GRADING, EROSION, AND SEDIMENT CONTROL REPORT

RIDGEGATE EAST FILING NO. 3

July 2023

Prepared for:

Rampart Range Metropolitan District No. 5

8390 East Crescent Parkway, Suite 300

Greenwood Village, Colorado 80111

303-779-4525

Contact: Denise Denslow

Prepared by:

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Merrick Project No. 65121240

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LONE TREE PERMITTEES SIGNATURE PAGE

This Grading, Erosion and Sediment Control (GESC) Report included herein has been prepared under my direct supervision in accordance with the requirements of the Grading, Erosion and Sediment Control Criteria Manual, as amended.

_____

Carson Besgrove, P.E.
Colorado Registered Professional
Engineer No. 44849
For and on Behalf of Merrick & Company

Rampart Range Metropolitan District No. 5 hereby certifies that the grading, erosion, and sediment control facilities for this project shall be constructed according to the design presented in this report. I understand that the City of Lone Tree does not and will not assume liability for the grading, erosion and sediment control facilities designed and/or certified by my engineer and that the City of Lone Tree reviews GESC plans; but cannot, on behalf of this project, guarantee that final review will absolve Rampart Range Metropolitan District No. 5 and/or their successors and/or assigns of future liability for improper design.

Rampart Range Metropolitan District No. 5

_____

Authorized Signature

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 City of Lone Tree Grading, Erosion and Sediment Control criteria, as amended. Additional grading, erosion and sediment control measures may be required of the permittee(s) due to unforeseen erosion problems or if the submitted GESC Plan does not function as intended. The requirements of the GESC Plan shall run with the land and be the obligation of the permittee(s) until such time as the GESC Plan is properly completed, modified, or voided.

PROJECT DESCRIPTION

The Rampart Range Metropolitan District No. 5 (RRMD) is proposing to construct roadway and utility improvements within the City of Lone Tree to support the RidgeGate Development.

This project encompasses portions of High Note Avenue, Rhapsody Road, turn lane construction on eastbound and westbound Ridgegate Parkway, and the supporting utilities. The entire 25.4-acre site will be permanently stabilized.

The majority of the site is located in Section 24 Township 6 South, Range 67 West of the Sixth Principal Meridian in the City of Lone Tree, County of Douglas, State of Colorado. Figure 1 below shows the location of the project site.

