

Grading, Erosion, and Sediment Control
Report (GESc)
For
Douglas County School District
Elementary School 50
Ridgegate Southwest Village
Filing No. 1

Date

10/31/2025

M/M Project No. 24.0998

Prepared For:

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Project Engineer:

Kassidy D. Ricketson, EIT

Owner's Certification Statement

Douglas County School District (OWNER) hereby certifies that the Grading, Erosion, and Sediment Control (GESC) Plan for the Douglas County School District (DCSD) Elementary School 50 (PROJECT) shall be constructed in accordance with the accepted GESC Plan. I understand that Douglas County does not and will not assume liability for the GESC Plan. I understand that Douglas County reviews GESC plans pursuant to Colorado Revised Statutes, Title 30, Article 28, but cannot, on behalf of the owner, guarantee that the GESC Plan will absolve the owner and/or their successors and/or assigns of future liability from improper design. I further understand that approval of the Final Plat does not imply approval of my engineer's GESC Plan or Report.

Authorized Representative Signature
Douglas County School District

Date

Engineer's Certification Statement

I hereby affirm that this Final Grading, Erosion, and Sediment Control (GESC) Report for Douglas County School District (DCSD) Elementary School 50 (PROJECT) was prepared by me, for the owner thereof, in accordance with the provisions of the Douglas County GESC Manual and approved variances there to. I understand that Douglas County does not and will not assume liability for GESC Plans developed by others.

Daniel E Bearse, P.E.

Colorado Professional Engineer No. 48232

Martin/Martin, Inc.

Date

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1. Introduction

This report represents a Grading, Erosion, and Sediment Control (GESC) Plan for the Douglas County School District (DCSD) Elementary School 50 (hereafter referred to as “PROJECT”) and was prepared based upon the regulatory requirements and guidelines set forth by the *Douglas County Grading, Erosion and Sediment Control Manual*, latest revision (hereafter referred to as “MANUAL”).

This report identifies potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction. Furthermore, this report describes the practices to be used to reduce, or possibly eliminate, these potential pollutants from impacting the quality of water. The GESC Plan shall be completed and implemented by the time construction activities begin until final stabilization. The GESC Plan shall be revised as necessary during construction activities so that it accurately reflects the conditions and practices on site through construction.

This report puts forth recommendations for Best Management Practices (BMPs) and provides a description and/or detailed drawings of how these practices are to be installed, implemented, and maintained. The contractor is responsible for complying with ALL requirements of the Colorado Department of Health and Safety’s Storm Water Discharge Permit including any changes to this GESC Plan to meet the requirements of the Permit.

A. Name, Address, and Telephone Number of the Applicants

Owner/Applicant: Douglas County School District

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Phone: (303) 387-0100

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General Contractor/SWMP

Administrator: Fransen Pittman Construction

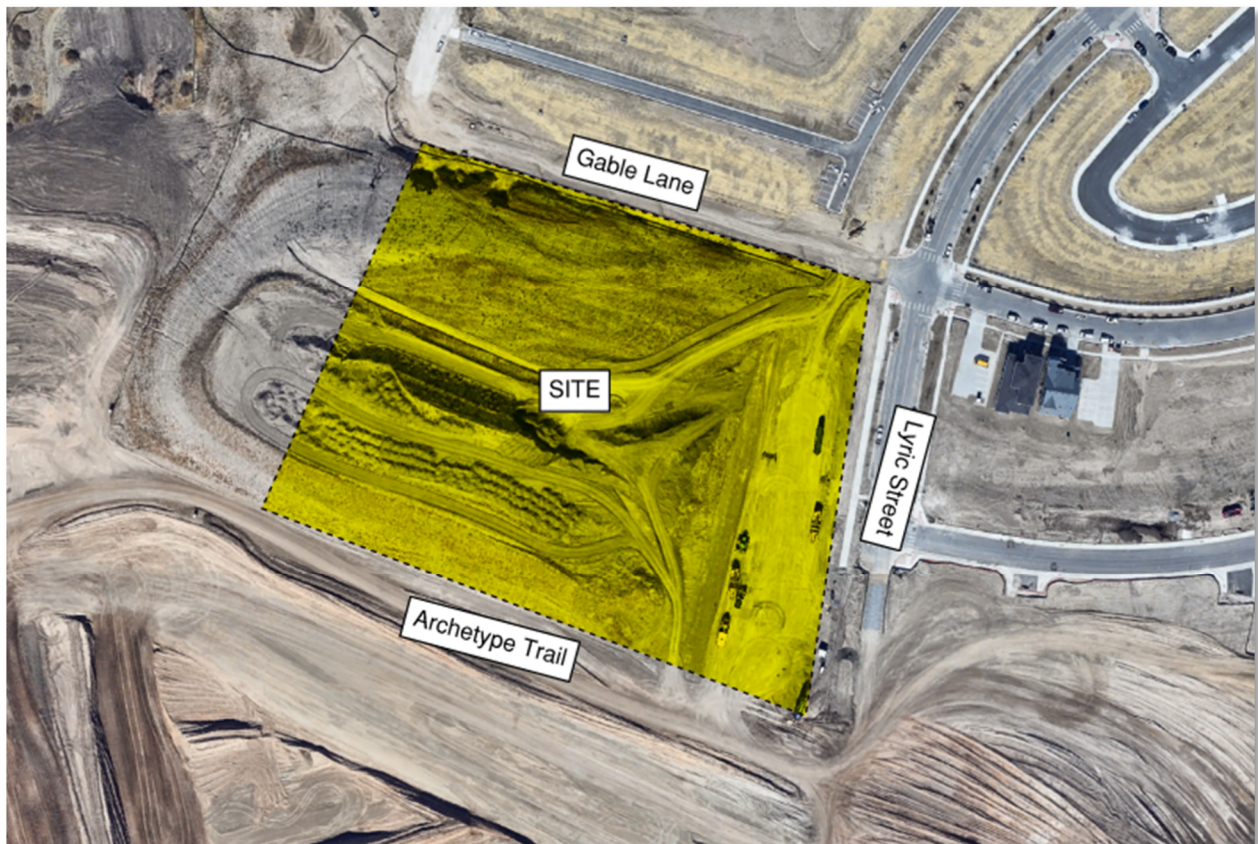
B. Project Description

Location:

The PROJECT site is located within the Northwest Quarter of Section 23, Township 6 South, Range 67 West of the Sixth Principal Meridian, City of Lone Tree, County of Douglas, State of Colorado. The site is bound to the north by Gable Lane, to the east by Lyric Street, to the south by Archetype Trail, and to the west by undeveloped property.

The center of the project site is located approximately 39°30'55"N 104°51'31"W.

Total Area: 8.00 Acres



A vicinity map displaying all surrounding areas, and the PROJECT location is shown below:

Figure 1: Vicinity Map

Proposed Land Use:

The proposed construction involves a 70,600 SF school building, drive lanes, asphalt parking, sidewalks, concrete flatwork, landscaping, retaining walls, and associated utilities.

C. Existing site conditions

Ground Cover, Vegetation, Existing Site Topography, and Slopes:

The existing PROJECT site is comprised of native grasses and shrubs. The existing topography on the site generally consists of 1-30% slopes.

Major and Minor Drainageways:

The PROJECT site is located within the Happy Canyon Creek Major Drainage Basin per the Urban Drainage and Flood Control District.

Floodplains:

The Flood Insurance Rate Map for Douglas County, Colorado, Map Number 08035C0063H, dated September 4, 2020, shows that the PROJECT site is located within Zone X outside of the 500-year flood plain.

Significant Geological Features:

There are no significant geological features located on the PROJECT site.

D. Adjacent areas

Along with the construction of the PROJECT, proposed storm will tie into the existing storm sewer stub at the northeast corner of the site.

E. Soils

Per soil classification data obtained from the U.S. Geological Survey, the on-site soils may be classified as Hydrologic Soil Group C/D. According to the above-mentioned survey, the PROJECT site consists of Fondis-Kutch (Fu) and Fondis clay loam (FoD).

2. Grading, Erosion and Sediment Control Measures

A. Areas and Volumes

Total Site Area:	8.00 Acres	
Total Disturbed Area:	8.89 Acres	
Total Cut:	17,302	CY <CUT>
Total Fill:	18,368	CY <FILL>
Building:	1,307	CY <CUT>
Pavement:	2,131	CY <CUT>
Sidewalk:	684	CY <CUT>
Net Earthwork:	3,236	+/- CY <CUT>

Earthwork calculations are subject to the disclaimer found in the Appendix.

B. Erosion and Sediment Control Measures

The predominant pollutant expected at the site during construction and under permanent conditions is sediment in stormwater runoff. The methods used to control erosion and sediment during grading and construction of the PROJECT will comply with the structural and non-structural Best Management Practices (BMP's) described in Volume 3 of the Urban Storm Drainage Criteria Manual (MANUAL) produced by the Urban Drainage & Flood Control District (UDFCD). BMP's will be installed according to Douglas County's Standard Notes and Details. The following BMPs are effective methods which will be utilized on the PROJECT during construction:

Sediment Trap, (ST) Sediment traps are designed to capture drainage from disturbed areas less than one acre and allow settling of sediment.

Construction Fence, (CF) shall be installed prior to all other BMP's and any land-disturbing activities. Construction fences will restrict site access to designated entrances and exits, delineate the construction site boundaries as shown on the GESC plans, and keep construction out of sensitive areas such as natural areas to be preserved as open space, wetlands and riparian areas.

Silt Fence, (SF) is a sediment-trapping device as described in the UDFCD criteria. Silt fence shall be installed not only as shown on the GESC Plans but were deemed necessary during the construction activities. Silt fence shall be installed in accordance with Douglas County Standards. No construction shall take place prior to the silt fence being in place. Silt fence is to be inspected and repaired/replaced as necessary.

Diversion Ditch, (DD) is a temporary storm conveyance channel constructed either to divert runoff around slopes or to convey runoff to additional sediment control BMPS prior to discharge of runoff from a site.

Reinforced Rock Berm for Culvert Protection, (RRB) is used to dissipate and spread-out concentrated flows at culvert outfall points to protect the receiving swale or channel.

Inlet Protection, (IP) is a sediment-trapping device as described in the UDFCD criteria. Inlet protection shall be installed at existing downstream inlets prior to any land-disturbing activities. Proposed inlets are to be immediately protected after installation. Inlet protection is to remain in place until the upstream disturbed area is stabilized and grass cover is approved unless the county approves earlier removal of inlet protection in streets.

Stabilized Staging Area, (SSA) shall be used for parking, storage, and unloading and loading operations. The SSA shall consist of 3" minimum thickness of granular material, and shall be large enough to fully contain parking, storage, and unloading and loading operations.

Temporary Slope Drain, (TSD) A temporary slope drain is a pipe or culvert used to convey water down a slope where there is a high potential for erosion.

Sediment Basin, (SB) 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.

Seed and Mulching, (SM) will be the method by which the site is permanently stabilized for erosion and sediment control. See section 2.D PERMANENT STABILIZATION.

Erosion Control Blankets, (ECB) are required to help stabilize slopes exceeding 4H:1V and where runoff is expected to be concentrated and act as a sediment trap facility.

Concrete Washout Area, (CWA) is a sediment-trapping device as described in the UDFCD criteria. Concrete washout area(s) shall be installed prior to any concrete placement on site. All concrete delivery truck chutes, concrete pumps, and any other concrete placing devices shall be cleaned out at the designated concrete washout area. The discharge of water containing concrete waste and/or sediment to adjacent waterways, wetlands, other properties, etc. is prohibited.

Vehicle Tracking Control, (VTC) is a sediment removal device for construction equipment and vehicles entering/exiting the site (as described in the UDFCD criteria). Vehicle tracking control pads shall be installed at every access point to the site prior to any land-disturbing activity. A Douglas County temporary access permit is required for each access point.

Street Sweeping, (SS) is required when sediment has washed onto paved surfaces. This is to be done in a timely manner either by hand or street sweeper at a minimum of one time per week. Flushing of sediment with water is prohibited.

Sediment Control Log, (SCL) is a sediment-trapping device as described in the UDFCD criteria. They are to be installed as shown on the GESC plans as a sediment barrier to intercept sheet flow runoff from disturbed areas.

Temporary Road Blister is a sediment removal device for construction equipment and vehicles crossing right of way for hauling purposes. This BMP also maintains flowline drainage in the right of way and protects the finished asphalt during construction activities.

Waste Management: All hazardous waste materials shall be disposed of in structurally sound and sealed containers located within a hazardous materials storage area in the stabilized storage area. Hazardous waste materials will be stored in appropriate and clearly marked containers and segregated from other non-waste materials. Secondary containment shall be provided for all waste materials in the hazardous materials storage area and will consist of commercially available spill pallets. Additionally, all hazardous waste materials shall be disposed of in accordance with federal, state, and municipal regulations. Non-hazardous waste materials may be disposed of into on-site dumpsters. Construction trash dumpsters should be located in the stabilized storage area. Dumpsters should have a secure lid and meet all federal, state, and municipal regulations. Only trash and construction debris from the site should be deposited in the dumpsters. No construction materials shall be buried on-site. All construction personnel shall be instructed regarding the correct disposal of trash and construction debris, as well as procedures for hazardous waste disposal. If portable toilets are to be used, they shall be staked to the ground in order to prevent accidental overturning.

Material and Equipment Storage: Nonhazardous materials that are to be stockpiled on the site but not installed within 14 days of arrival shall be stored in the construction staging and/or material storage area. Materials delivered to the site which will be installed within 14 days of arrival may be stored nearer to the point of installation. These materials include but are not limited to pipe, precast structures, fire hydrants, tees, valves, and misc. fittings. Construction and maintenance equipment such as hand tools and small parts shall be stored within the stabilized storage area or materials storage area in watertight containers. Hazardous materials that are to be stored on-site such as, but not limited to, oil filters, petroleum products, paint, and equipment maintenance fluids shall be stored in structurally sound and sealed containers clearly marked "Hazardous Material". These containers are to be located within the stabilized storage areas and/or material storage area.

Vehicle and Equipment Fueling and Maintenance: The fueling of vehicles and equipment which occurs on site shall occur in the stabilized storage area. Only minor equipment maintenance shall occur on-site. All major equipment maintenance shall be performed off-site. Any equipment fluids generated from maintenance activities will be disposed of into designated drums stored on spill pallets. Absorbent, spill-cleanup materials, and spill kits shall be available at the stabilized storage area and/or materials storage area. Drip pans shall be placed under all equipment receiving maintenance. Drip pans shall also be placed under vehicles and/or equipment parked overnight which have known fluid leaks.

Non-Structural Practices: Unnecessary clearing and grubbing is to be avoided. Areas that are not to be worked in shall not be cleared and grubbed. The potential for erosion is reduced greatly by leaving natural vegetation in place and minimizing the amount of exposed soil. To minimize erosion caused by grading activities, grading and site work should be conducted during periods of seasonal dry weather. If the anticipated timing of the project will require construction activities to be performed during seasonal wet weather, special attention should be given to weather forecasts and construction activities should be scheduled accordingly.

C. Timing/Phasing schedule

Most erosion control measures will be installed prior to construction and shall remain in place until final stabilization is achieved. The attached phased GESC Plans detail the erosion control requirements for the PROJECT during initial, interim, and final stages. Additional information concerning the anticipated construction schedule can be found in Appendix B.

