DOUGLAS COUNTY
COLORADO

Location and Extent Staff Report

Date: September 8, 2025

To: Douglas County Planning Commission

From: Heather Scott, AICP, Principal Planner HS
Jeanette Bare, AICP, Planning Manager JB
Steven E. Koster, AICP, Assistant Director of Planning Services SK

Subject: **Piney Lake Trails, Tracts A, B, and C – Location and Extent**

Project File: **LE2025-016**

Planning Commission Hearing: **September 22, 2025 @ 6:00 p.m.**

I. EXECUTIVE SUMMARY

The applicant, Piney Lake Trails Metropolitan District No 1 (the District), requests approval of a Location and Extent (L & E) application to construct a neighborhood park with a playground, turf field, shade structure, seating, tables, grills, bicycle racks, trails, and mail kiosk within designated open space tracts. The project area is located east of N. Piney Lake Road, west of Delbert Road and south of County Line Road. The L & E area, as shown on the applicant's exhibit, is approximately 35 acres and is generally located south of the City of Aurora. The site is zoned Planned Development (PD) as part of the Piney Lake Trails Planned Development. The Piney Lake Trail PD is located in the Northeast Subarea as designated in the 2040 Douglas County Comprehensive Master Plan (CMP).

II. APPLICATION INFORMATION

A. Applicant

Piney Lake Trails Metropolitan District No 1
1700 N Lincoln Street, Suite 2000
Denver, Colorado 80203

B. Applicant's Representative

Clark Reid
Toll Brothers Southwest, LLC
1700 N Lincoln Street, Suite 2000
Denver, Colorado 80203

C. Request

The District requests approval of an L & E application for a neighborhood park and trails on approximately 35.8 acres within the Piney Lake Trails PD. The proposed uses are allowed within Tracts A, B, & C of the Piney Lake Trails PD.

D. Location

The Piney Lake Trails PD is located in the northeast corner of the county, south of County Line Road, west of Delbert Road, and east of N. Piney Lake Road. Tract A is 34.1 acres, located in the northwest corner of the site, adjacent to N. Piney Lake Road and County Line Road. Tract B is 35.8 acres, located north of Spearhead Avenue and south of County Line Road. Tract C is 169.8 acres, stretching the south boundary between N. Piney Lake Road and Delbert Road. Vicinity, zoning, and aerial maps are included as an attachment to the staff report to highlight site location and existing conditions.

E. Project Description

The District is proposing to construct a neighborhood park and trails on the open space tracts within the Piney Lake Trails PD. The neighborhood park will have a playground, turf field, shade structure, seating, tables, grills, bicycle racks, and a mail kiosk. The District is proposing additional trails, highlighted in green and blue on the map, to link to the trails approved in the Final Plat (identified in orange). This design offers a variety of trails that may be used by pedestrians, cyclists, and equestrians.

The proposed project schedule is to complete the L&E application and necessary Public Works Engineering reviews and permits in 2025. The District intends to start construction in summer 2026. The projected opening of the neighborhood park is set for Fall 2026.

The property is located within the Northeast Subarea as designated in the 2040 Douglas County Comprehensive Master Plan (CMP). Parks and trails are anticipated within the subarea. Section 3 of the CMP discusses the provision of community services. Policy 3-2D.23, encourages design elements that complement the natural landscape. Rammed earth retaining walls, native seed, and drainage channels will help showcase the area's natural beauty. Vehicular access to this neighborhood park is provided by internal subdivision roads. The trails will bring new multiuse and hiking trails to the community to allow for exploration throughout the open space. The trail system is planned along natural drainages found on site allowing wildlife movement throughout the open space while also linking communities and promoting exercise opportunities without removing viewsheds and enhancing Policies 3-2B.3, 3-2D.1, 3-2D.3 and 3-3E.6.

III. CONTEXT

A. Background

The site was rezoned from Agricultural One (A-1) to Planned Development (PD) with the Board of County Commissioners (Board) approval of the Piney Lake Trails Planned Development (PD) in March 2022. At that time, the developer committed to dedicating a minimum of 200 acres to Douglas County for a regional park. Parks and trails are allowed uses in the open space tracts.

In September 2024, the Board approved a Final Plat request on the site for 176 single-family residential lots, 7 tracts, 2.5 miles of regional trails, 243.43 acres of open space and associated public roadways on 335 acres. The Board also approved an Open Space Agreement to protect the open space tracts.

B. Adjacent Land Uses and Zoning

The Piney Lake Trails subdivision is located in the northeast corner of the county. The site is bound by residential development in the Trails subdivision to the west, the Ponderosa residential neighborhood to the south, and undeveloped property in Elbert County to the east. Single-family residential lots, within the City of Aurora, are located north of the site. The following table reflects those zone districts and land uses surrounding the park site.

Zoning and Land Use

Direction	Zoning	Land Use
North	City of Aurora	Single-family Residential
South	Rural Residential	Single-family Residential
East	Elbert County	Undeveloped (zoned for mixed-use)
West	Trails PD	Single-family residential

IV. PHYSICAL SITE CHARACTERISTICS

A. Site Characteristics and Constraints

The park site gently slopes toward drainage areas to the north. The project is currently under construction for 176 single family homes and public roads.

B. Access

Access to the park is provided along Spearhead Avenue, a new public road in the Piney Lake Trails Subdivision. As this is a neighborhood park, it is expected that most traffic will be foot traffic. Parallel street parking is available along Spearhead Avenue. The applicant submitted a Traffic Impact Study during the Final Plat application.

C. Drainage and Erosion

The applicant is responsible for preparation of any further site-specific engineering plans, which will include a Grading Erosion and Sediment Control (GESC) plan and report, and construction plans specific to the proposed neighborhood park. The applicant submitted a Drainage Conformance Letter with the submittal. Engineering plans must be accepted by Public Works Engineering prior to permits being issued for the proposed improvements.

D. Floodplain

There is no mapped 100-year floodplain associated with the site.

V. PROVISION OF SERVICES

A. Fire Protection

South Metro Fire Rescue (South Metro) provides firefighting and emergency medical services to the project area. South Metro reviewed the provided documents and gave conditional non-objection to the proposed Location and Extent. They did state the grills, indicated on sheet LS1.2, shall maintain 10' separation to any combustible construction.

B. Sheriff Services

The Douglas County Sheriff's Office (DCSO) provides emergency services to the site. No response has been received from the DCSO. Office of Emergency Management had no issues with the project.

C. Water and Sanitation

Water and sanitation service in Piney Lake Trails PD is provided by Aurora Water and Sanitation District through an intergovernmental agreement.

D. Utilities

Area utility service providers were provided with a referral on this application. There should be no conflicts with AT&T infrastructure. At the writing of the staff report, no response has been received from CenturyLink, Comcast, CORE, or Xcel Energy.

E. Other Required Processes and Permits

In addition to the L & E approval, the applicant is responsible for preparation of any further site-specific engineering plans, which will include a GESC plan and report, Phase III drainage report and plans, and other construction plans specific to the proposed facility. Engineering plans must be accepted by Public Works Engineering prior to permits being issued for the proposed improvements. In addition, permits will be required from Building Services for any structures.

The applicant is working with County staff to process an amendment to the Open Space Agreement to clarify the type of recreational uses that may occur in the open space tracts as allowed by the PD and proposed with the L & E.

VI. PUBLIC NOTICE AND INPUT

Courtesy notices of an application in process were sent to adjacent property owners on August 29, 2025. At the preparation of the staff report, no one from the public had responded to the courtesy notice. Homeowner Association's (HOA's) within a 1-mile radius were notified about the request. At the preparation of the staff report, no HOA or other members of the public commented on the proposal.

Referral response requests were sent to referral agencies on August 29, 2025. Agency responses that have been received to date are included as an attachment to this staff report. Any additional responses received after the date of this staff report will be

provided to the Planning Commission prior to the hearing and added to the project record.

VII. STAFF ASSESSMENT

Staff has evaluated the application in accordance with Section 32 of the Douglas County Zoning Resolution. The applicant has stated that the proposed neighborhood park and trails will enhance the quality of life for residents in Piney Lake Trails. Should the Planning Commission approve the L & E request, the applicant must obtain all required engineering and building permit approvals through Douglas County prior to construction.

ATTACHMENTS **PAGE**

Douglas County Land Use Application 6
Applicant's Narrative and Community Impact Report 8
Comprehensive Master Plan Land Use Reference Map 10
Zoning Map 11
Aerial Map 12
Referral Agency Response Report 13
Referral Agency Response Letters 15
Drainage Letter 25
GESC Report and Exhibit 26
Location and Extent Plan Exhibit 68

DOUGLAS COUNTY
COLORADO

Department of Community Development

www.douglas.co.us

LAND USE APPLICATION

Please complete, sign, and date this application. Return it with the required items listed on the Submittal Checklist to planningsubmittals@douglas.co.us. Submittals may also be mailed or submitted in person to Planning Services. *NOTE: The Planning Commission or the Board of County Commissioners should not be contacted regarding an open application.*

OFFICE USE ONLY

PROJECT TITLE: Piney Lake Trails, Tracts A, B, & C

PROJECT NUMBER: LE2025-016

PROJECT TYPE: Location and Extent

MARKETING NAME: Piney Lake Trails

PRESUBMITTAL REVIEW PROJECT NUMBER: PS2025-172

PROJECT SITE:

Address:

State Parcel Number(s): 2235-041-01-032

Subdivision/Block#/Lot# *(if platted)*:

PROPERTY OWNER(S):

Name(s): Piney Lake Trails Metro District 1

Address: 2154 East Commons Avenue, Suite 2000, Centennial, CO 80122

Phone: (720) 862-6164

Email:

AUTHORIZED REPRESENTATIVE: *(Notarized Letter of Authorization is required from the property owner, unless the owner is acting as the representative)*

Name: Clark Reid

Address: 7100 E Belleview Ave, Greenwood Village, CO 80111

Phone: (720) 272-3556

Email:

To the best of my knowledge, the information contained on this application is true and correct. I have received the County's information sheet regarding the *Preble's Meadow Jumping Mouse*.

Applicant Signature

8/27/2025

Date

PREBLE'S MEADOW JUMPING MOUSE

What is the Preble's Meadow Jumping Mouse?
The Preble's Meadow Jumping Mouse is a rare mouse designated by the United States Fish and Wildlife Service as a "threatened species" under the Endangered Species Act. The federal threatened species designation prohibits the unlawful "take" of the Preble's Meadow Jumping Mouse or its habitat.

Where does the mouse live?
The Preble's Meadow Jumping Mouse lives primarily in heavily vegetated riparian habitats. In Douglas County, the mouse has been located in or near many drainages, including tributaries and the mainstream reaches of East and West Plum Creek. However, any stream reach or potential habitat within Douglas County may be subject to the requirements of the Endangered Species Act. The mouse has also been found in Boulder, Elbert, El Paso, Jefferson, and Larimer counties and in parts of Wyoming.

What activities may be considered a violation of the Endangered Species Act?
In its listing decision, the United States Fish and Wildlife Service identified activities that may result in violation of the Endangered Species Act to include:

1. Unauthorized or unpermitted collection, handling, harassing, or taking of the species;

2. Activities that directly or indirectly result in the actual death or injury death of the mouse, or that modify the known habitat of the species, thereby significantly modifying essential behavioral patterns (e.g., plowing, mowing, or cutting; conversion of wet meadow or riparian habitats to residential, commercial, industrial, recreational areas, or cropland; overgrazing; road and trail construction; water development or impoundment; mineral extraction or processing; off-highway vehicle use; and, hazardous material cleanup or bioremediation); and;

3. The application or discharge of agrichemicals or other pollutants and pesticides onto plants, soil, ground water, or other surfaces in violation of label directions or any use following Service notification that such use, application or discharge is likely to harm the species; would be evidence of unauthorized use, application or discharge.

How to determine if a proposed activity would violate the Endangered Species Act.
Any questions regarding whether an activity will impact the Preble's Meadow Jumping Mouse or its habitat should be directed to:

Field Office Supervisor
USFWS Colorado ES Field Office (MS 65412)
Denver Federal Center
PO Box 25486
Denver, CO 80225-0486
303-236-4773
ColoradoES@fws.gov

Where to find more information on the Preble's Meadow Jumping Mouse.
More information can be found at the US Fish and Wildlife Service website at:
https://ecos.fws.gov/ecp/species/4090

Any approval given by Douglas County does not obviate the need to comply with applicable federal, state, or local laws and/or regulations.

Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

August 28, 2025

Douglas County
100 Third Street
Castle Rock, CO 80104
80111

Dear Douglas County:

Piney Lake Trails Metro District 1 is pleased to submit for consideration a Location and Extent application to bolster the living experience of our residents at Piney Lake Trails through the implementation of a centralized park and extension of the previously approved trail system. The proposed park amenity will serve as a focal point of the development's theming and will deliver an impactful meeting place to strengthen the neighborhood's sense of community.

The planned park amenity will be located within Tract B on the north side of Spearhead Drive. It will feature four activation zones including a playground, natural turf field, grilling station, and relaxed seating area. Irrigation water will be supplied by Aurora Water, and no traffic impact analysis is required for development and approval. Changes to the grading plan have been made, a revised drainage report is provided with this application, and utility plans with Aurora Water are in the process of updating. The Piney Lake Trails Metro District 1 will own and maintain the park. Overall, this roughly one-acre community park will offer recreational options for individuals of all life stages.

The park amenity is anticipated to allow for both active and passive uses by community residents and visitors alike as described in the Comprehensive Master Plan (CMP) Policy 3-2D.2. The park's structures and landscaping will use design elements that complement the natural landscape in accordance to the CMP Policy 3-2B.2. Rammed earth retaining walls, native seed, and drainage channels will help to showcase the area's natural beauty.

The approximately one-and-a-half-mile addition to the trails system will bring new multiuse and hiking trails to the community to allow for guided exploration throughout the open space. The additional mileage will not include any structures or utilities, though there will be various wayfinding signage, pet waste stations, and benches throughout as currently permitted through the Open Space Agreement. The publicly accessible dirt trails are expected to activate the open space of the community emphasizing the community's natural amenity.

The trail system is planned in a way that preserves the natural drainages found on the site, allowing for wildlife movement throughout the open space while also linking communities and promoting exercise opportunities without removing viewsheds. The planned trails will allow Douglas County residents to access the natural beauty that defines the area, and is a vital part of carrying out the CMP by implementing Policies 3-2B.3, 3-2D.1, 3-2D.3, and 3-3E.6.

Toll Brothers
AMERICA'S LUXURY HOME BUILDER®

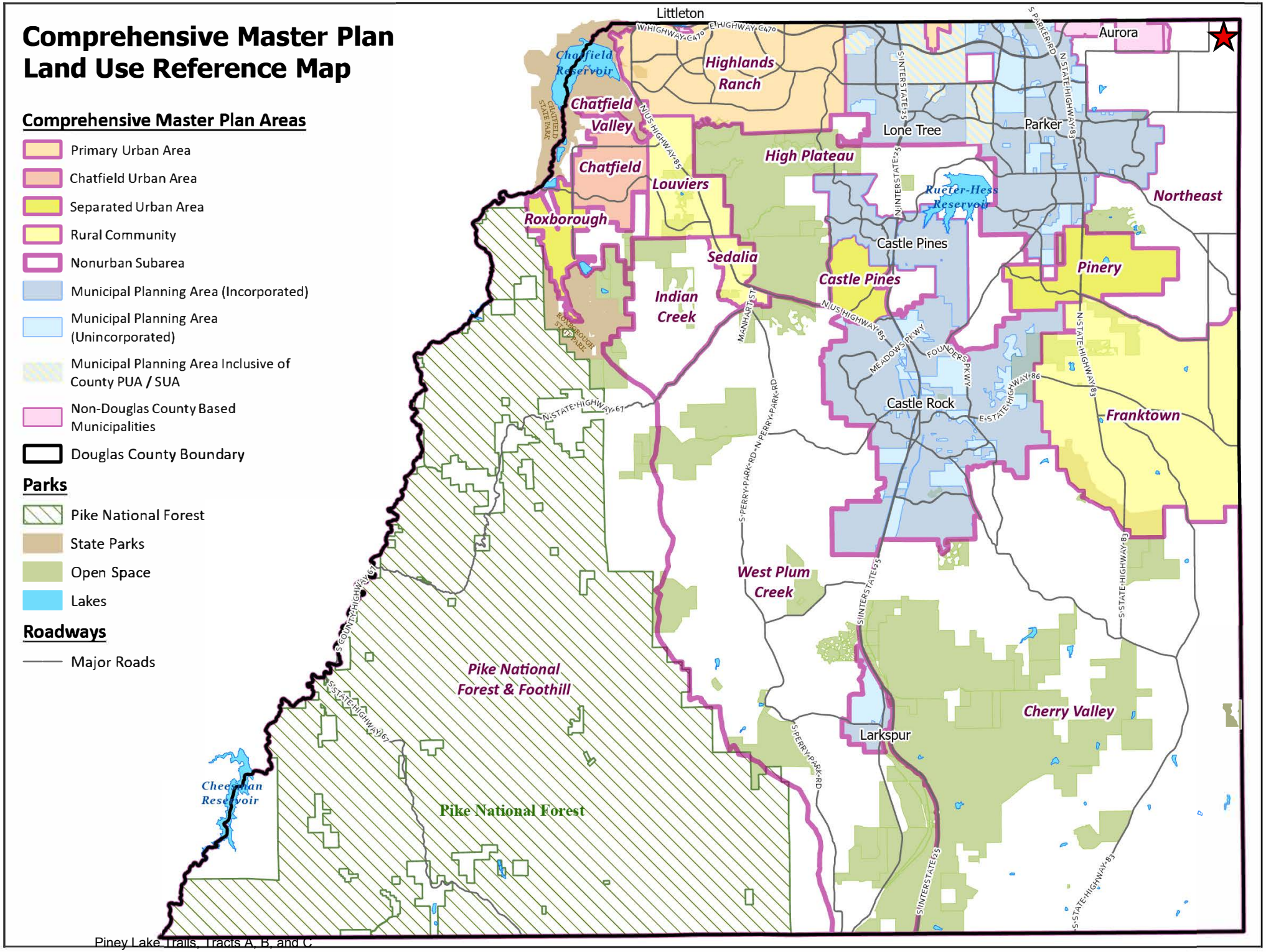
Traffic impacts are not anticipated as the amenities will serve the neighborhood community and traffic will be consistent with the findings in the approved traffic study associated with the development.

