTED GESC PLAN MAY REQUIRE CHANGES OR ALTERATIONS AFTER APPROVAL TO MEET CHANGING SITE OR PROJECT CONDITIONS OR TO ADDRESS INEFFICIENCIES IN DESIGN OR INSTALLATION. THE GESC MANAGER SHALL OBTAIN PRIOR APPROVAL FROM THE DESIGN ENGINEER AND THE CITY OF LONE TREE ENGINEERING FOR ANY
- 25. LINING OF TEMPORARY SWALES AND DITCHES SHALL BE IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- 26. NO PERMANENT EARTH SLOPES GREATER THAN 3:1 SHALL BE ALLOWED 27. ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE LIMITS OF CONSTRUCTION DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE GESC MANAGER, THE GESC MANAGER SHALL BE HELD RESPONSIBLE FOR OBTAINING ACCESS RIGHTS TO ADJACENT PROPERTY, IF NEEDED, AND REMEDIATING ANY ADVERSE IMPACTS TO
- ADJACENT WATERWAYS, WETLANDS, PROPERTIES, ETC. RESULTING FROM WORK DONE AS PART OF THIS PROJECT. 28. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO
- MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND. 29. SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION, NO STOCKPILES SHALL BE PLACED WITHIN ONE HUNDRED
- 30. ALL CHEMICAL OR HAZARDOUS MATERIAL SPILLS WHICH MAY ENTER WATERS OF THE STATE OF COLORADO, WHICH INCLUDE BUT ARE NOT LIMITED TO, SURFACE WATER, GROUND WATER AND DRY GULLIES OR STORM SEWER LEADING TO SURFACE WATER, SHALL BE IMMEDIATELY REPORTED TO THE CDPHE PER CRS 25-8-601, AND THE CITY LONE TREE. RELEASES OF PETROLEUM PRODUCTS AND CERTAIN HAZARDOUS SUBSTANCES LISTED UNDER THE FEDERAL CLEAN WATER ACT (40 CFR PART 116) MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER AS WELL AS THE CDPHE. THE APPLICABLE CONTACT INFORMATION (SEE APPENDIX A, DOUGLAS COUNTY GESC MANUAL - SUBJECT TO CHANGE) IS: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT TOLL—FREE 24—HOUR ENVIRONMENTAL EMERGENCY SPILL REPORTING LINE 1-877-518-5608; NATIONAL RESPONSE CENTER (24-HOUR NATIONAL SPILL RESPONSE) 1-800-424-8802; CITY OF LONE TREE PUBLIC WORKS (303) 662-8112. SPILLS THAT POSE AN IMMEDIATE RISK TO HUMAN LIFE SHALL BE REPORTED TO 911. FAILURE TO REPORT AND CLEAN UP
- 31. ALL WORK ON SITE SHALL STAY A MINIMUM OF ONE HUNDRED (100) FEET AWAY FROM ANY DRAINAGE WAY, WETLAND, ETC. UNLESS OTHERWISE NOTED ON AN ACCEPTED CITY OF LONE TREE GESC PLAN.

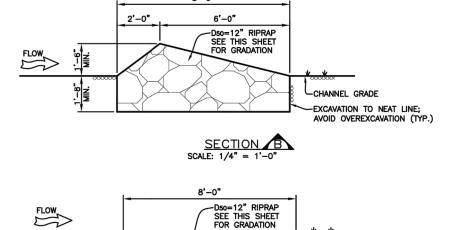
ANY SPILL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER.

- 32. ALL PROJECTS SHALL BALANCE EARTHWORK QUANTITIES ON SITE. IN THE EVENT A VARIANCE IS GRANTED BY THE CITY ENGINEER TO ALLOW IMPORT OR EXPORT OF MATERIAL, THE PERMITEE SHALL HAVE A GESC PERMIT IN HAND FOR THE IMPORT OR EXPORT SITE PRIOR TO ANY TRANSPORTING OF EARTHEN MATERIAL. THE GESC MANAGER SHALL NOTIFY THE CITY OF LONE TREE GESC INSPECTOR OF THE LOCATION AND GESC PERMIT NUMBERS OF BOTH
- THE EXPORTING AND IMPORTING SITES PRIOR TO ANY IMPORT/EXPORT OPERATIONS. 33. THE USE OF REBAR, STEEL STAKES OR STEEL FENCE POSTS FOR STAKING OR SUPPORT OF ANY EROSION OR SEDIMENT CONTROL BMP IS PROHIBITED (EXCEPT STEEL TEE-POSTS FOR USE IN SUPPORTING CONSTRUCTION
- THE CLEANING OF CONCRETE DELIVERY TRUCK CHUTES IS RESTRICTED TO APPROVED CONCRETE WASH OU LOCATIONS ON THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE TO THE STORM SEWER SYSTEM IS PROHIBITED, ALL CONCRETE WASTE SHALL BE PROPERLY CLEANED UP AND DISPOSED AT AN
- 35. ALL DEWATERING ON SITE SHALL BE COORDINATED WITH A CITY OF LONE TREE GESC INSPECTOR AND BE FREE OF SEDIMENT IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- 36. ALL PERMANENT INSTALLATIONS OF PIPES FOR STORM SEWERS, SLOPE DRAINS, AND CULVERTS, TOGETHER WITH
- RIPRAP APRONS OR OTHER INLET AND OUTLET PROTECTION, REQUIRE INSPECTION BY THE CITY OF LONE TREE 37. ALL DISTURBED AREAS SHALL BE DRILL SEEDED AND CRIMP MULCHED IN ACCORDANCE WITH THE DOUGLAS COUNTY GESC MANUAL CRITERIA AND THE CITY OF LONE TREE SEEDING AND MULCHING DETAIL (#17) INCLUDED HEREIN

WITHIN THIRTY DAYS OF INITIAL EXPOSURE OR WITHIN SEVEN DAYS OF SUBSTANTIAL COMPLETION (AS DEFINED BY

- HE CITY OF LONE TREE) OF AN AREA, WHICHEVER IS LESS. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR 38. HYDRAULIC SEEDING AND HYDRAULIC MULCHING ARE NOT AN ACCEPTABLE METHOD OF SEEDING OR MULCHING IN
- 39. NO CURB AND GUTTER PERMITS SHALL BE ISSUED UNTIL ALL DISTURBED AREAS ARE DRILL SEEDED AND CRIMP
- 40. NO PAYING PERMITS SHALL BE ISSUED UNTIL ALL INTERIM INLET PROTECTION IS INSTALLED AND APPROVED BY THE
- 41. A FINAL GESC INSPECTION SHALL BE CONDUCTED A MINIMUM OF TWO WEEKS PRIOR TO THE ANTICIPATED REQUEST FOR CERTIFICATE OR TEMPORARY CERTIFICATE OF OCCUPANCY OR INITIAL ACCEPTANCE.





CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:

 LOCATIONS OF CHECK DAMS.
 CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
 LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
- CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.

CHANNEL GRADE

-EXCAVATION TO NEAT LIN

AVOID OVEREXCAVATION (TYP.)