D. Permanent stabilization

Final stabilization will be achieved when all disturbed areas have either been paved with asphalt/concrete or landscaped according to the project design plans. In landscaped turf grass areas, at least 80% vegetative cover of grass species planted is required for permanent stabilization. In addition, the site is to be free of bare areas larger than 4 square feet, free of eroded areas, and free from infestation of noxious weeds in accordance with section 6.4 of the MANUAL. The permanent seed mix is to be in accordance with Douglas County Standards.

Long term water quality will continue to be provided by the regional detention pond north of the site.

E. Stormwater Management Considerations

Stormwater will be captured by swales and protected storm inlets and conveyed through storm sewer to the regional water quality and detention pond north of the site. Once the site is fully stabilized, the inlet protection will be removed.

F. Maintenance

The erosion and sediment control measures shall be inspected by the contractor and evaluated continually throughout the construction period. Inspections shall be performed weekly and after all storm events resulting in precipitation of one-half inch or more. Inspections shall also be required after significant snowmelt events which have the potential to cause surface erosion. Inspections required after storm and/or snowmelt events shall be conducted in a timely manner, but no more than 24 hours after the end of the storm event. If construction activities have been completed, but final stabilization has not yet been achieved, the frequency of inspections may be reduced to once every thirty (30) days.

Inspections shall be conducted, and findings documented pursuant to the State Permit. Inspections shall be recorded on an inspection form acceptable to both the State of Colorado and Douglas County. See Appendix D for sample inspection forms. Inspections shall ensure adherence to all state and local jurisdictional requirements. Inspections shall also ensure compliance with the erosion control measures stipulated in this report. Lost or damaged erosion and sediment control devices shall be noted in the inspection report and shall be repaired or replaced in a timely manner, but in no case more than seven (7) days after the inspection. Ineffective or inadequate devices shall also be noted in the inspection report and should be modified or replaced with an adequate device. Replacement and/or modification of ineffective or inadequate devices shall be completed in a timely manner, but in no case more than seven (7) days after the inspection. Any observed differences or modifications to the GESC Plan made after an inspection shall be shown on an updated GESC Plan in a timely manner.

Any reports of non-compliance and/or violations shall be recorded. A brief explanation shall detail how the instance of non-compliance and/or violation was rectified, and how future violations will be avoided. The report shall then be signed indicating that the site is once again in compliance by both the individual performing the inspection and the GESC administrator.

The permit operator shall keep a record of all inspections on site with the GESC Plan. These records shall be made available to the Water Quality Control Division or other authorities having jurisdiction upon request.

Wherever inspection requirements differ between governing jurisdictions and/or this GESC Plan, the more stringent requirements shall apply.

G. Opinion of Probable Cost for installation and maintenance of controls

The engineer's opinion of probable cost for the erosion control measures stipulated in this GESC plan is \$33,027.60. Reference Appendix E for Douglas County's GESC standard cost spreadsheet.

H. Calculations

Sediment Basin sizing is based upon the Douglas County GESC Plan Standard Notes and Details. Basin sizing will comply to the sizing information detailed in said Notes and Details. The disturbed area is approximately 8.00 acres which demands a sediment basin to be installed and shall be designed to accommodate the appropriate upstream drainage area in acres.

Basin Name	Upstream Drainage Area (ac)	Basin Bottom Basin (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
SB1	8.0	50	16	1-1/4

3. References

1. *Stormwater Discharges Associated with Construction Activity, Stormwater Management Plan Preparation Guidance*. Colorado Department of Public Health and Environment, Water Quality Control Division. April 2011
2. *Douglas County Grading, Erosion, and Sediment Control Manual*. Douglas County. Latest Revision
3. *Urban Storm Drainage Criteria Manual*, Volumes 1-3, Wright-McLaughlin Engineers, Latest Revision

“THIS GRADING, EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PLACED IN THE DOUGLAS COUNTY FILE FOR THIS PROJECT AND APPEARS TO FULFILL THE APPLICABLE DOUGLAS COUNTY GRADING, EROSION AND SEDIMENT CONTROL CRITERIA. ADDITIONAL GRADING, EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED OF THE OWNER OR HIS/HER AGENTS, 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 LANDOWNER, OR HIS/HER DESIGNATED REPRESENTATIVE(S) UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.”

Appendix

Appendix A: Maps and Design Aids

Appendix B: Timing/Phasing Schedule

Appendix C: Permit Application Forms

Appendix D: Inspection Forms

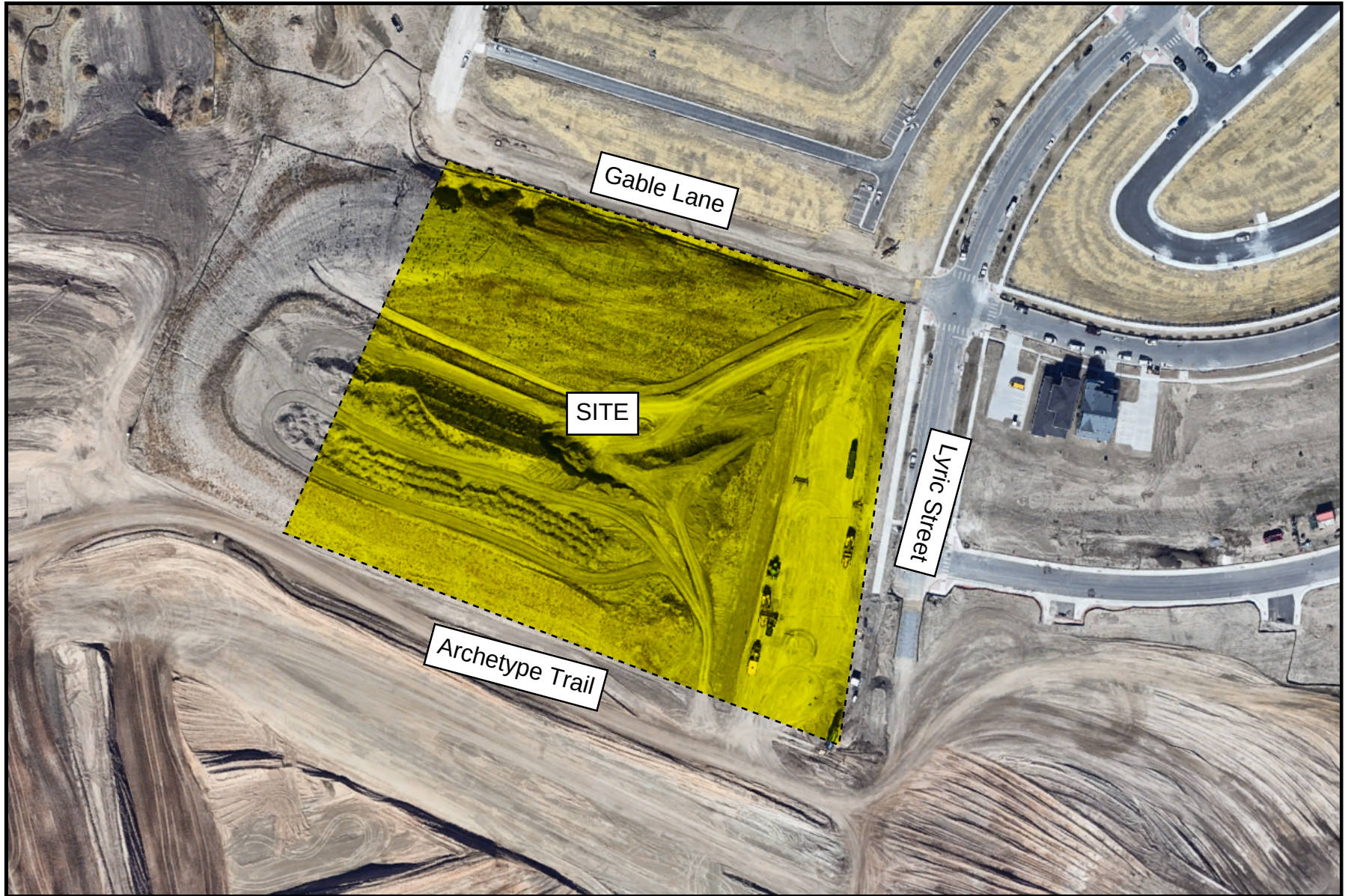
Appendix E: Engineers Opinion of Probable Cost

Appendix F: Earthwork Calculations and Disclaimer

Appendix G: Drainage Details

Appendix H: GESC Plans

Appendix A: Maps and Design Aids



VICINITY MAP

1:6,000

104°51'7"W 39°30'44"N

Basemap Imagery Source: USGS National Map 2023

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

SPECIAL FLOOD HAZARD AREAS	
	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee. See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
OTHER AREAS	
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Effective LOMRs
	Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
MAP PANELS	
	Digital Data Available
	No Digital Data Available
	Unmapped

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **8/19/2025 at 11:14 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

Custom Soil Resource Report for Castle Rock Area, Colorado



Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

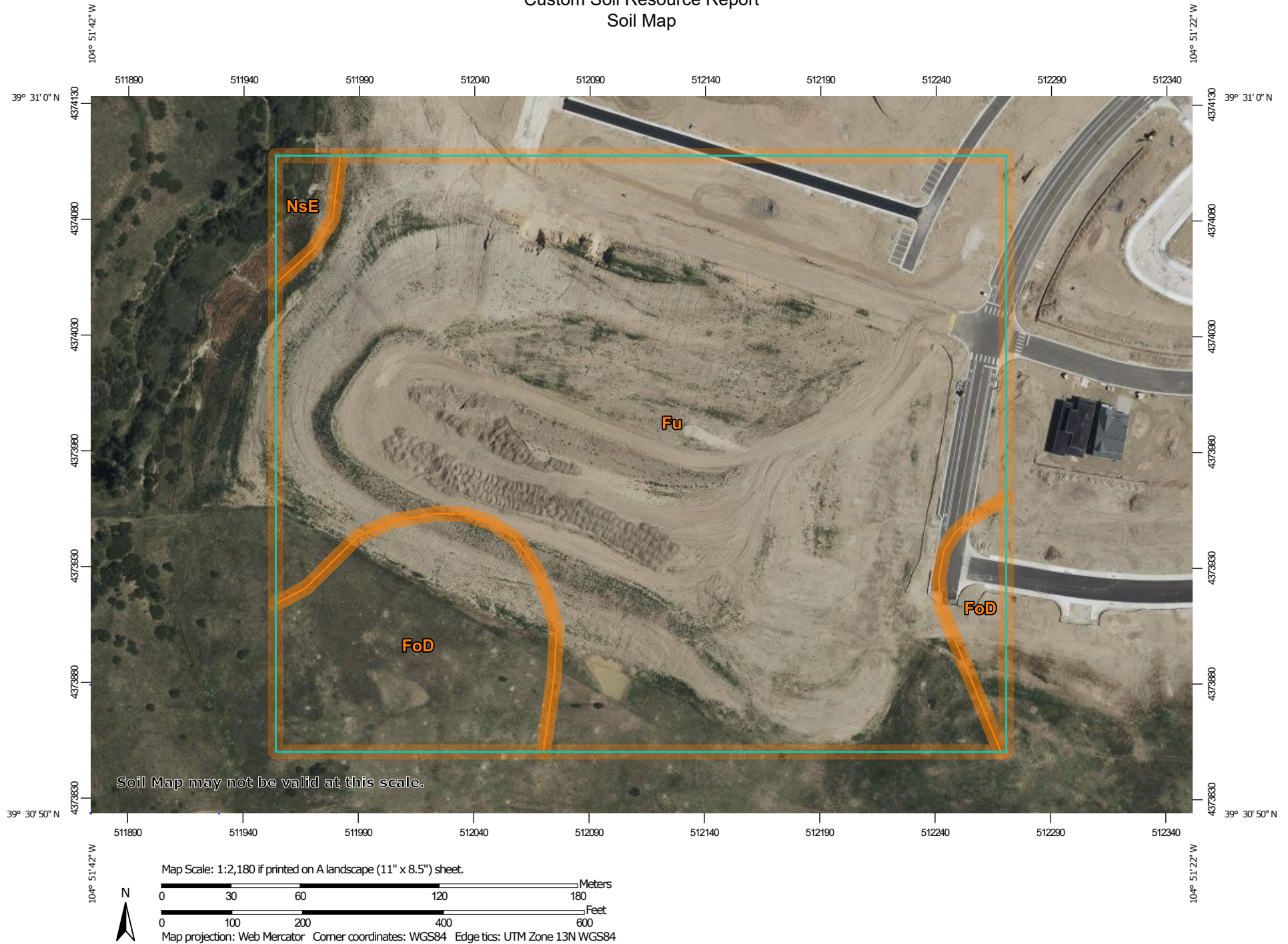
Custom Soil Resource Report

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

Soil Map

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

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Castle Rock Area, Colorado
Survey Area Data: Version 17, Aug 29, 2024

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

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FoD	Fondis clay loam, 3 to 9 percent slopes	3.2	15.7%
Fu	Fondis-Kutch association	16.8	82.9%
NsE	Newlin-Satanta complex, 5 to 20 percent slopes	0.3	1.4%
Totals for Area of Interest		20.2	100.0%

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

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

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

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

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

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

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

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

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

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

Castle Rock Area, Colorado

FoD—Fondis clay loam, 3 to 9 percent slopes

Map Unit Setting

National map unit symbol: jqyp
Elevation: 5,500 to 6,800 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 47 to 50 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Fondis

Setting

Landform: Ridges, buttes, mesas
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits over coarse-silty outwash derived from arkose

Typical profile

H1 - 0 to 7 inches: clay loam
H2 - 7 to 24 inches: clay
H3 - 24 to 60 inches: sandy clay loam

Properties and qualities

Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R049XB208CO - Clayey Foothill
Hydric soil rating: No

Minor Components

Kutch

Percent of map unit: 5 percent
Hydric soil rating: No

Englewood

Percent of map unit: 5 percent

Hydric soil rating: No

Denver

Percent of map unit: 4 percent

Hydric soil rating: No

Aquic haplustolls

Percent of map unit: 1 percent

Landform: Swales

Hydric soil rating: Yes

Fu—Fondis-Kutch association

Map Unit Setting

National map unit symbol: jqyq

Elevation: 5,500 to 6,800 feet

Mean annual precipitation: 15 to 19 inches

Mean annual air temperature: 47 to 50 degrees F

Frost-free period: 120 to 135 days

Farmland classification: Not prime farmland

Map Unit Composition

Fondis and similar soils: 50 percent

Kutch and similar soils: 35 percent

Minor components: 15 percent

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

Description of Fondis

Setting

Landform: Draws, valley sides

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Eolian deposits over coarse-silty outwash derived from arkose

Typical profile

H1 - 0 to 7 inches: loam

H2 - 7 to 24 inches: clay

H3 - 24 to 60 inches: sandy clay loam

Properties and qualities

Slope: 5 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

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Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R049XB208CO - Clayey Foothill
Hydric soil rating: No

Description of Kutch

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-textured residuum weathered from calcareous shale

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 32 inches: clay
H3 - 32 to 36 inches: weathered bedrock

Properties and qualities

Slope: 5 to 40 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R049XB208CO - Clayey Foothill
Hydric soil rating: No