We appreciate the consideration of the application and are confident the proposed plan will successfully compliment the community and Douglas County as a whole. If there are any questions or additional information that would be helpful, please do not hesitate to reach out.

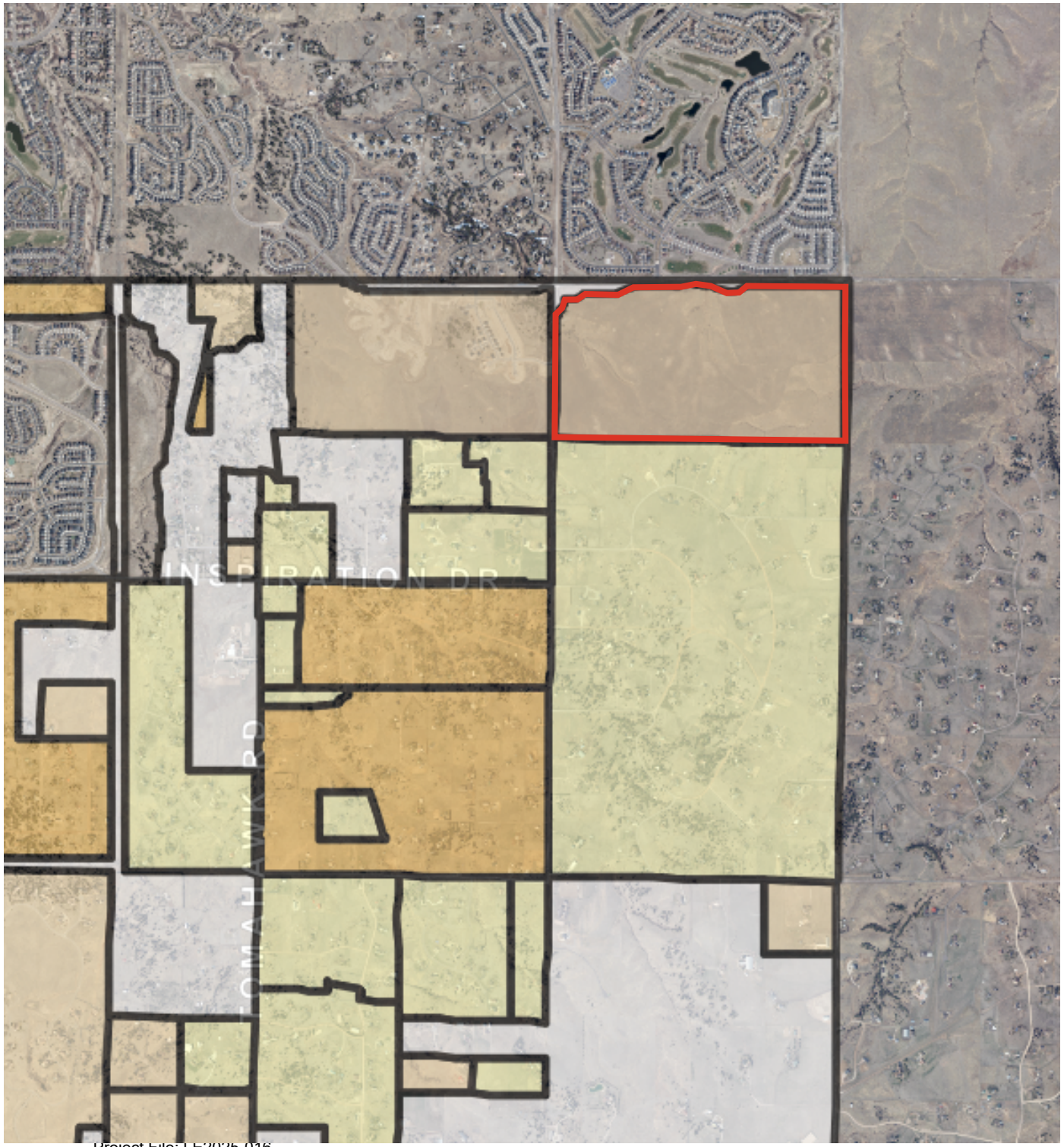
Sincerely,

Clark Reid
Authorized Representative
Piney Lake Trails Metro District 1

Comprehensive Master Plan Land Use Reference Map



DOUGLAS COUNTY
COLORADO



PINEY LAKE TRAILS
TRACTS A, B, & C

LE2025-016
ZONING MAP

N

LEGEND

- PROJECT SITE
- MAJOR ROADS
- OTHER ROADS

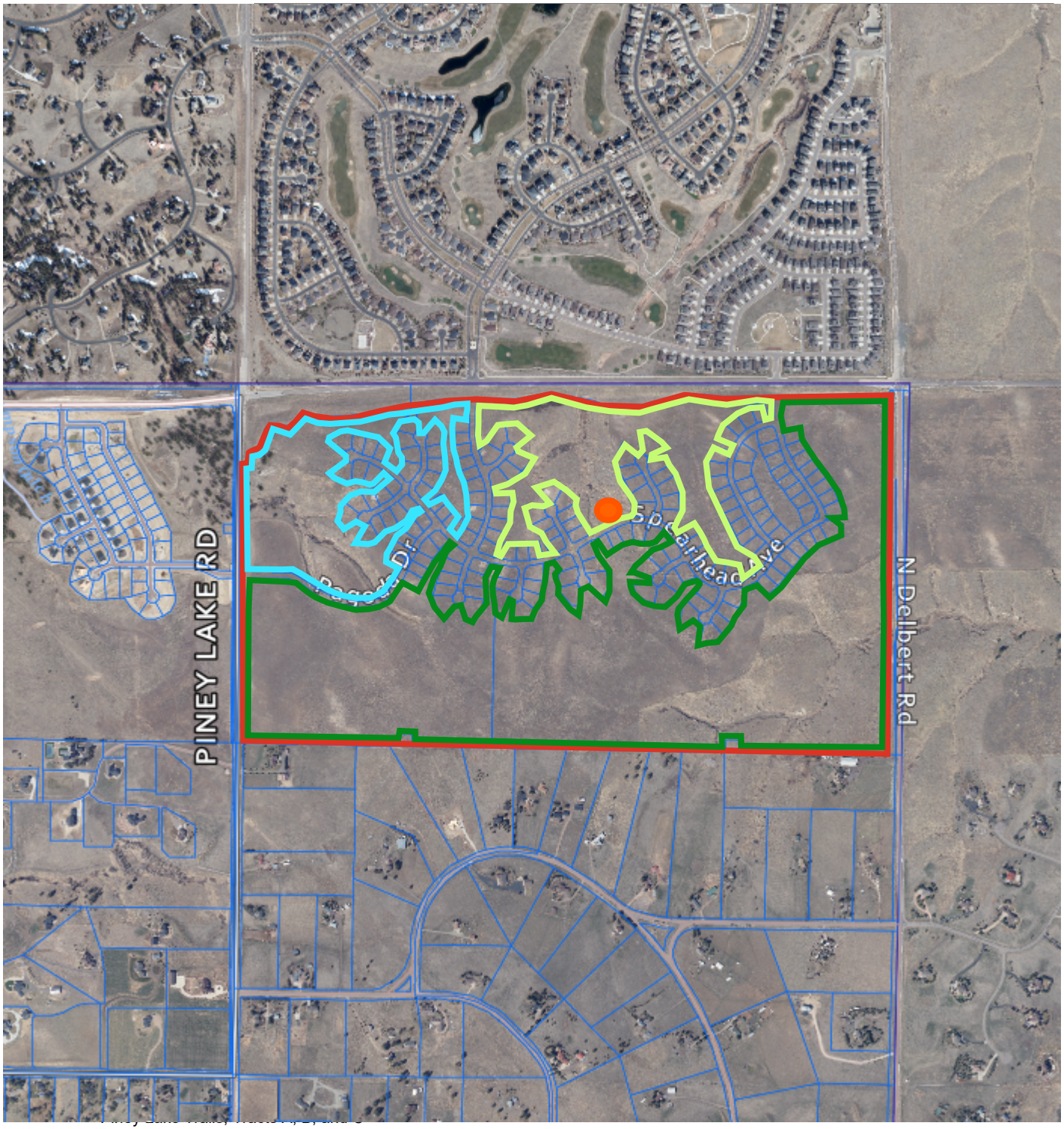
ZONE DISTRICT

- A1 - AGRICULTURAL ONE
- LRR - LARGE RURAL RESIDENTIAL
- RR - RURAL RESIDENTIAL
- ER - ESTATE RESIDENTIAL
- SR - SUBURBAN RESIDENTIAL
- MF - MULTIFAMILY
- LSB - LIMITED SERVICE BUSINESS
- B - BUSINESS
- C - COMMERCIAL
- LI - LIGHT INDUSTRIAL
- GI - GENERAL INDUSTRIAL
- CMTY - SEDALIA COMMUNITY
- D - SEDALIA DOWNTOWN
- HC - SEDALIA HIGHWAY COMMERCIAL
- MI - SEDALIA MIXED INDUSTRIAL
- PD - PLANNED DEVELOPMENT
- OS - OPEN SPACE CONSERVATION
- NF - NATIONAL FOREST
- INCORPORATED AREAS

DOUGLAS COUNTY
DEPARTMENT OF
COMMUNITY DEVELOPMENT

PINEY LAKE TRAILS
TRACTS A, B, & C

LE2025-016
AERIAL MAP



N

LEGEND

- PROJECT SITE
- TRACT A
- TRACT B
- TRACT C
- NEIGHBORHOOD PARK

DOUGLAS COUNTY
DEPARTMENT OF
COMMUNITY DEVELOPMENT

Project Name: Piney Lake Trails, Tracts A, B, & C
Project File #: SB2025-016
Date Sent: 08/29/2025 **Date Due:** 09/15/2025

Agency	Date Received	Agency Response	Response Resolution
Addressing Analyst	08/29/2025	Verbatim: The proposed address is 11601 SPEARHEAD AVENUE. This address is not to be used for any purpose other than for plan review until after this project is approved. Proposed addresses are subject to changes as necessary for 911 dispatch and life safety purposes. Addresses are recorded by Douglas County following all necessary approvals. Contact DCAddressing@douglas.co.us or 303.660.7411 with questions.	The applicant understands and will plan accordingly.
Arapahoe County Engineering Services Division		Awaiting Response	
Arapahoe County PWD/ Planning	09/02/2025	No comment	No response necessary
Assessor	09/02/2025	No comment	No response necessary
AT&T Long Distance - ROW		No comment	No response necessary
Aurora		Awaiting Response	
Building Services	08/29/2025	Verbatim: Permit is required for structures (if any), please visit Douglas County's web site for requirements and contact 303-660-7497 if you have any questions.	No response necessary
CenturyLink		Awaiting Response	
Comcast		Awaiting Response	
CORE Electric Cooperative		Awaiting Response	
Douglas County Conservation District		Awaiting Response	
Douglas County Health Department	09/04/2025	Verbatim: After reviewing the application, DCHD has no further comments.	No response necessary
Elbert County Community & Development Services	09/02/2025	No comment	No response necessary
Engineering Services		Response: Please see red marked comments on the GESC documents and the exhibit.	The applicant will work with PWE to address all comments

Project Name: Piney Lake Trails, Tracts A, B, & C
Project File #: SB2025-016
Date Sent: 08/29/2025 **Date Due:** 09/15/2025

Agency	Date Received	Agency Response	Response Resolution
Office of Emergency Management	08/28/2025	No comment	No response necessary
Open Space and Natural Resources	09/02/2025	Verbatim: Open Space and Natural Resources support the plan to provide both passive and active recreational opportunities to residents within this community. Our recommendation is to use propane or natural gas at grilling stations, including a locking mechanism on fuel source, to reduce fire risks.	The applicant will work with OSNR to address all comments.
Sheriff's Office		Awaiting Response	
Sheriff's Office E911		Awaiting Response	
Sheriff's Office Hazmat Team		Awaiting Response	
South Metro Fire Rescue	09/05/2025	Verbatim: South Metro Fire Rescue (SMFR) has reviewed the provided documents and has conditional non-objection to the proposed Location and Extent. Grills indicated on sheet LS1.2 shall maintain 10’ separation to any combustible construction. No details of the proposed shade structure and construction materials were provided.	The applicant will work with the fire district through the permitting process.
Xcel Energy-Right of Way & Permits		Awaiting Response	

From: Terri Maulik
To: Heather Scott; Referrals
Subject: AC Case No O25-169 re: Douglas County eReferral (LE2025-016) Is Ready For Review
Date: Tuesday, September 2, 2025 10:40:22 AM
Attachments: image001.png
image002.png
image004.png
image005.png

Heather,

Thank you for the opportunity to review and comment on this project. The Arapahoe County Planning Division has no comments; however, other departments and/or divisions may submit comments.

ARAPAHOE COUNTY

Terri Maulik (she/her/hers)
Planning Technician
Planning Division
Department of Public Works and Development
6924 S Lima St., Centennial, CO 80112
O: 720-874-6840
tmaulik@arapahoegov.com
www.arapahoeco.gov

From: annb cwc64.com
To: Heather Scott
Cc: CHOY, PAM; duanew cwc64.com; jt cwc64.com
Subject: Piney Lake Trails Parker, Colorado Douglas County eReferral #LE2025-016
Date: Wednesday, September 3, 2025 10:16:11 AM

Hi Heather,

This is in response to your eReferral with a utility map showing any buried AT&T Long Line Fiber Optics near Piney Lake Trails Tract B Parker, Colorado. The Earth map shows the project area in red. Based on the address and/or map you provided, there should be NO conflicts with the AT&T Long Lines, as we do not have facilities in that area.

Please feel free to contact us with any questions or concerns.

Ann Barnowski
Clearwater Consulting Group Inc
120 9th Avenue South
Suite 140
Nampa, ID 83651
Annb@cwc64.com

The attached google earth maps are intended to show approximate locations of the buried AT&T long line fiber optic cable. The maps are provided for informational purposes only. In no way should the maps be used for anything other than general guidelines as to where the fiber is or is not and any other use of these maps is strictly prohibited.

DOUGLAS COUNTY
HEALTH DEPARTMENT COLORADO

Septmeber 4th, 2025

Heather Scott
100 Third St.
Castle Rock, CO 80104

RE: LE2025-016

Dear Ms./Mrs. Scott

Thank you for the opportunity to review and comment on the construction of Tract B Piney Lake Trails project. Doulgas County Health Department (DCHD) staff have reviewed the application for compliance with pertinent environmental and public health regulations. After reviewing the application, DCHD has no further comments.

Caden Thompson
Environmental Health Specialist I
Douglas County Health Department

From: Danny Klibaner
To: Heather Scott
Subject: RE: [External] Douglas County eReferral (LE2025-016) Is Ready For Review
Date: Tuesday, September 2, 2025 8:33:53 AM
Attachments: image001.png
image002.png

Good morning,

Elbert County Planning has no objections to the proposed project in the Piney Lake Trails Planned Development.

Best regards,
Danny

Danny Klibaner, AICP
Elbert County Government
Land Use Planner
Community and Development Services
PO Box 7, 215 Comanche St, Kiowa, CO, 80117
Office (303) 621-3135
Cell (303) 435-1865
danny.klibaner@elbertcounty-co.gov

Please note County Offices are closed on Fridays.

From: CDS Department <CDS@elbertcounty-co.gov>
Sent: Tuesday, September 2, 2025 8:04 AM
To: Danny Klibaner <Danny.Klibaner@elbertcounty-co.gov>
Subject: Fw: [External] Douglas County eReferral (LE2025-016) Is Ready For Review

Hi Danny,

I believe this is for you. If not, just let me know.

Carrie Seubert

Elbert County Government

Community & Development Services

SOUTH METRO FIRE RESCUE
FIRE MARSHAL'S OFFICE

Heather Scott, AICP, Project Planner
Douglas County Department of Community Development, Planning Services
100 Third St
Castle Rock Co 80104
303.660.7460
303.660.9550 Fax

Project Name:	Piney Lake Trails, Tract B – Location and Extent
Project File #:	**LE2025-016**
S Metro Review #	REFSI25-00195
Review date:	September 5, 2025
Plan reviewer:	Aaron Miller 720.989.2246 aaron.miller@southmetro.org
Project Summary:	The applicant, Piney Lake Trails Metropolitan District No.1, requests approval of a Location and Extent to construct trails and a park with a shade structure, seating, playground equipment, and a mail kiosk within the Piney Lake Trails Planned Development.
Code Reference:	Douglas County Fire Code, 2018 International Fire Code, and 2021 International Building Code with amendments as adopted by Douglas County.

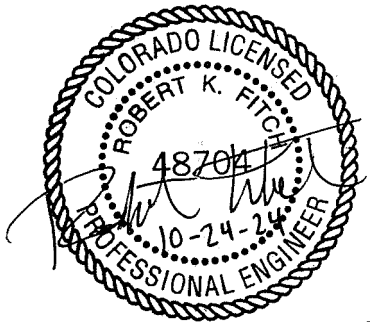
South Metro Fire Rescue (SMFR) has reviewed the provided documents and has conditional non-objection to the proposed Location and Extent.

Grills indicated on sheet LS1.2 shall maintain 10' separation to any combustible construction. No details of the proposed shade structure and construction materials was provided.

Grading, Erosion, and Sediment Control Report
for Piney Lake Trails

Job Number: D0221
Orig Sub Nov 10, 2022
Sig Set Oct 24, 2024
Prepared under the supervision of:
Robert K. Fitch
PE # 48704
RICK Engineering
8678 Concord Center Drive, Suite #200
Englewood, CO 80112

Doesn't appear that the "opinion of probable cost" spreadsheet is for this L&E project



PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022–224

WORK TO BE DONE:

THE SCOPE OF WORK FOR THIS PROJECT CONSISTS OF ROADWAY IMPROVEMENTS, GRADING AND EROSION CONTROL MEASURES, AND STORM DRAINAGE IMPROVEMENTS ACCORDING TO THE FOLLOWING PLANS, SPECIFICATIONS AND STANDARD DRAWINGS OF DOUGLAS COUNTY, COLORADO.