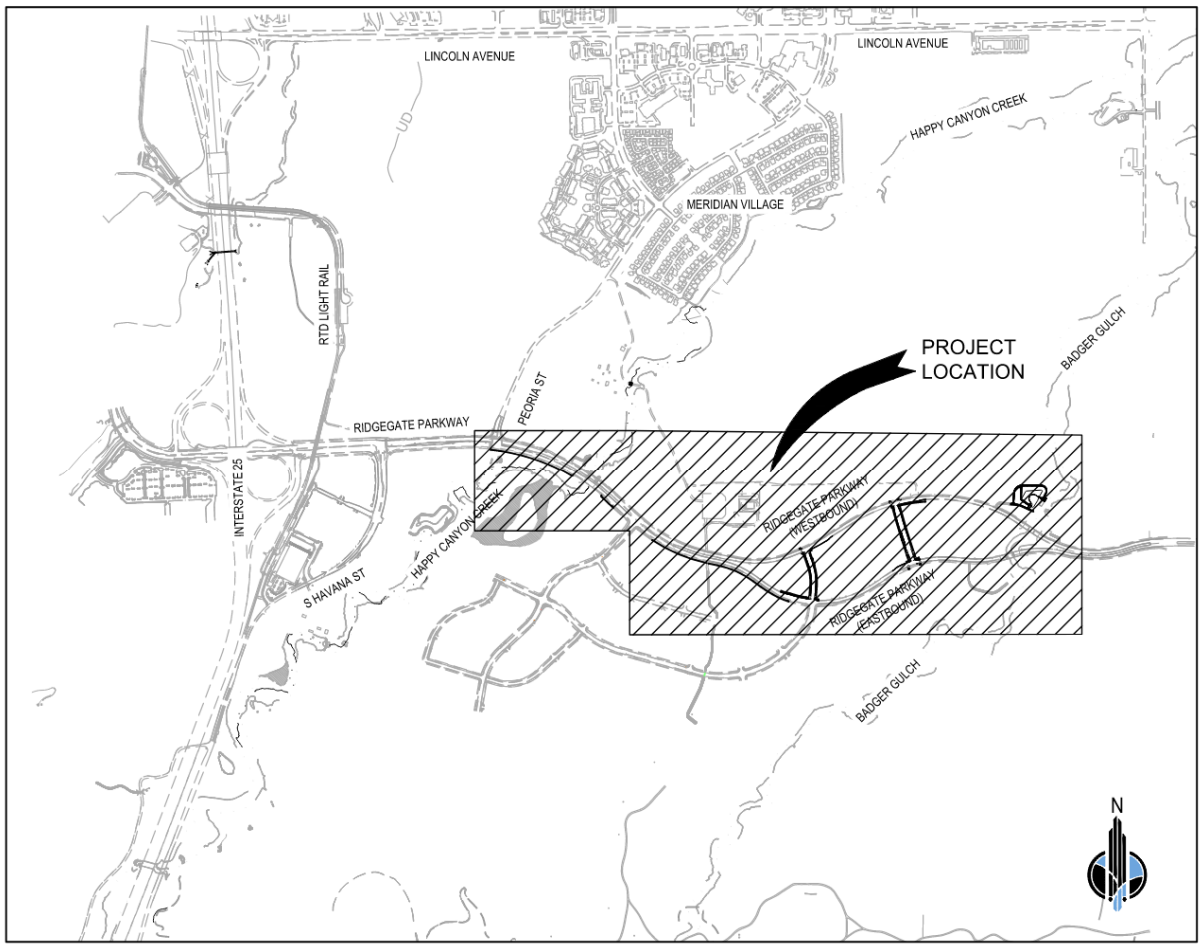


Figure 1 - Vicinity Map (Not to scale)

EXISTING SITE CONDITIONS

The majority of the site is bordered by Ridgegate parkway to the north and south, and a section of the site lies to the north of westbound Ridgegate Parkway.

The project site is primarily undeveloped. The ground cover consists of a mixture of short native grasses and occasional forbs. The majority of the site drains to Badger Gulch which is an existing creek east of the site. A small portion of the site will drain to Happy Canyon Creek to the west of the site.

The site crosses a designated floodplain as shown in FIRM Map No. 0803190064J, effective September 4, 2020. See Appendix B for FIRM Map.

ADJACENT AREAS

The site is bounded on the north, south, and west by Ridgegate Parkway, and on the east by Happy Canyon Creek.

SOILS

The predominant soil series for the site are:

- "FoB" Fondis clay loam, 1 to 3 percent slopes, HSG C
- "Ma" Manzanola clay loam, HSG C
- "NeE" Newlin gravelly sandy loam, 8 to 30 percent slopes, HSG B
- "RmE" Renohill-Buick complex, 5 to 25 percent slopes, HSG D

These soils have a hydrologic soil group classification of C and D.

AREAS AND VOLUMES

A total area of 25.4-acres is defined by the limits of construction (LOC). There is grading associated with construction of road, walking paths, and ADA ramps. The earthwork volume for the site consists of approximately 33,421 cubic yards (CY) of cut and 3,120 CY of fill resulting in a net of 30,301 CY of cut for the site. Excess material will be hauled off site.

EROSION AND SEDIMENT CONTROL MEASURES

Prior to commencement of construction activities, silt fence (SF) will be erected around the boundary of the project site defined by the LOC. Access to the project will be through a proposed vehicle tracking control (VTC) pad and trackout mat as shown on the GESC Plan. The contractor will install a stabilized staging area (SSA) to fully contain parking, storage, and unloading and loading operations. A concrete wash area (CWA) will also be installed at the staging area. Prior to construction the topsoil will be stripped and stockpiled. Inlet protection (IP) will be placed on downstream inlets adjacent to the project.

The contractor will be responsible for maintaining and replacing erosion control best management practices (BMPs) as necessary to provide erosion and sediment control protection.

At completion of construction, the VTC, CF, DW, IP, CWA, SSA, SCL, CS, SF, and CM will be removed. All disturbed areas where permanent landscaping is not provided will be reseeded as soon as possible with a seeding and mulching (SM) mix. SF will be left in place until seeding has been established and approved by the City of Lone Tree.

STORMWATER MANAGEMENT CONSIDERATIONS

Limited stormwater impacts are anticipated from this project. Runoff will generally maintain the natural drainage patterns to the existing water quality pond which drains to Badger Gulch, which ultimately flows northeasterly towards Lincoln Avenue.