Minor Components

Bresser

Percent of map unit: 5 percent
Hydric soil rating: No

Newlin

Percent of map unit: 5 percent
Hydric soil rating: No

Hilly gravelly land

Percent of map unit: 4 percent

Hydric soil rating: No

Aquic haplustolls

Percent of map unit: 1 percent

Landform: Swales

Hydric soil rating: Yes

NsE—Newlin-Satanta complex, 5 to 20 percent slopes

Map Unit Setting

National map unit symbol: jqzh

Elevation: 5,500 to 6,600 feet

Mean annual precipitation: 15 to 19 inches

Mean annual air temperature: 49 to 51 degrees F

Frost-free period: 120 to 135 days

Farmland classification: Not prime farmland

Map Unit Composition

Newlin and similar soils: 50 percent

Satanta and similar soils: 30 percent

Minor components: 20 percent

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

Description of Newlin

Setting

Landform: Knobs, drainageways

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Unconformable sandy and gravelly and/or mixed source alluvium

Typical profile

H1 - 0 to 8 inches: gravelly sandy loam

H2 - 8 to 17 inches: gravelly sandy clay loam

H3 - 17 to 22 inches: gravelly sandy loam

H4 - 22 to 60 inches: very gravelly sand

Properties and qualities

Slope: 5 to 20 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: R049XC202CO - Loamy Foothill Palmer Divide
Hydric soil rating: No

Description of Satanta

Setting

Landform: Knobs, drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from mixed

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 30 inches: clay loam
H3 - 30 to 60 inches: loam

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R049XY214CO - Gravelly Foothill
Hydric soil rating: No

Minor Components

Bresser

Percent of map unit: 6 percent
Hydric soil rating: No

Buick

Percent of map unit: 6 percent
Hydric soil rating: No

Truckton

Percent of map unit: 6 percent
Hydric soil rating: No

Aquic haplustolls

Percent of map unit: 2 percent
Landform: Swales
Hydric soil rating: Yes

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Appendix B: Timing/Phasing Schedule

Phase I – Before Major Overlot Grading Activities Commence, Date: TBD

Site Entrances:	Place vehicle tracking controls at the entrances
Designated Areas on Plan:	Install a silt fence barrier
Designated Areas on Plan:	Install a construction fence
Designated Areas on Plan:	Install Sediment Basin and diversion ditches

Phase II – During Initial Overlot Grading Activities, Date: TBD

Disturbed Lands that Contribute Runoff:	It is recommended that wind erosion control be implemented as soon as possible on disturbed lands where construction shall not occur by installing silt fence around the entire site. Also maintain a rough soil surface throughout the site with ridges perpendicular to the prevailing wind direction
--	---

Phase III – Immediately after Overlot Grading is Completed, Date: TBD

Disturbed Lands that Contribute Runoff:	If construction is to be delayed for more than 30 days, stabilization is to be achieved by both planting perennial grass seed and applying straw/hay mulch or planting a temporary cover crop. After one growing season, perennial grass seed is to be planted amongst any temporary cover crop residue if continued delay in construction occurs
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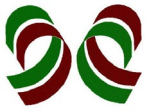
Sediment and Erosion Control Inspection Criteria

Non-Rainfall Season (Nov 1 – May 1):	Inspect all structures at least once per month
Rainfall Season (March 15 – Oct 31):	Inspect all structures whenever rainfall events cause runoff. Inspect all structures at least every 7 days when runoff does not occur.
Regulatory Requirements:	Complete and retain a written record of when inspections occurred

PRELIMINARY CONSTRUCTION SCHEDULE:

Project Commencement:	Q1 2026
Site Grading:	Q1 2026 – Q3 2026
Utility Installation:	Q1 – Q3 2026
Paving (Bottom Lift):	Q4 2026
Building Construction:	Q2 2026 – Q2 2027
Landscaping:	Q3 2027
Final Paving (Top Lift) :	Q3 2027
Final Completion:	Q4 2027

Appendix C: Permit Application Forms



Douglas County Government
Department of Public Work Engineering

FILE#: _____
 PERMIT# _____

Grading Erosion and Sediment Control (GESC) Permit Application

Each question must be fully and accurately answered. No action can be taken on this application until all questions have been answered. PLEASE PRINT, except for signature.

PROPERTY OWNER		CONTRACTOR	
NAME:		COMPANY NAME:	
ADDRESS:		ADDRESS:	
CONTACT NAME:		CONTACT NAME:	
PHONE:		PHONE:	
EMAIL:		EMAIL:	
PROJECT ADDRESS:		PROJECT LOCATION:	
DISTURBED ACRES (including grading/excavation/fill)		IMPORT	C.Y. EXPORT C.Y.
PRELIMINARY PLAN/SITE PLAN APPROVED? ☐ Yes ☐ No DATE: _____ If no, Planning Signature: _____		IMPORT/EXPORT VARIANCE? ☐ Yes ☐ No COPY ATTACHED? ☐ Yes ☐ No	
PROJECT NAME:			
Base Fee – \$250.00 PLUS \$25.00x disturbed acres = \$		☐ Renewal \$100.00 ☐ Transfer \$100.00 TOTAL \$	
By signing below, both applicants hereby apply for a Douglas County GESC Permit for the aforementioned property and certify as follows: - To the best of my/our knowledge, the information provided herein is correct; - If Temporary Access is required All traffic control devices in the public Right-of-Way shall be installed and maintained per the MUTCD. - A GESC Plan for the disturbed area on this site was prepared and submitted in accordance with the GESC Manual. The GESC Permit is granted with the explicit understanding that it is the Permittees' responsibility to: - Obtain all property access and use easements necessary for the project. - Douglas County Inspector can require a MHT for temporary access at any time. - Allow Douglas County unrestricted access to the site to conduct regular site inspections; - Comply with all requirements of the GESC Manual, accepted GESC plan, and GESC Permit; - Immediately cease land-disturbing activities upon receipt of a written Stop Work Order from an authorized representative of Douglas County. A Stop Work Order shall be issued and this Permit is suspended if the Permittees are not in compliance with the GESC Permit, GESC Plan and/or GESC Manual, or the Permittees fail to take corrective action within the time specified on the written notification of such non-compliance; - Understand that in addition to other remedies, a violation of this GESC Permit shall constitute a violation of the Stormwater Ordinance and Section 31 of the Douglas County Zoning Resolution; - Understand any approval obtained from Douglas County does not obviate your need to comply with the requirements of the State of Colorado Department of Public Health and Environment, Colorado Discharge Permit System, General Permit, and Sections 7 and 9 of the Endangered Species Act of 1973, 16 U.S.C. 1531, <u>et seq.</u>, as amended, or with any other applicable federal, state or local laws or regulations. - During the date(s) and time(s) this Permit is in force, Permittee takes full responsibility for all accidents, injuries, damages or loss of property, including personal and Douglas County property. Permittee agrees to indemnify and hold harmless Douglas County and its officers, agents and employees from any and all claims, costs, expenses and attorneys' fees resulting from use of the facilities. Permittee hereby releases, waives, discharges and covenants not to sue Douglas County, its officers, agents and employees on account of injury to person or property caused by the negligence of Douglas County; provided, however, that Permittee shall not indemnify Douglas County and its Officials, Agents and Employees from damages resulting from the negligence of the County's Commissioners, Officials, Directors, Agents and Employees. This indemnification is intended to comply with CRS 13-50.5-102(8), as amended from time to time. I certify I am legally authorized to sign on behalf of and bind the above listed entity(s).			
Property Owner: _____		Contractor: _____	
Date: _____		Date: _____	
Print Name: _____		Print Name: _____	
Title: _____		Title: _____	

Appendix D: Inspection Forms

SWMP EVALUATION REPORTING FORM

Project: _____		By: _____		Date: / /	
Permit No. _____				G = GOOD, F = FAIR, P = POOR, Y = YES, N = NO	
		Overall Condition		Need Repair	
				Comments	
STRUCTURAL MEASURES					
Sediment Containment Systems		G F P	Y N		
Barriers for Sheet Flows					
Bale		G F P	Y N		
Silt Fence		G F P	Y N		
		G F P	Y N		
Drain/Inlet Protection					
Bale Barriers		G F P	Y N		
Rock Barriers		G F P	Y N		
Inserts		G F P	Y N		
		G F P	Y N		
Channel Check Structures					
Bale Barriers		G F P	Y N		
Rock Barriers		G F P	Y N		
		G F P	Y N		
Other BMPs					
Vehicle Tracking Pad		G F P	Y N		
		G F P	Y N		
NON-STRUCTURAL MEASURES					
Diversion Dikes and/or Swales		G F P	Y N		
Slope Drains		G F P	Y N		
Temporary Vegetation		G F P	Y N		
Perennial Vegetation		G F P	Y N		
Mulch and/or BFM Protection		G F P	Y N		
Soil Binder Protection		G F P	Y N		
Hillside RECPs		G F P	Y N		
Drainage Channel TRMs		G F P	Y N		
Riprap and/or Gabions		G F P	Y N		
		G F P	Y N		
		G F P	Y N		

SWMP EVALUATION REPORTING FORM

Will existing BMPs need to be modified or removed or additional BMPs installed? YES NO If yes, list the action items to be completed on the following table.

Actions to be Completed		Date Completed
1.		
2.		
3.		
4.		
5.		
6.		

Weather information since the last evaluation was held.

Event	Date Began	Duration (Hours)	Amount (Inches)		Event	Date Began	Duration (Hours)	Amount (Inches)
1					2			
3					4			
5					6			

Are uncontrolled releases of mud or muddy water from the site and/or deposits of sediment evident? YES NO If yes, where and what corrective actions are to occur?

Are non-compliance incidents evident? YES NO If no, sign the following statement: It is my belief that the facility is in compliance with the SWMP and this permit.

If yes, should the SWMP drawings be modified? YES NO If yes, the following drawing modifications are to be completed within seven days.

Comments:

Evaluation completed on: _____ by: _____
(Signature)

Owner's Representative: _____

Appendix E: Engineers Opinion of Probable Cost

Douglas County GESC Permit

Cost Opinion Spreadsheet

Mar-04

BMP No.	BMP	ID	Unit	Installation Unit Cost	Quantity	Cost
1	Check Dam	CD	LF	\$ 24.00	0	\$ -
2	Compost Blanket	CB	SF	\$0.36	0	\$ -
3	Compost Filter Berm	CFB	LF	\$ 2.00	0	\$ -
4	Concrete Washout Area	CWA	EA	\$ 100.00	0	\$ -
5	Construction Fence	CF	LF	\$ 2.00	2342	\$ 4,684.00
6	Construction Markers	CM	LF	\$ 0.20	0	\$ -
7	Dewatering	DW	EA	\$ 600.00	0	\$ -
8	Diversion Ditch	DD	LF	\$ 1.60	1076	\$ 1,721.60
9	Erosion Control Blanket	ECB	SY	\$ 5.00	0	\$ -
10	Inlet Protection	IP	LF	\$ 20.00	144	\$ 2,880.00
11	Reinforced Check Dam	RCD	LF	\$ 36.00	0	\$ -
12	Reinforced Rock Berm	RRB	LF	\$ 9.00	0	\$ -
13	RRB for Culvert Protection	RRC	LF	\$ 9.00	0	\$ -
14	Sediment Basin	SB	AC	\$ 1,100.00	8	\$ 8,800.00
15	Sediment Control Log	SCL	LF	\$ 2.00	0	\$ -
16	Sediment Trap	ST	EA	\$ 600.00	0	\$ -
17	Seeding and Mulching	SM	AC	\$ 2,500.00	2.52	\$ 6,300.00
18	Silt Fence	SF	LF	\$ 2.00	1141	\$ 2,282.00
19	Stabilized Staging Area	SSA	SY	\$ 2.00	2120	\$ 4,240.00
20	Surface Roughening	SR	AC	\$ 600.00	0	\$ -
21	Temporary Slope Drain	TSD	LF	\$ 30.00	0	\$ -
22	Temporary Stream Crossing	TSC	EA	\$1,000.00	0	\$ -
23	Terracing	TER		\$ -	0	\$ -
24	Vehicle Tracking Control	VTC	EA	\$1,000.00	2	\$ 2,000.00
25	VTC with Wheel Wash	WW		\$ -	0	\$ -
26	Temporary Batch Plant Restoration		AC	\$5,000.00	0	\$ -
TOTAL						\$ 32,907.60

Appendix F: Earthwork Calculations and Disclaimer

EARTHWORK DISCLAIMER

DISCLAIMER: MARTIN/MARTIN, INC. HAS PERFORMED AN EARTHWORK ESTIMATE OF THE SITE TO ESTIMATE THE AMOUNT OF CUT AND FILL ASSOCIATED WITH THE PROJECT. THE ESTIMATE WAS CONDUCTED TO INFORM THE PROJECT OWNER/DESIGNER OF THE PROJECT'S APPROXIMATE EARTHWORK QUANTITIES. ACTUAL EARTHWORK QUANTITIES ARE SUBJECT TO VARIABLES BEYOND MARTIN/MARTIN'S CONTROL. THIS EARTHWORK ESTIMATE WAS BASED ON EXISTING SITE CONTOURS SURVEYED BY MARTIN/MARTIN, INC., AND THE PROPOSED CONTOURS SHOWN ON THE SITE GESC PLANS PREPARED BY MARTIN/MARTIN.

MARTIN/MARTIN, INC. MAKES NO WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED, AS TO THE ACCURACY OF THE EARTHWORK QUANTITIES. THE OWNER AND GENERAL CONTRACTOR SHOULD WORK WITH AN EARTHWORK CONTRACTOR TO PERFORM A CONTRACTUAL EARTHWORK ANALYSIS AND BUDGET AFTER ALL DESIGN AND CONSTRUCTION ISSUES HAVE BEEN IDENTIFIED.