- 3. RIPRAP UTILIZED FOR CHECK DAMS SHALL HAVE A $\rm D_{50}$ MEDIAN STONE SIZE OF 12". 4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'-8".
- 5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1'-6" HIGHER THAN THE CENTER OF THE CHECK DAM. CHECK DAM MAINTENANCE NOTES
- THE GESC MANAGER SHALL INSPECT CHECK DAMS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY. SEDIMENT ACCUMULATED UPSTREAM OF CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH
 UPSTREAM OF CHECK DAM IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.
- CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE CITY.

CHECK DAM



CLASS I COMPOST FILTER BERMS

COMPOST BLANKET AND COMPOST FILTER BERM

-2" CLASS I COMPOST BLANKE

- 1. SEE PLAN VEW FOR LENGTH OF COMPOST FILTER BERM.
- MAY BE USED IN PLACE OF STRAW MULCH OR EROSION CONTROL BLANKET IN AREAS WHERE ACCESS IS DIFFICULT DUE TO LANDSCAPING OR OTHER OBJECTS OR IN AREAS WHERE A SMOOTH TURF GRASS FINISH IS DESIRED.
- SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL; SHALL BE PROHIBITED IN AREAS OF POSSIBLE CONCENTRATED FLOW. 4. SOIL PREPARATION SHALL BE COMPLETE PER THE SPECIFICATIONS OUTLINED IN THESE CRITERIA PRIOR TO APPLICATION.
- 5. WHEN TURF GRASS FINISH IS NOT DESIRED, SURFACE ROUGHENING ON SLOPES SHALL TAKE PLACE PRIOR TO APPLICATION. SHALL BE EVENLY APPLIED AT A DEPTH OF 2 INCH.
- 8. SEEDING SHALL BE DRILLED PRIOR TO THE APPLICATION OF COMPOST OR SEED MAY BE COMBINED AND BLOWN WITH THE PNEUMATIC BLOWER.
- COMPOST FILTER BERM SHALL BE UTILIZED ON SLOPES WITH A MAXIMUM SPACING OF 15 FEET PER THE REQUIREMENTS FOUND IN THE COMPOST FILTER BERM SECTION. 10. THE GESC MANAGER SHALL INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
- CLASS I COMPOST FOR COMPOST BLANKET
 STABLE TO VERY STABLE MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE N RATIO

 MATURITY INDICATOR EXPRESSED AS

CARBON TO NITROGEN RATIO
TESTED FOR CLOPYRALID
MOISTURE CONTENT RIMARY, SECONDARY NUTRIENTS;

TRACE ELEMENT
TESTING AND TEST REPORT SUBMITTAL STA + CLOPYRALID CHEMICAL CONTAMINANTS

MEET OR EXCEED US EPA CLASS A STANDARD,
40 CFR 503.1 TABLES 1 & 3 LEVELS

MINIMUM MANUFACTURING/PRODUCTION
REQUIREMENT

FULLY PERMITTED UNDER COLORADO DEPARTMENT
OF PUBLIC HEALTH AND ENVIRONMENT, HAZARDOUS

COMPOST BLANKET NOTES:

1. SEE PLAN VIEW FOR AREA OF COMPOST BLANKET

7. MAYBE APPLIED UTILIZING PNEUMATIC BLOWER, OR BY HAND.

GERMINATION AND HEALTH NOTE: CLOPYRALID IS THE COMMON NAME OF A HERBICIDE THAT KILLS BROAD-LEAVED WEEDS SUCH AS DANDELIONS, CLOVER AND THISTLE.

MATERIALS AND WASTE MANAGEMENT DIVISION

LOW

COMPOST BLANKET (2)

COMPOST FILTER BERM NOTES:

GERMINATION AND HEALTH

12

COMPOST FILTER BERM DETAI

2. SHALL BE APPLIED TO ALL SLOPES RECEIVING A COMPOST BLANKET AT 15' INCREMENTS.

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- 3. FILTER BERMS SHALL RUN PARALLEL TO THE CONTOUR. 4. FILTER BERMS SHALL BE A MINIMUM OF 1' H x 2' W. 5. FILTER BERMS SHALL BE APPLIED UTILIZING PNEUMATIC BLOWER, OR BY HAND.
- SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL; SHALL BE PROHIBITED IN AREAS OF POSSIBLE CONCENTRATED FLOW.

— 2" CLASS | COMPOST BLANKET

- SOIL PREPARATION SHALL BE COMPLETE PER THE SPECIFICATIONS OUTLINED IN THESE CRITERIA PRIOR TO APPLICATION.
- 8. WHEN TURF GRASS FINISH IS NOT DESIRED, SURFACE ROUGHENING ON SLOPES SHALL TAKE PLACE PRIOR TO APPLICATION.
- SEEDING SHALL BE DRILLED BEFORE THE APPLICATION OF COMPOST OR SEED MAY BE COMBINED AND BLOWN WITH THE PNEUMATIC BLOWER. 10. THE GESC MANAGER SHALL INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

	OF THE COMPOST FILTER BERM SHALL BE A CLASS I DWING PHYSICAL, CHEMICAL, AND BIOLOGICAL PARAMETERS:
PARAMETERS	CLASS I COMPOST FOR COMPOST FILTER BERM
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE
SOLUBLE SALTS	MAXIMUM 5mmhos/cm
PH	6.0 - 8.0
AG INDEX	> 10
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/VIGOR	80+/80+
MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE N RATIO	< 4
MATURITY INDICATOR EXPRESSED AS CARBON TO NITROGEN RATIO	20:1
TESTED FOR CLOPYRALID	YES/NEGATIVE RESULT
MOISTURE CONTENT	30-60 %
ORGANIC MATTER CONTENT	25-45 % OF DRY WEIGHT
PARTICLE SIZE DISTRIBUTION	3" (75mm) 100% PASSING 1" (25mm) 95% TO 100% PASSING 3/4" (19mm) 85% TO 90% PASSING 3/8" (9.5mm) 50% TO 60% PASSING #4 20 TO 35% PASSING
PRIMARY, SECONDARY NUTRIENTS; TRACE ELEMENT	MUST BE REPORTED
TESTING AND TEST REPORT SUBMITTAL REQUIREMENTS	STA + CLOPYRALID

IRGANIC MATTER PER CUBIC YARD

MUST REPORT

MEET OR EXCEED US EPA CLASS A STANDARD,
40 CFR 503.1 TABLES 1 & 3 LEVELS

IINIMUM MANUFACTURING/PRODUCTION

FULLY PERMITTED UNDER COLORADO DEPARTMENT RISK FACTOR RELATING TO PLANT

NOTE: IF A BIOSOLID COMPOST IS TO BE UTILIZED IT SHALL BE PRODUCED BY A FACILITY IN POSSESSION OF A VALID NOTICE OF AUTHORIZATION (NOA) FOR THE UNRESTRICTED USE AND DISTRIBUTION BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT. THE NOA SHALL BE PROVIDED UPON REQUEST TO CITY OF LONE TREE. NOTE: A LAB TEST DETAILING THE CHEMICAL, PHYSICAL, AND BIOLOGICAL PARAMETERS SHALL BE PROVIDED UPON REQUEST BY CITY OF LONE TREE.