MAINTENANCE

The construction, erosion, and sediment control measures shall be inspected by the contractor on a weekly basis during construction. Erosion and sediment control measures shall be inspected after every rain event as required by City of Lone Tree regulations. The standard notes and details in the *Grading, Erosion, and Sediment Control Plan* shall be followed.

TIMING/PHASING SCHEDULE

The proposed construction schedule for this project is:

- Install initial BMPs – March 2024
- Begin grading and install interim BMPs – March 2024
- Complete grading, remove initial and interim BMPs, and install final BMPs – August 2024
  The proposed construction is estimated to take 153 days.

OPINION OF PROBABLE COST

The estimated cost for the erosion and sediment control measures within City of Lone Tree is $124,246.23. A detailed cost estimate for erosion and sediment control is provided in Appendix A. Construction costs are not included in the estimate.

CALCULATIONS

No calculations were performed to create this plan set.

REFERENCES

1. Federal Emergency Management Agency Flood Insurance Rate Maps, Community-Panel Number 08035C0063H, effective September 4, 2020.

2. Grading, Erosion and Sediment Control Manual, Douglas County, Colorado, Department of Public Works, http://www.douglas.co.us/publicworks/engineering/ documents/DouglasCounty_GESC_Manual_March_20_2004.pdf, November 2006.

3. National Cooperative Soil Survey for Castle Rock, Colorado, USDA, Web Soil Survey 1.1 [online], Accessed August 2016.

APPENDIX A – OPINION OF PROBABLE COSTS

CITY OF LONE TREE

GESC Permit
Opinion of Probable Cost

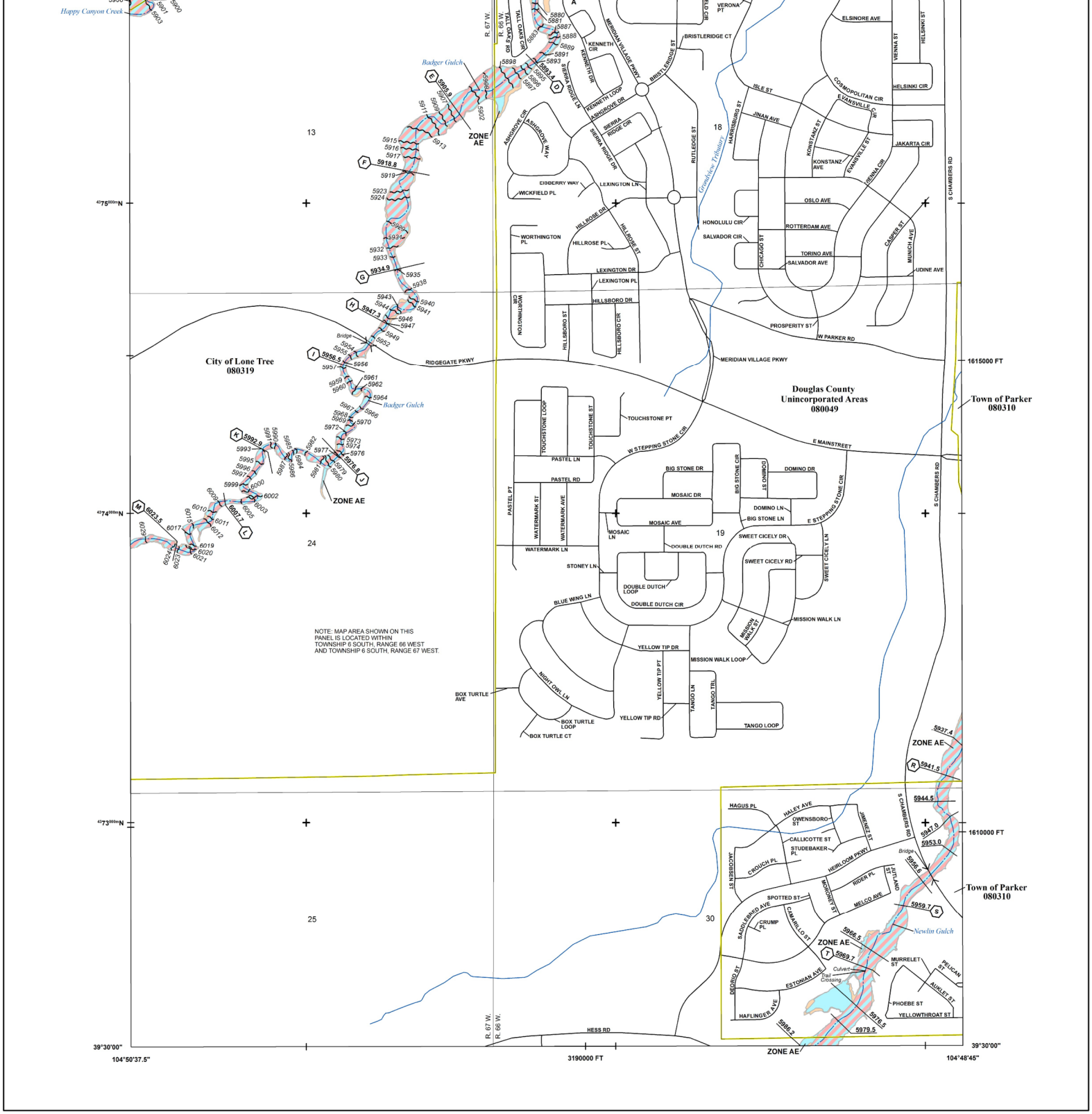
Project: RidgeGate Filing No. 3	**Date:** July 14, 2023