PROJECT INFORMATION

PROJECT NAME: RidgeGate Elementary
PROJECT #: 24.0998
ANALYSIS: EARTHWORK
DATE: 09/30/25



Earthwork Analysis

Site Area

8.000 acres

Proposed Surface vs. Existing Surface

Cut 17302.00 CY
Fill 18368.00 CY
1066.00 CY

FILL

Building 70600.48 Area, SF
6.00 Average Depth, IN.
-1307.42 CY

Paving 93586.80 Area, SF
8.00 Average Depth, IN.
IMPORT -2310.79 CY

Sidewalk 55425.88 Area, SF
4.00 Average Depth, IN.
IMPORT -684.27 CY

Total Earthwork -3236.47 CY

CUT

Building 6"
Paving 8"
54' truck
3% for storage area

Appendix G: Drainage Details

PROJECT INFORMATION

PROJECT NAME: DCSD RidgeGate Elementary
PROJECT NO: 24.0998
DESIGN BY: KDK
REVIEWED BY: DB
JURISDICTION: MMD/DC
REPORT TYPE: DRAINAGE
DATE: 10/01/25



JURISDICTIONAL STANDARD	C2	C5	C10	C100	% IMPERV
LANDSCAPE	0.01	0.05	0.15	0.49	2%
ROOF	0.79	0.81	0.83	0.87	95%
PAVED	0.79	0.81	0.83	0.87	95%
GRAVEL	0.30	0.36	0.43	0.65	40%

TOTAL SITE COMPOSITE	8.89	0.01	0.05	0.15	0.49	2.0%
----------------------	------	------	------	------	------	------

SUB-BASIN	SURFACE CHARACTERISTICS	AREA	COMPOSITE RUNOFF COEFFICIENTS				PERCENT IMPERVIOUSNESS
		(ACRES)	C2	C5	C10	C100	
DD1	LANDSCAPE	4.43	0.01	0.05	0.15	0.49	2%
SUB-BASIN COMPOSITE		4.43	0.01	0.05	0.15	0.49	2.0%

SUB-BASIN	SURFACE CHARACTERISTICS	AREA	COMPOSITE RUNOFF COEFFICIENTS				PERCENT IMPERVIOUSNESS
		(ACRES)	C2	C5	C10	C100	
DD2	LANDSCAPE	4.46	0.01	0.05	0.15	0.49	2%
SUB-BASIN COMPOSITE		4.46	0.01	0.05	0.15	0.49	2.0%

TOTAL SITE COMPOSITE	8.89	0.01	0.05	0.15	0.49	2.0%
----------------------	------	------	------	------	------	------

PROJECT:	DCSD RidgeGate Elementary
JOB NO:	24.100
DATE:	10/01/25



RUNOFF SUMMARY							
BASIN	DESIGN POINT	AREA (ACRES)	% IMP.	C ₅	C ₁₀₀	Q ₅ (CFS)	Q ₁₀₀ (CFS)
DD1	DD1	4.43	2.0%	0.05	0.49	0.85	16.86
DD2	DD2	4.46	2.0%	0.05	0.49	0.85	16.98
SITE COMPOSITE		8.89	2.0%	0.05	0.49	1.70	33.84

Worksheet for Trapezoidal Channel - 1

Project Description	
Friction Method	Manning
	Formula
Solve For	Bottom Width
Input Data	
Roughness Coefficient	0.035
Channel Slope	0.050 ft/ft
Normal Depth	10.0 in
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Discharge	17.00 cfs
Results	
Bottom Width	1.06 ft
Flow Area	3.0 ft ²
Wetted Perimeter	6.3 ft
Hydraulic Radius	5.6 in
Top Width	6.06 ft
Critical Depth	11.9 in
Critical Slope	0.023 ft/ft
Velocity	5.73 ft/s
Velocity Head	0.51 ft
Specific Energy	1.34 ft
Froude Number	1.443
Flow Type	Supercritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	10.0 in
Critical Depth	11.9 in
Channel Slope	0.050 ft/ft
Critical Slope	0.023 ft/ft

Design and Sizing Criteria for BMPs, continued

Determining the length of the reinforced rock berm to fit the inlet is the responsibility of the Permittee(s), as is providing Temporary Inlet Protection in accordance with the GESC Drawing Standard Notes and Details.

3.17.9 Reinforced Rock Berm (RRB). Design parameters to be specified on the plan-view GESC Drawings include the following items:

- Length (L) dimensions.
- Depth (D) dimensions.

If used in a Diversion Ditch or small drainageway, dimensions are to be specified to ensure that the berm fits the drainageway cross section shape and provides adequate overtopping capacity. The depth (D) dimension shall provide a minimum weir capacity equal to a 2 year return period event for development conditions expected during the operation of the Reinforced Rock Berm.

When used as a downhill perimeter control, the design criteria described for **Silt Fence (SF)** in Section 3.17.14 shall apply, except that the Reinforced Rock Berm may be used as a Check Dam across swales and small drainageways (up to 20 acres of upstream drainage area).

3.17.10 Sediment Basin (SB). Design parameters shall be specified on the plan-view GESC drawings and include the following items:

- Location.
- Crest length (CL) dimension, bottom area (A), height of orifices (H), number of columns of orifices (N), and hole diameter (HD).

The Sediment Basin design shown on the GESC Drawing Standard Notes and Details provided in Appendix B shall be used for any disturbed drainage area greater than 1.0 acre. The standard Sediment Basin is appropriate for use for disturbed drainage areas up to 15 acres. For drainage areas greater than 15 acres, a *Volume 3* design must be prepared and shown in the construction drawings.

Sizing information for the Sediment Basin design (based on providing a minimum initial storage volume equal to 1,800 cubic feet per upstream disturbed acre, shall be determined from Table 3-3 (on the following page). As shown on the standard detail sheets, the standard sediment basin features a pipe outlet drilled with a single column of orifice holes. The hole diameter shown in Table 3-3 will drain the upper 1.5 feet of the Sediment Basin in about 4 hours.

A Right-of-Way Use and Construction Permit and inspections are necessary prior to the construction of the outlet works, if the outlet is to be part of a permanent detention basin or water quality facility.

Design and Sizing Criteria for BMPs, continued**Table 3-3, 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	16	2.0	7/16
2	22	4.0	5/8
3	27	6.0	3/4
4	31	8.0	7/8
5	35	10.0	1.0
6	38	12.0	1-1/8
7	41	14.0	1-1/4
8	44	16.0	1-1/4
9	47	18.0	1-3/8
10	49	20.0	1-3/8
11	52	22.0	1-1/2
12	54	24.0	1-1/2
13	56	26.0	1-5/8
14	59	28.0	1-5/8
15	61	30.0	1-3/4

Permanent detention and water quality facilities shall have Temporary Sediment Basins incorporated within them. Outlet facilities for Extended Detention Basins that provide a drain time of 40 hours may be used as the Sediment Basin Outlet as long as at least half of the Sediment Basin Volume is provided below the lowest orifice of the permanent outlet works.

3.17.11 Sediment Control Log (SCL). Design parameters to be specified on the plan-view GESC Drawings shall include the following items:

- Location of the Sediment Control Log.
- Length (L) of the Sediment Control Log.

When used as a downslope perimeter control, the design criteria described for **Silt Fence (SF)** in Section 3.17.14 shall apply.

3.17.12 Sediment Trap (ST). Design parameters shall be specified on the plan-view GESC Drawings and include the following items:

- Location, length (L) and width (W) dimensions.

Sediment Trap may be used for upstream disturbed areas less than 1.0 acre. Sediment Trap dimensions shall be specified to provide a storage volume equal to 1,800 cubic feet per upstream acre.

UPSTREAM DRAINAGE AREA = **8.0 ACRES**

REQUIRED STORAGE VOLUME (DC) = **1,800 FT³/ACRE * 8.0 ACRES = 14,400 FT³ MINIMUM**

PER TABLE 3-3: **W = 44 FT** (50 FT WILL BE USED), **CL = 16 FT**, **HD = 1 1/4 FT**

BASIN LENGTH (L) = **44 FT * 2 = 88 FT** (90 FT WILL BE USED)

SLOPE (H:V) = **3:1**

ELEVATION DIFFERENCE (H) = **1 FT**

SEDIMENT BASIN CALCULATIONS

GESC Plans

GESC 1: GESC COVER SHEET

GESC 2: INITIAL GESC PLAN

GESC 3: INITIAL GESC PLAN – EAST LOT

GESC 4: INTERIM & FINAL GESC PLAN

GESC 5: INTERIM GESC PLAN – EAST LOT

GESC 6: GESC STANDARD NOTES & DETAILS

GESC 7: GESC STANDARD NOTES & DETAILS

GESC 8: GESC STANDARD NOTES & DETAILS

PLOT DATE: Thursday, November 20, 2025 10:36 AM LAST SAVED BY: JEDIAZ
DRAWING LOCATION: \\mncivil.martin.local\civil\BUCKLEY\24.0998-dcsd - ridgegate elementary school\PLANS\CDS\C250 - GESC COVER SHEET.dwg

EROSION CONTROL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION TO PREVENT DAMAGING FLOWS ON THE SITE AND IN THE WATERSHED BELOW THE SITE. CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO STRIPPING OF NATIVE VEGETATIVE COVER AND AS GRADING PROGRESSES. REFER TO TEMPORARY EROSION AND SEDIMENT CONTROL PLANS AND STORM WATER MANAGEMENT PLAN. CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE PLAN MAY BE MODIFIED WITH APPROPRIATE APPROVALS AS FIELD CONDITIONS WARRANT.
2. 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 OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
3. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSIIVE ELEMENTS.
4. AT ALL TIMES, THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN FUGITIVE DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.
5. PERMANENT OR TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 30 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. UNLESS SPECIFIED OTHERWISE, TEMPORARY VEGETATION SHALL BE INSTALLED ON ALL DISTURBED AREAS WHERE PERMANENT SURFACE IMPROVEMENTS ARE NOT SCHEDULED FOR INSTALLATION WITHIN THREE MONTHS. TEMPORARY VEGETATION SHALL BE A VIGOROUS, DROUGHT TOLERANT, NATIVE SPECIES MIX. PROJECT SCHEDULING SHOULD TAKE ADVANTAGE OF SPRING OR FALL PLANTING SEASONS FOR NATURAL GERMINATION, BUT SEEDED AREAS SHALL BE IRRIGATED, IF CONDITIONS MERIT. REFER TO THE LANDSCAPE PLAN FOR FINAL LANDSCAPING.
6. TEMPORARY FENCES SHALL BE INSTALLED ALONG ALL BOUNDARIES OF THE CONSTRUCTION LIMITS OR PROPERTY LINES AS SHOWN ON THE APPROVED EROSION CONTROL PLAN, TO PREVENT GRADING ON PROPERTY NOT OWNED BY THE OWNER/DEVELOPER. IN ADDITION, THE TOWN OF CASTLE ROCK MAY REQUIRE ADDITIONAL TEMPORARY FENCES IF FIELD CONDITIONS WARRANT.
7. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, GRADING OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, ROADWAYS, WETLANDS, ETC., RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
8. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN INADVERTENTLY DISCHARGED TO, OR ACCUMULATED IN, THE FLOWLINES AND PUBLIC RIGHT-OF-WAY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT.
9. THE GRADING CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL ENSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC ROADWAYS.
10. APPROVED EROSION AND SEDIMENT CONTROL "BEST MANAGEMENT PRACTICES" [BMP] SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMPs WEEKLY AND AFTER SIGNIFICANT PRECIPITATION EVENTS. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED IN A TIMELY MANNER. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM A BMP WHEN THE SEDIMENT LEVEL REACHES ONE HALF THE HEIGHT OF THE BMP OR, AT ANY TIME THAT SEDIMENT OR DEBRIS ADVERSELY IMPACTS THE FUNCTIONING OF THE BMP.
11. WATER USED IN THE CLEANING OF CONCRETE TRUCK DELIVERY CHUTES SHALL BE DISCHARGED INTO A PREDEFINED, BERMED CONTAINMENT AREA ON THE JOB SITE. THE REQUIRED CONTAINMENT AREA IS TO BE BERMED SO THAT WASH WATER IS TOTALLY CONTAINED. WASH WATER DISCHARGED INTO THE CONTAINMENT AREA SHALL BE ALLOWED TO INFILTRATE OR EVAPORATE. DRIED CONCRETE WASTE SHALL BE REMOVED FROM THE CONTAINMENT AREA AND PROPERLY DISPOSED OF. SHOULD A PREDEFINED BERMED CONTAINMENT AREA NOT BE AVAILABLE DUE TO THE PROJECT SIZE, OR LACK OF AN AREA WITH A SUITABLE GROUND SURFACE FOR ESTABLISHING A CONTAINMENT AREA, PROPER DISPOSAL OF READY MIX WASHOUT AND RINSE OFF WATER AT THE JOB SITE SHALL CONFORM TO THE APPROVED TECHNIQUES AND PRACTICES IDENTIFIED IN THE COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT'S TRAINING VIDEO ENTITLED "BUILDING FOR A CLEANER ENVIRONMENT, READY MIX WASHOUT TRAINING", AND ITS ACCOMPANYING MANUAL ENTITLED, "READY MIX WASHOUT GUIDEBOOK, VEHICLE AND EQUIPMENT WASHOUT AT CONSTRUCTION SITES." THE DIRECT OR INDIRECT DISCHARGE OF WATER CONTAINING WASTE CONCRETE TO THE STORM SEWER SYSTEM IS PROHIBITED. INFORMATION ABOUT, OR COPIES OF THE VIDEO AND TRAINING MANUAL ARE AVAILABLE FROM THE WATER QUALITY CONTROL DIVISION, COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT, 4300 CHERRY CREEK DRIVE SOUTH, DENVER, COLORADO 80222-1530, 303-692-3555
12. THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED.
13. PAVED SURFACES WHICH ARE ADJACENT TO CONSTRUCTION SITES SHALL BE SWEEPED IN A TIMELY MANNER WHEN SEDIMENT AND OTHER MATERIALS ARE TRACKED OR DISCHARGED ON TO THEM. EITHER SWEEPING BY HAND OR USE OF STREET SWEEPERS IS ACCEPTABLE. STREET SWEEPERS USING WATER WHILE SWEEPING IS PREFERRED IN ORDER TO MINIMIZE DUST. FLUSHING OFF PAVED SURFACES WITH WATER IS PROHIBITED.

CITY OF LONE TREE GESC NOTE:

THE GRADING, EROSION AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PLACED IN THE CITY OF LONE TREE FILE FOR THIS PROJECT AND APPEARS TO FULFILL APPLICABLE LONE TREE GRADING, EROSION AND SEDIMENT CONTROL CRITERIA, AS AMENDED. ADDITIONAL GRADING, EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED OF THE PERMITTEES 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 PERMITTEES, UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.

CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES WITH THE PROPOSED ELEVATIONS SHOWN IN THESE PLANS. ENGINEER WILL NOT BE LIABLE FOR ANY COST ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.