CFB COMPOST FILTER BERM (3)

TABLE 1. RIPRAP GRADATIONS

TABLE 2. RIPRAP BEDDING

MATCHES SPECIFICATIONS FOR CDOT CLASS A FILTER MATERIAL AND UDFCD TYPE 1 BEDDING. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

TABLE 3. 1 1/2" CRUSHED ROCK

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

MASS PERCENT PASSING SQUARE MESH SIEVES

NO. 4

90 - 100

0 - 15

SIEVE SIZE

1 1/2"

NO. 200

SIEVE SIZE

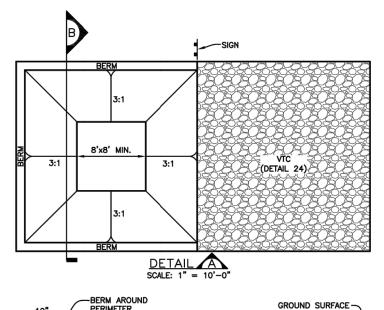
1 1/2"

MASS PERCENT PASSING SQUARE MESH SIEVES

CLASS A

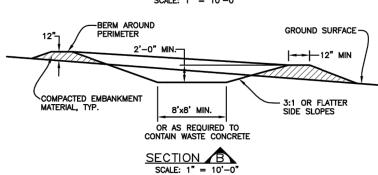
20 - 90 0 - 20

% OF MATERIAL TYPICAL STONE SMALLER THAN EQUIVALENT WEIGHT (POUNDS) DIAMETER (INCHES)



VIOLATION, A STOP WORK ORDER SHALL BE ISSUED.

OF SEDIMENT AND/OR CONSTRUCTION DEBRIS.

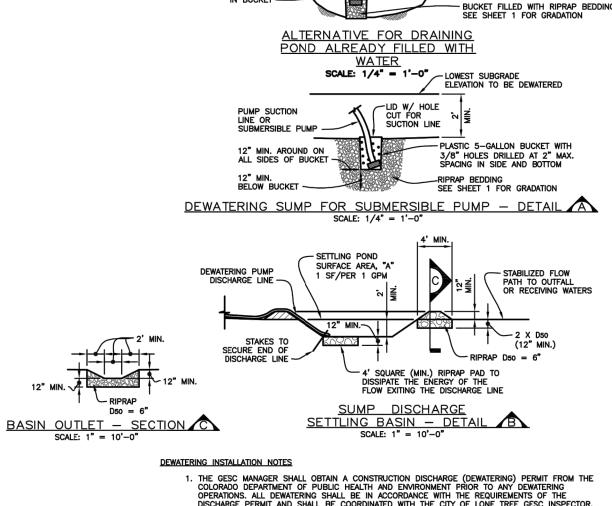


- CONCRETE WASHOUT AREA INSTALLATION NOTES SEE PLAN VIEW FOR:

 LOCATIONS OF CONCRETE WASHOUT AREA.
- 2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
- VEHICLE TRACKING CONTROL (DETAIL 24) IS REQUIRED AT THE ACCESS POINT.
- 4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND DESCRIPTION OF THE CONCRETE TRUCKS AND DESCRIPTION OF THE CONCRETE TRUCKS AND DESCRIPTION OF THE PROPERTY OF THE PROP
- 5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.
- CONCRETE WASHOUT AREA MAINTENANCE NOTES THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
- AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
- WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY. 4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT. CWA CONCRETE WASHOUT AREA 4
- ORANGE PLASTIC OR OTHER APPROVED FENCE MATERIAL CONSTRUCTION FENCE INSTALLATION NOTES
- (ALTERNATIVE TO CONSTRUCTION FENCE
- TYPE OF CONSTRUCTION LIMIT INDICATOR (FENCE OR MARKERS).
 LOCATION AND LENGTH OF FENCE OR LINE OF MARKERS.
- STEEL TEE POSTS SHALL BE UTILIZED FOR SUPPORT OF CONSTRUCTION FENCE. MAXIMUM SPACING FOR TEE POSTS SHALL BE 15'.
- ANY DAMAGED FENCE OR MARKERS SHALL BE REPAIRED ON A DAILY BASIS. FENCE OR MARKERS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER FENCE REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.



CM CONSTRUCTION MARKERS 6



 THE GESC MANAGER SHALL OBTAIN A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT PRIOR TO ANY DEWATERING OPERATIONS. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISCHARGE PERMIT AND SHALL BE COORDINATED WITH THE CITY OF LONE TREE GESC INSPECTOR. 2. THE GESC MANAGER SHALL PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY TO PERMIT EXCAVATION AND SUBSEQUENT CONSTRUCTION IN DRY CONDITIONS AND TO LOWER AND MAINTAIN THE GROUNDWATER LEVEL A MINIMUM OF 2-FEET BELOW THE LOWEST POINT OF EXCAVATION AND CONTINUOUSLY MAINTAIN EXCAVATIONS FREE OF WATER UNTIL BACKFILLED TO FINAL GRADE.

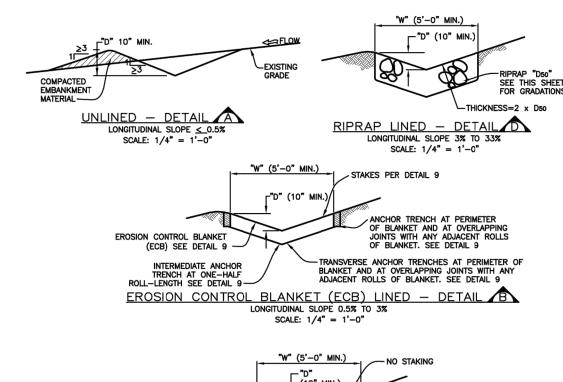
LID W/ HOLE CUT FOR SUCTION LINE

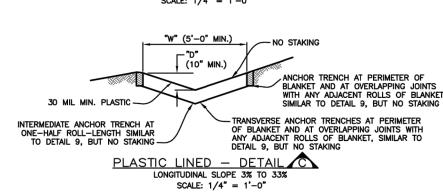
3. DEWATERING OPERATIONS SHALL USE ONE OR MORE OF THE DEWATERING SUMPS SHOWN ABOVE OR OTHER MEANS APPROVED BY THE CITY TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY BASIN FOR SETTLING PUMPED DISCHARGES PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER. SEDIMENT BASIN PER DETAIL 14 MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN SHOWN ABOVE.

4. A 4' SQUARE (MIN) RIPRAP PAD SHALL BE PLACED AT DISCHARGE POINT. 5. THE DISCHARGE END OF THE LINE SHALL BE STAKED IN PLACES TO PREVENT MOVEMENT OF RIPRAP PAD.