STANDARDS AND SPECIFICATIONS

- DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS (2020)
- DOUGLAS COUNTY STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA (2020)
- DOUGLAS COUNTY GRADING, EROSION AND SEDIMENT CONTROL (GESC) MANUAL (2020)
- COLORADO DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN GUIDE (2017)
- COLORADO DEPARTMENT OF TRANSPORTATION STANDARD PLAN (2017)
- MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (2009)
- URBAN STORM DRAINAGE CRITERIA MANUAL VOLUMES 1, 2, & 3 (2016)
- CITY OF AURORA RULES AND REGULATIONS REGARDING STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (2010)

NOTE: THE CONTRACTOR SHALL ALERT THE OWNER AND ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN THESE PLANS AND THE STANDARDS AND SPECIFICATION USED ABOVE.

SITE BENCHMARK & BASIS OF BEARING:

THE PRIMARY BENCHMARK USED TO DETERMINE THE BASIS OF ELEVATIONS FOR THIS PLAN IS: EAST ¼ CORNER SECTION 5 FOUND 3.25 ALUMINUM CAP PLS 17666, NAVD 88 ELEVATION=6255.27, APPROXIMATELY 2,750 FEET SOUTH OF SAMPSON GULCH AND PINEY LAKE ROAD.

OWNER:

PINEY LAKE TRAILS, LLC.
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112

APPLICANT/DEVELOPER:

PINEY LAKE TRAILS, LLC.
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112

ENGINEER:

RICK ENGINEERING COMPANY
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112
PHONE: 303.537.8020
CONTACT: ROBERT FITCH

SURVEYOR:

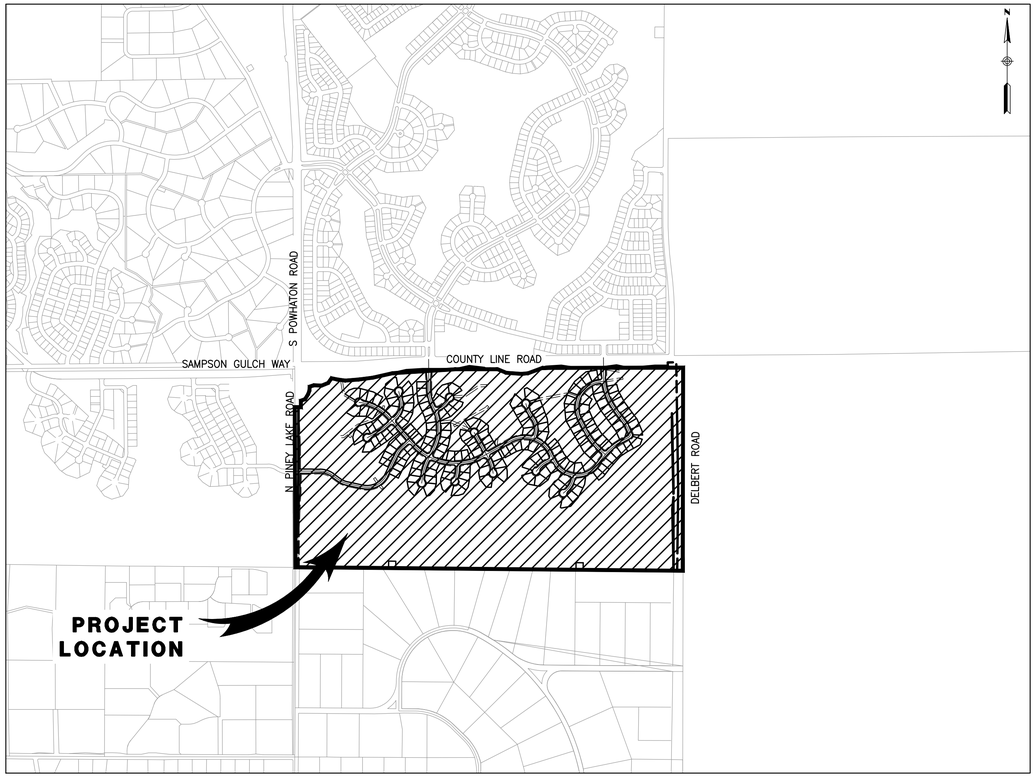
RICK ENGINEERING COMPANY
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112
PHONE: 303.537.8020
CONTACT: ROBERT HENNESSY

AGENCIES:

DOUGLAS COUNTY COMMUNITY
DEVELOPMENT DEPARTMENT
PLANNING DEVELOPMENT DIVISION
100 THIRD ST
CASTLE ROCK, CO 80104
CONTACT: DEBORAH KULA

NOTES:

1. THE GRADING, EROSION, AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PLACED IN THE DOUGLAS COUNTY FILE FOR THIS PROJECT AND APPEARS TO FULFILL APPLICABLE DOUGLAS COUNTY 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 THIS GESC PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE PREMITTEE(S), UNTIL SUCH TIME AS THE GESC PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.



VICINITY MAP

SCALE 1"= 1000'

LEGEND

	EXISTING	PROPOSED
TRACT BOUNDARY		
PROPERTY LINE		
RIGHT–OF–WAY		
CENTERLINE		
CURB & GUTTER		
FENCE		
EASEMENT		
FLOWLINE		
CONTOURS		
SANITARY SEWER MANHOLE		
STORM DRAIN MANHOLE		
FIRE HYDRANT		
WATER VALVE		
STORM INLET		
FLARED END SECTION		
POND OUTLET STRUCTURE		
STORM DRAIN		
SEWER LINE	S	S
WATER MAIN	W	W
RIPRAP		
SIGN		
STREET LIGHT (PRIVATE)		
STREET LIGHT (PUBLIC)		
PHASE BOUNDARY		
RIBBON GUTTER		
DAYLIGHT LINE		
SLOPE		
DRAINAGE SWALE		
TYPICAL LATERALS		X
AC PAVING		
ALLEY CONCRETE		
ACCESS ROAD		
CONCRETE		
FIRE ACCESS EASEMENT		
GAS LINE	G	
ELECTRIC LINE	E	
TELEPHONE LINE	T	
POWER POLE		
TRANSFORMER		

ABBREVIATION

BEGIN CURVE	BC
BLOW OFF VALVE	BOV
BEGIN VERTICAL CURVE STATION	BVCS
BEGINNING OF VERTICAL CURVE ELEVATION	BVCE
BOTTOM OF WALL	BW
CENTERLINE	CL
DRAINAGE EASEMENT	DE
END CURVE	EC
END VERTICAL CURVE STATION	EVCS
END VERTICAL CURVE ELEVATION	EVCE
EXISTING GRADE	EG
FINISHED GRADE	FG
FINISHED SURFACE	FS
FINISH FLOOR	FF
FLOW LINE	FL
GARAGE FLOOR FRONT	GFF
GARAGE FLOOR BACK	GFB
GRADE BREAK	GB
HIGH POINT	HP
INVERT	INV
LOW POINT	LP
POINT OF CURB RETURN	PCR
POINT OF VERTICAL CURVE INTERSECTION	PVI
PROPERTY LINE	PL
SANITARY SEWER MANHOLE	SSMH
STORM DRAIN MANHOLE	SDMH
STORM DRAIN INLET	SDI
SEWER	SWR
THRUST BLOCK	TB
TOP OF CURB	TC
TOP OF GRATE	TG
TOP OF WALL	TW
WATER	WTR
UTILITY EASEMENT	UE

SHEET INDEX

SHEET NO.	DRAWING NO.	DESRIPTION
01	CV–01	COVER SHEET
02 – 03	NT–01 – NT–02	GENERAL NOTES
04 – 18	EC–01 – EC–15	INITIAL EROSION & SEDIMENT CONTROL PLAN
19 – 33	EC–16 – EC–30	INTERIM EROSION & SEDIMENT CONTROL PLAN
34 – 48	EC–31 – EC–45	FINAL EROSION & SEDIMENT CONTROL PLAN
49 – 55	TRL–01 – TRL–07	TRAIL EROSION & SEDIMENT CONTROL PLAN
56 – 58	DTL–01 – DTL–03	DETAILS

CONSTRUCTION CHANGES

#	SHEETS	DATE
1	11, 12, 26, 27, 41, 42	05–27–25

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) MANUAL OF DOUGLAS COUNTY, AS AMENDED.

GESC PLANS PREPARED BY:

Robert Fitch _____ 7-21-25 _____ 48704

RICK ENGINEERING COMPANY — DATE — PE NUMBER

No Comments

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO. | BY | DATE | REVISION

SEAL: COLORADO LICENSED — ROBERT FITCH — 48704 — 07/21/25 — PROFESSIONAL ENGINEER

RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver
8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

COVER SHEET

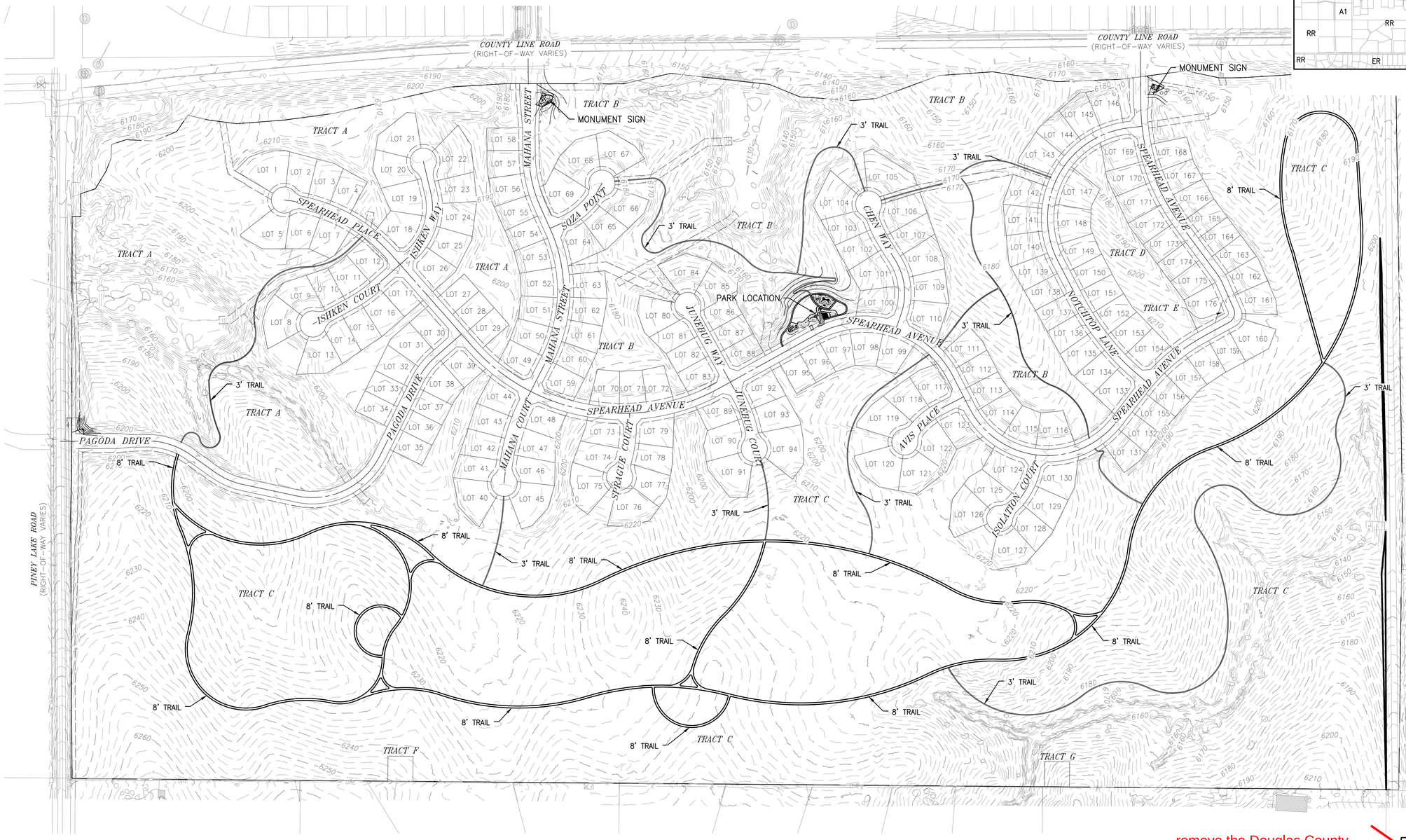
Know what's below. Call before you dig.

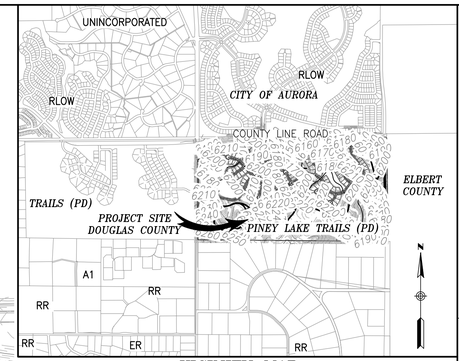
DRAWING NO.
CV-01
SHEET NO. 01 OF 58

LOCATION AND EXTENT EXHIBIT

PINEY TRAIL ESTATES

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF DOUGLAS, STATE OF COLORADO





VICINITY MAP
SCALE: 1"=2000'

LEGAL DESCRIPTION

THE NORTH HALF OF SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF DOUGLAS, STATE OF COLORADO,

EXCEPT THEREFROM THOSE PORTIONS CONVEYED IN DEED RECORDED JUNE 23, 1997 IN BOOK 1441 AT PAGE 1439; RECORDED FEBRUARY 11, 1999 IN BOOK 1667 AT PAGE 1884 AND RECORDED JUNE 16, 2004 AT RECEPTION NO. 2004062517 AND RECORDED JUNE 24, 2019 AT RECEPTION NO. 2019036576.

CONTAINING 14,613,025 SQUARE FEET OR 335.469 ACRES, MORE OR LESS.

TRACT	PURPOSE	ACREAGE±	OWNERSHIP	MAINTENANCE
A	OPEN SPACE, UTILITIES, DRAINAGE	34.123	DISTRICT	DISTRICT/HOA
B	OPEN SPACE, UTILITIES, DRAINAGE	35.779	DISTRICT	DISTRICT/HOA
C	OPEN SPACE, UTILITIES, DRAINAGE	169.766	DISTRICT	DISTRICT/HOA
D	OPEN SPACE, UTILITIES, DRAINAGE	2.758	DISTRICT	DISTRICT/HOA
E	SIGHT TRIANGLE	0.049	DISTRICT	DISTRICT/HOA
F	DISTRICT DIRECTOR PARCEL, OPEN SPACE	0.230	PINEY LAKE TRAILS MD 1	DISTRICT/HOA
G	DISTRICT DIRECTOR PARCEL, OPEN SPACE	0.230	PINEY LAKE TRAILS MD 1	DISTRICT/HOA
LOTS	RESIDENTIAL	66.336	N/A	N/A
ROADS	PUBLIC RIGHT-OF-WAY	26.304	DOUGLAS COUNTY	DOUGLAS COUNTY

200 100 0 200 400
GRAPHIC SCALE: 1"=200'

remove the Douglas County Acceptance Block from each sheet

BENCHMARK NOTE:
THE PRIMARY BENCHMARK USED TO DETERMINE THE BASIS OF ELEVATIONS FOR THIS PLAN IS: EAST 1/4 CORNER SECTION 5 FOUND 3.25 ALUMINUM CAP PLS 17666, NAVD 88 ELEVATION=6255.27, APPROXIMATELY 2,750 FEET SOUTH OF SAMPSON GULCH AND PINEY LAKE ROAD.

ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

DATE

THESE CONSTRUCTION DRAWINGS HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR STREET AND DRAINAGE IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:

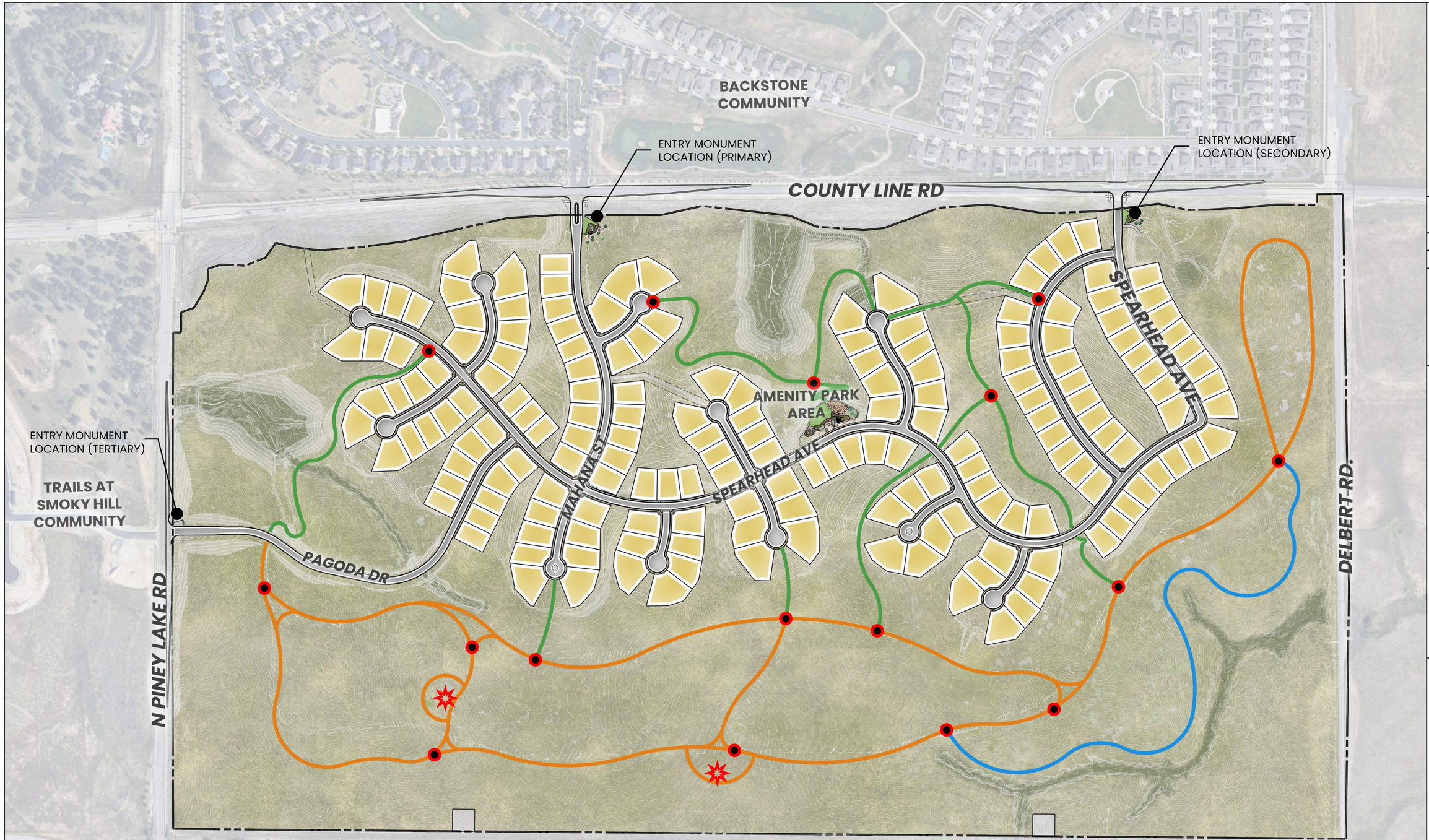
8678 CONCORD CENTER DR #200
ENGLEWOOD, CO 80112
303-537-8020
rickengineering.com
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER
RICK

PROJECT NO: D02211B | DRAWN/DESIGNED BY: KRA
DATE: 08/26/2025 | CHECKED BY: RF

PINEY TRAIL ESTATES
LOCATION AND EXTENT PLAN EXHIBIT
DOUGLAS COUNTY, CO
COVER SHEET

811 Know what's below. Call before you dig.

DRAWING NO.
01
SHEET NO. 01



ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

DATE

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ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:

RICK
8678 CONCORD CENTER DR #200
ENGLEWOOD, CO 80112
303-537-8020
rickengineering.com
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

PROJECT NO: D022118 | DRAWN/DESIGNED BY: KRA
DATE: 08/26/2025 | CHECKED BY: RF

PINEY TRAIL ESTATES

LOCATION AND EXTENT PLAN EXHIBIT

DOUGLAS COUNTY, CO

OVERALL SITE PLAN

811 Know what's below. Call before you dig.

DRAWING NO.
LS1.1
SHEET NO. 01

NATURAL SURFACE TRAIL, TYP.