CALL 811 3-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR MARKING OF UNDERGROUND MEMBER UTILITIES

MARTIN/MARTIN ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. UNLESS OTHERWISE NOTED, THE UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED BY OTHERS AND DEPICTED AS ASCE (38) QUALITY LEVEL D. IN ACCORDANCE WITH THE PROVISIONS OF COLORADO REVISED STATUTE, TITLE 9, IT IS THE CONTRACTORS RESPONSIBILITY TO CALL COLORADO 811 UTILITY LOCATE SERVICE FOR UTILITY LOCATES BEFORE DIGGING, AND FIELD VERIFY THE SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES (DEPICTED OR NOT DEPICTED) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BASIS OF BEARINGS:

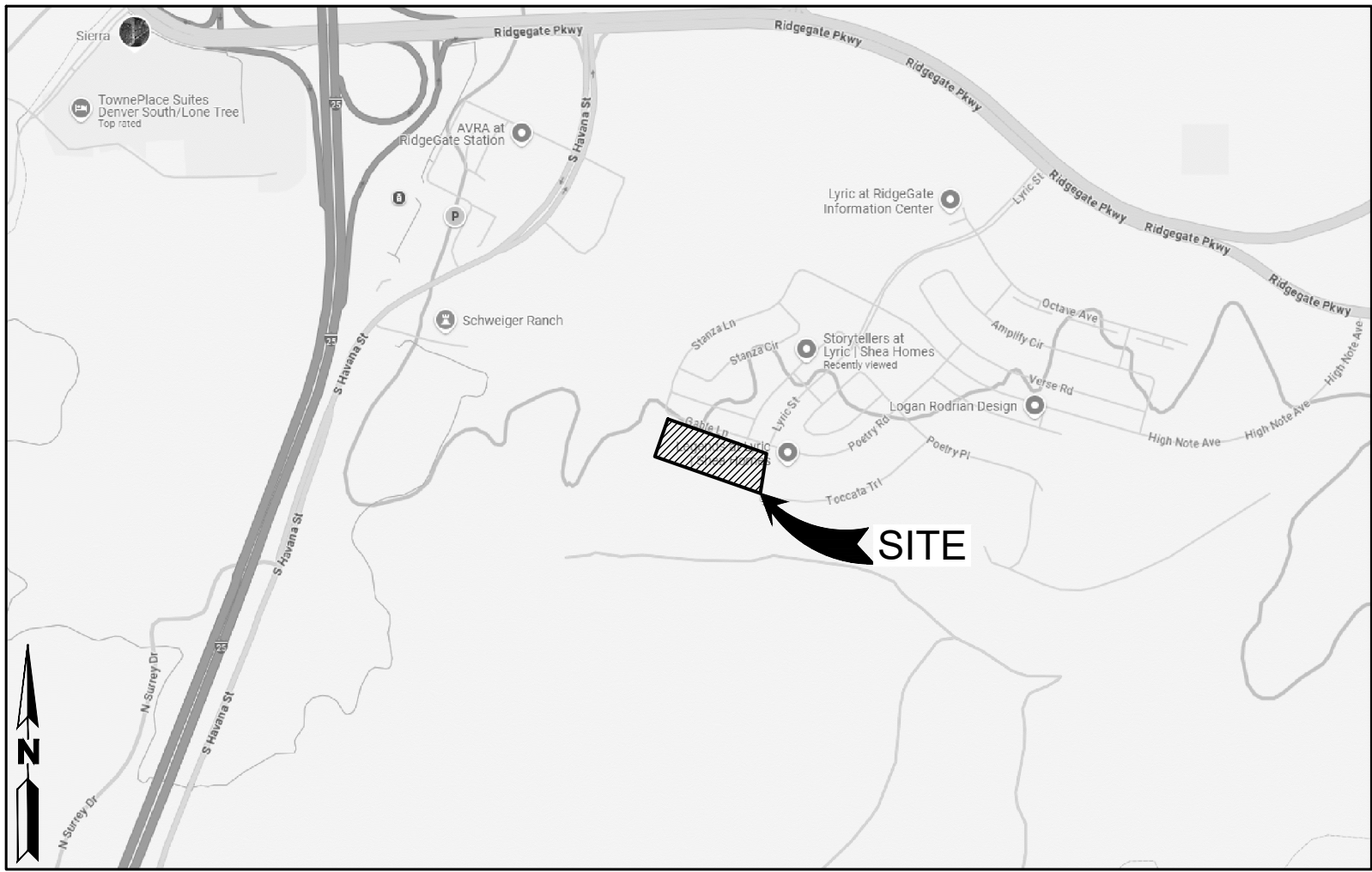
BEARINGS ARE ASSUMED AND ARE BASED UPON THE NORTHERLY LINE OF THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 6 SOUTH, RANGE 67 WEST, OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LONE TREE, COUNTY OF DOUGLAS, STATE OF COLORADO AS BEARING N89°15'39"E.

BENCHMARK

PROJECT BENCHMARK IS RIDGEGATE BM 1 A 3-1/4" DIAMETER BRASS CAP SET ON THE NORTHWEST BRIDGE ABUTMENT OF RIDGEGATE PARKWAY STAMPED "RIDGEGATE BM 1 2021" AND IS APPROXIMATELY 0.7 MILES EAST ON RIDGEGATE PARKWAY FROM THE INTERSECTION OF I-25 AND RIDGEGATE PARKWAY IN LONE TREE, COLORADO. THE BENCHMARK IS 1.0 FEET FROM THE WEST EDGE OF THE ABUTMENT, 3.0 FEET NORTH OF THE BACK OF WALK AND 31 FEET NORTH OF THE WEST BOUND CENTERLINE OF RIDGEGATE PARKWAY. ELEVATION IS 5983.40 U.S. SURVEY FEET, NAVD 88 DOUGLAS COUNTY DATUM.

DCSD - ELEMENTRY SCHOOL 50 GRADING, EROSION AND SEDIMENT CONTROL PLANS

LOCATED IN THE NORTHWEST 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



VICINITY MAP:
SCALE: 1"=500'

SHEET INDEX	
SHEET #	SHEET TITLE
C250	GESC COVER SHEET
C251	INITIAL EROSION CONTROL PLAN
C252	INTERIM EROSION CONTROL PLAN
C253	FINAL EROSION CONTROL PLAN
C254	EROSION CONTROL DETAILS SHEET
C255	EROSION CONTROL DETAILS SHEET
C256	EROSION CONTROL DETAILS SHEET

OWNER:
DOUGLAS COUNTY SCHOOL DISTRICT
620 WILCOX STREET
CASTLE ROCK, CO 80104
(303) 387-0100

CIVIL ENGINEER:
MARTIN/MARTIN INC.
12499 W. COLFAX AVE.
LAKEWOOD, COLORADO 80215
ATTN: DAN BEARSE, P.E.
303-431-6100

ABBREVIATIONS:

APPROX	APPROXIMATE
ARCH	ARCHITECT
BLDG	BUILDING
BM	BENCHMARK
BOC	BACK OF CURB
BOW	BACK OF WALK
CL	CENTERLINE
COL	CITY OF LAKEWOOD
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTOUR
DEMO	DEMOLITION
DIA OR Ø	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
EL	ELEVATION
ELEC	ELECTRICAL
ENG	ENGINEER
EOA	EDGE OF ASPHALT
EOC	EDGE OF CONCRETE
ESMT	EASEMENT
EX.	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
F.E.S.	FLARED END SECTION
FFE	FINISHED FLOOR ELEVATION
FGW	FINISHED GRADE AT WALL
FHY	FIRE HYDRANT
FL	FLOW LINE
FT	FOOT
GB	GRADE BREAK
GR	GRATE (AREA OR VALLEY INLETS)
GV	GATE VALVE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HORZ	HORIZONTAL
HP	HIGH POINT
INV.	INVERT
LF	LINEAL FEET
LP	LOW POINT
MAX	MAXIMUM
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRICAL
PD	PERIMETER DRAIN
PERF	PERFORATED
PERM	PERIMETER
PERP	PERPENDICULAR
PL	PROPERTY LINE
PLBG	PLUMBING
PROP	PROPOSED
PRV	PRESSURE RELIEF VALVE
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
ROW	RIGHT OF WAY
SSWR	SANITARY SEWER
SF	SQUARE FOOT
STA	STATION
STRC	STRUCTURAL
SW	SIDEWALK
TELE	TELEPHONE
TB	THRUST BLOCK
TEMP	TEMPORARY
TOC	TOP OF CURB
VERT	VERTICAL

THE GRADING, EROSION AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF THE GRADING, EROSION AND SEDIMENT CONTROL PLAN (GESC) CRITERIA MANUAL OF DOUGLAS COUNTY AS AMENDED.

DAN BEARSE DATE

SUBJECT TO CHANGE
PENDING JURISDICTIONAL APPROVAL

LEGEND	
	SILT FENCE (SF)
	VEHICLE TRACKING CONTROL (VTC)
	INLET PROTECTION (IP)
	OUTLET PROTECTION (OP)
	CULVERT INLET PROTECTION (CIP)
	STABILIZED CONSTRUCTION ROADWAY (SCR)
	STABILIZED STAGING AREA (SSA)
	STOCKPILE MANAGEMENT W/ PROTECTION (SP)
	CONCRETE WASHOUT AREA (CWA)
	CONSTRUCTION FENCE (CF)
	CURB SOCK (CS)
	ROCK SOCK (RS)
	SEDIMENT CONTROL LOG (SCL)
	STRAW BALE BARRIER (SBB)
	CHECK DAM (CD)
	TEMP. SLOPE DRAIN (TSD)
	ROUGH CUT STREET CONTROL (RCS)
	DIVERSION DITCHES/CHANNEL (DD/DC)
	MULCHING (MU)
	SURFACE ROUGHENING (SR)
	TEMPORARY SEEDING (TS)
	PERMANENT SEEDING (PS)
	EROSION CONTROL BLANKET (ECB)
	SEDIMENT BASIN (SB)
	SEDIMENT TRAP (ST)
	LIMITS OF CONSTRUCTION (LOC)

CITY OF LONE TREE

DATE

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

ENGINEERING DIVISION ACCEPTANCE BLOCK

DCSD - RIDGEGATE
ELEMENTARY SCHOOL
CONSTRUCTION DOCUMENTS
GESC COVER SHEET

No.	Issue / Revision	Date	Name
1	1st SUBMITTAL	10/31/2025	DEB

Job Number	24-0998
Project Manager	D.BEARSE
Design By	D.BEARSE/K.RICKETSON
Drawn By	JEDIAZ
Principal In Charge	P.BUCKLEY

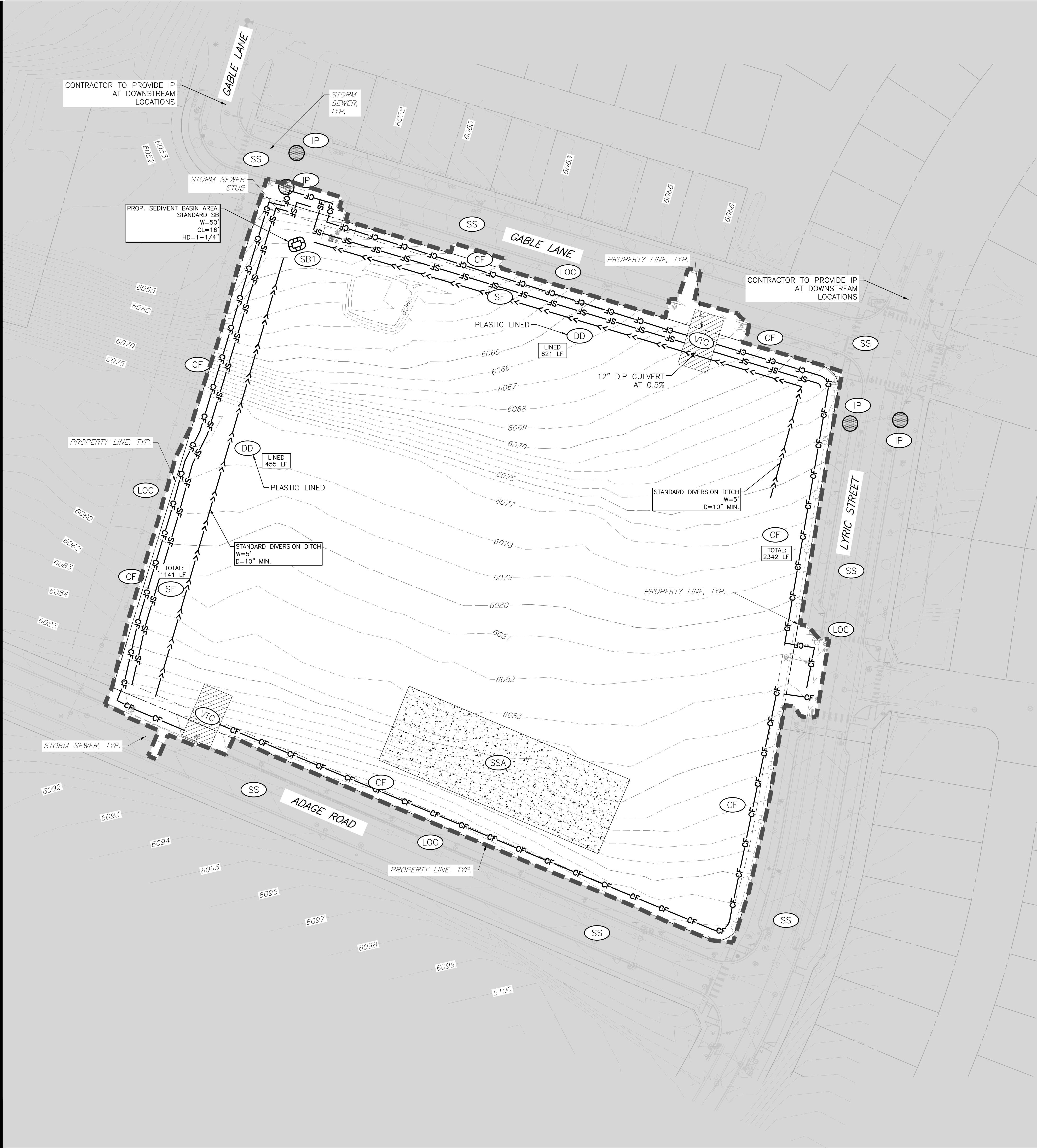
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Sheet Number:

C250

MARTIN/MARTIN
CONSULTING ENGINEERS
12499 West Colfax Avenue
303.431.6100
Lakewood, Colorado 80215
martinmartin.com

NOT FOR CONSTRUCTION



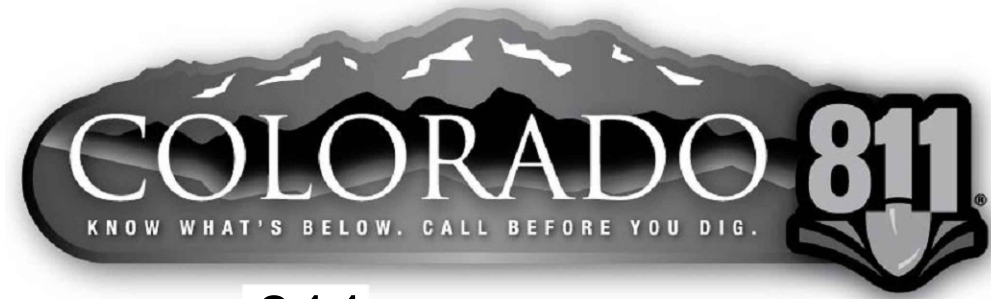
NOTE:
1. SEE COVER SHEET OF LONE TREE STANDARD NOTES AND DETAILS (SHEET 1 OF 3) FOR LEGEND OF BMP NAMES & SYMBOLS.

BASIS OF BEARINGS:
BEARINGS ARE ASSUMED AND ARE BASED UPON THE NORTHERLY LINE OF THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 6 SOUTH, RANGE 67 WEST, OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LONE TREE, COUNTY OF DOUGLAS, STATE OF COLORADO AS BEARING N89°15'39"E.

BENCHMARK
PROJECT BENCHMARK IS RIDGEGATE BM 1 A 3-1/4" DIAMETER BRASS CAP SET ON THE NORTHWEST BRIDGE ABUTMENT OF RIDGEGATE PARKWAY STAMPED "RIDGEGATE BM 1 2021" AND IS APPROXIMATELY 0.7 MILES EAST ON RIDGEGATE PARKWAY FROM THE INTERSECTION OF I-25 AND RIDGEGATE PARKWAY IN LONE TREE, COLORADO. THE BENCHMARK IS 1.0 FEET FROM THE WEST EDGE OF THE ABUTMENT, 3.0 FEET NORTH OF THE BACK OF WALK AND 31 FEET NORTH OF THE WEST BOUND CENTERLINE OF RIDGEGATE PARKWAY. ELEVATION IS 5983.40 U.S. SURVEY FEET, NAVD 88 DOUGLAS COUNTY DATUM.