BMP No.	BMP	ID	Unit	Installation Unit Cost	Quantity	Cost
1	Check Dam	CD	LF	$ 24.00		$ -
2	Compost Blanket	CB	SF	$0.36		$ -
3	Compost Filter Berm	CFB	LF	$ 2.00		$ -
4	Concrete Washout Area	CWA	EA	$ 100.00	2	$ 200.00
5	Construction Fence	CF	LF	$ 2.00		$ -
6	Construction Markers	CM	LF	$ 0.20	8,556	$ 1,711.20
7	Curb Sock	CS	LF	$ 8.00	6	$ 48.00
8	Dewatering	DW	EA	$ 600.00		$ -
9	Diversion Ditch	DD	LF	$ 1.60		$ -
10	Erosion Control Blanket	ECB	SY	$ 5.00	9,893	$ 49,465.00
11	Inlet Protection	IP	LF	$ 20.00	644	$ 12,880.00
12	Reinforced Check Dam	RCD	LF	$ 36.00		$ -
13	Reinforced Rock Berm	RRB	LF	$ 9.00		$ -
14	RRB for Culvert Protection	RRC	LF	$ 9.00	12	$ 108.00
15	Sediment Basin	SB	AC (1)	(2)		$ -
16	Sediment Control Log	SCL	LF	$ 2.00	3,722	$ 7,444.00
17	Sediment Trap	ST	EA	$ 600.00		$ -
18A	Seeding and Mulching - Mobilization	SM	EA	$ 1,000.00	1	$ 1,000.00
18B	Seeding and Mulching - Installation	SM	AC	$ 750.00	20.4	$ 15,300.00
19	Silt Fence	SF	LF	$ 2.00	4,797	$ 9,594.00
20	Stabilized Staging Area	SSA	SY	$ 2.00	3,145	$ 6,290.00
21	Surface Roughening	SR	AC	$ 600.00		$ -
22	Temporary Slope Drain	TSD	LF	$ 30.00		$ -
23	Temporary Stream Crossing	TSC	EA	$ 1,000.00		$ -
24	Terracing	TER	AC	$ 600.00		$ -
25	Vehicle Tracking Control	VTC	EA	$ 1,000.00	4	$ 4,000.00
26	VTC with Wheel Wash	WW	EA	$ 1,500.00		$ -
27	Temporary Batch Plant Restoration		AC	$ 5,000.00		$ -
	(1) Upstream Tributary Acre				**SUB-TOTAL**	$ 108,040.20
	(2) SB Cost = $1000 +$200(Upstream Tributary Acres)				**15% CONTINGENCY**	$ 16,206.03
					GESC SURETY TOTAL (1)	**$ 124,246.23**

NOTE: (1) **MINIMUM SURETY shall be $2,500.00** (Per Section 16-31-110 of City Zoning Code)

(Rev. 1-18-12)

APPENDIX B – FIRM AND SOIL MAPS



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 6 SOUTH, RANGE 66 WEST AND TOWNSHIP 6 SOUTH, RANGE 67 WEST.