LANDSCAPE BED, TYP.

ACTIVE TURF AREA (6654 SF.)

ADA SLOPED WALK

LANDSCAPE BED, TYP.

PASSIVE SOCIAL AND GATHERING AREA

BENCH, TYP.

PLAYGROUND AREA

ADA SLOPED WALK

EVERGREEN TREE, TYP.

CANOPY TREE, TYP.

SHADE STRUCTURE WITH TABLES, GRILLS, TRASH RECEPTACLES

DRAINAGE CHANNEL

BICYCLE RACKS (QTY: 3)

MAIL KIOSKS & SHELTER

SPEARHEAD AVE.

NORTH

5 10 20
0
SCALE: 1"=10'-0"

ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

DATE

THESE CONSTRUCTION DRAWINGS HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR STREET AND DRAINAGE IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:

8678 CONCORD CENTER DR #200
ENGLEWOOD, CO 80112
303-537-8020
rickengineering.com
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

RICK

PROJECT NO:	D02211B
DATE:	08/26/2025
DRAWN/DESIGNED BY:	KRA
CHECKED BY:	RF

PINEY TRAIL ESTATES

LOCATION AND EXTENT PLAN EXHIBIT

DOUGLAS COUNTY, CO

SITE PLAN ENLARGEMENT

811 Know what's below. Call before you dig.

DRAWING NO.
LS1.2
SHEET NO. 02

August 25, 2025

Mr. Chuck Smith
Department of Public Works Engineering
100 Third Street
Castle Rock, CO. 80104

SUBJECT: Drainage Letter for the Piney Trail Estates Location & Extent for Park & Trails

Dear Mr. Smith:

The following letter has been prepared to support the subject application on behalf of the project applicant.

Justification:

- This application is adding a park and trails to enhance the community amenities available within the Piney Trails Estates Development.

Impact of change on function of the facility:

- No change of function from original design. Original design (horizontal and vertical) road and utility alignments, drainage basins and patterns remain consistent with original design intent and findings in the approved drainage deport.

IN summary, the subject property and L&E application have been evaluated and no change of function from original design will result. Drainage patterns, imperviousness, runoff totals and routing will be in conformance with the approved Phase III drainage study for the property.

I appreciate your review and consideration of this letter. If you have any questions you can contact me at directly at 619-871-6538, or by email to: rfitch@rickengineering.com.

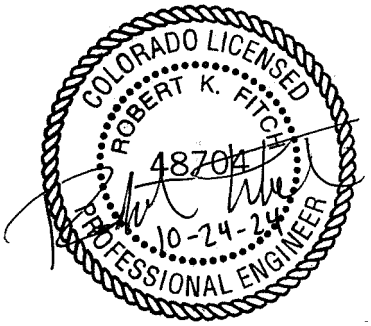
Sincerely,
RICK ENGINEERING COMPANY

Robert K. Fitch, P.E.
Principal

Grading, Erosion, and Sediment Control Report for Piney Lake Trails

Job Number: D0221
Orig Sub Nov 10, 2022
Sig Set Oct 24, 2024

Prepared under the supervision of:
Robert K. Fitch
PE # 48704
RICK Engineering
8678 Concord Center Drive, Suite #200
Englewood, CO 80112



RICK ENGINEERING COMPANY

Grading, Erosion, and Sediment Control Report
Piney Lake Trails

for

Piney Lake Trails, LLC
8678 Concord Center Drive, Suite #200
Englewood, CO 80112
303-346-7006

by

Rick Engineering Company
8678 Concord Center Drive, Suite #200
Englewood, CO 80112
303-537-8020

October 24th, 2024
Sig Set

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APPENDIX A – USDA NRCS WEB SOIL SURVEY

APPENDIX B – GESC DRAWING AND REPORT CHECKLIST

APPENDIX C – OPINION OF PROBABLE COST FOR INSTALLATION OF BMPs

APPENDIX D – GESC PLAN

"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 LAND OWNER, OR HIS/HER DESIGNATED REPRESENTATIVE(S) UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED."

Certification

Professional Engineer:

"This report and plan for the Grading, erosion and sediment control design of the Piney Lake Trails development was prepared by me (or under my direct supervision) in accordance with the provisions of Douglas County Grading, Erosion, and Sediment Control (GESC) manual for the owners thereof. I understand that Douglas County does not and will not assume liability for drainage facilities designed by others."

Robert Fitch, P.E.
R.C.E. #48704, Exp. 10/31/2025

State of Colorado No.: 48704

Company: Rick Engineering Company

Developer:

"Piney Lake Trails, LLC hereby certifies that the grading, erosion and sediment control for the Piney Lake Trails Development shall be constructed according to the design presented in this report. I understand that Douglas County does not and will not assume liability for the grading, erosion and sediment control facilities designed and/or certified by my engineer that Douglas County cannot, on behalf of Piney Lake Trails, guarantee that the final drainage design review will absolve Piney Lake Trails, LLC and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design."

DARWIN HORAN
Name of Developer

Authorized Signature

I. Introduction

A. Grading, Erosion, and Sediment Control Objective:

The objective of this Grading, Erosion, and Sediment Control report for Piney Lake Trails, is to meet the Douglas County GESC permit requirements and to identify the Best Management Practices (BMPs) which, when implemented, will meet the requirements of the Colorado Department of Public Health & Environment, Water Quality Control Division. According to *Colorado Department of Public Health and Environment Stormwater Management Plan Preparation Guidance* (4/2011), the GESC shall "identify all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the facility; describe the practices to be used to reduce the pollutants in stormwater discharges associated with construction activity at the facility; and ensure the practices are selected and described in accordance with good engineering practices, including the installation, implementation and maintenance requirements; and be properly prepared, and updated in accordance with Part I.E.5.c, to ensure compliance with the terms and conditions of this permit." The GESC must be completed and implemented at the time the project breaks ground, and revised if necessary, as construction proceeds to accurately reflect the conditions and practices at the site.

The GESC report is a "living" document which should be modified and updated through the course of site construction. Pollutant sources should be continuously evaluated, BMPs selected, documented, implemented, and pollutant sources re-evaluated (and the process continued). A current copy of the GESC report shall be kept onsite at all times. A person familiar with the GESC report and on-site construction activities and clean-up procedures should be designated as the GESC Administrator for the site. The GESC Administrator will be responsible for (but not limited to) inspections and inspection reports, personnel training, regulatory agency contact, GESC plan implementation and revisions, field notebooks, and record keeping of employee activities, contacts, notifications.

B. Location

Piney Lake Trails is located in the north half of Section 4, Township 6 South, Range 65 West of the 6th Principal Meridian, County of Douglas, State of Colorado. It is located within Douglas County east of Piney Lake Road and south of County Line Road. The site encompasses approximately 335.4 acres; see GESC Plans in Appendix D.

C. Project Description

This GESC report and associated plans cover the creation of roadway access driveways, graded pads and trunk main infrastructure to facilitate sale of individual lots. Individual end users will develop Site Improvements Plans (SIPs) associated with the development of their individual lots, and the lot owners will prepare and submit separate GESC plans and reports at the time of their development. The overall development will include all necessary infrastructure, inclusive of roadways and traffic control, wet and dry utilities, storm drainage and drainage control facilities.

D. Existing Site Conditions and Surrounding Areas

The property is generally undeveloped consisting of natural terrain and has been used for grazing with various stock ponds to support the existing agricultural uses. The property is vegetated with grasses, weeds, yucca and with few cottonwood and pine trees present. The topography of the site generally slopes towards the north with portions of the property sloping to the west and southeast of the property. A dirt road crosses the east-central portion of the property. No site conditions or features typically associated with "recognized environmental conditions" were identified during the site reconnaissance by the environmental consultant on the project.

II. Site Description

A. Construction Activity Description

Construction activity includes installation of BMPs, overall grading of entire site including major drainage conveyance (swale) construction, installation of utilities (underground water, sanitary sewer, storm drain and detention facilities), curb and gutter installation, concrete and asphalt paving, and overlot grading associated with residential development.

B. Proposed Sequence for Major Activities

The sequence for major construction activities includes the installation of BMPs, and overlot grading of Phase 1, which encompasses the development (176 SFDs), following grading, construction of infrastructure and establishment of permanent BMPs will occur.

C. Area Estimates

Total area of site is approximately 335 acres. The approximate area of disturbance for the project is approximately 80 acres, which includes overlot grading, roadways, utilities and a multi-use trail. The site is bounded on the east by Delbert Road and undeveloped land, to the north by County Line Road and single-

family residential property, on the west by Piney Lake Road and single-family residential, and to the south by single family estate residential development.

A maximum disturbance of 40-acres is allowed once over-excavation is completed. Disturbance maps shall be provided to the Erosion Control Inspector weekly.

Grading of the site will result in an estimated 617,060 CY of cut material, and 627,271 CY of fill leaving approximately 10,210 CY of fill material that is anticipated to be balanced on site with home building basement spoils, utility spoils and roadway undercut volumes. No offsite import or export of material is anticipated.

This GESC report does not include additional offsite area (for staging, material storage, overburden stockpiles of dirt, borrow areas, etc) other than that mentioned above.

D. Runoff Coefficient and Soil Description

According to *Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 1* (1/2016), the "C" values for this site include areas of paved streets with an impervious value of 1.00 and 100-year runoff coefficient value of 0.89, areas of undeveloped land with a C value of 0.49. Within the limits of construction, the weighted 100-Year C value of the site prior to improvements is 0.49 and after the proposed improvements is 0.65.

According to the Natural Resources Conservation Services (NRCS) Maps, the site consists of Hydrologic Soil Group A (13%), B (80%) and C (7%).

E. Existing Vegetation

A visual assessment of habitat conditions noted that woody vegetation accounted for less than 5% of groundcover on the site. The site is characterized by sparsely vegetated fields containing remnant pasture grasses typical to Front Range agricultural areas. Based on the visual assessment performed, the site has approximately 95% ground cover.

F. Pollutants Associated With Construction Activities (Other Than Sediment)

Potential pollutants other than sediment associated with construction activity may include solvents, metals, pesticides, (insecticides, fungicides, herbicides, rodenticides, etc.), petrochemicals (oils, gasoline, asphalt degreasers, etc.), plated products, asphalt/concrete, paints, wood, garbage, sanitary wastes, fertilizers, and wash waters associated with many of these products.

Practices must be used to prevent these potential pollutants from leaving the construction site. Pollutants such as oils, waxes, and water-insoluble pesticides form surface films on water and solid particles. Also, oil films serve as a medium for concentrating water-soluble insecticides. Other than by use of very costly water-treatment facilities or extended runoff water detention periods, these pollutants become nearly impossible to control once present in the runoff.

Procedures must be established to protect watercourses from damage by sediment and other pollutants generated during construction activities. The variety of pollutants and the severity of the damage caused depend upon a number of factors, including:

- The nature of the construction activity – some sites may store hazardous liquids and solid non-wastes on site.
- The physical characteristics of the construction site, including weather, time of year for construction (dry or rainy season), topography, soil conditions, drainage systems, etc.
- The proximity, volume, and quality of the receiving waters (i.e. the amount and purity of the water receiving the contaminated runoff).

The physical characteristics of the construction site have a significant impact on the potential discharge of pollutants from construction activities. As with sediment, the vast majority of all pollutants are carried into the receiving waters via storm runoff. The amount of runoff discharging from a construction site depends upon the several hydrologic factors. These factors include the rainfall intensity and frequency, the infiltration rate of the soil; the surface roughness; and the length and steepness of the longest watercourse. Large areas that have been denuded (stripped of vegetation), have long slopes, steep slopes, compacted soils, and high intensity rainfall are conducive to increased runoff.

The most economical and effective controls for these potential pollutants (other than sediment) generated on the construction site are the exercise of good “housekeeping" practices and an awareness by construction workers, planners, engineers, and developers of the need and purpose of compliance with federal, state, and local regulations. The following general procedures shall be implemented:

- Containers with potential pollutants shall be located in a designated area, as far as possible from any receiving waters
- During the rainy season, the storage areas with potential pollutants shall have a permanent cover and side wind protection, or be covered during non-working days and prior to rain events

- Dumpsters used to store items awaiting transfer to an off-site recycling or disposal facility must have a cover. Dumpsters shall be in good condition without corrosion or leaking seams, and be located as far as possible from any receiving waters
- Garbage dumpsters shall be replaced if they are deteriorating to the point where leakage is occurring and shall be covered to prevent storm water from entering.
- Port-a-lets shall be provided and maintained for use by on-site construction personnel.
- Where material is temporarily stored in drums, a containment system shall be used. The volume of the secondary containment provided shall be at least 110% of the largest stored container.
- Drums stored in an area where unauthorized persons may gain access must be secured in a manner that prevents accidental spillage, pilferage or any unauthorized use.
- Lids shall be tightly closed
- Use plastic sheeting to line the area.
- Keep a list of products in storage.
- Check containers periodically for leaks or deterioration.
- In case of a leak, put original container into a larger container and label it properly.
- Post information for procedures in case of spills. Persons trained in handling spills shall be on-site or on-call at all times. Materials for cleaning up spills shall be kept on-site and easily available. Spills shall be cleaned up immediately and the contaminated material properly disposed of.
- An employee trained in emergency spill cleanup procedures shall be present when dangerous wastes, liquid chemicals or other wastes are loaded or unloaded.
- Construction activity accumulating dangerous wastes that do not contain “free liquids” shall be protected from storm water run on.

G. Non-Stormwater Components of Discharge

The Manager shall reduce or eliminate discharges of non-stormwater from construction sites to the extent practicable. The following are the only non-stormwater discharges allowed under this permit, provided appropriate control measures are in place to assure.

- Discharges from emergency fire-fighting activities.

- Water used to control dust, provided reclaimed water or other wastewaters are not used.
- Routine external building wash down where detergents are not used.
- Water used to rinse vehicles and equipment, provided that reclaimed water or other wastewater is not used and no soaps, solvents, detergents, oils, grease or fuels are present in the rinse.
- Pavement washing is not allowed unless a vacuum is utilized.
- Uncontaminated air conditioning or compressor condensate.
- Water from fire-fighting system testing and maintenance, including hydrant flushing.
- Water used for compacting soil, provided reclaimed water or other wastewaters are not used.

The anticipated non-storm water discharge expected on this site are dust control, vehicle & equipment wash water, pavement rinse water, air conditioning or compressor condensate & soil compaction.

It is noted that groundwater and/or mixed groundwater and stormwater may only be an allowable discharge if the Contractor follows the CDPHE low risk discharge policy. Non-stormwater discharges shall comply with the allowable uses under the CDPS COR400000 permit.

H. Receiving Waters

The western portion of the project site is part of the Cherry Creek watershed. The eastern portion is part of the Sand Creek Watershed. Both Cherry Creek and Sand Creek ultimately drain to the South Plat River.

After the improvements, all site runoff will flow north and north west into the Cherry Creek watershed. The runoff from the site will generally follow historic drainage patterns/directions.

III. BMPs for Stormwater Pollution Prevention

A. Erosion and Sediment Controls

Once construction activity begins, Best Management Practices (BMPs) intended to contain sediment onsite must be constructed, inspected and repaired as necessary. Such controls must be functional before upslope land disturbance takes place. The BMPs will be installed as shown on the Grading and Erosion Control Plans in Appendix B. They must be supplemented as on-site experience proves

necessary in order to control sediment, pollutant discharge, and ensure public safety. The following temporary BMPs (some of which act as permanent BMPs) will be installed and maintained to control on-site erosion and prevent sediment from traveling off-site during construction:

- **Sediment Basins** are temporary stormwater detention ponds with a check structure and outlet structures designed to trap and accumulate mobile sediment in stormwater prior to discharge offsite. Sediment basins shall be sized appropriately for the upstream catchment area and shall be inspected and maintained frequently to ensure performance.

- **Silt Fence** is a woven synthetic fabric that filters runoff. Silt fence is a temporary barrier that is installed prior to earthmoving activities and is placed downstream of areas where runoff from construction activities is expected to occur, especially along the site perimeter. Silt fences will be installed per manufacturer's recommendations. Silt fence is not intended to be used in areas of concentrated flow. If concentrated flow is encountered during the placement of the fence, an alternative BMP shall be used and the GESC should be updated to reflect this change.