SUBJECT TO CHANGE
PENDING JURISDICTIONAL APPROVAL

LEGEND		
	SILT FENCE	(SF)
	VEHICLE TRACKING CONTROL	(VTC)
	INLET PROTECTION	(IP)
	OUTLET PROTECTION	(OP)
	CULVERT INLET PROTECTION	(CIP)
	STABILIZED CONSTRUCTION ROADWAY	(SCR)
	STABILIZED STAGING AREA	(SSA)
	STOCKPILE MANAGEMENT W/ PROTECTION	(SP)
	CONCRETE WASHOUT AREA	(CWA)
	CONSTRUCTION FENCE	(CF)
	CURB SOCK	(CS)
	ROCK SOCK	(RS)
	SEDIMENT CONTROL LOG	(SCL)
	STRAW BALE BARRIER	(SBB)
	CHECK DAM	(CD)
	TEMP. SLOPE DRAIN	(TSD)
	ROUGH CUT STREET CONTROL	(RCS)
	DIVERSION DITCHES/CHANNEL	(DD/DC)
	MULCHING	(MU)
	SURFACE ROUGHENING	(SR)
	TEMPORARY SEEDING	(TS)
	PERMANENT SEEDING	(PS)
	EROSION CONTROL BLANKET	(ECB)
	SEDIMENT BASIN	(SB)
	SEDIMENT TRAP	(ST)
	LIMITS OF CONSTRUCTION	(LOC)



CALL **811** 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR MARKING OF UNDERGROUND MEMBER UTILITIES

MARTIN/MARTIN ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. UNLESS OTHERWISE NOTED, THE UTILITIES SHOWN ON THIS DRAWING ARE BASED ON INFORMATION PROVIDED BY OTHERS AND DEPICTED AS ASCE (38) QUALITY LEVEL D. IN ACCORDANCE WITH THE PROVISIONS OF COLORADO REVISED STATUTE, TITLE 9, IT IS THE CONTRACTORS RESPONSIBILITY TO CALL COLORADO 811 UTILITY LOCATE SERVICE FOR UTILITY LOCATES BEFORE DIGGING, AND FIELD VERIFY THE SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES (DEPICTED OR NOT DEPICTED) PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

50 25 0 50 100
SCALE: 1"=50'
ALL LINEAL DIMENSIONS ARE IN U.S. SURVEY FEET

CITY OF LONE TREE

DATE

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

ENGINEERING DIVISION ACCEPTANCE BLOCK

DCSD - RIDGEGATE
ELEMENTARY SCHOOL
CONSTRUCTION DOCUMENTS
INITIAL EROSION CONTROL PLAN

No.	Issue / Revision	Date	Name
1	1st SUBMITTAL	10/31/2025	DEB

Job Number	24-0998
Project Manager	D.BEARSE
Design By	D.BEARSE/K.RICKETSON
Drawn By	JEDIAZ
Principal In Charge	P.BUCKLEY

Sheet Number:

C251



EARTHWORK:
TOTAL CUT: 17,302 CY <CUT>
TOTAL FILL: 18,368 CY <FILL>
PAVEMENT: 2,131 CY <CUT>
NET EARTHWORK: 3,236± CY <CUT/EXPORT>

DISCLAIMER: MARTIN/MARTIN, INC. HAS PERFORMED AN EARTHWORK ESTIMATE OF THE SITE TO ESTIMATE THE AMOUNT OF CUT AND FILL ASSOCIATED WITH THE PROJECT. THE ESTIMATE WAS CONDUCTED TO INFORM THE PROJECT OWNER/DESIGNER OF THE PROJECT'S APPROXIMATE EARTHWORK QUANTITIES. ACTUAL EARTHWORK QUANTITIES ARE SUBJECT TO VARIABLES BEYOND MARTIN/MARTIN'S CONTROL. THIS EARTHWORK ESTIMATE WAS BASED ON EXISTING SITE CONTOURS SURVEYED BY PRECISION SURVEYING, DATED NOVEMBER, 2022.

MARTIN/MARTIN, INC. MAKES NO WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED, AS TO THE ACCURACY OF THE EARTHWORK QUANTITIES. THE OWNER AND GENERAL CONTRACTOR SHOULD WORK WITH AN EARTHWORK CONTRACTOR TO PERFORM A CONTRACTUAL EARTHWORK ANALYSIS AND BUDGET AFTER ALL DESIGN AND CONSTRUCTION ISSUES HAVE BEEN IDENTIFIED.

SUBJECT TO CHANGE PENDING JURISDICTIONAL APPROVAL		
LEGEND		
	SILT FENCE	(SF)
	VEHICLE TRACKING CONTROL	(VTC)
	INLET PROTECTION	(IP)
	OUTLET PROTECTION	(OP)
	CULVERT INLET PROTECTION	(CIP)
	STABILIZED CONSTRUCTION ROADWAY	(SCR)
	STABILIZED STAGING AREA	(SSA)
	STOCKPILE MANAGEMENT W/ PROTECTION	(SP)
	CONCRETE WASHOUT AREA	(CWA)
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	PERMANENT SEEDING	(PS)
	EROSION CONTROL BLANKET	(ECB)
	SEDIMENT BASIN	(SB)
	SEDIMENT TRAP	(ST)
	LIMITS OF CONSTRUCTION	(LOC)

- NOTES:**
- SEE COVER SHEET OF LONE TREE STANDARD NOTES AND DETAILS (SHEET 1 OF 3) FOR LEGEND OF BMP NAMES AND SYMBOLS.
 - SHADED BMPs INSTALLED IN THE INITIAL STAGE SHALL BE LEFT IN PLACE IN THE INTERIM STAGE.
 - ALL INTERIM BMPs, INCLUDING SEEDING AND MULCHING OF DISTURBED AREAS, MUST BE COMPLETED PRIOR TO ISSUANCE OF ANY CURB AND GUTTER PERMITS.
 - SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, CULVERTS, STORM DRAINS, AND INLET AND OUTLET PROTECTION

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

CALL **811** 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR MARKING OF UNDERGROUND MEMBER UTILITIES

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BENCHMARK
PROJECT BENCHMARK IS RIDGEGATE BM 1 A 3-1/4" DIAMETER BRASS CAP SET ON THE NORTHWEST BRIDGE ABUTMENT OF RIDGEGATE PARKWAY STAMPED "RIDGEGATE BM 1 2021" AND IS APPROXIMATELY 0.7 MILES EAST ON RIDGEGATE PARKWAY FROM THE INTERSECTION OF I-25 AND RIDGEGATE PARKWAY IN LONE TREE, COLORADO. THE BENCHMARK IS 1.0 FEET FROM THE WEST EDGE OF THE ABUTMENT, 3.0 FEET NORTH OF THE BACK OF WALK AND 31 FEET NORTH OF THE WEST BOUND CENTERLINE OF RIDGEGATE PARKWAY. ELEVATION IS 5983.40 U.S. SURVEY FEET, NAVD 88 DOUGLAS COUNTY DATUM.

CITY OF LONE TREE

DATE

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

ENGINEERING DIVISION ACCEPTANCE BLOCK

MARTIN/MARTIN
CONSULTING ENGINEERS
12499 West Colfax Avenue
303.431.6100
martinmartin.com

**DCSD - RIDGEGATE
ELEMENTARY SCHOOL
CONSTRUCTION DOCUMENTS
INTERIM EROSION CONTROL PLAN**

No.	Issue / Revision	Date	Name
1	1st SUBMITTAL	10/31/2025	DEB

Job Number 24-0998
Project Manager D.BEARSE
Design By D.BEARSE/K.RICKETSON
Drawn By J.DIAZ
Principal in Charge P.BUCKLEY

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Sheet Number:

C252

NOT FOR CONSTRUCTION



1. SEE COVER SHEET OF LONE TREE STANDARD NOTES AND DETAILS (SHEET 1 OF 3) FOR LEGEND OF BMP NAMES AND SYMBOLS.
2. SHADED BMPs INSTALLED IN THE INITIAL AND INTERIM GESC PLANS, UNLESS OTHERWISE INDICATED, SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED BY THE CITY.
3. SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, CULVERTS, STORM DRAINS, AND INLET AND OUTLET PROTECTION.

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CITY OF LONE TREE

DATE

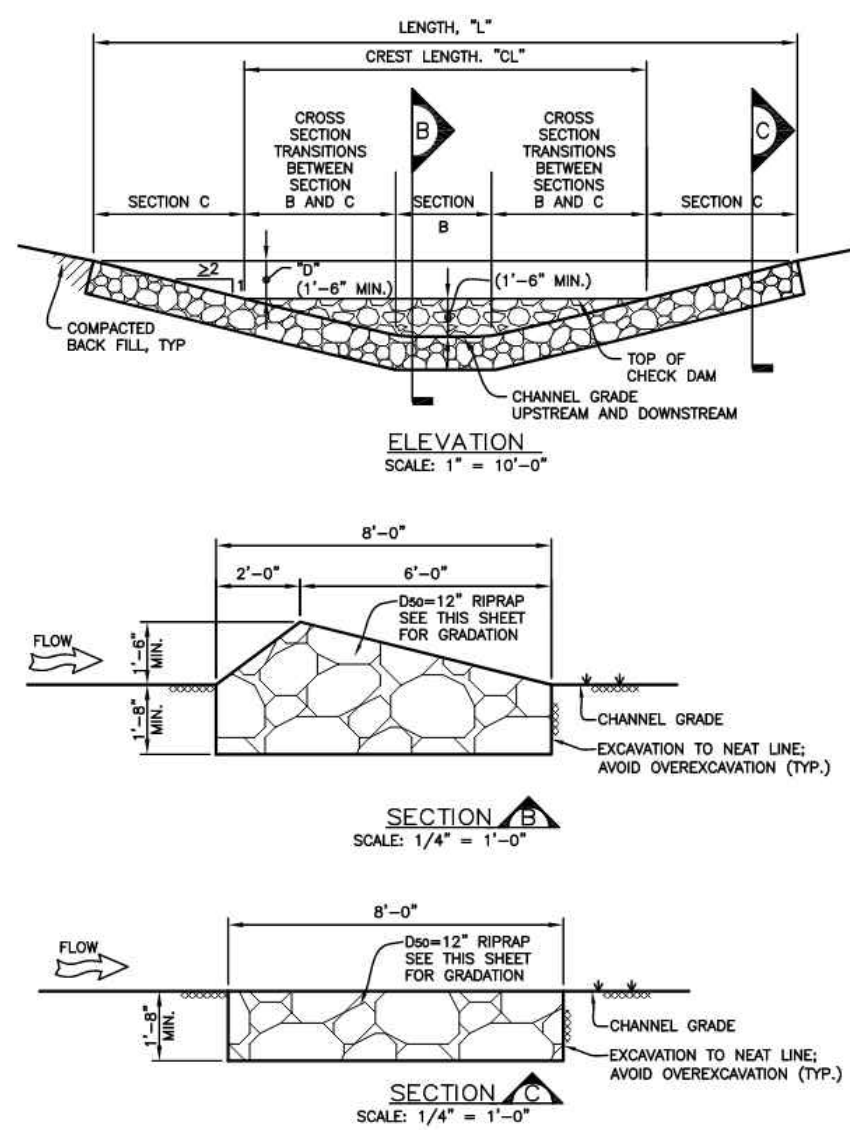
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IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

- GRADING, EROSION, AND SEDIMENT CONTROL (GESC) GENERAL NOTES**
- THE 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.
 - THE 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 RE-ACCEPTANCE BY THE CITY OF LONE TREE.
 - 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 - APPROVED GESC PLAN AND THE CITY OF LONE TREE GESC MANUAL.
 - ANY VARIATION IN MATERIAL, TYPE OR LOCATION OF EROSION AND SEDIMENT CONTROL BMPs FROM THE CITY OF LONE TREE - APPROVED GESC PLAN WILL REQUIRE APPROVAL FROM AN ACCOUNTABLE REPRESENTATIVE OF THE CITY OF LONE TREE ENGINEERING DIVISION.
 - IF 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) 682-8112 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 PRECONSTRUCTION MEETING.
 - 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 RESPECTION 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 DELAY OF THE START OF CONSTRUCTION.
 - 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 APPROVED.
 - 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.
 - 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 GRADING ACTIVITIES IN ACCORDANCE WITH THE CITY OF LONE TREE GESC PLAN, BMP INSTALLATION AND APPROVAL BY THE 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.
 - 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.
 - NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISRUPTION OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS.
 - THE GESC PERMIT SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR, UNLESS EXTENDED.
 - A COPY OF THE GESC PERMIT, ACCEPTED GESC PLANS AND THE GESC FIELD MANUAL SHALL BE ON SITE AT ALL TIMES.
 - 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 BE AVAILABLE THROUGH A 24-HOUR CONTACT NUMBER. IN THE EVENT THAT THE CONTRACTOR'S GESC MANAGER IS NOT ON SITE AND CANNOT BE CONTACTED, THE PERMITTEE SHALL BE RESPONSIBLE FOR CONTACTING THE GESC MANAGER. IF NEITHER THE GESC MANAGER NOR ALTERNATE GESC MANAGER CAN BE CONTACTED DURING ANY VIOLATION, A STOP WORK ORDER SHALL BE ISSUED.
 - 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 ENGINEERING DIVISION.
 - 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 DEBRIS. 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 OF SEDIMENT AND/OR CONSTRUCTION DEBRIS.

- 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 1 VIOLATIONS, AND IMMEDIATELY FOR LEVEL 1 VIOLATIONS, OR AS DIRECTED BY A CITY OF LONE TREE GESC INSPECTOR. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED.
- STRAW BALES ARE NOT A GESC-ACCEPTED SEDIMENT CONTROL BMP.
- 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.
- THE ACCEPTED GESC PLAN MAY REQUIRE CHANNELS OR ALTERATIONS AFTER APPROVAL TO MEET CHANGING SITE OR PROJECT CONDITIONS OR TO ADDRESS INEFFICIENCIES IN DESIGN. ON INSTALLATION, THE GESC MANAGER SHALL OBTAIN PRIOR APPROVAL FROM THE DESIGN ENGINEER AND THE CITY OF LONE TREE ENGINEERING FOR ANY PROPOSED CHANGES.
- UNING OF TEMPORARY SLOPES AND DITCHES SHALL BE IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- NO PERMANENT EARTH SLOPES GREATER THAN 3:1 SHALL BE ALLOWED.
- 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.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 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 (100) FEET OF A DRAINAGE WAY UNLESS APPROVED BY THE CITY OF LONE TREE ENGINEERING DIVISION.
- ALL CHEMICAL OR HAZARDOUS MATERIAL SPILLS WHICH MAY ENTER WATERWAYS 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 COPE, PER CRS 25-8-6-01, AND THE CITY OF 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 COPE. 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) 682-8112. SPILLS THAT POSE AN IMMEDIATE RISK TO HUMAN LIFE SHALL BE REPORTED TO 911. FAILURE TO REPORT AND CLEAN UP ANY SPILL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER.
- 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.
- 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 PERMITTEE 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.
- 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 FENCES).
- THE CLEANING OF CONCRETE DELIVERY TRUCK CHUTES IS RESTRICTED TO APPROVED CONCRETE WASH OUT 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 APPROPRIATE LOCATION.
- ALL DOWATERING 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.
- ALL PERMANENT INSTALLATIONS OF PIPES FOR STORM SEWERS, SLOPE DRAINS, AND CULVERTS, TOGETHER WITH CONSTRUCTION OPERATIONS, SHALL BE INSPECTED BY THE CITY OF LONE TREE GESC INSPECTOR.
- 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 THE CITY OF LONE TREE) OF AN AREA, WHICHEVER IS LESS. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- HYDRAULIC SEEDING AND HYDRAULIC MULCHING ARE NOT AN ACCEPTABLE METHOD OF SEEDING OR MULCHING IN THE CITY OF LONE TREE.
- NO CURB AND GUTTER PERMITS SHALL BE ISSUED UNTIL ALL DISTURBED AREAS ARE DRILL SEEDED AND CRIMP MULCHED.
- NO PAVING PERMITS SHALL BE ISSUED UNTIL ALL INTERIM INLET PROTECTION IS INSTALLED AND APPROVED BY THE GESC INSPECTOR.
- 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.