 THE GESC MANAGER SHALL INSPECT DEWATERING SYSTEMS AND PERFORM ANY NECESSARY REPAIRS OR MAINTENANCE ON A HOURLY BASIS. TEMPORARY SETTLING BASINS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR DEWATERING OPERATIONS. ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

→ DW DEWATERING 7 A





- DIVERSION DITCH INSTALLATION NOTES
- SEE PLAN VIEW FOR:
 LOCATION OF DIVERSION DITCH.
 TYPE OF DITCH (UNLINED, ECB LINED, PLASTIC LINED OR RIPRAP LINED).
 LENGTH OF EACH TYPE OF DITCH.
- DEPTH, "D", AND WIDTH, "W" DIMENSIONS.
 FOR ECB LINED DITCH, EROSION CONTROL BLANKET TYPE (SEE DETAIL 9).
 FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, "D50".
- 2. SEE DRAINAGE PLANS FOR DETAILS OF ANY PERMANENT CONVEYANCE FACILITIES OR DIVERSION DITCHES EXCEEDING A 2-YEAR FLOW RATE OF 10 CFS.
- 3. DIVERSION DITCHES INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
- 4. FOR ECB LINED DITCHES, INSTALLATION OF EROSION CONTROL BLANKET SHALL CONFORM TO THE REQUIREMENTS OF DETAIL 9. IN LOCATIONS WHERE CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION DITCH, THE PERMITTEES SHALL INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12-INCHES.
- THE GESC MANAGER SHALL INSPECT DIVERSION DITCHES WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
- DIVERSION DITCHES ARE TO REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION, OR, IF APPROVED BY THE CITY, LEFT IN PLACE. 3. IF DIVERSION DITCHES ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.
- DD DIVERSION DITCH 8 A

GESC PLAN STANDARD NOTES

AND DETAILS

SHEET 1 OF 3

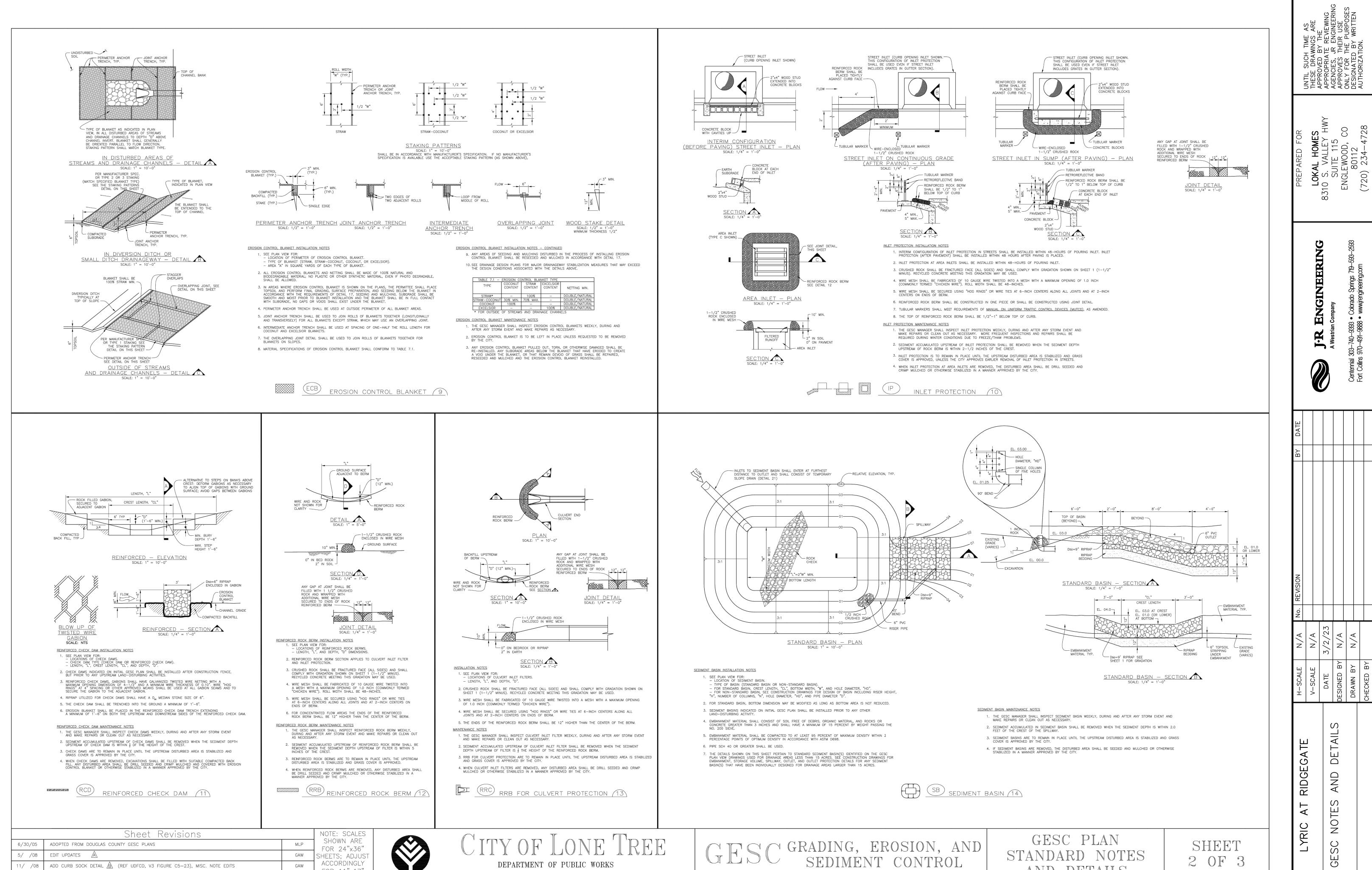
S RD ROCK AND RIPRAP GRADATIONS \triangleleft

SHEET	7	OF	10
JOB NO.	1	5950).10

Sheet Revisions NOTE: SCALES SHOWN ARE ADOPTED FROM DOUGLAS COUNTY GESC PLANS FOR 24"x36' EDIT UPDATES 5/ /08 GAW HEETS; ADJUS **ACCORDINGLY** ADD CURB SOCK DETAIL (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS GAW FOR 11"x17" SHEETS.

CITY OF LONE TREE DEPARTMENT OF PUBLIC WORKS Engineering Division

GESC GRADING, EROSION, AND SEDIMENT CONTROL



Engineering Division

ADD CURB SOCK DETAIL (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS

GAW

FOR 11"x17"

SHFFTS.