- **Reinforced Rock Berms (RRB)** act as a sediment filter and are utilized within swales and around grated inlets. RRBs are temporary BMPs and require proper installation and maintenance to ensure their performance.

- **Inlet Protection** will be used on all existing and relocated storm inlets to help prevent debris from entering the storm sewer system and tributary. Inlet protection is installed prior to construction. Inlet protection generally consists of gravel rock socks/filters around grated and curb inlets.

- **Riprap** will be used downstream of all storm sewer outfalls (as pipe outlet protection) to control erosion of the receiving channels. Riprap is installed prior to construction and also serves as a permanent structural BMP.

- **Preservation of Existing Vegetation** should occur where no construction activity is expected to occur.

B. Erosion Control Sequencing

Before construction commencement, silt fence will be placed downstream of areas where runoff from construction activities is expected to occur.

Vehicle tracking control will also be placed at the stockpile area exit(s). If the soil stockpile area is moved from the location shown on the site plan, the GESC should be updated.

A concrete wash out area, fueling area, and other staging areas will be provided during the construction process at least 100' from any stormwater conveyance.

All perimeter erosion control devices (silt fence) shall be in place, functional, and maintained during and following the grading and construction operations. Wind borne sediment and dust control measures should be established for all phases of construction.

Wattles will be placed at proposed area inlets and within proposed swales. Gravel filters will be placed at curb inlets.

All erosion control devices will remain in place until final stabilization of soil. Permanent erosion control devices shall be installed at the end of construction. These measures include riprap (installed during construction).

C. Materials Handling and Spill Prevention

Hazardous waste disposal (that is not typical to roadway widening operations) is not included within this GESC. Concrete and asphalt batch plants are not anticipated on this site and thus are not included in this GESC.

SPILL CONTROL PROCEDURES:

Even with careful handling and management of materials, spills still may occur. Spill control procedures shall be implemented in order to minimize or prevent the discharge of spilled material to the drainage system or watercourses.

Control BMPs: The major control mechanism for spills is to properly educate employees and subcontractors on what to do in the case of a spill for each material they use. All containers susceptible to spillage or leakage must be clearly identifiable and labeled to encourage proper handling and facilitate rapid response in the event of a spill or leak. Keep proper storage, clean-up and spill reporting instructions posted on site at all times and verify weekly that spill control clean up materials are located near material storage areas, unloading, and use areas. Preventative measures shall be in place to isolate containers from high traffic areas and contain spills at the site of contamination via secondary containment. Spills need to be immediately and properly contained to prevent

contaminating runoff. The magnitude of a spill will determine the level of response required to mitigate it:

- Secondary containment is required for bulk storage (55 gallons or greater) of hazardous materials.
- Minor spills typically involve small quantities of oil, gasoline, paint, etc., which can be controlled by the first responder at the discovery of the spill.
- Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.
- For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, notify the local emergency response by dialing 911, in addition to notifying the proper city/county officials.

The responsible party for detecting and responding to spills and leaks is:
Contact Name: _____
Company Name: _____
Company Title: _____
Address: _____
Phone Number: _____

IV. Other Controls

Waste Disposal
Except as authorized by a Section 404 Permit, no solid materials of any kind, including building material, are to be discharged offsite. Waste receptacles are to be provided at convenient locations, with regular collection schedules. All debris and waste shall be properly disposed of according to applicable federal, state and local laws. Receptacles are to be covered and not subjected to storm water run-on or runoff. No material, liquid or otherwise, is to be discharged through the storm drain system.

Dust Control
Dust control measures are to conform to the Air Pollution Control Permit and any measures that may be specified by the Geotechnical Engineer. The geotechnical engineering evaluation shall be reviewed by the contractor and subcontractors as it relates to this GESC. The nature of fill material shall be as described within the above-referenced evaluation.

The tracking of sediment onto public streets is normally attributed to vehicles driving through unpaved areas and onto said streets. For the time-period just prior to the start of earth disturbing activity, to prior to site paving, the construction site entrance shall be protected by a Vehicle Tracking Control. The gravel apron is to be inspected regularly and maintained as necessary. Any public street shall be inspected and cleaned as necessary by means of sweeping by the contractor, shall tracking occur. Street cleaning debris shall be disposed of in the same manner as all other construction waste as herein described.

The gravel apron may be salvaged for use elsewhere or thoroughly mixed into the subgrade immediately prior to paving activities. The contractor shall consult with the Geotechnical Engineer for this project for further recommendations should this option is used.

Concrete Washout Area

Concrete washouts are an allowable non-stormwater discharge under the Construction General Permit. The General Permit allows the discharge of wastewater resulting from washing concrete from trucks, pumps, and ancillary equipment to an impoundment if the conditions listed in General permit are met.

Dedicated Concrete or asphalt batch plants are not an anticipated use for this project.

Vehicle and Equipment Maintenance and Fueling

Vehicle maintenance and refueling operations should take place in designated areas when possible. Designated areas shall protect potential contaminants from being mobilized by stormwater and should follow the BMP guidelines for petroleum products as stated in this document. Any soils contaminated from spills or leakage during these operations shall be separated and treated as material waste.

Vehicle Tracking of Sediments

Vehicle tracking of sediments shall be minimized by maintaining controlled access points for vehicles that access actively earth-worked areas of the site or would otherwise come in contact with significant amounts of sediment, and providing vehicle tracking pads at these locations. General locations for these

have been shown indicatively on the Erosion and Sediment Control plans but may be updated to reflect specific contractor staging of works.

Disturbed and Stored Soils

Active stockpiles shall be managed by means of dust control during loading and unloading procedures. All active stockpiles that are to be left for greater than a 24-hour period shall have structural BMPs implemented to prevent the mobilization of sediment from the stockpile. Stockpiles to be left for longer than 14 days shall have interim stabilization as noted in the Erosion and Sediment Control portion of this document.

Management of Contaminated Soils

Contaminated soils shall be separated from uncontaminated soils to the extent possible, stockpiled separately and treated as material waste. Contaminated soils shall be protected from being mobilized by stormwater runoff; this may be achieved utilizing structural BMPs noted in this document, and by covering small stockpiles.

Asbestos and heavy metal contamination, such as arsenic and lead, shall be managed in accordance with the Colorado Department of Public Health and Environment (CDPHE) guidelines.

Loading and Unloading Operations
Loading of disturbed soil into trucks for transport offsite shall take place in designated areas, utilizing the controls described for Disturbed and Stored Soils as well as the Vehicle Tracking of Sediments. Where possible, road vehicles transporting material to or from the site shall remain on stone paved areas, and at a minimum have vehicle tracking pads at access points leaving the site.

V. Final Stabilization and Long-term Stormwater Quality

Final stabilization is reached when all soil disturbing activities at the site have been completed and vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels or when equivalent permanent erosion reduction methods have been utilized. Upon final stabilization, all temporary BMPs may be removed.

VI. Inspection and Maintenance Procedures

During construction, appropriate measures shall be taken to inspect and maintain existing erosion control features and install new erosion control elements as needed.

The temporary BMPs will be inspected and documented at a minimum of once every 14 days and after each precipitation or snowmelt event. The GESC will be kept up-to-date with inspection records, maintenance procedures, and changes. Records should include complete inspection reports for each inspection, maintenance and repair reports as a result of the inspections, and records of maintenance as indicated in the manufacturer's specifications, or other acceptable sources. A record-keeping system is recommended in managing inspection and maintenance reports and should include all maintenance records, spill response, weather conditions, training, correspondence, etc.

Preventative maintenance also involves the regular inspection and testing of equipment, timely maintenance of the equipment, and complete records of the maintenance and inspections of the equipment. The maintenance and inspection records should be kept on site and made available upon request.

Inspections must include the observation of the construction site perimeter, runoff discharge points, disturbed areas, erosion and sediment control measures identified in this GESC, and any other structural BMPs that may require maintenance. The inspection must determine if there is evidence of or potential for pollutants to enter the drainage system and if they should be modified, replaced, or added to.

The following includes some maintenance procedures:

- Erosion and sediment control measures determined, upon inspection, to be in need of repair shall be maintained before the next anticipated storm event or as necessary to maintain continued effectiveness of erosion and sediment control measures. If it is impractical to maintain erosion and sediment control measures before the next storm event, maintenance should be accomplished as soon as practical.

- Locations where vehicles enter or exit the site shall be inspected for evidence of sediment being tracked off-site by construction traffic. Such sediment shall be removed before it can be conveyed to the receiving storm drains or creeks.

- Rock at inlet protection will be checked regularly for sediment buildup which will prevent drainage. If the rock is clogged with silt, it will be removed and cleaned or replaced.

- Seeded areas will be checked to see that grass coverage is maintained. Areas will be watered, fertilized and reseeded as needed.

- It is the responsibility of the Operator to maintain effective pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more control than are shown on the Erosion Control Plan. For example, localized concentrations of surface runoff or unusually steep areas could require additional erosion control devices. Assessing the need for and implementing additional controls will be a continuing aspect of the GESC until final stabilization. This plan intends to control water-borne and liquid pollutant discharges by some combination of interception, filtration, and containment. Parties implementing this plan must remain alert to the need to periodically refine and update the plan in order to accomplish the intended goals.

- Sediment that has escaped the construction site must be removed at a frequency sufficient to minimize off-site impacts.

VII. References

1. Grading, Erosion, and Sediment Control (GESC) Manual, Douglas County, July 2019.

2. Stormwater Management Plan Preparation Guidance, State of Colorado, Colorado Department of Public Health and Environment, April 2011.

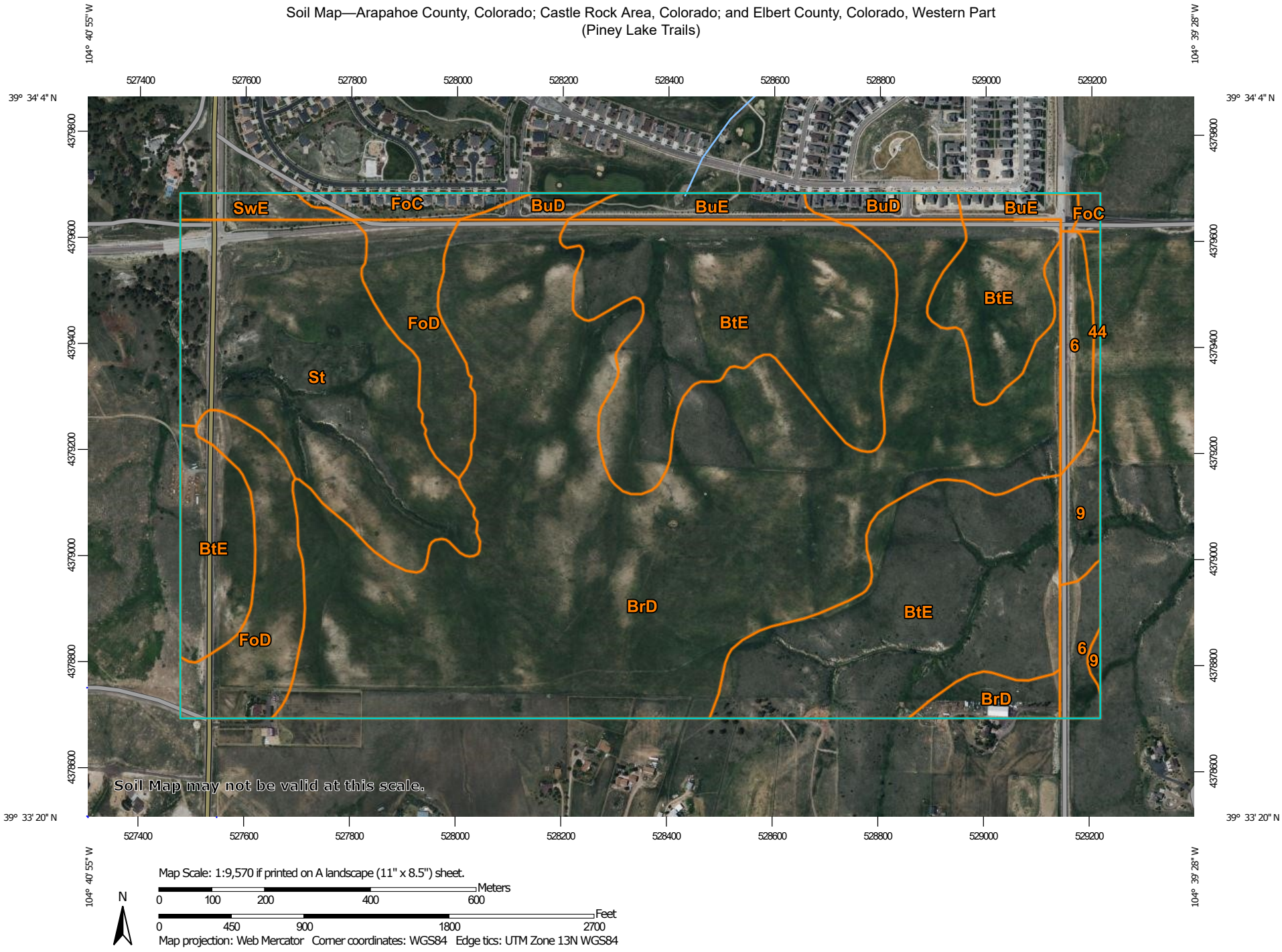
3. Soil Survey of Castle Rock Area, Colorado, United States Department of Agriculture, Soil Conservation Service, in cooperation with the Colorado Agricultural Experiment Station and Forest Service, 1975.

4. Urban Storm Drainage Criteria Manual, Volumes 1, 2, and 3, Urban Drainage and Flood Control District, October 2019

APPENDIX A

USDA NRCS Web Soil Survey

Soil Map—Arapahoe County, Colorado; Castle Rock Area, Colorado; and Elbert County, Colorado, Western Part
(Piney Lake Trails)



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 scales ranging from 1:20,000 to 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Arapahoe County, Colorado
Survey Area Data: Version 18, Sep 1, 2022

Soil Survey Area: Castle Rock Area, Colorado
Survey Area Data: Version 15, Sep 1, 2022

Soil Survey Area: Elbert County, Colorado, Western Part
Survey Area Data: Version 18, Sep 1, 2022

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

MAP LEGEND

MAP INFORMATION

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BuD	Bresser-Stapleton sandy loams, 3 to 9 percent slopes	5.7	1.3%
BuE	Bresser-Stapleton sandy loams, 9 to 20 percent slopes	8.1	1.9%
FoC	Fondis-Colby silt loams, 3 to 5 percent slopes	5.0	1.2%
SwE	Stapleton sandy loam, 9 to 30 percent slopes	3.3	0.8%
Subtotals for Soil Survey Area		**22.0**	**5.2%**
Totals for Area of Interest		**427.9**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrD	Bresser sandy loam, cool, 5 to 9 percent slopes	179.2	41.9%
BtE	Bresser-Truckton sandy loams, 5 to 25 percent slopes	124.2	29.0%
FoD	Fondis clay loam, 3 to 9 percent slopes	30.6	7.1%
St	Stapleton-Bresser association	54.5	12.7%
Subtotals for Soil Survey Area		**388.5**	**90.8%**
Totals for Area of Interest		**427.9**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Bresser sandy loam, cool, 5 to 9 percent slopes	10.7	2.5%
9	Bresser-Truckton sandy loams, 8 to 25 percent slopes	4.9	1.1%
44	Weld loam, 4 to 8 percent slopes	1.6	0.4%
Subtotals for Soil Survey Area		**17.3**	**4.0%**
Totals for Area of Interest		**427.9**	**100.0%**

APPENDIX B

GESC Drawing and Report Checklist

DOUGLAS COUNTY
COLORADO
Department of Public Works Engineering

Project Name: Piney Lake Trails
DV#: PS2022-224
Date Submitted: 11-10-2022

CHECKLIST FOR DEVELOPING A GESC PLAN – SELECTING BMPs ON 10 ELEMENTS OF AN EFFECTIVE GESC PLAN

ELEMENT #1: PRESERVE AND STABILIZE DRAINAGEWAYS

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
	X				
		X			
X					
X					
X					
		X			
X					
		X			
X					
X					
X					
		X			

A. Drainageways shall not be Filled, Regraded, or Realigned.

1. Delineate 100 yr floodplain limits for all existing drainageways (based on future development peak discharges).
2. Show limits of fill adjacent to drainageways and channel area to be preserved (shade undisturbed areas on drawings).
3. Show Construction Fence (CF) or, if approved, Construction Markers (CM) around all stream preservation areas.

B. Ample Freeboard Above the 100 Year Floodplain Shall be Provided.

1. Provide ample freeboard above the 100 year future development floodplain to lot grades and lowest floor elevations (including basements in fill). Refer to Douglas County *Storm Drainage Design and Technical Criteria Manual,* as amended.

C. Existing Drainageways Shall be Stabilized.

1. Design grade control structures in all drainage channels as necessary. Refer to the Douglas County *Storm Drainage Design and Technical Criteria Manual*, as amended.
2. Design bank stabilization improvements as necessary.
3. Emulate natural systems in the design of C1 and C2 above.

D. Disturbance to Existing Drainageways Shall be Minimized and Quickly Restored.

1. Identify features whose construction within drainageways is unavoidable, such as the following:

1A. Grade control structures.
1B. Bank stabilization.
1C. Road crossings (bridges or culverts).
1D. Storm sewer outfalls.
1E. Utility crossings.
1F. Temporary stream crossings for construction access.

Design Engineer			County Engineer			
Yes	No	N/A	Yes	No	N/A	
X						2. Determine limits of construction around the features identified in Item D.1 above that are just large enough to allow construction, but not larger than necessary, to minimize disturbance.
X						3. Show Construction Fence (CF) or, if approved, Construction Markers (CM) to delineate the limits of construction determined in Item D.2 above.
X						4. Identify coordinates or other means of locating Construction Fence (CF) or Construction Markers (CM) for contractor.
X						5. Show Check Dam (CD) or Reinforced Check Dam (RCD) immediately downstream of each disturbed area in the stream. Check sizing criteria in Section 3.17 of the GESC Manual.
		X				6. Show Temporary Stream Crossings (TSC), as necessary. Stream crossings shall be limited to the minimum number necessary.
X						7. Show Erosion Control Blanket (ECB) in all disturbed areas of streams (within construction fence defining limits of construction) up to the top of the bank, to be installed immediately after construction in the stream is complete.
						E. Any New Drainageways Shall be Designed and Stabilized.
X						1. Identify any additional small drainageways that are necessary to manage stormwater runoff on the site.
X						2 Determine design discharges and size the drainageways.
X						3. Design stabilization improvements as necessary for drainageways, including any drop structures or lining. For 2 year flows less than 10 cfs, criteria for Diversion Ditches (DD) may be used.
						F. Identify features whose construction within drainageways is unavoidable, such as the following.
						1. Determine if the following permits (and any others) are necessary. If so, complete the required documentation and submit applications.
		X				1A. Douglas County Floodplain Development Permit.
		X				1B. US Army Corps of Engineers Section 404

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
		X			
		X			

Permit.
1C. US Fish and Wildlife Service Threatened and Endangered Species approvals.
1D. Conditional Letter of Map Revision.