NO.	NO.	BMP LEGEND
1	1	CD CHECK DAM
2	2	CB COMPOST BLANKET
3	3	CFB COMPOST FILTER BERM
4	1	CWA CONCRETE WASHOUT AREA
5	1	CF CONSTRUCTION FENCE
6	1	CM CONSTRUCTION MARKERS
7	1	DW DEWATERING
8	1	DD DIVERSION DITCH
9	2	ECB EROSION CONTROL BLANKET
10	2	IP INLET PROTECTION
11	2	RCD REINFORCED CHECK DAM
12	2	RRB REINFORCED ROCK BERM
13	2	RRB FOR CULVERT PROTECTION
14	2	SB SEDIMENT BASIN
15	3	SCL SEDIMENT CONTROL LOG
16	3	ST SEDIMENT TRAP
17	3	SM SEEDING AND MULCHING
18	3	SF SILT FENCE
19	3	SSA STABILIZED STAGING AREA
20	3	SR SURFACE ROUGHENING
21	3	TSD TEMPORARY SLOPE DRAIN
22	3	TSC TEMPORARY STREAM CROSSING
23	3	TER TERRACING
24	3	UTC VEHICLE TRACKING CONTROL
25	3	WW VTC WITH WHEEL WASH
26	3	CS CURB SOCK
	1	LOC LIMITS OF CONSTRUCTION



COMPOST BLANKET NOTES:

- SEE PLAN VIEW FOR AREA OF COMPOST BLANKET.
- 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.
- SOIL PREPARATION SHALL BE COMPLETE PER THE SPECIFICATIONS OUTLINED IN THESE CRITERIA PRIOR TO APPLICATION.
- 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.
- MAYBE APPLIED UTILIZING PNEUMATIC BLOWER, OR BY HAND.
- 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.
- THE GESC MANAGER SHALL INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
- COMPOST USED IN THE APPLICATION OF THE COMPOST BLANKET SHALL BE A CLASS 1 COMPOST AS DEFINED BY THE FOLLOWING PHYSICAL, CHEMICAL, AND BIOLOGICAL PARAMETERS:

PARAMETERS	CLASS 1 COMPOST FOR COMPOST BLANKET
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE
SOLUBLE SALTS	MAXIMUM 5mmhos/cm
AD INDEX	≥ 10
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/ANION AMMONIA /V NITRATE N RATIO	< 4
MATURITY INDICATOR EXPRESSED AS CARBON TO NITROGEN RATIO	20:1
TESTED FOR CLOPIDOLAD	YES/NEGATIVE RESULT
ORGANIC MATTER CONTENT	25-45 % OF DRY WEIGHT
PARTICLE SIZE DISTRIBUTION	1/2" (12mm) 80% TO 100% PASSING 3/8" (9.5mm) 80% TO 100% PASSING #4 (4.75mm) 80% TO 100% PASSING
PRIMARY, SECONDARY NUTRIENTS:	MUST BE REPORTED
TESTING AND TEST REPORT SUBMITTAL	STA + CLOPIDOLAD
CHEMICAL CONTAMINANTS	MUST REPORT
ORGANIC MATTER PER CUBIC YARD	MUST REPORT
MINIMUM MANUFACTURING/PRODUCTION REQUIREMENT	40 CFR 503.1 TABLE 1 & 3 LEVELS
RISK FACTOR RELATING TO PLANT GERMINATION AND HEALTH	LOW

NOTE: CLOPIDOLAD IS THE COMMON NAME OF A HERBICIDE THAT KILLS BROAD-LEAVED WEEDS SUCH AS DANDELIONS, CLOVER AND TRIFOLIUM.

COMPOST FILTER BERM NOTES:

- SEE PLAN VIEW FOR LENGTH OF COMPOST FILTER BERM.
- SHALL BE APPLIED TO ALL SLOPES RECEIVING A COMPOST BLANKET AT 15' INTERVALS.
- FILTER BERMS SHALL RUN PARALLEL TO THE CONTOUR.
- FILTER BERMS SHALL BE A MINIMUM OF 1' H x 2' W.
- 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.
- SOIL PREPARATION SHALL BE COMPLETE PER THE SPECIFICATIONS OUTLINED IN THESE CRITERIA PRIOR TO APPLICATION.
- 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.
- THE GESC MANAGER SHALL INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
- COMPOST USED IN THE APPLICATION OF THE COMPOST FILTER BERM SHALL BE A CLASS 1 COMPOST AS DEFINED BY THE FOLLOWING PHYSICAL, CHEMICAL, AND BIOLOGICAL PARAMETERS:

PARAMETERS	CLASS 1 COMPOST FOR COMPOST FILTER BERM
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE
SOLUBLE SALTS	MAXIMUM 5mmhos/cm
AD INDEX	≥ 10
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/ANION AMMONIA /V NITRATE N RATIO	< 4
MATURITY INDICATOR EXPRESSED AS CARBON TO NITROGEN RATIO	20:1
TESTED FOR CLOPIDOLAD	YES/NEGATIVE RESULT
ORGANIC MATTER CONTENT	25-45 % OF DRY WEIGHT
PARTICLE SIZE DISTRIBUTION	1/2" (12mm) 80% TO 100% PASSING 3/8" (9.5mm) 80% TO 100% PASSING #4 (4.75mm) 80% TO 100% PASSING
PRIMARY, SECONDARY NUTRIENTS:	MUST BE REPORTED
TESTING AND TEST REPORT SUBMITTAL	STA + CLOPIDOLAD
CHEMICAL CONTAMINANTS	MUST REPORT
ORGANIC MATTER PER CUBIC YARD	MUST REPORT
MINIMUM MANUFACTURING/PRODUCTION REQUIREMENT	40 CFR 503.1 TABLE 1 & 3 LEVELS
RISK FACTOR RELATING TO PLANT GERMINATION AND HEALTH	LOW

NOTE: IF A BIOLOGICAL COMPOST IS TO BE UTILIZED IT SHALL BE PRODUCED BY A FACILITY IN POSSESSION OF A VALID CERTIFICATE OF AUTHORIZATION AND FOR THE UNRESTRICTED USE AND DISTRIBUTION BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT. THE NOA SHALL BE PROVIDED UPON REQUEST TO THE 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.

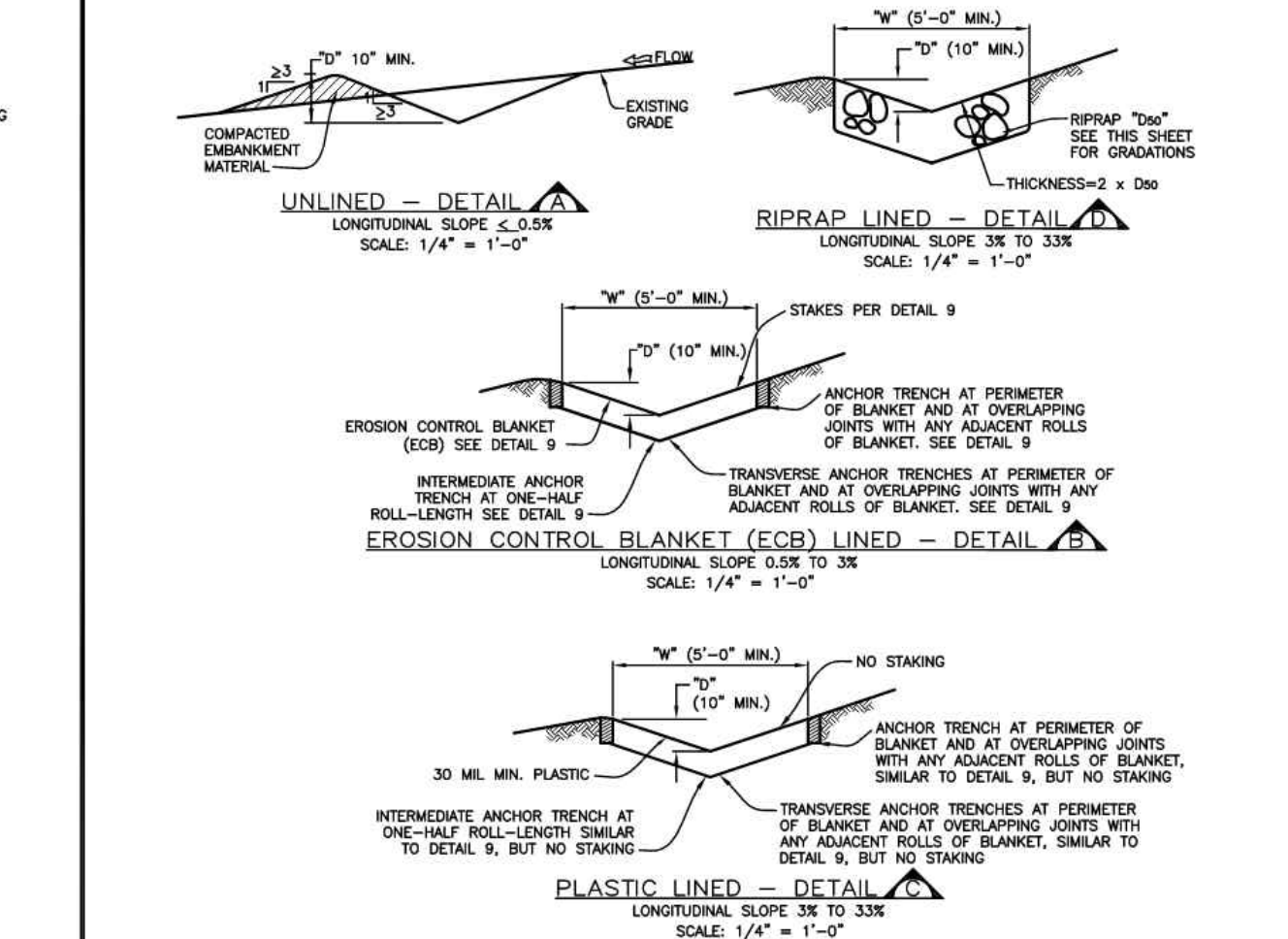
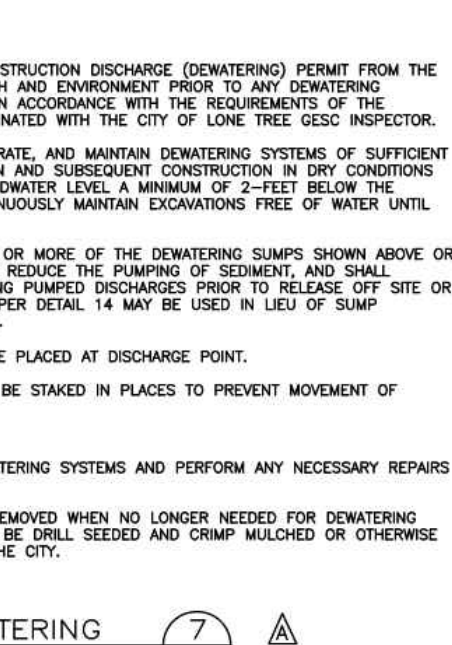
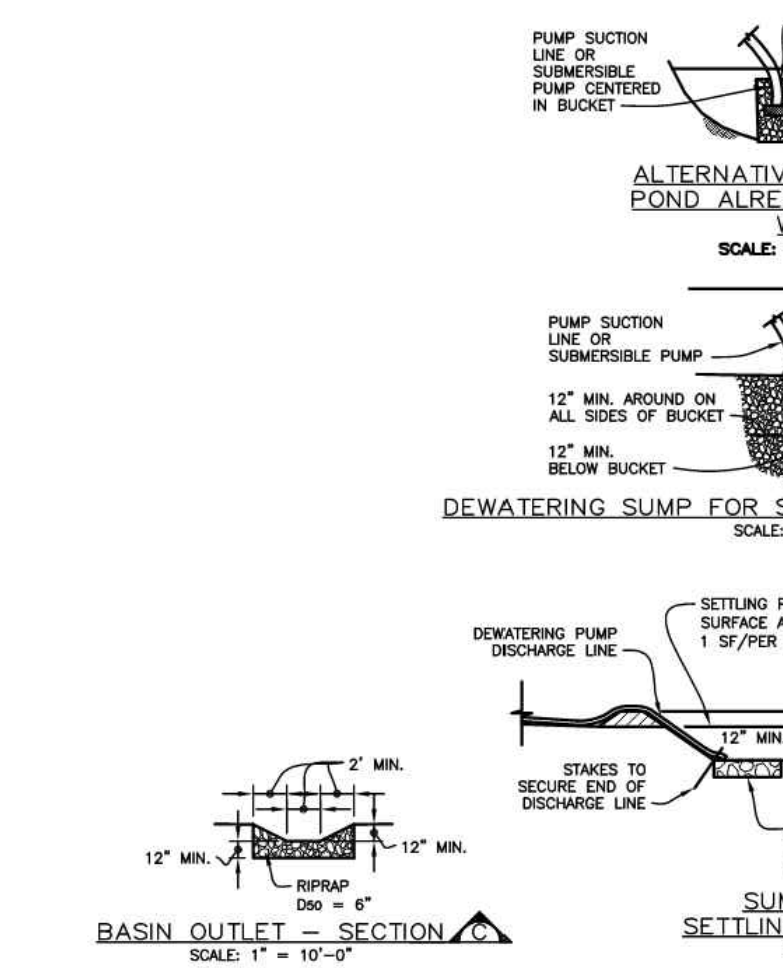
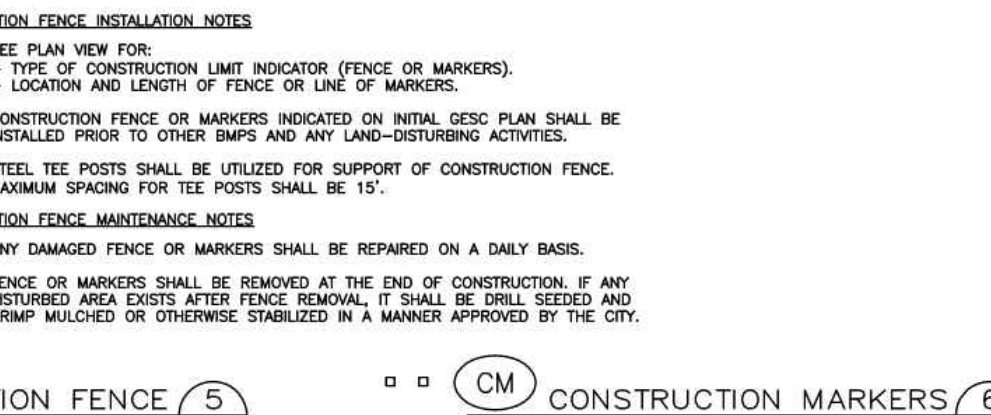
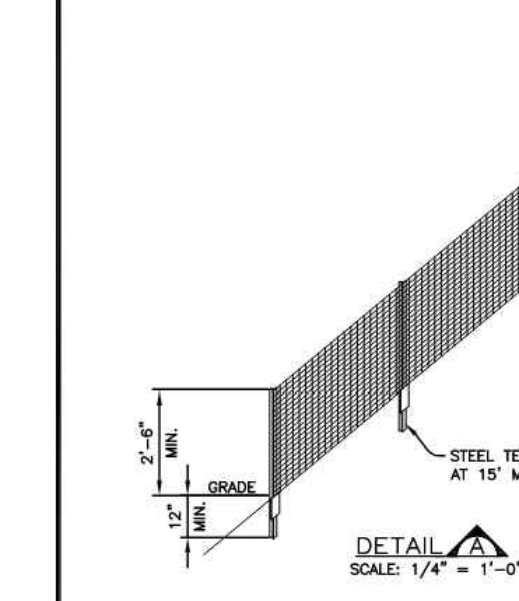
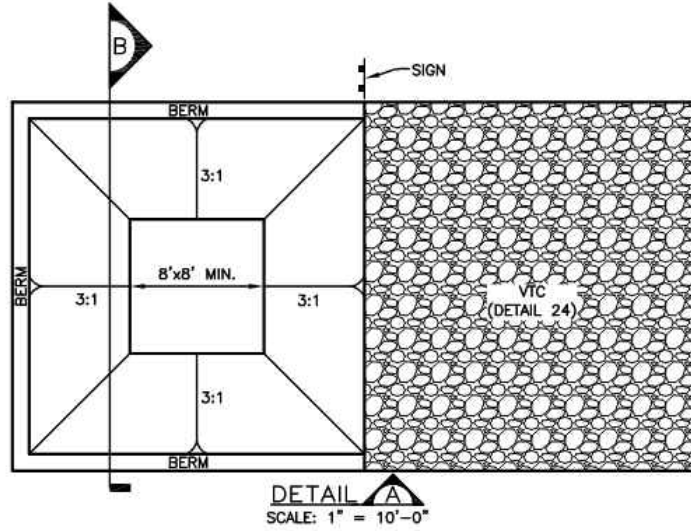