ENGINEERIN

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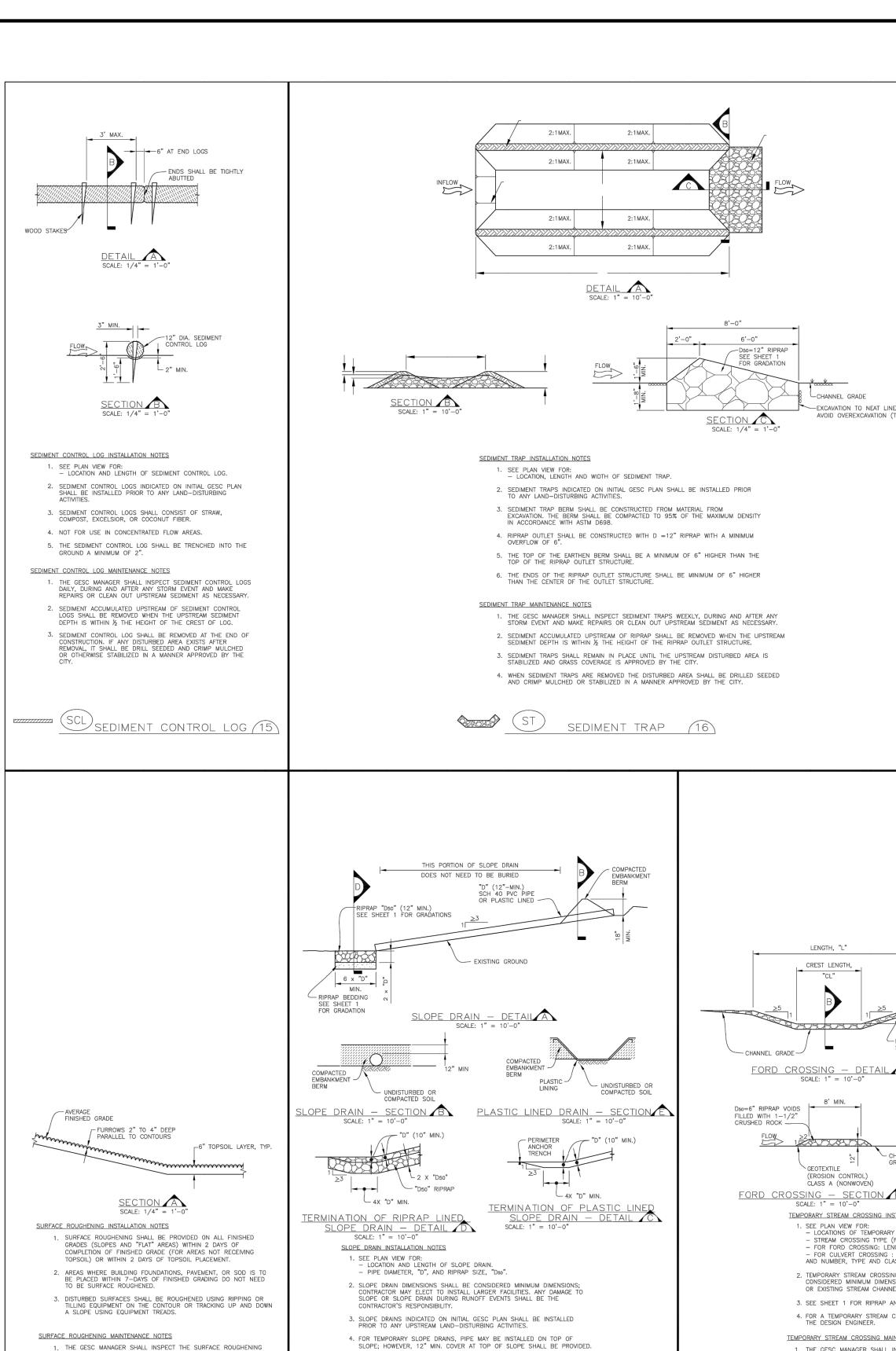
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SHEET **8** OF **10**

JOB NO. **15950.10**

AND DETAILS

00



5. A RIPRAP PAD SHALL BE PLACED AT THE OUTFALL OF THE SLOPE DRAIN.

THE GESC MANAGER SHALL INSPECT SLOPE DRAINS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.

2. TEMPORARY SLOPE DRAINS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION. WHEN SLOPE DRAINS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

TSD TEMPORARY SLOPE DRAIN (21)

SLOPE DRAIN MAINTENANCE NOTES

4. FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL. 4. RILL AND GULLY EROSION SHALL BE FILLED WITH TOPSOIL PRIOR TO RESEEDING. THE RESEEDING METHOD SHALL BE APPROVED BY THE CITY. FORD CROSSING — DETAIL A

SCALE: 1" = 10'-0" CULVERT CROSSING — DETAIL A

SCALE: 1" = 10'-0" 8' MIN. D50-12" MIN. RIPRAP 1-1/2" CRUSHED ROCK -→ GEOTEXTILE GEOTEXTII E CLASS A (NONWOVEN) CLASS A (NONWOVEN) CULVERT CROSSING - SECTION B

SCALE: 1" = 10'-0" FORD CROSSING — SECTION B

SCALE: 1" = 10'-0" TEMPORARY STREAM CROSSING INSTALLATION NOTES 1. SEE PLAN VIEW FOR:
- LOCATIONS OF TEMPORARY STREAM CROSSING STREAM CROSSING TYPE (FORD OR CULVERT).
 FOR FORD CROSSING: LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
 FOR CULVERT CROSSING: LENGTH, "L", CREST LENGTH, "CL", CROSSING HEIGHT, "H", DEPTH, "D", CULVERT DIAMETER, "CD", AND NUMBER, TYPE AND CLASS OR GAUGE OF CULVERTS. TEMPORARY STREAM CROSSING DIMENSIONS, D50, AND NUMBER OF CULVERTS INDICATED (FOR CULVERT CROSSING) SHALL BE CONSIDERED MINIMUM DIMENSIONS; ENGINEER MAY ELECT TO INSTALL LARGER FACILITIES. ANY DAMAGE TO STREAM CROSSING OR EXISTING STREAM CHANNEL DURING BASEFLOW OR FLOOD EVENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. 3. SEE SHEET 1 FOR RIPRAP AND 1-1/2" CRUSHED ROCK GRADATIONS. 4. FOR A TEMPORARY STREAM CROSSING THAT WILL CARRY LOADS, THE TEMPORARY STREAM CROSSING MUST BE DESIGNED BY THE DESIGN ENGINEER. TEMPORARY STREAM CROSSING MAINTENANCE NOTES THE GESC MANAGER SHALL INSPECT STREAM CROSSINGS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY. SEDIMENT ACCUMULATED UPSTREAM OF STREAM CROSSINGS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH
UPSTREAM OF CROSSING IS WITHIN 6-INCHES OF THE CREST (FORD CROSSING) OR GREATER THAN AN AVERAGE
DEPTH OF 12-INCHES (CULVERT CROSSING). 3. STREAM CROSSINGS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION. 4. WHEN STREAM CROSSINGS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE TSC TEMPORARY STREAM CROSSING (22)

SEEDING AND MULCHING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:

- AREA OF SEEDING AND MULCHING.

- TYPE OF SEED MIX (PERMANENT, TEMPORARY, OR LOW-GROWTH).

4. DRILL SEEDING MIX SHALL CONFORM TO THE TABLE ON THE RIGHT:

2. ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAP WEED

3. THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY. SEED WHICH HAS BECOME WET, MOLDY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO CITY OF

5. IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE SUBCONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE CITY OF LONE TREE GESC INSPECTOR.

6. THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS).

8. ALL AREAS TO BE SEEDED AND MULCHED SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 6 INCHES (LOOSE DEPTH). HAUL ROADS AND OTHER COMPACTED AREAS SHALL BE LOOSENED TO A DEPTH OF 6 INCHES PRIOR TO SPREADING TOPSOIL.

9. SOIL IS TO BE THOROUGHLY LOOSENED (TILLED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLODS GREATER THAN 2 INCHES. SEEDING OVER ANY COMPACTED AREAS THAT HAVEN'T BEEN THOROUGHLY LOOSENED SHALL BE REJECTED.

. SEED IS 10 BE APPLIED USING A MECHANICAL DRILL 10 A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW. AT LEAST 50 PERCENT OF THE MULCH, BY WEIGHT, SHALL BE 10 INCHES OR MORE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 2 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 4000 LB. OF STRAW PER ACRE.

). SEED IS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW

11. IF THE PERMITTEE DEMONSTRATES TO THE CITY THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNIFORMLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH, THEN ROLLED TO COMPACT, THEN MULCHED AS SPECIFIED ABOVE.

SEEDING AND MULCHING SHALL BE COMPLETED WITHIN 30 DAYS OF INITIAL EXPOSURE OR 7
DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE IN A GIVEN AREA (AS DEFINED BY THE
CITY). THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.