FLOOD HAZARD INFORMATION

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

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

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* Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
	E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown the FIRM was derived from digital data obtained from Douglas County, Colorado and the U.S. Bureau of Land Management.

SCALE

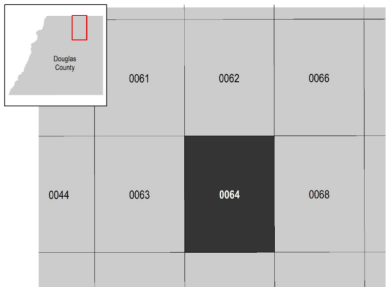
Map Projection:
Universal Transverse Mercator Zone 13N; North American Datum 1983;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 750 1,000 2,000 feet

0 125 250 500 meters

PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

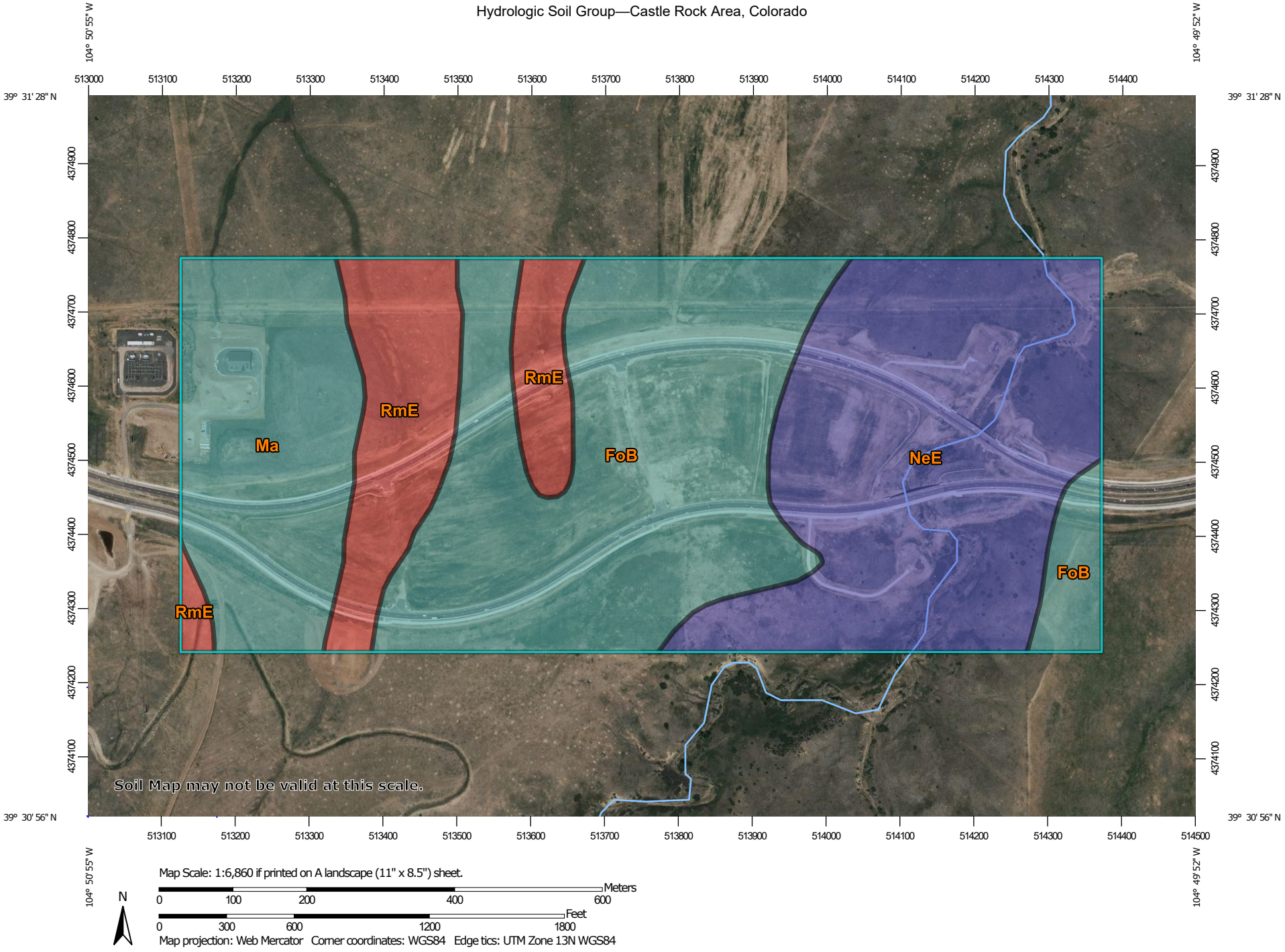
DOUGLAS COUNTY, COLORADO
and Incorporated Areas