ELEMENT #2: AVOID THE CLEARING AND GRADING OF SENSITIVE AREAS

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
		X			
		X			
		X			
		X			
		X			
		X			
		X			
X					
		X			
		X			
		X			
X					
X					

1. Conduct a resource inventory on the site and identify on the GESC Plan the type and aerial extent of features such as the following:
1A. Protected habitat for endangered species.
1B. Wetlands.
1C. Nesting bird habitat.
1D. Riparian corridors.
1E. Forested areas.
1F. Mature cottonwood stands.
1G. Bedrock outcroppings.
1H. Steep slopes.
1I. Potential stormwater infiltration areas.
1J. Historic, cultural, or archeological resources.
1K. Areas of unique or pristine vegetation, habitat, or landform.
2 Endeavor to avoid, or minimize, disturbance to the sensitive areas identified in 1a-k above.
3. Show Construction Fence (CF) or, if approved, Construction Markers (CM) to delineate the limits of construction adjacent to areas to be preserved.

ELEMENT #3: BALANCE EARTHWORK ONSITE

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
X					
X					
X					

1. Endeavor to balance earthwork quantities on site through the following tasks.
1A. Develop initial grading plan.
1B. Check earthwork quantities for balance (consider shrink/swell).
1C. Raise or lower portions of the site as necessary to try to balance earthwork.
1D. Repeat steps b and c until balance is

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
		X			
		X			
		X			
		X			
		X			
		X			

achieved.

2. If it is impossible to balance earthwork quantities on site, prepare letter requesting a site variance including the following:

2A. Reason for variance

2B. Amount of material to be imported or exported.

2C. Location of disposal site if export or source site if import.

2D. GESC Permit numbers for disposal or source sites.

2E. Detailed haul route plan and traffic control plan for haul route.

2F. Type and number of trucks required to complete the import or export.

ELEMENT #4: LIMIT THE SIZE OF GRADING PHASES TO REDUCE SOIL EXPOSURE.

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
		X			
		X			

1. For large projects, determine separate grading phases, each disturbing less than 40 acres (70 acres for soil mitigation projects).
2. Balance earthwork for each phase following the guidance from Element 3, above.

ELEMENT #5: STABILIZE SOILS IN A TIMELY MANNER.

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
X					
X					

1. Indicate Seeding and Mulching (SM) or permanent landscaping in all areas to be graded.
2. Show Surface Roughening (SR) in all areas that are disturbed.
3. Indicate Erosion Control Blanket (ECB) or Compost Blanket (CB) on slopes steeper than 4:1 and in all areas where an extra measure of stabilization is appropriate.

ELEMENT #6: IMPLEMENT PERIMETER CONTROLS.

Design Engineer			County Engineer			
Yes	No	N/A	Yes	No	N/A	
						A. Upslope perimeters
X						1. Show Construction Fence (CF) or Construction Markers (CM) to delineate the limits of construction along the sensitive areas and next to schools, trails and parks, unless an existing fence is located there.
X						2. Use Diversion Ditch (DD) to capture runoff entering the site via sheet flow. Follow design guidance in Section 3.17 of the GESC Manual.
		X				3. For steep reaches, such as where the ditch conveys runoff down a channel bank to the bottom of a stream, the diversion ditch is to be lined based on the criteria shown in Section 3.17 of the GESC Manual.
		X				4. For an alternative to a lined ditch in steep sections, consider a Temporary Slope Drain.
						B. Downslope Perimeters.
X						1. Show Construction Fence (CF) or Construction Markers (CM) to delineate the limits of construction along the sensitive areas and next to schools, trails and parks, unless an existing fence is located there.
X						2. If the upslope disturbed drainage area exceeds 1 acre, use a Diversion Ditch (DD) or permanent drainageway to convey runoff to a Sediment Basin (SB).
X						3. If the upslope disturbed drainage area is less than 1 acre, use a Diversion Ditch (DD), Reinforced Rock Berm (RRB), Sediment Control Log (SCL), or Silt Fence (SF). In general, the latter three BMPs are to be used on the contour. Check Section 3.17 of the GESC Manual for specific guidance pertaining to the use of these downslope perimeter controls.
X						4. Use a Check Dam (CD) or Reinforced Check Dam (RCD) across a stream or drainage channel at the downslope perimeter of the site.

ELEMENT #7: USE SEDIMENT BAINS FOR UPSTREAM AREAS EXCEEDING 1.0 ACRE

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
X					
X					

1. Runoff from all disturbed areas greater than 1 acre shall be treated in a Sediment Basin (SB). Use the standard design for drainage areas less than 15 acres. For areas less than 1 acre, a Sediment Trap (ST) may be used.
2. If a non-standard design is used, construction drawings detailing the storage volume, embankment, spillway, and outlet are required. Refer to the Douglas County *Storm Drainage Design and Technical Criteria Manual*, as amended.
3. Wherever possible, sediment basins are to be located within any permanent water quality or quantity detention facilities. Permanent water quality or quantity detention facilities shall have a sediment basin incorporated within them. With at least half of the sediment basin storage volume required provided below the lowest outlet of a permanent detention facility.

ELEMENT #8: PROTECT STEEP SLOPES.

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
X					
		X			
		X			

A. Proposed Slopes Shall be no Steeper than 3 to 1.

1. Ensure that no slopes are proposed that are steeper than 3H to 1V, except small areas of rip rap outlet protection near outfalls and culverts.
2. Show Erosion Control Blanket (ECB) on slopes steeper than 4:1.

B. Runoff Shall be Diverted Away from Steep Slopes.

1. Use Diversion Ditch (DD) to capture runoff before it flows down the steep slope.

C. Terracing Shall be Incorporated into the Grading of Steep Slopes.

1. Use Terracing (TER) in steep slopes to break up the flow of incidental water and reduce the development of rill and gully erosion.

ELEMENT #9: PROTECT INLETS, STORM SEWER OUTFALLS, AND CULVERTS.

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
X					
X					
X					

1. Show Inlet Protection (IP) at all street and area inlets.
2. Show Reinforced Rock Berm for Culvert Protection (RRB) at all culvert inlets.
3. Design outlet protection for all storm sewer outfalls and culvert outlets per the Douglas County *Storm Drainage Design and Technical Criteria Manual*, as amended.
4. Show Erosion Control Blanket (ECB) in stream areas disturbed by the construction of the outfall or culvert.

ELEMENT #10: PROVIDE ACCESS AND GENERAL CONSTRUCTION CONTROLS

Design Engineer			County Engineer		
Yes	No	N/A	Yes	No	N/A
X					
X					
X					
X					
X					
X					
X					

1. Identify all limits of construction. Use Construction Fence (CF) or Construction Markers (CM) to delineate the limits of construction.
2. Provide one or more Vehicle Tracking Controls (VTC) at all entrance/exit points from a public street to a site. Including stop signs for all exiting traffic.
3. Show a Stabilized Staging Area (SSA) near the main access point.
4. Show adequate footprints for topsoil stockpiles. These stockpiles must have slopes no greater than 3 to 1.
5. Show a Concrete Washout Area (CWA) near all concrete work areas.
6. Show temporary access roads and stockpile areas.
7. Select areas for the vehicle tracking control, stabilized staging area, access roads, and stockpile areas that avoid disturbance to trees, desirable vegetation, steep areas and low, wet areas.

APPENDIX C

Opinion of Probable Cost

Douglas County GESC Permit

Piney Lake Trails - Cost Opinion Spreadsheet

10/28/2022

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	1	$ 100.00
5	Construction Fence	CF	LF	$ 2.00	-	-
6	Construction Markers	CM	LF	$ 0.20	26,558	$ 5,311.60
7	Dewatering	DW	EA	$ 600.00	-	-
8	Diversion Ditch	DD	LF	$ 1.60	4,135	$ 6,616.00
9	Erosion Control Blanket	ECB	SY	$ 5.00	131,588	$ 657,940.00
10	Inlet Protection	IP	LF	$ 20.00	550	$ 11,000.00
11	Reinforced Check Dam	RCD	LF	$ 36.00	-	-
12	Reinforced Rock Berm	RRB	LF	$ 9.00	115	$ 1,035.00
13	RRB for Culvert Protection	RRC	LF	$ 9.00	-	-
14	Sediment Basin	SB	AC	$ 1,100.00	1.18	$ 1,298.00
15	Sediment Control Log	SCL	LF	$ 2.00	22695	$ 45,390.00
16	Sediment Trap	ST	EA	$ 600.00	-	-
17	Seeding and Mulching	SM	AC	$ 2,500.00	20	$ 50,000.00
18	Silt Fence	SF	LF	$ 2.00	26,770	$ 53,540.00
19	Stabilized Staging Area	SSA	SY	$ 2.00	345	$ 690.00
20	Surface Roughening	SR	AC	$ 600.00	50	$ 30,000.00
21	Temporary Slope Drain	TSD	LF	$ 30.00	-	-
22	Temporary Stream Crossing	TSC	EA	$1,000.00	-	-
23	Terracing	TER		$ -	-	-
24	Vehicle Tracking Control	VTC	EA	$1,000.00	3	$ 3,000.00
25	VTC with Wheel Wash	WW		$ -	-	-
26	Temporary Batch Plant Restoration		AC	$5,000.00	-	-
					TOTAL:	**$ 865,920.60**

APPENDIX D

GESC Plan

PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022–224

WORK TO BE DONE:

THE SCOPE OF WORK FOR THIS PROJECT CONSISTS OF ROADWAY IMPROVEMENTS, GRADING AND EROSION CONTROL MEASURES, AND STORM DRAINAGE IMPROVEMENTS ACCORDING TO THE FOLLOWING PLANS, SPECIFICATIONS AND STANDARD DRAWINGS OF DOUGLAS COUNTY, COLORADO.

STANDARDS AND SPECIFICATIONS

- DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS (2020)
- DOUGLAS COUNTY STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA (2020)
- DOUGLAS COUNTY GRADING, EROSION AND SEDIMENT CONTROL (GESC) MANUAL (2020)
- COLORADO DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN GUIDE (2017)
- COLORADO DEPARTMENT OF TRANSPORTATION STANDARD PLAN (2017)
- MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (2009)
- URBAN STORM DRAINAGE CRITERIA MANUAL VOLUMES 1, 2, & 3 (2016)
- CITY OF AURORA RULES AND REGULATIONS REGARDING STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (2010)

NOTE: THE CONTRACTOR SHALL ALERT THE OWNER AND ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN THESE PLANS AND THE STANDARDS AND SPECIFICATION USED ABOVE.

SITE BENCHMARK & BASIS OF BEARING:

THE PRIMARY BENCHMARK USED TO DETERMINE THE BASIS OF ELEVATIONS FOR THIS PLAN IS: EAST ¼ CORNER SECTION 5 FOUND 3.25 ALUMINUM CAP PLS 17666, NAVD 88 ELEVATION=6255.27, APPROXIMATELY 2,750 FEET SOUTH OF SAMPSON GULCH AND PINEY LAKE ROAD.

OWNER:

PINEY LAKE TRAILS, LLC.
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112

APPLICANT/DEVELOPER:

PINEY LAKE TRAILS, LLC.
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112

ENGINEER:

RICK ENGINEERING COMPANY
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112
PHONE: 303.537.8020
CONTACT: ROBERT FITCH

SURVEYOR:

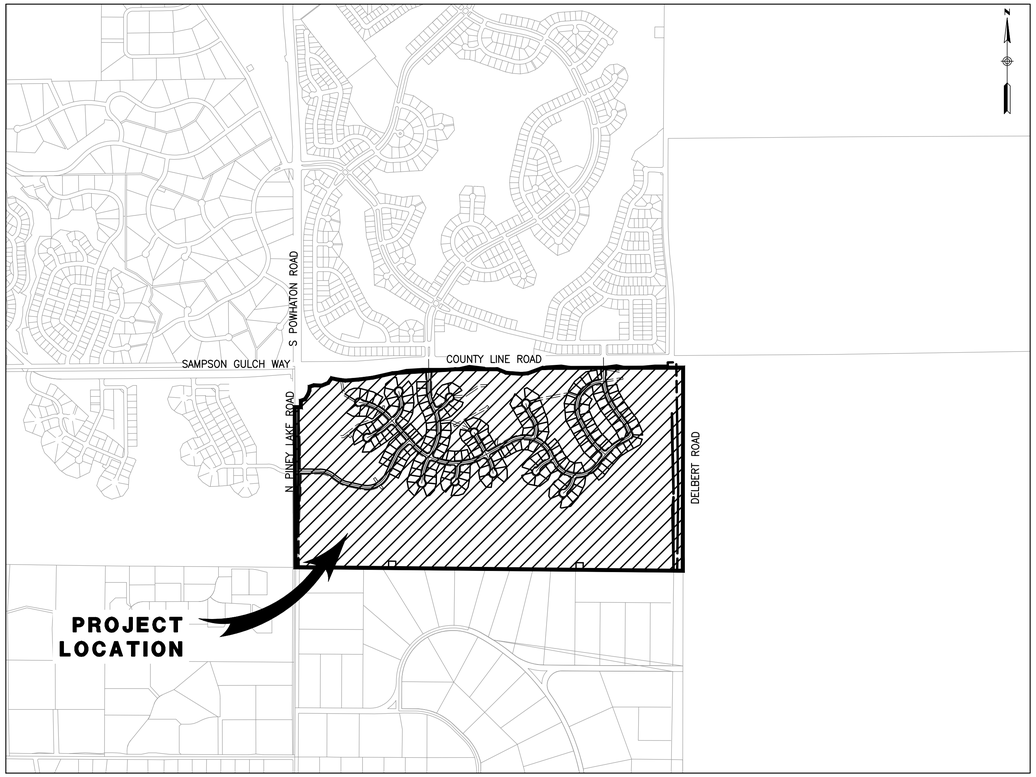
RICK ENGINEERING COMPANY
8678 CONCORD CENTER DRIVE, SUITE 200
ENGLEWOOD, CO 80112
PHONE: 303.537.8020
CONTACT: ROBERT HENNESSY

AGENCIES:

DOUGLAS COUNTY COMMUNITY
DEVELOPMENT DEPARTMENT
PLANNING DEVELOPMENT DIVISION
100 THIRD ST
CASTLE ROCK, CO 80104
CONTACT: DEBORAH KULA

NOTES:

1. THE GRADING, EROSION, AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PLACED IN THE DOUGLAS COUNTY FILE FOR THIS PROJECT AND APPEARS TO FULFILL APPLICABLE DOUGLAS COUNTY 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 THIS GESC PLAN SHALL RUN WITH THE LAND AND BE THE OBLIGATION OF THE PREMITTEE(S), UNTIL SUCH TIME AS THE GESC PLAN IS PROPERLY COMPLETED, MODIFIED OR VOIDED.



VICINITY MAP

SCALE 1"= 1000'

LEGEND

	EXISTING	PROPOSED
TRACT BOUNDARY		
PROPERTY LINE		
RIGHT–OF–WAY		
CENTERLINE		
CURB & GUTTER		
FENCE		
EASEMENT		
FLOWLINE		
CONTOURS		
SANITARY SEWER MANHOLE		
STORM DRAIN MANHOLE		
FIRE HYDRANT		
WATER VALVE		
STORM INLET		
FLARED END SECTION		
POND OUTLET STRUCTURE		
STORM DRAIN		
SEWER LINE	S	S
WATER MAIN	W	W
RIPRAP		
SIGN		
STREET LIGHT (PRIVATE)		
STREET LIGHT (PUBLIC)		
PHASE BOUNDARY		
RIBBON GUTTER		
DAYLIGHT LINE		
SLOPE		
DRAINAGE SWALE		
TYPICAL LATERALS		X
AC PAVING		
ALLEY CONCRETE		
ACCESS ROAD		
CONCRETE		
FIRE ACCESS EASEMENT		
GAS LINE	G	
ELECTRIC LINE	E	
TELEPHONE LINE	T	
POWER POLE		
TRANSFORMER		

ABBREVIATION

BEGIN CURVE	BC
BLOW OFF VALVE	BOV
BEGIN VERTICAL CURVE STATION	BVCS
BEGINNING OF VERTICAL CURVE ELEVATION	BVCE
BOTTOM OF WALL	BW
CENTERLINE	CL
DRAINAGE EASEMENT	DE
END CURVE	EC
END VERTICAL CURVE STATION	EVCS
END VERTICAL CURVE ELEVATION	EVCE
EXISTING GRADE	EG
FINISHED GRADE	FG
FINISHED SURFACE	FS
FINISH FLOOR	FF
FLOW LINE	FL
GARAGE FLOOR FRONT	GFF
GARAGE FLOOR BACK	GFB
GRADE BREAK	GB
HIGH POINT	HP
INVERT	INV
LOW POINT	LP
POINT OF CURB RETURN	PCR
POINT OF VERTICAL CURVE INTERSECTION	PVI
PROPERTY LINE	PL
SANITARY SEWER MANHOLE	SSMH
STORM DRAIN MANHOLE	SDMH
STORM DRAIN INLET	SDI
SEWER	SWR
THRUST BLOCK	TB
TOP OF CURB	TC
TOP OF GRATE	TG
TOP OF WALL	TW
WATER	WTR
UTILITY EASEMENT	UE

SHEET INDEX

SHEET NO.	DRAWING NO.	DESRIPTION
01	CV–01	COVER SHEET
02 – 03	NT–01 – NT–02	GENERAL NOTES
04 – 18	EC–01 – EC–15	INITIAL EROSION & SEDIMENT CONTROL PLAN
19 – 33	EC–16 – EC–30	INTERIM EROSION & SEDIMENT CONTROL PLAN
34 – 48	EC–31 – EC–45	FINAL EROSION & SEDIMENT CONTROL PLAN
49 – 55	TRL–01 – TRL–07	TRAIL EROSION & SEDIMENT CONTROL PLAN
56 – 58	DTL–01 – DTL–03	DETAILS

CONSTRUCTION CHANGES

#	SHEETS	DATE
1	11, 12, 26, 27, 41, 42	05–27–25

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) MANUAL OF DOUGLAS COUNTY, AS AMENDED.