SEEDED AND MULCHED AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE MONTHLY FOR A PERIOD OF TWO YEARS FOLLOWING INITIAL SEEDING. REPAIRS AND RE—SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.

THREE (3) PLANTS PER SQUARE FOOT WITH A MINIMUM HEIGHT OF 3 INCHES. THE 3 PLANTS PER SQUARE FOOT SHALL BE OF THE VARIETY AND SPECIES FOUND IN THE CITY OF LONE TREE—APPROVED MIX.

2. NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR

4. FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4

2. NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR

3. REQUIRED COVERAGE FOR TURF GRASS AREAS SHALL BE DEFINED AS FOLLOWS:

1. AT LEAST 80% VEGETATIVE COVER OF GRASS SPECIES PLANTED.

2. REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:

13. MULCH SHALL BE APPLIED WITHIN 24-HOURS OF SEEDING.

SEEDING AND MULCHING MAINTENANCE NOTES

3. FREE OF ERODED AREAS.

3. FREE OF ERODED AREAS.

OF THE GESC CRITERIA MANUAL.

14. TACKIFIER SHOULD BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

7. PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY THE CITY.



CITY OF	LONE TREE TEMP	ORARY D	RILL SEEDI	NG MIX
SPECIES	ES <u>VARIETY</u>		% IN MIX	POUNDS OF PLS PER ACRE
SMOOTH BROMEGRASS	LINCOLN	PICS	30	3.9
INTERMEDIATE WHEATGRASS	OAHE	PICS	30	4.5
PUBESCENT WHEATGRASS	LUNA	PICS	30	4.2
ANNUAL RYEGRASS N/A		AICB	10	0.8
			TOTAL	13.4

CITY OF	LONE TREE LOW-	GROWTH	DRILL SEE	DING MIX
SPECIES	VARIETY	NOTES	% IN MIX	POUNDS OF PLS PER ACRE
BUFFALOGRASS	TEXOKA	PNWS	20	3.2
BLUE GRAMA	HACHITA	PNWB	20	0.6
WESTERN WHEATGRASS	ARRIBA	PNCS	20	3.2
SIDEOATS GRAMA	VAUGHN	PNWB	20	1.8
THICKSPIKE WHEATGRASS	CRITANA	PNCS	10	1
STREAMBANK WHEATGRASS	SODAR	PNCS	10	1.2
			TOTAL	11.0



VARIES
SEE NOTE 2 BELOW

1. SOCKS WILL BE USED UPGRADIENT OF INLET PERPENDICULAR TO AND FLUSH WITH CURB.

NO LESS THAN TWO 10" DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN 5 FEET APART.
 NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4" SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.

3. INCLINE AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW

THE GESC MANAGER SHALL INSPECT THE CURB SOCKS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPGRADIENT SEDIMENT AS NECESSARY.

- EXISTING GRADE

SECTION A
SCALE: 1/4" = 1'-0"

3. EARTH (VEGETATED) SLOPES STEEPER THAN 3 TO 1 ARE NOT ALLOWED ON THE SITE.

THE GESC MANAGER SHALL INSPECT THE SURFACE ROUGHENING WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.

TER TERRACING (23)

ANY RILL EROSION OCCURRING ON SLOPES SHALL BE REPAIRED AND RESEEDED AND MULCHED IN ACCORDANCE WITH DETAIL 17.

2. TERRACING IS NOT REQUIRED FOR SLOPES OF 4 TO 1 OR FLATTER.

CS CURB SOCK (26) A

CURB SOCK DETAIL B

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FLOW

CURB SOCK INSTALLATION NOTES

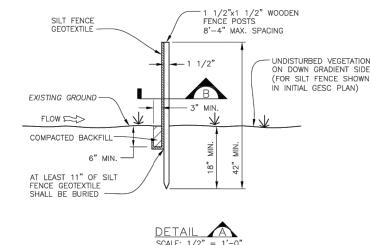
(SEE DETAIL B).

CURB SOCK MAINTENANCE NOTES

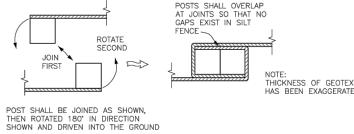
(8' MIN.)

TERRACING INSTALLATION NOTES

- WIDTH, "W", AND SLOPE, "Z".







JOINTS — SECTION B SCALE: N.T.S.

SILT FENCE INSTALLATION NOTES SEE PLAN VIEW FOR:

 LOCATION AND LENGTH OF FENCE.

2. ANCHOR TRENCH SHALL BE EXCAVATED WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE; NO ROAD GRADERS, BACKHOES, ETC. SHALL BE USED. TRENCH SHALL BE COMPACTED BY HAND, WITH "JUMPING JACK", OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND. 3. SILT FENCE GEOTEXTILE SHALL MEET THE FOLLOWING REQUIREMENTS:

- 6-TO 12-GALLONS PER MINUTE PER SQUARE FOOT FLOW CAPACITY. 90 LB. TENSILE STRENGTH PER ASTM D4622.

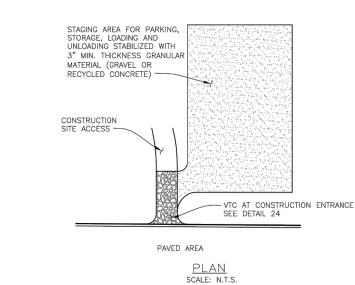
 UV DESIGN AT 500 HRS MIN. 70% STRENGTH RETAINED PER ASTM D 4355.

 SILT FENCE INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES. SILT FENCE MAINTENANCE NOTES

 THE GESC MANAGER SHALL INSPECT SILT FENCE DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY. 2. SEDIMENT ACCUMULATED UPSTREAM OF SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES A DEPTH OF 6-INCHES.

SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE CITY. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

SF SILT FENCE (18)



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UNTI THE APP APP APP ONL APP

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ENGLEWOOD, CO
80112
(720) 234-4728

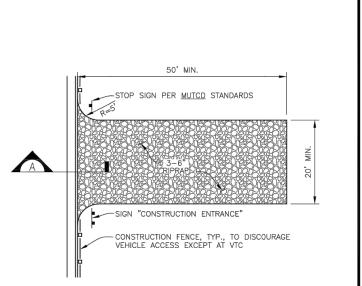
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STABILIZED STAGING AREA INSTALLATION NOTES SEE PLAN VIEW FOR GENERAL LOCATION OF STAGING AREA. CONTRACTOR MAY MODIFY LOCATION AND SIZE OF STABILIZED STAGING AREA WITH CITY APPROVAL.

- STABILIZED STAGING AREA SHALL BE LARGE ENOUGH TO FULLY CONTAIN PARKING, STORAGE, AND UNLOADING AND LOADING
- IF REQUIRED BY THE CITY, SITE ACCESS ROADS SHALL BE STABILIZED IN THE SAME MANNER AS THE STAGING AREA. 4. STAGING AREA SHALL BE STABILIZED PRIOR TO ANY OTHER OPERATIONS ON THE SITE.
- 5. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM OF 3" OF GRANULAR MATERIAL (GRAVEL OR RECYCLED CONCRETE).
- STABILIZED STAGING AREA MAINTENANCE NOTES
- THE GESC MANAGER SHALL INSPECT THE STABILIZED STAGING AREA WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
- GESC MANAGER SHALL PROVIDE ADDITIONAL THICKNESS OF GRANULAR MATERIAL IF ANY RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED. 3. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING AND LOADING
- 4. ANY ACCUMULATED DIRT OR MUD SHALL BE REMOVED FROM THE SURFACE OF THE STABILIZED STAGING AREA. 5. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE CITY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED.