PANEL 64 OF 495

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
DOUGLAS COUNTY	080049	0064	J
LONE TREE, CITY OF	080319	0064	J
PARKER, TOWN OF	080310	0064	J


104° 50' 55" W
104° 49' 52" W
39° 31' 28" N
39° 30' 56" N
513000
513100
513200
513300
513400
513500
513600
513700
513800
513900
514000
514100
514200
514300
514400
514500
4374900
4374800
4374700
4374600
4374500
4374400
4374300
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4374100
RmE
RmE
RmE
Ma
FoB
NeE
FoB
Soil Map may not be valid at this scale.
Map Scale: 1:6,860 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
300
600
1200
1800
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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 14, Aug 31, 2021

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

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FoB	Fondis clay loam, 1 to 3 percent slopes	C	60.6	36.8%
Ma	Manzanola clay loam	C	28.8	17.5%
NeE	Newlin gravelly sandy loam, 8 to 30 percent slopes	B	53.3	32.4%
RmE	Renohill-Buick complex, 5 to 25 percent slopes	D	21.9	13.3%
Totals for Area of Interest			**164.5**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX C – GESC PLAN AND REPORT CHECKLISTS

CITY OF LONE TREE

CITY OF LONE TREE
GESC PLAN AND REPORT CHECKLIST

Project:	Date:

All Plan Sheets

Yes ☒	No ☐	N/A ☐	1.	Title Block (consistent on all sheets)
Yes ☒	No ☐	N/A ☐	2.	Legal Name (Subdivision Name and Filing Number)
Yes ☒	No ☐	N/A ☐	3.	Sheet Number
Yes ☒	No ☐	N/A ☐	4.	Graphic and Written Scale
Yes ☒	No ☐	N/A ☐	5.	North Arrow
Yes ☒	No ☐	N/A ☐	6.	Current Date of Plan Preparation
Yes ☒	No ☐	N/A ☐	7.	City Acceptance Block (available upon request)

Cover Sheet

Yes ☒	No ☐	N/A ☐	1.	Project name
Yes ☒	No ☐	N/A ☐	2.	Project address
Yes ☒	No ☐	N/A ☐	3.	Owner (and Applicant's if different) name and address
Yes ☒	No ☐	N/A ☐	4.	Design firm's name and address
Yes ☒	No ☐	N/A ☐	5.	Plan sheet index
Yes ☒	No ☐	N/A ☐	6.	Original date of preparation and subsequent revisions
Yes ☒	No ☐	N/A ☐	7.	The following 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.

Yes ☒	No ☐	N/A ☐	8.	GESC Plan Designer's signature block with name, date, and Professional Engineer registration number. Signature block shall include the following note:

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 (GESC) CRITERIA MANUAL* OF DOUGLAS COUNTY AS AMENDED.

Yes ☒	No ☐	N/A ☐	9.	General Location Map (at a reasonable scale) indicating:

a. general vicinity of the site location
b. major roadway names
c. north arrow and scale

GESC Drawing Index Sheet (if applicable)

For projects that require multiple plan-view sheets to adequately show the project area (based on the specified scale ranges), a single plan-view sheet shall be provided at a scale appropriate to show the entire site on one sheet. Areas of coverage of the multiple blow-up sheets are to be indicated as rectangles on the index sheet.