GESC PLANS PREPARED BY:

_____ 7-21-25 48704
RICK ENGINEERING COMPANY — DATE — PE NUMBER

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO. | BY | DATE | REVISION

SEAL: COLORADO LICENSED — ROBERT FITCH — 48704 — 07/21/25 — PROFESSIONAL ENGINEER

8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com
RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

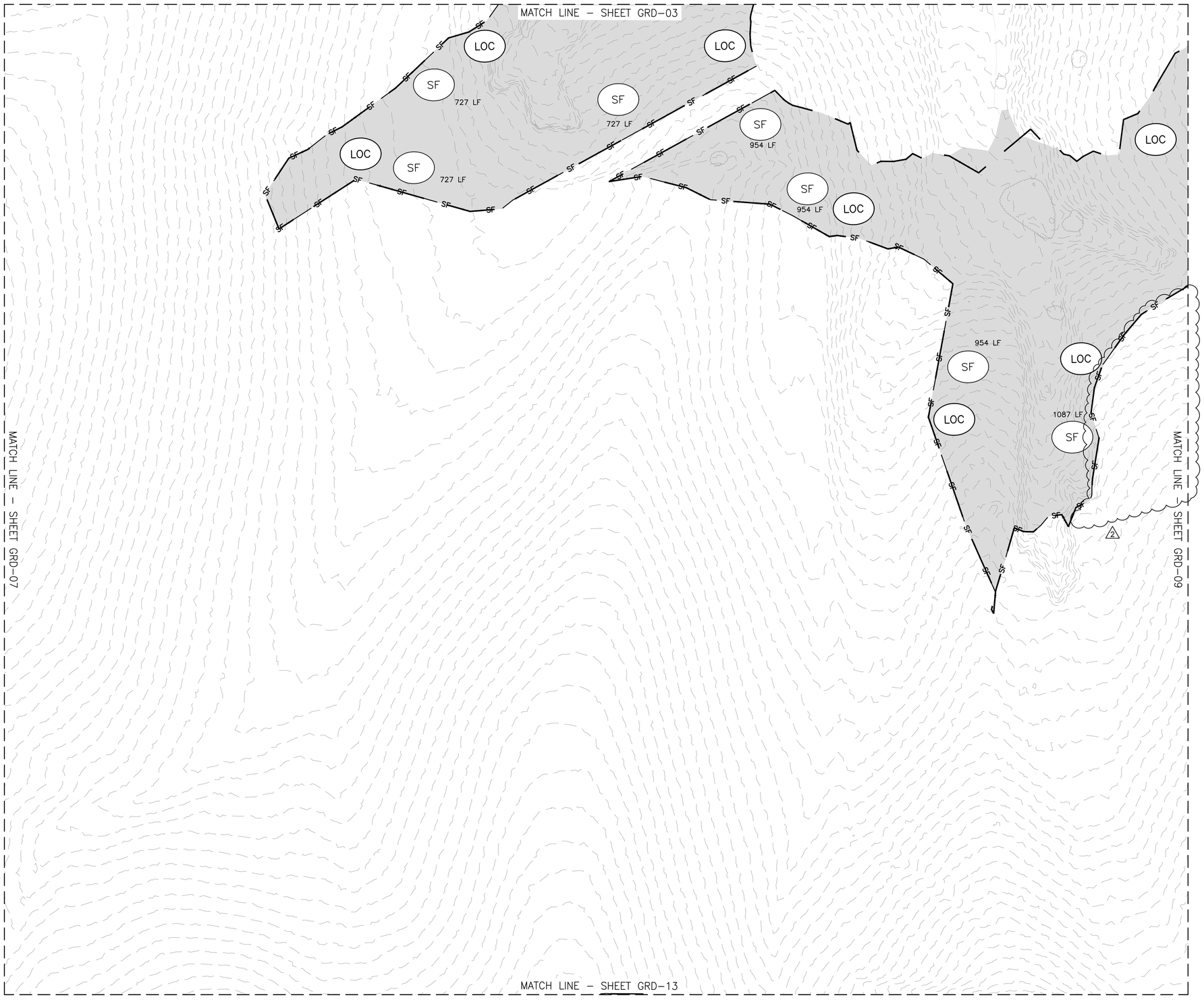
COVER SHEET

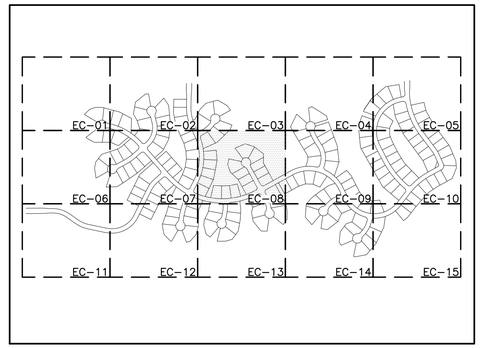
811 Know what's below. Call before you dig.

DRAWING NO.
CV-01
SHEET NO. 01 OF 58

PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022-224





VICINITY MAP
1"=800'

LEGEND

PROPERTY LINE	
PROPOSED STORM DRAIN	
EXIST CONTOURS	
PROPOSED CONTOURS	6150
AREA OUTSIDE OF LIMITS OF CONSTRUCTION	
VEHICLE TRACKING CONTROL	VTC
SEDIMENT BASIN	SB
SILT FENCE	SF
LIMITS OF CONSTRUCTION	LOC
INLET PROTECTION	IP
STABILIZED STAGING AREA	SSA
EROSION CONTROL BLANKET	ECB
DIVERSION DITCH	DD
REINFORCED ROCK BERM	RRB
CONCRETE WASHOUT AREA	CWA

NOTES:

1. SEE COVER SHEET OF DOUGLAS COUNTY GESC STANDARD NOTES AND DETAILS FOR LEGEND OF BMP NAMES AND SYMBOLS
2. SB'S ARE TO BE IMPLEMENTED AFTER THE PERIMETER CONTROLS ARE INTALLED ONCE THE GESC PERMIT IS ISSUED. NO GRADING/TOPSOIL STRIPPING CAN OCCUR PRIOR TO THE ISSUANCE OF THE PERMIT
3. BMP'S LOCATED WITHIN COA JURISDICTION SHALL BE INSTALLED AND INSPECTED ACCORDING TO THE COA "RULES AND REGULATIONS REGARDING STROMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES"

40 20 0 40
GRAPHIC SCALE: 1"=40'

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:
COLORADO LICENSED
Rick Engineering Company
PE 48704
07/21/25
PROFESSIONAL ENGINEER

RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver
8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com

PROJECT NO:	D02211	DRAWN/DESIGNED BY:
DATE:	09/26/2024	CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

INITIAL EROSION AND SEDIMENT CONTROL PLAN

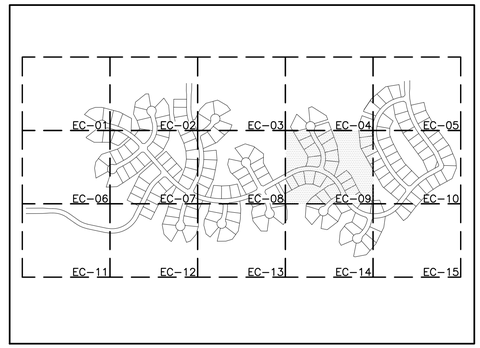
811 Know what's below. Call before you dig.

DRAWING NO.
EC-08
SHEET NO. 11 OF 58

05-27-25 2 PARK GRADING

PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022–224



VICINITY MAP
1"=800'

LEGEND

PROPERTY LINE	
PROPOSED STORM DRAIN	
EXIST CONTOURS	
PROPOSED CONTOURS	6150
AREA OUTSIDE OF LIMITS OF CONSTRUCTION	
VEHICLE TRACKING CONTROL	VTC
SEDIMENT BASIN	SB
SILT FENCE	SF
LIMITS OF CONSTRUCTION	LOC
INLET PROTECTION	IP
STABILIZED STAGING AREA	SSA
EROSION CONTROL BLANKET	ECB
DIVERSION DITCH	DD
REINFORCED ROCK BERM	RRB
CONCRETE WASHOUT AREA	CWA

NOTES:

1. SEE COVER SHEET OF DOUGLAS COUNTY GESC STANDARD NOTES AND DETAILS FOR LEGEND OF BMP NAMES AND SYMBOLS
2. SB'S ARE TO BE IMPLEMENTED AFTER THE PERIMETER CONTROLS ARE INTALLED ONCE THE GESC PERMIT IS ISSUED. NO GRADING/TOPSOIL STRIPPING CAN OCCUR PRIOR TO THE ISSUANCE OF THE PERMIT
3. BMP'S LOCATED WITHIN COA JURISDICTION SHALL BE INSTALLED AND INSPECTED ACCORDING TO THE COA "RULES AND REGULATIONS REGARDING STROMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES"

N

40 20 0 40
GRAPHIC SCALE: 1"=40'

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:
COLORADO LICENSED
RICK D. KNOX
48704
07/21/25
PROFESSIONAL ENGINEER

RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver
8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

INITIAL EROSION AND SEDIMENT CONTROL PLAN

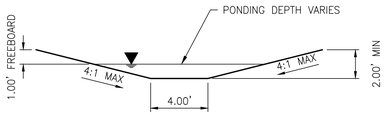
Know what's below. Call before you dig.

DRAWING NO.
EC-09
SHEET NO. 12 OF 58

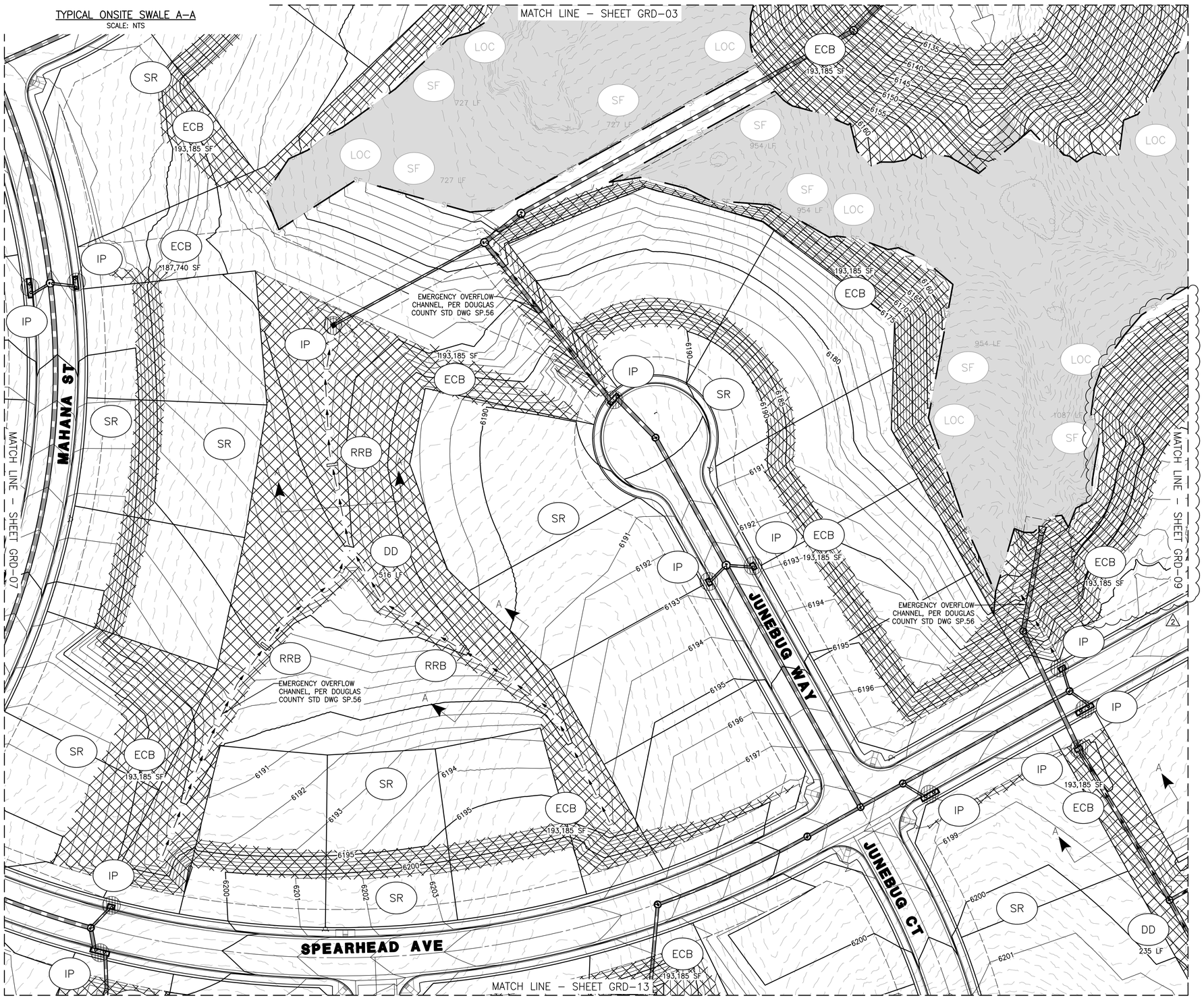
05–27–25 2 PARK GRADING

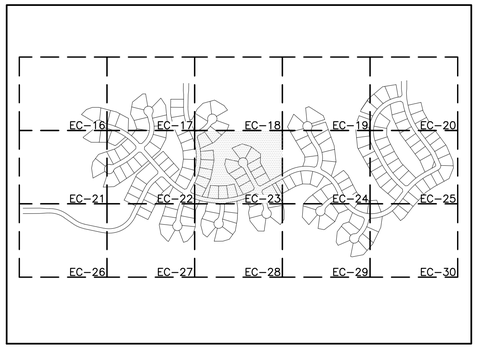
PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022–224



TYPICAL ONSITE SWALE A–A
SCALE: NTS





VICINITY MAP
1"=800'

LEGEND

- PROPERTY LINE
- PROPOSED STORM DRAIN
- EXIST CONTOURS
- PROPOSED CONTOURS 6150
- AREA OUTSIDE OF LIMITS OF CONSTRUCTION
- VEHICLE TRACKING CONTROL — VTC
- SEDIMENT BASIN — SB
- SILT FENCE — SF — SF — SF
- LIMITS OF CONSTRUCTION — LOC
- INLET PROTECTION — IP
- STABILIZED STAGING AREA — SSA
- EROSION CONTROL BLANKET — ECB
- DIVERSION DITCH — DD
- REINFORCED ROCK BERM — RRB
- CONCRETE WASHOUT AREA — CWA
- SURFACE ROUGHENING — SR

NOTES:

1. SEE COVER SHEET OF DOUGLAS COUNTY GESC STANDARD NOTES AND DETAILS FOR LEGEND OF BMP NAMES AND SYMBOLS
2. SHADED BMPS WERE INSTALLED IN THE INITIAL STAGE AND SHALL BE LEFT IN PLACE IN INTERIM STAGE UNLESS OTHERWISE NOTED
3. ALL INTERIM EROSION AND SEDIMENT CONTROL BMPS INCLUDING DRILL SEEDING AND CRIMP MULCHING OF DISTURBED AREAS, MUST BE INSTALLED, INSPECTED, AND APPROVED BY THE COUNTY PRIOR TO THE ISSUANCE OF A RIGHT–OF–WAY USE AND CONSTRUCTION PERMIT FOR THE PURPOSE OF PAVING OR INSTALLATION OF CURB AND GUTTER
4. SEE CONSTRUCTION PLANS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES, CULVERTS, STORM DRAINS, AND OUTLET PROTECTION
5. ALL REINFORCED ROCK BERMS SHALL BE 6FT WIDE AND 10IN IN HEIGHT
6. ALL DIVERSION DITCHES SHALL BE 2FT DEEP 12FT WIDE, LINED WITH EROSION CONTROL BLANKETS, AND INCLUDE REINFORCED ROCK BERMS.
7. ALL EROSION CONTROL BLANKETS SHALL BE STRAW–COCONUT
8. BMP'S LOCATED WITHIN COA JURISDICTION SHALL BE INSTALLED AND INSPECTED ACCORDING TO THE COA "RULES AND REGULATIONS REGARDING STROMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES"

Earthwork Volumes		
CUT:	705083	CY
FILL:	606579	CY
Net	<CUT>	
98504 CY		

40 20 0 40
GRAPHIC SCALE: 1"=40'

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:
COLORADO LICENSED
Rick Engineering Company
PE 48704
07/21/25
PROFESSIONAL ENGINEER

8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com

RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

INTERIM EROSION AND SEDIMENT CONTROL PLAN

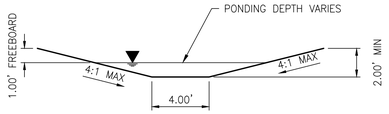
811 Know what's below. Call before you dig.