SSA) STABILIZED STAGING AREA (19) /



 $\frac{PLAN}{SCALE: 1" = 20'-0"}$ — 9" MIN. ___ 12" MIN. NO MATERIAL INCLUDING WOOD, PIPES, GRAVEL, OR ASPHALT, SHALL BE PLACED IN GUTTER TO FACILITATE MOUNTING CURB; HOWEVER, CURB MAY BE CUT DOWN TO A HEIGHT OF 2" OR HIGHER FOR EASIER ACCESS AND REPLACED AT PROJECT COMPLETION; ISSUANCE OF A CITY OF LONE TREE RIGHT—OF—WAY USE AND CONSTRUCTION PERMIT IS REQUIRED; CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR ALL VICS 3-6" RIPRAP OVER WOVEN GEOTEXTILE FABRIC SEE SHEET 1 FOR GRADATION

ACCESS PERMIT IS REQUIRED FOR ALL VTCs <u>SECTION</u> A SCALE: 1/4" = 1'-0" VEHICLE TRACKING CONTROL INSTALLATION NOTES VEHICLE TRACKING CONTROL PADS SHALL BE INSTALLED AT EVERY ACCESS POINT TO SITE.

 VEHICLE TRACKING CONTROL PADS SHALL CONSIST OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOULDERS WILL NOT BE ACCEPTABLE. THE STONES SHALL BE 3" WITH A MAXIMUM SIZE OF 6". THE STONE SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTIONS.

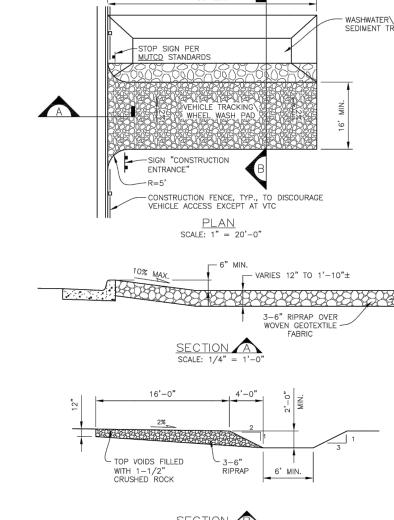
3. WOYEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE VTC STONE TO HELP MINIMIZE MIGRATION OF THE STONE INTO THE UNDERLYING MATERIAL. 4. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY PERMITTEE.

5. A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS/EXIT POINT FROM THE SITE. 6. A STOP SIGN INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS AMENDED, SHALL BE INSTALLED FOR EXITING TRAFFIC AT THE VTC.

1. GESC MANAGER SHALL INSPECT VEHICLE TRACKING CONTROL PADS DAILY.
ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM PAD SURFACE. STONE
SURFACE SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER
WHEEL LOADS SUFFICIENTLY TO CAUSE LOOSE GRAVEL TO DISLODGE
MUD/SEDIMENT FROM VEHICLE TIRES. WHEN STONE BECOMES COMPACTED
AND/OR FILLED WITH SEDIMENT SO THAT THE EFFECTIVENESS OF THE PAD IS
DIMINISHED, CONTRACTOR SHALL RIP, TURN OVER, OR OTHERWISE LOOSEN THE
STONE, PLACE ADDITIONAL NEW STONE, OR REPLACE STONE AS NECESSARY TO
RESTORE EFFECTIVENESS.

2. VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE END OF CONSTRUCTION, THE STONE MATERIAL AND GEOTEXTILE REMOVED OR, IF APPROVED BY THE CITY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN CONFORMANCE WITH CITY APPROVED PLANS FOR SITE AND THE APPLICABLE GESC PERMIT.

VTC) VEHICLE TRACKING CONTROL (24)



/EHICLE TRACKING CONTROL WITH WHEEL WASH INSTALLATION NOTES . ALTHOUGH NOT NORMALLY USED, THE CITY RESERVES THE RIGHT TO REQUIRE VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES AT SITES WHERE TRACKING ONTO PAVED AREAS BECOMES A SIGNIFICANT PROBLEM. IF VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES ARE REQUIRED, ALL WHEELS ON EVERY VEHICLE LEAVING THE SITE SHALL BE CLEANED OF MUD USING A PRESSURE-WASHER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE.

. VEHICLE TRACKING CONTROL PADS SHALL CONSIST OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOULDERS WILL NOT BE ACCEPTABLE. THE STONES SHALL BE 3" WITH A MAXIMUM SIZE OF 6". THE STONE SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION. WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE VTC STONE TO HELP MINIMIZE MIGRATION OF THE STONE INTO THE UNDERLYING BASE MATERIAL.

5. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY PERMITEE. 6. A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS/EXIT POINT FROM THE SITE.

7. A STOP SIGN INSTALLED IN ACCORDANCE WITH THE <u>MANUAL ON UNIFORM TRAFFIC CONTROL</u> <u>DEVICES (MUTCD)</u>, AS AMENDED, SHALL BE INSTALLED FOR EXITING TRAFFIC AT THE VTC.

EHICLE TRACKING CONTROL WITH WHEEL WASH MAINTENANCE NOTES

1. GESC MANAGER SHALL INSPECT VEHICLE TRACKING CONTROL PADS DAILY. ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM PAD SURFACE. STONE SURFACE SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEEL LOADS SUFFICIENTLY TO CAUSE LOOSE GRAVEL TO DISLODGE MUD/SEDIMENT FROM VEHICLE TIRES. WHEN STONE BECOMES COMPACTED AND/OR FILLED WITH SEDIMENT SO THAT THE EFFECTIVENESS OF THE PAD IS DIMINISHED, CONTRACTOR SHALL RIP, TURN OVER, OR OTHERWISE LOOSEN THE STONE, PLACE ADDITIONAL NEW STONE, OR REPLACE STONE AS NECESSARY TO RESTORE EFFECTIVENESS. ACCUMULATED SEDIMENT IN THE WASHWATER/SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT DEPTH REACHES AN AVERAGE OF 12-INCHES.

3. VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE END OF CONSTRUCTION, THE STONE MATERIAL AND GEOTEXTILE REMOVED OR, IF APPROVED BY THE CITY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN CONFORMANCE WITH CITY APPROVED PLANS FOR SITE AND THE APPLICABLE GESC PERMIT. WW VTC WITH WHEEL WASH 25

Sheet Revisions				
6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP	SHOWN ARE FOR 24"x36" SHEETS; ADJU	
5/ /08	edit updates 🛕	GAW		
11/ /08	ADD CURB SOCK DETAIL 🛕 (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS	GAW	ACCORDINGLY FOR 11"x17"	
12/ /09	UPDATE VTC & WW 🛕	GAW	SHEETS.	

THE GESC MANAGER SHALL INSPECT THE SURFACE ROUGHENING WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.

VEHICLES AND EQUIPMENT SHALL GENERALLY BE CONFINED TO ACCESS DRIVES AND SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.

IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER ANY RILL EROSION.