Initial GESC Plan

Yes ☒	No ☐	N/A ☐	1.	Property Lines
Yes ☒	No ☐	N/A ☐	2.	Existing and proposed easements
Yes ☒	No ☐	N/A ☐	3.	Existing topography at one- or two-foot contour intervals, extending a minimum of 100 feet beyond the property line
Yes ☒	No ☐	N/A ☐	4.	Location of any existing structures or hydrologic features within the mapping limits
Yes ☒	No ☐	N/A ☐	5.	USGS Benchmark used for project
Yes ☒	No ☐	N/A ☐	6.	Limits of construction encompassing all areas of work, including: • Access points, storage and staging areas, borrow areas, stockpiles, and utility tie-in locations in on-site and off-site locations • Stream corridors and other resource areas to be preserved and all other areas outside the limits of construction shall be lightly shaded to clearly show area not to be disturbed.
Yes ☒	No ☐	N/A ☐	7.	Location of stockpiles, including topsoil, imported aggregates, and excess material
Yes ☒	No ☐	N/A ☐	8.	Location of storage and staging areas for equipment, fuel, lubricant, chemical (and other materials) and waste storage
Yes ☒	No ☐	N/A ☐	9.	Location of borrow or disposal areas
Yes ☒	No ☐	N/A ☐	10.	Location of temporary roads
Yes ☒	No ☐	N/A ☐	11.	Location, map symbol, and letter callouts of all initial erosion and sediment control BMPs
Yes ☒	No ☐	N/A ☐	12.	Information to be specified for each BMP, such as type and dimensions, as called for in the Standard Notes and Details
Yes ☒	No ☐	N/A ☐	13.	The following note: • SEE COVER SHEET OF LONE TREE STANDARD NOTES AND DETAILS (SHEET 1 OF 3) FOR LEGEND OF BMP NAMES AND SYMBOLS.
Yes ☒	No ☐	N/A ☐	14.	Other information as may be reasonably required by Lone Tree

Interim GESC Plan

Yes ☒	No ☐	N/A ☐	1.	Items 1, 2, and 4 through 10 from the Initial GESC Plan
Yes ☒	No ☐	N/A ☐	2.	Existing topography at one- or two-foot contour intervals extending a minimum of 100 feet beyond the property line, as shown on Initial GESC Plan. **These contours shall be screened.**
Yes ☒	No ☐	N/A ☐	2.	Location of all existing erosion and sediment control measures on site, as shown on the Initial GESC Plan Sheet. **These control measures shall be screened. Dimension information for initial stage BMPs shall not be shown.**
Yes ☒	No ☐	N/A ☐	3.	Proposed topography at one- or two-foot contour intervals, showing elevations, dimensions, locations, and slope of all proposed grading
Yes ☒	No ☐	N/A ☐	4.	Outlines of cut and fill areas
Yes ☒	No ☐	N/A ☐	5.	Location of all interim erosion and sediment controls, designed in conjunction with the proposed site topography, but also considering the controls designed for the existing topography.
Yes ☒	No ☐	N/A ☐	6.	Locations of all buildings, drainage features and facilities, paved areas, retaining walls, cribbing, water quality facilities, or other permanent features to be constructed in connection with, or as a part of, the proposed work, per approved plat, SIP, RSP, or other improvement plan.
Yes ☒	No ☐	N/A ☐	7.	The following 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.
Yes ☒	No ☐	N/A ☐	8.	Summary of cut and fill volumes
Yes ☒	No ☐	N/A ☐	9.	Other information as may be reasonably required by Lone Tree

Final GESC Plan

Yes ☒	No ☐	N/A ☐	1.	Items 1, 2, and 5 from the Initial GESC Plan
Yes ☒	No ☐	N/A ☐	2.	Existing topography in areas of proposed contours shall not be shown.
Yes ☒	No ☐	N/A ☐	3.	Existing Initial and Interim BMPs shall be shown (screened). Dimension information shall not be shown.
Yes ☒	No ☐	N/A ☐	4.	Directional flow arrows on all drainage features
Yes ☒	No ☐	N/A ☐	5.	Any Initial or Interim BMPs that are to be removed and any resulting disturbed area to be stabilized
Yes ☒	No ☐	N/A ☐	6.	Location of all Final erosion and sediment control BMPs (including seeding and mulching of any areas not stabilized in the Interim Plan), permanent landscaping, and measures necessary to minimize the movement of sediment off site until permanent vegetation can be established.
Yes ☒	No ☐	N/A ☐	7.	Show area of buildings, pavement, sod, and permanent landscaping (define types) per accepted improvement plan.
Yes ☒	No ☐	N/A ☐	8.	Show seeding and mulching (SM) everywhere except within the limits of buildings and pavement areas.
Yes ☒	No ☐	N/A ☐	9.	Show other BMPs considered by the designer to be appropriate.
Yes ☒	No ☐	N/A ☐	10.	Show the following BMPs to be removed prior to end of construction: • Indicate dewatering (DW) to be removed. • Indicate temporary stream crossings (TSC) to be removed. • Indicate stabilized staging area (SSA) to be removed. • Indicate street inlet protection (IP) to be removed. • Indicate vehicle tracking control (VTC) to be removed. • Indicate construction fence (CF) to be removed.
Yes ☒	No ☐	N/A ☐	11.	Include the following 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 AND INTERIM GESC PLANS, UNLESS OTHERWISE INDICATED, SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED BY THE CITY. • SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, CULVERTS, STORM DRAINS, AND INLET AND OUTLET PROTECTION.
Yes ☒	No ☐	N/A ☐	12.	Other information as may be reasonably required by Lone Tree