TABLE 1. RIPRAP GRADATIONS

DESIGN (MEDIAN DIAMETER (INCHES))	% OF MATERIAL PASSING THROUGH TYPICAL STONE	TYPICAL STONE DIAMETER (INCHES)	TYPICAL STONE WEIGHT (POUNDS)
6	70 - 100 30 - 70 10 - 30	12 9 6	85 105 160
9	70 - 100 30 - 70 10 - 30	15 12 9	135 165 225
12	70 - 100 30 - 70 10 - 30	21 18 15	440 275 330
18	100 - 100 70 - 100 30 - 70 10 - 30	30 24 18 15	1280 800 660 350
24	100 - 100 70 - 100 30 - 70 10 - 30	42 36 30 24	3500 2200 1650 800

TABLE 2. RIPRAP BEDDING

SEIVE SIZE	MASS PERCENT PASSING SQUARE MEISH SEIVES
3"	100
1 1/2"	20 - 90
NO. 4	0 - 20
NO. 200	0 - 3

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

TABLE 3. 1 1/2" CRUSHED ROCK

SEIVE SIZE	MASS PERCENT PASSING SQUARE MEISH SEIVES
2"	100
1 1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

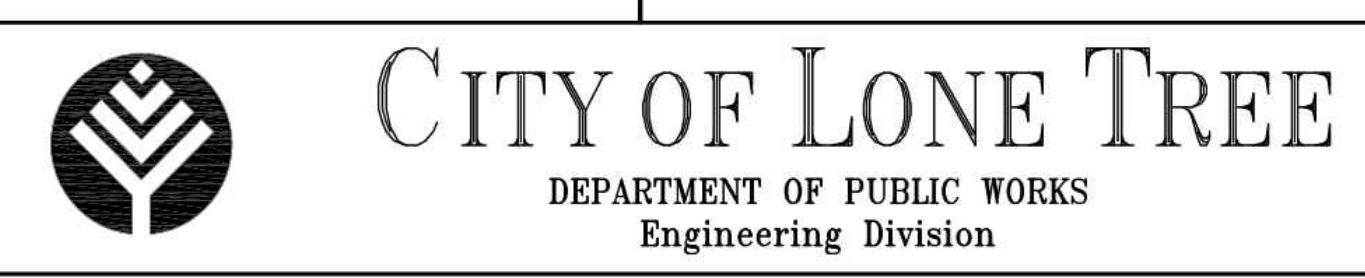
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M 8. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK AND RIPRAP GRADATIONS.

Sheet Revisions

NO.	DATE	DESCRIPTION	BY
6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP	
5/ /08	EDIT UPDATES	GAW	
11/ /08	ADD CURB SOCK DETAIL (REF UFDC, V3 FIGURE C5-23), MISC. NOTE EDITS	GAW	

NOTE: SCALES SHOWN ARE FOR 24"x36" SHEETS. ADJUST ACCORDINGLY FOR 11"x17" SHEETS.



GESC GRADING, EROSION, AND SEDIMENT CONTROL

GESC PLAN STANDARD NOTES AND DETAILS

SHEET 1 OF 3

DCSD - RIDGEGATE ELEMENTARY SCHOOL

CONSTRUCTION DOCUMENTS

EROSION CONTROL DETAILS SHEET

No.	Issue / Revision	Date	Name
1	1st SUBMITTAL	10/31/2025	DEB

Job Number: 24-0988
Project Manager: D.BEARSE
Design By: D.BEARSE/K.RICKETSON
Drawn By: JDJAZ
Principal in Charge: P.BUCKLEY

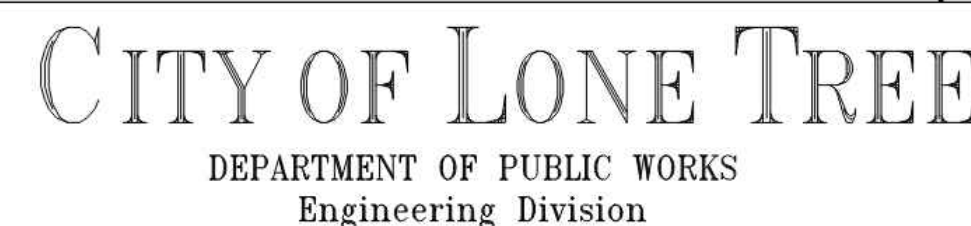
Sheet Number: **C254**

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lakewood, Colorado 80215
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NOTE: SCALES
SHOWN ARE
FOR 24"x36"
SHEETS; ADJUST
ACCORDINGLY
FOR 11"x17"
SHEETS.



GESC PLAN
STANDARD NOTES
AND DETAILS

DCSD - RIDGEGATE
ELEMENTARY SCHOOL
CONSTRUCTION DOCUMENTS
EROSION CONTROL DETAILS SHEET

Job Number	24-0998
Project Manager	D.BEARSE
Design By	D.BEARSE/K.RICKETSON
Drawn By	J.DIAZ
Principal In Charge	P.BUCKLEY

C255

SUBJECT TO CHANGE
PENDING JURISDICTIONAL APPROVAL

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DCSD - RIDGEGATE
ELEMENTARY SCHOOL
CONSTRUCTION DOCUMENTS
EROSION CONTROL DETAILS SHEET

No.	Issue / Revision	Date	Name
1	1st SUBMITTAL	10/31/2025	DEB

Job Number	24-0988
Project Manager	D.BEARSE
Design By	D.BEARSE/K.RICKETSON
Drawn By	JUDAZ
Principal in Charge	P.BUCKLEY

Sheet Number: C256

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SEDIMENT CONTROL LOG INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
- SEDIMENT CONTROL LOGS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED FROM MATERIAL FROM COMPOST, EXCELLOID, OR COCONUT FIBER.
- NOT FOR USE IN CONCENTRATED FLOW AREAS.
- THE SEDIMENT CONTROL LOG SHALL BE TRINCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEGMENT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WITHIN 24 HOURS OF THE END OF CONSTRUCTION, IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.
- SEDIMENT CONTROL LOGS SHALL BE REMOVED AT THE END OF CONSTRUCTION, IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

SEDIMENT TRAP INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.
- SEDIMENT TRAPS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
- SEDIMENT TRAP BEAM SHALL BE CONSTRUCTED FROM MATERIAL FROM COMPOST, EXCELLOID, OR COCONUT FIBER.
- SEDIMENT TRAP BEAM SHALL BE CONSTRUCTED WITH A MINIMUM OVERFLOW OF 4".
- THE TOP OF THE EARTHEN BEAM SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF THE RIPRAP OUTLET STRUCTURE.
- THE ENDS OF THE RIPRAP OUTLET STRUCTURE SHALL BE MINIMUM OF 6" HIGHER THAN THE CENTER OF THE OUTLET STRUCTURE.

SEDIMENT TRAP MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT SEDIMENT TRAPS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEGMENT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN 3" OF THE HEIGHT OF THE RIPRAP OUTLET STRUCTURE.
- SEDIMENT TRAP SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVERAGE IS APPROVED BY THE CITY.
- WHEN SEDIMENT TRAP IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDING AND CRIMP MULCHED OR STABILIZED IN A MANNER APPROVED BY THE CITY.

SURFACE ROUGHENING INSTALLATION NOTES

- SURFACE ROUGHENING SHALL BE PROVIDED ON ALL FINISHED GRADES (SLOPES AND FLAT AREAS) WITHIN 2 DAYS OF COMPLETION OF FINISHED GRADE (FOR AREAS NOT RECEIVING TOPSOIL) OR WITHIN 2 DAYS OF TOPSOIL PLACEMENT.
- AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOIL IS TO BE PLACED WITHIN 7-DAYS OF FINISHED GRADING DO NOT NEED TO BE SURFACE ROUGHENED.
- DISTURBED SURFACES SHALL BE ROUGHENED USING RIPRAP OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TRACKS.

SURFACE ROUGHENING MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT THE SURFACE ROUGHENING WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEGMENT 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 SMOTHERING OUT THE SURFACE.
- IN AREAS NOT SEEDING AND MULCHED AFTER SURFACE ROUGHENING, SURFACE SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER ANY RILL EROSION.

TEMPORARY SLOPE DRAIN INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION AND LENGTH OF SLOPE DRAIN.
 - PIPE DIAMETER, "D", AND RIPRAP SIZE, "Dd".
- SLOPE DRAIN DIMENSIONS SHALL BE CONSIDERED MINIMUM DIMENSIONS; CONTRACTOR MAY ELECT TO INSTALL LARGER FACILITIES. ANY DAMAGE TO SLOPE OR SLOPE DRAIN DURING RAINFALL EVENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- SLOPE DRAINS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
- FOR TEMPORARY SLOPE DRAINS, PIPE MAY BE INSTALLED ON TOP OF SLOPE; HOWEVER, 12" MIN. COVER AT TOP OF SLOPE SHALL BE PROVIDED.
- A RIPRAP PAD SHALL BE PLACED AT THE OUTFALL OF THE SLOPE DRAIN.

SLOPE DRAIN MAINTENANCE NOTES

- THE GESC MANAGER SHALL INSPECT SLOPE DRAINS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
- 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 SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

TEMPORARY STREAM CROSSING INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATIONS OF TEMPORARY STREAM CROSSING.
 - STREAM CROSSING TYPE (FORD OR CULVERT).
 - FOR FORD CROSSING: LENGTH, "L", CREST LENGTH, "Lc", AND DEPTH, "D".
 - FOR CULVERT CROSSING: LENGTH, "L", CREST LENGTH, "Lc", CROSSING HEIGHT, "H", DEPTH, "D", CULVERT DIAMETER, "Dc", AND NUMBER, TYPE AND CLASS OR GAUGE OF CULVERTS.
- TEMPORARY STREAM CROSSING DIMENSIONS, DDO, 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.
- SEE SHEET 1 FOR RIPRAP AND 1-1/2" CRUSHED ROCK GRADATIONS.
- 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 TEMPORARY STREAM CROSSINGS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEGMENT AS NECESSARY.
- SEDIMENT ACCUMULATED UPSTREAM OF TEMPORARY STREAM CROSSING SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CROSSING IS WITHIN 6-INCHES OF THE CREST (FOR FORD CROSSING) OR GREATER THAN AN AVERAGE DEPTH OF 12-INCHES (CULVERT CROSSING).
- STREAM CROSSINGS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION.
- WHEN TEMPORARY STREAM CROSSINGS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

CURB SOCK INSTALLATION NOTES

- 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.
- INCLINE AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL B).

CURB SOCK MAINTENANCE NOTES

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

VEHICLE TRACKING CONTROL INSTALLATION NOTES

- VEHICLE TRACKING CONTROL PADS SHALL BE INSTALLED AT EVERY ACCESS POINT TO SITE.
- VEHICLE TRACKING CONTROL PADS SHALL BE CONSTRUCTED OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOUNCERS 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 2.4. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION.
- MINIMUM GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE VTC STONE TO HELP MINIMIZE WEAR OF THE STONE INTO THE UNDERLYING MATERIAL.
- ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY PERMIT.
- A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS POINT FROM THE SITE.
- A STOP SIGN INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS AMENDED, SHALL BE INSTALLED FOR EXISTING TRAFFIC AT THE VTC.

VEHICLE TRACKING CONTROL MAINTENANCE NOTES

- GESC MANAGER SHALL INSPECT VEHICLE TRACKING CONTROL PADS DAILY. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM PAD SURFACES. STONE SURFACES SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEELS LEAVING THE SITE. STONE SURFACES SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEELS LEAVING THE SITE. STONE SURFACES SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEELS LEAVING THE SITE.
- 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, SHALL BE SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN CONFORMANCE WITH CITY APPROVED PLANS FOR SITE AND THE APPLICABLE GESC PERMIT.

VEHICLE 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 BE CONSTRUCTED OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOUNCERS 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 2.4. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION.
- WHEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE VTC STONE TO HELP MINIMIZE WEAR OF THE STONE INTO THE UNDERLYING MATERIAL.
- A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS POINT FROM THE SITE.
- A STOP SIGN INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS AMENDED, SHALL BE INSTALLED FOR EXISTING TRAFFIC AT THE VTC.

VEHICLE TRACKING CONTROL WITH WHEEL WASH MAINTENANCE NOTES

- GESC MANAGER SHALL INSPECT VEHICLE TRACKING CONTROL PADS DAILY. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM PAD SURFACES. STONE SURFACES SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEELS LEAVING THE SITE. STONE SURFACES SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEELS LEAVING THE SITE.
- 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, SHALL BE SEEDING AND CRIMP MULCHED OR OTHERWISE STABILIZED IN CONFORMANCE WITH CITY APPROVED PLANS FOR SITE AND THE APPLICABLE GESC PERMIT.

Sheet Revisions

6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP
5/ /08	EDIT UPDATES	GAW
11/ /08	ADD CURB SOCK DETAIL (REF UDFCO, V3 FIGURE C5-23), MISC. NOTE EDITS	GAW
12/ /09	UPDATE VTC & WW	GAW

NOTE: SCALES SHOWN ARE FOR 24"x36" SHEETS; ADJUST ACCORDINGLY FOR 11"x17" SHEETS.

CITY OF LONE TREE
DEPARTMENT OF PUBLIC WORKS
Engineering Division

GESC PLAN
GRADING, EROSION, AND
SEDIMENT CONTROL

SHEET
3 OF 3