SR SURFACE ROUGHENING 20



CITY OF LONE TREE DEPARTMENT OF PUBLIC WORKS

Engineering Division

GESC GRADING, EROSION, AND SEDIMENT CONTROL SEDIMENT CONTROL

GESC PLAN STANDARD NOTES AND DETAILS

3 OF 3

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• Inflow Structure: For concentrated flow entering the basin, provide energy dissipation at the point

Table SB-1. Additional Volume Requirements for Undisturbed and Developed Tributary Areas

Draining through Sediment Basins

• Outlet Works: The outlet pipe shall extend through the embankment at a minimum slope of 0.5

o Riser Pipe (Simplified Detail): Detail SB-1 provides a simplified design for basins treating no

o Orifice Plate or Riser Pipe: Follow the design criteria for Full Spectrum Detention outlets in the

EDB Fact Sheet provided in Chapter 4 of this manual for sizing of outlet perforations with an

2-inch gravel in front of the plate or surrounding the riser pipe. This gravel will need to be

cleaned out frequently during the construction period as sediment accumulates within it. The

for use as a permanent detention facility. If the basin will be used as a permanent extended

recommendations. Illustration SB-1 provides an illustration of a Faircloth Skimmer Floating

designed to release the design volume in no less than 48 hours. The use of a floating skimmer outlet can increase the sediment capture efficiency of a basin significantly. A floating outlet

continually decants cleanest water off the surface of the pond and releases cleaner water than

OutletTM, one of the more commonly used floating skimmer outlets. A skimmer should be

have been stabilized and the gravel pack and accumulated sediment have been removed.

o Floating Skimmer: If a floating skimmer is used, install it using manufacturer's

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gravel pack will need to be removed and disposed of following construction to reclaim the basin

detention basin for the site, a trash rack will need to be installed once contributing drainage areas

emptying time of approximately 72 hours. In lieu of the trash rack, pack uniformly sized 1½ - to

percent. Outlet works can be designed using one of the following approaches:

Imperviousness (%)

Undeveloped

70

100

would discharge from a perforated riser pipe or plate.

more than 15 acres.

SB-2

Additional Storage Volume (ft³)

Per Acre of Tributary Area

500

800

1230

1600

2030

2470

2980

3560

4360

5300

6460

Description

A sediment basin is a temporary pond built on a construction site to capture eroded or disturbed soil transported in storm runoff prior to discharge from the site. Sediment basins are designed to capture site runoff and slowly release it to allow time for settling of sediment prior to discharge. Sediment basins are often constructed in locations that will later be modified to serve as post-construction stormwater basins.



Appropriate Uses

Most large construction sites (typically greater than 2 acres) will require one or more sediment basins for effective

management of construction site runoff. On linear construction projects, sediment basins may be impractical; instead, sediment traps or other combinations of BMPs may be more appropriate.

Photograph SB-1. Sediment basin at the toe of a slope. Photo

Sediment basins should not be used as stand-alone sediment controls. Erosion and other sediment controls should also be implemented upstream.

When feasible, the sediment basin should be installed in the same location where a permanent postconstruction detention pond will be located.

Design and Installation

The design procedure for a sediment basin includes these steps:

- **Basin Storage Volume**: Provide a storage volume of at least 3,600 cubic feet per acre of drainage area. To the extent practical, undisturbed and/or off-site areas should be diverted around sediment basins to prevent "clean" runoff from mixing with runoff from disturbed areas. For undisturbed areas (both on-site and off-site) that cannot be diverted around the sediment basin, provide a minimum of 500 ft³/acre of storage for undeveloped (but stable) off-site areas in addition to the 3,600 ft³/acre for disturbed areas. For stable, developed areas that cannot be diverted around the sediment basin, storage volume requirements are summarized in Table SB-1.
- **Basin Geometry:** Design basin with a minimum length-to-width ratio of 2:1 (L:W). If this cannot be achieved because of site space constraints, baffling may be required to extend the effective distance between the

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inflow point(s) and the outlet to minimize short-circuiting Dam Embankment: It is recommended that embankment slopes be 4:1 (H:V) or flatter and no steeper than 3:1 (H:V) in any location.

g.	Sediment Basins			
	Functions			
r	Erosion Control	No		
	Sediment Control	Yes		
	Site/Material Management	No		

Sediment Basin (SB)

SCHEDULE 40

August 2013

CRUSHED ROCK

Sediment Basin (SB)

August 2013

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 2 3 4 5 6 7 8 9 10 11 12 13 14 15	12 ½ 21 28 33 ½ 38 ½ 43 47 ¼ 51 55 58 ¼ 61 64 67 ½ 70 ½	2 3 5 6 8 9 11 12 13 15 16 18 19 21 22	932 136 52 96 232 232 232 232 232 232 2432	PROPOSED SEDIMENT BASIN SIZE	

SEDIMENT BASIN INSTALLATION NOTES

 SEE PLAN VIEW FOR:
 -LOCATION OF SEDIMENT BASIN. -TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
-FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE -FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.

3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS A STORMWATER CONTROL.

4. 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.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.

6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. 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

Sediment Basin (SB)

Illustration SB-1. Outlet structure for a temporary sediment basin - Faircloth Skimmer Floating Outlet. Illustration courtesy of J. W. Faircloth & Sons, Inc., FairclothSkimmer.com.

- Outlet Protection and Spillway: Consider all flow paths for runoff leaving the basin, including protection at the typical point of discharge as well as overtopping.
- o **Outlet Protection:** Outlet protection should be provided where the velocity of flow will exceed the maximum permissible velocity of the material of the waterway into which discharge occurs. This may require the use of a riprap apron at the outlet location and/or other measures to keep the waterway from eroding.
- o **Emergency Spillway:** Provide a stabilized emergency overflow spillway for rainstorms that exceed the capacity of the sediment basin volume and its outlet. Protect basin embankments from erosion and overtopping. If the sediment basin will be converted to a permanent detention basin, design and construct the emergency spillway(s) as required for the permanent facility. If the sediment basin will not become a permanent detention basin, it may be possible to substitute a heavy polyvinyl membrane or properly bedded rock cover to line the spillway and downstream embankment, depending on the height, slope, and width of the embankments.

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Sediment Basin (SB)

SEDIMENT BASIN MAINTENANCE NOTES

BELOW THE SPILLWAY CREST).

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

EROSION, AND PERFORM NECESSARY MAINTENANCE

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

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 IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP

EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED

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

WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY

SB-3

SC-7

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Maintenance and Removal

Maintenance activities include the following:

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

Final disposition of the sediment basin depends on whether the basin will be converted to a permanent post-construction stormwater basin or whether the basin area will be returned to grade. For basins being converted to permanent detention basins, remove accumulated sediment and reconfigure the basin and outlet to meet the requirements of the final design for the detention facility. If the sediment basin is not to be used as a permanent detention facility, fill the excavated area with soil and stabilize with vegetation.

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SEDIMENT BASIN PLAN

*EXCEPT WHERE THE HOLES EXCEED 1"

RIPRAP BEDDING

DIAMETER, THEN UP TO TWO COLUMNS OF SAME SIZED HOLES MAY BE USED

CREST LENGTH

EL. 03.00 AT CREST

TYPE L. (SEE TABLE

DRAINAGE, VOL. 1)

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∠ D50=9" RIPRAP TYPE L

August 2013

SB-7

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