GESC Report

Yes ☒	No ☐	N/A ☐	1.	Name, Address, and Telephone Number of Applicant(s) – The name, address, and telephone number of the Professional Engineer preparing (or supervising the preparation of) the GESC Plan shall also be included, if different from the Applicant's.
Yes ☒	No ☐	N/A ☐	2.	Project Description – A brief description of the nature and purpose of the land-disturbing activity, the total area of the site, the area of disturbance involved, and project location including township, range, section and quarter section, or the latitude and longitude, of the approximate center of the project.
Yes ☒	No ☐	N/A ☐	3.	Existing Site Conditions – A description of the existing topography, vegetation, and drainage; a description of any wetlands on the site; and any other unique features of the property.
Yes ☒	No ☐	N/A ☐	4.	Adjacent Areas – A description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.
Yes ☒	No ☐	N/A ☐	5.	Soils – A brief description of the soils on the site including information on soil type and names, mapping unit, erodibility, permeability, hydrologic soil group, depth, texture, and soil structure (this information may be obtained from the soil report for the site, for adjacent sites if acceptable to the County, or the applicable Soil Survey prepared by the Natural Resources Conservation Service).
Yes ☒	No ☐	N/A ☐	6.	Areas and Volumes – An estimate of the quantity (in cubic yards) of excavation and fill involved (indicating a balance onsite), and the surface area (in acres) of the proposed disturbance.
Yes ☒	No ☐	N/A ☐	7.	Erosion and Sediment Control Measures – A description of the methods presented in the GESC Criteria Manual that will be used to control erosion and sediment on the site.
Yes ☒	No ☐	N/A ☐	8.	Timing/Phasing Schedule – A schedule indicating the anticipated starting and completion time periods of the site grading and/or construction sequence, including the installation and removal of erosion and sediment control BMPs. Indicate the anticipated starting and completion time periods of individual project phases.
Yes ☒	No ☐	N/A ☐	9.	Permanent Stabilization – A brief description, including applicable specifications, of how the site will be stabilized after construction is completed.
Yes ☒	No ☐	N/A ☐	10.	Stormwater Management Considerations – Explain how stormwater runoff from and through the site will be handled during construction.
Yes ☒	No ☐	N/A ☐	11.	Maintenance – Any special maintenance requirements over and above what is identified in the standard notes and details.
Yes ☒	No ☐	N/A ☐	12.	Opinion of Probable Cost (City Format) – An opinion of probable costs for erosion and sediment control, including anticipated maintenance during the construction phase, shall be submitted with the GESC Plan. This will be reviewed by City staff and used as a basis for fiscal security. Electronic or paper copies of the spreadsheet to be used for preparing the opinion of probable costs for erosion and sediment control are available upon request. Unit costs used to develop probable erosion and sediment control costs shall be those shown in the spreadsheet.

Yes ☐	No ☐	N/A ☒	13.	Calculations – Any calculations made for the design of such items as sediment basins or erosion control blanket selection.
Yes ☐	No ☐	N/A ☒	14.	Other Information – As may be reasonably required by Lone Tree.
Yes ☒	No ☐	N/A ☐	15.	The Following Note – "This Grading, Erosion and Sediment Control Plan has been placed in the Lone Tree file for this project and appears to fulfill the applicable Douglas County Grading, Erosion and Sediment Control Criteria, as amended. I understand that 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."
Yes ☒	No ☐	N/A ☐	16.	Signature Page for Permittees - Acknowledging the review and acceptance of responsibility, and a statement by the Professional Engineer acknowledging responsibility for the preparation of the GESC Plan (available upon request).

Preparer's Signature

Date

APPENDIX D – GESC PLAN DRAWINGS