DRAWING NO.
EC-23
SHEET NO. 26 OF 58

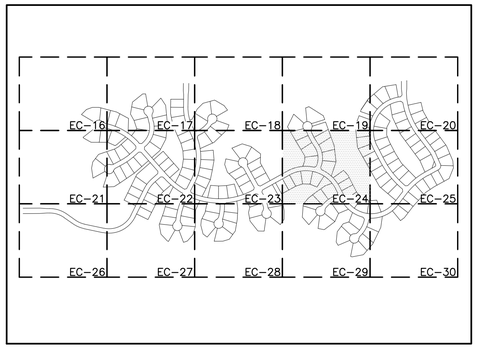
05–27–25 2 PARK GRADING

PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022-224



TYPICAL ONSITE SWALE A–A
SCALE: NTS



VICINITY MAP
1"=800'

LEGEND

- PROPERTY LINE
- PROPOSED STORM DRAIN
- EXIST CONTOURS
- PROPOSED CONTOURS 6150
- AREA OUTSIDE OF LIMITS OF CONSTRUCTION
- VEHICLE TRACKING CONTROL — VTC
- SEDIMENT BASIN — SB
- SILT FENCE — SF — SF — SF
- LIMITS OF CONSTRUCTION — LOC
- INLET PROTECTION — IP
- STABILIZED STAGING AREA — SSA
- EROSION CONTROL BLANKET — ECB
- DIVERSION DITCH — DD
- REINFORCED ROCK BERM — RRB
- CONCRETE WASHOUT AREA — CWA
- SURFACE ROUGHENING — SR

NOTES:

1. SEE COVER SHEET OF DOUGLAS COUNTY GESC STANDARD NOTES AND DETAILS FOR LEGEND OF BMP NAMES AND SYMBOLS
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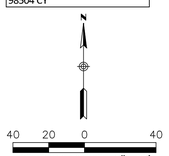
Earthwork Volumes	
CUT:	705083 CY
FILL:	606579 CY
Net	<CUT>
98504 CY	



_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:
COLORADO LICENSED
RICK ENGINEERING COMPANY
PE 48704
07/21/25
PROFESSIONAL ENGINEER

8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com
RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

INTERIM EROSION AND SEDIMENT CONTROL PLAN

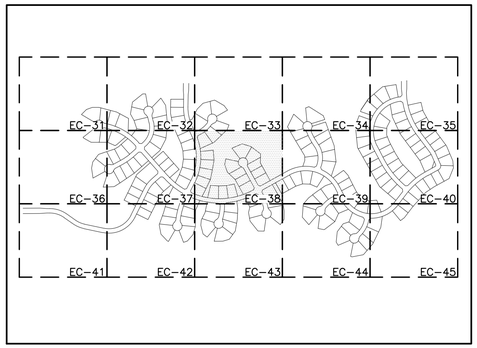
811 Know what's below. Call before you dig.

DRAWING NO.
EC-24
SHEET NO. 27 OF 58

05-27-25 2 PARK GRADING

PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022-224



VICINITY MAP
1"=800'

LEGEND

PROPERTY LINE		
PROPOSED STORM DRAIN		
EXIST CONTOURS		
PROPOSED CONTOURS	6150	
AREA OUTSIDE OF LIMITS OF CONSTRUCTION		
VEHICLE TRACKING CONTROL		VTC
SEDIMENT BASIN		SB
SILT FENCE	SF SF	SF
LIMITS OF CONSTRUCTION		LOC
INLET PROTECTION		IP
STABILIZED STAGING AREA		SSA
EROSION CONTROL BLANKET		ECB
DIVERSION DITCH		DD
REINFORCED ROCK BERM		RRB
CONCRETE WASHOUT AREA		CWA
SURFACE ROUGHENING		SR
SEDIMENT CONTROL LOG		SCL
SEEDING AND MULCHING		SM
CURB SOCKS		CS

NOTES:

1. SEE COVER SHEET OF DOUGLAS COUNTY GESC STANDARD NOTES AND DETAILS FOR LEGEND OF BMP NAMES AND SYMBOLS
2. SHADED BMPS WERE INSTALLED IN INITIAL OR INTERIM GESC STAGES AND UNLESS OTHER INDICATED SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED
3. SEE CONSTRUCTION PLAN DETAILS FOR DETAILS OF PERMANENT DRAINAGE FACILITIES SUCH AS DETENTION FACILITIES, WATER QUALITY FACILITIES, CULVERTS, STORM DRAINS, AND OUTLET PROTECTION
4. BMP'S LOCATED WITHIN COA JURISDICTION SHALL BE INSTALLED AND INSPECTED ACCORDING TO THE COA "RULES AND REGULATIONS REGARDING STROMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES"

N

40 20 0 40
GRAPHIC SCALE: 1"=40'

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:
COLORADO LICENSED
Robert Rick
PE 48704
07/21/25
PROFESSIONAL ENGINEER

RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver
8678 CONCORD CENTER DR, SUITE 200
ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

FINAL EROSION AND SEDIMENT CONTROL PLAN

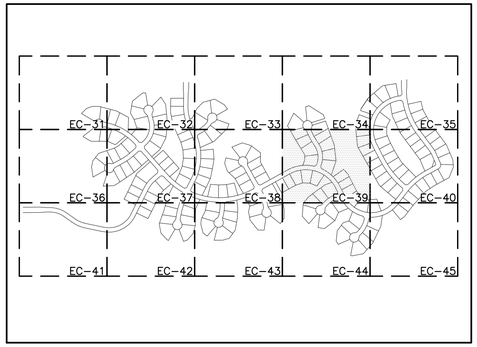
811 Know what's below. Call before you dig.

DRAWING NO.
EC-38
SHEET NO. 41 OF 58

05-27-25 2 PARK GRADING

PINEY LAKE TRAILS EROSION AND SEDIMENT CONTROL PLAN

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN
COUNTY OF DOUGLAS, STATE OF COLORADO
335.469 ACRES – 176 LOTS AND 7 TRACTS – PS2022-224



VICINITY MAP

1"=800'

LEGEND

- PROPERTY LINE
- PROPOSED STORM DRAIN
- EXIST CONTOURS
- PROPOSED CONTOURS (6150)
- AREA OUTSIDE OF LIMITS OF CONSTRUCTION
- VEHICLE TRACKING CONTROL — VTC
- SEDIMENT BASIN — SB
- SILT FENCE — SF — SF — SF
- LIMITS OF CONSTRUCTION — LOC
- INLET PROTECTION — IP
- STABILIZED STAGING AREA — SSA
- EROSION CONTROL BLANKET — ECB
- DIVERSION DITCH — DD
- REINFORCED ROCK BERM — RRB
- CONCRETE WASHOUT AREA — CWA
- SURFACE ROUGHENING — SR
- SEDIMENT CONTROL LOG — SCL
- SEEDING AND MULCHING — SM
- CURB SOCKS — CS

NOTES:

1. SEE COVER SHEET OF DOUGLAS COUNTY GESC STANDARD NOTES AND DETAILS FOR LEGEND OF BMP NAMES AND SYMBOLS
2. SHADED BMPS WERE INSTALLED IN INITIAL OR INTERIM GESC STAGES AND UNLESS OTHER INDICATED SHALL BE LEFT IN PLACE UNTIL REVEGETATION ESTABLISHMENT IS APPROVED
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GRAPHIC SCALE: 1"=40'

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THIS CONSTRUCTION DRAWINGS HAVE HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR GRADING, EROSION, AND SEDIMENT CONTROL IMPROVEMENTS ONLY

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:
COLORADO LICENSED
Rick Engineering Company
48704
07/21/25
PROFESSIONAL ENGINEER

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ENGLEWOOD, CO 80112
303.537.8020
rickengineering.com
RICK ENGINEERING COMPANY
San Diego - Riverside - San Luis Obispo - Sacramento - Orange - Tucson - Phoenix - Las Vegas - Denver

PROJECT NO: D02211 | DRAWN/DESIGNED BY:
DATE: 09/26/2024 | CHECKED BY:

PRELIMINARY PLAN PREPARED FOR:
PINEY LAKE TRAILS
GESC
DOUGLAS COUNTY, CO

FINAL EROSION AND SEDIMENT CONTROL PLAN

811 Know what's below. Call before you dig.

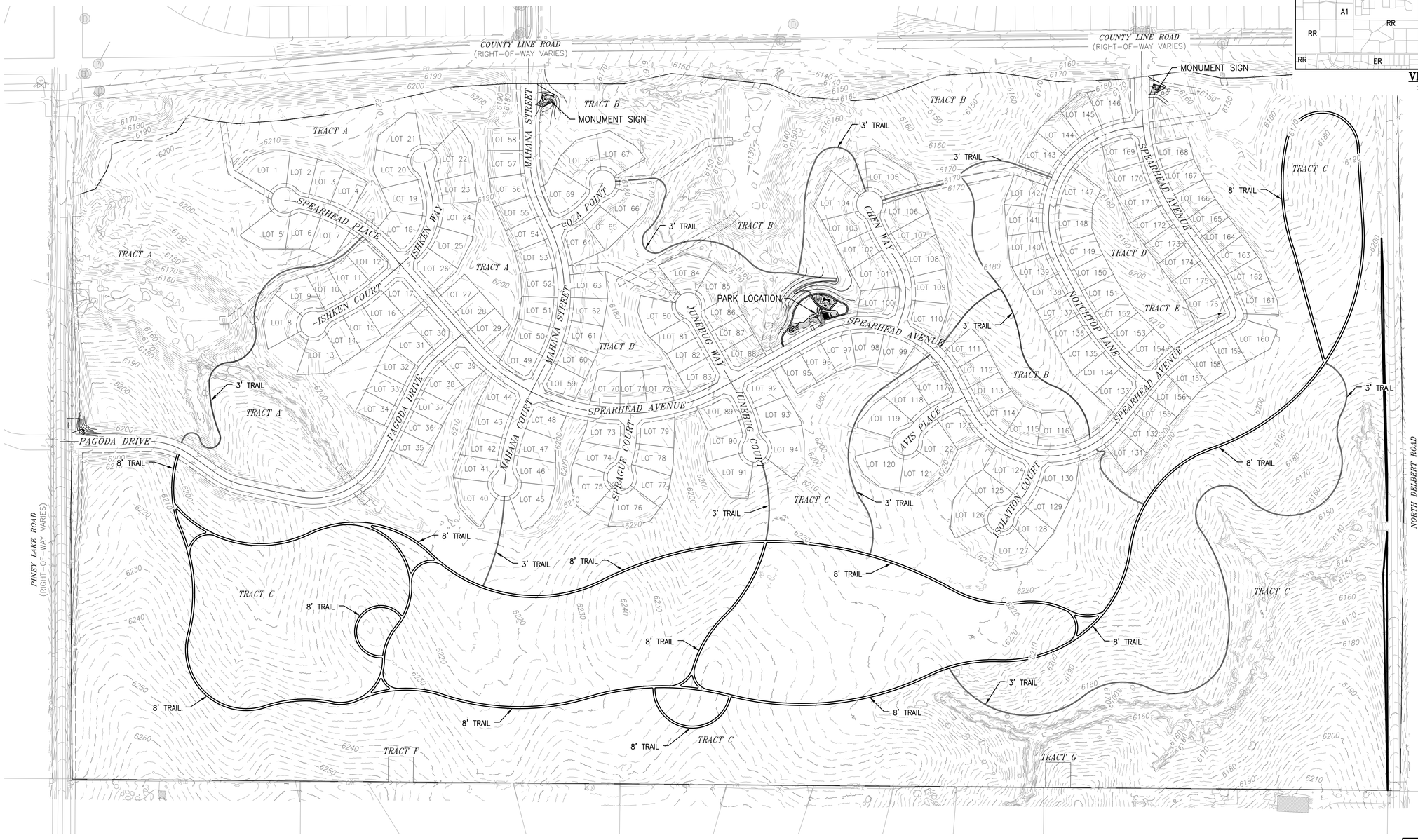
DRAWING NO.
EC-39
SHEET NO. 42 OF 58

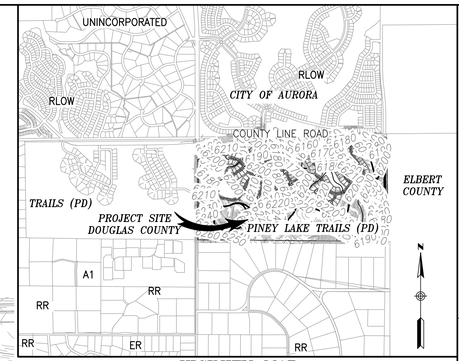
05-27-25 2 PARK GRADING

LOCATION AND EXTENT EXHIBIT

PINEY TRAIL ESTATES

A PORTION OF LAND LOCATED IN SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST
OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF DOUGLAS, STATE OF COLORADO





VICINITY MAP
SCALE: 1"=2000'

200 100 0 200 400
GRAPHIC SCALE: 1"=200'

LEGAL DESCRIPTION

THE NORTH HALF OF SECTION 4, TOWNSHIP 6 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF DOUGLAS, STATE OF COLORADO,

EXCEPT THEREFROM THOSE PORTIONS CONVEYED IN DEED RECORDED JUNE 23, 1997 IN BOOK 1441 AT PAGE 1439; RECORDED FEBRUARY 11, 1999 IN BOOK 1667 AT PAGE 1884 AND RECORDED JUNE 16, 2004 AT RECEPTION NO. 2004062517 AND RECORDED JUNE 24, 2019 AT RECEPTION NO. 2019036576.

CONTAINING 14,613,025 SQUARE FEET OR 335.469 ACRES, MORE OR LESS.

TRACT	PURPOSE	ACREAGE±	OWNERSHIP	MAINTENANCE
A	OPEN SPACE, UTILITIES, DRAINAGE	34.123	DISTRICT	DISTRICT/HOA
B	OPEN SPACE, UTILITIES, DRAINAGE	35.779	DISTRICT	DISTRICT/HOA
C	OPEN SPACE, UTILITIES, DRAINAGE	169.766	DISTRICT	DISTRICT/HOA
D	OPEN SPACE, UTILITIES, DRAINAGE	2.758	DISTRICT	DISTRICT/HOA
E	SIGHT TRIANGLE	0.049	DISTRICT	DISTRICT/HOA
F	DISTRICT DIRECTOR PARCEL, OPEN SPACE	0.230	PINEY LAKE TRAILS MD 1	DISTRICT/HOA
G	DISTRICT DIRECTOR PARCEL, OPEN SPACE	0.230	PINEY LAKE TRAILS MD 1	DISTRICT/HOA
LOTS	RESIDENTIAL	66.336	N/A	N/A
ROADS	PUBLIC RIGHT-OF-WAY	26.304	DOUGLAS COUNTY	DOUGLAS COUNTY

BENCHMARK NOTE:

THE PRIMARY BENCHMARK USED TO DETERMINE THE BASIS OF ELEVATIONS FOR THIS PLAN IS: EAST 1/4 CORNER SECTION 5 FOUND 3.25 ALUMINUM CAP PLS 17666, NAVD 88 ELEVATION=6255.27, APPROXIMATELY 2,750 FEET SOUTH OF SAMPSON GULCH AND PINEY LAKE ROAD.

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THESE CONSTRUCTION DRAWINGS HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR STREET AND DRAINAGE IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:

8678 CONCORD CENTER DR #200
ENGLEWOOD, CO 80112
303-537-8020
rickengineering.com
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER
RICK

PROJECT NO: D02211B | DRAWN/DESIGNED BY: KRA
DATE: 08/26/2025 | CHECKED BY: RF

PINEY TRAIL ESTATES

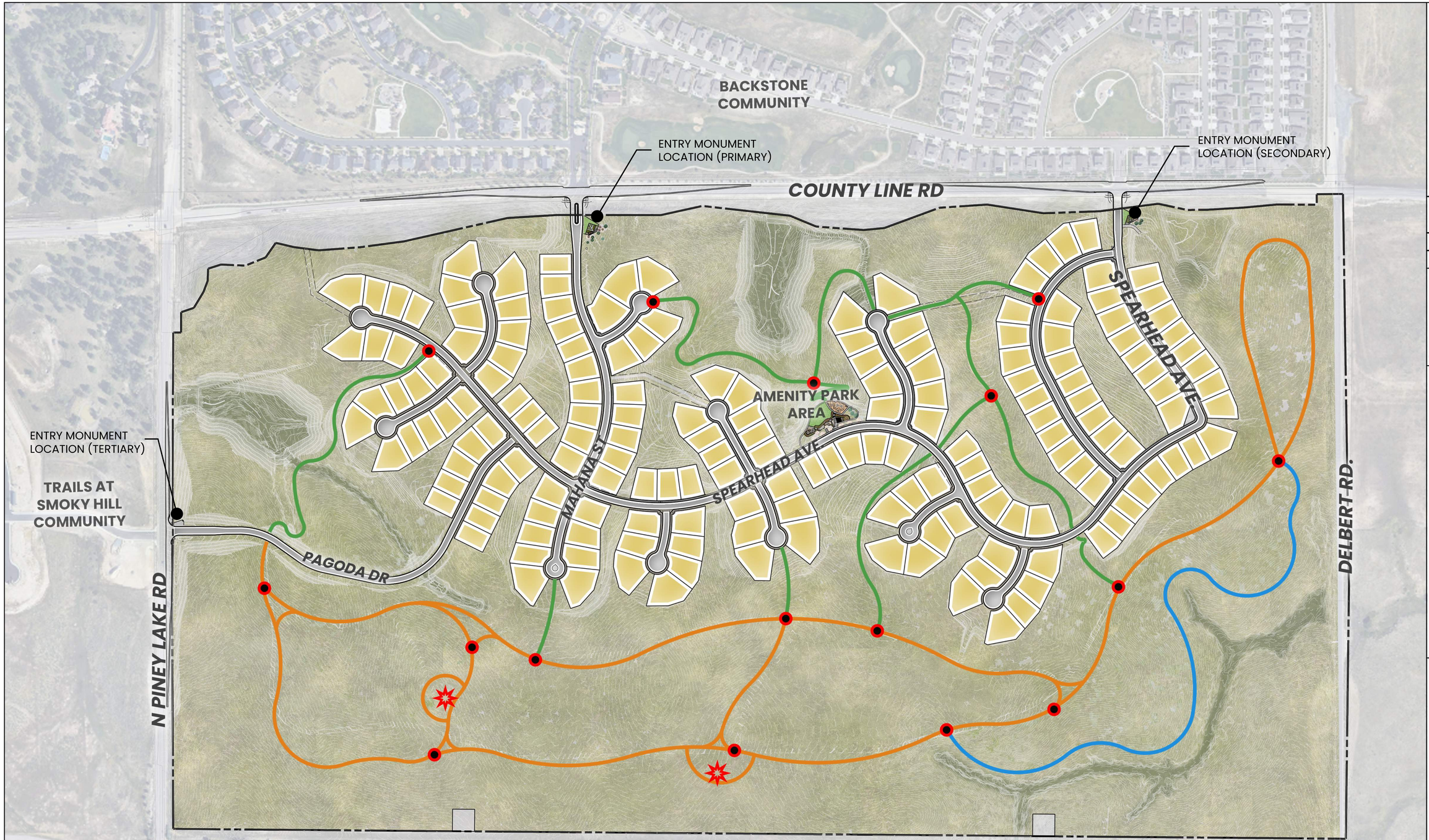
LOCATION AND EXTENT PLAN EXHIBIT

DOUGLAS COUNTY, CO

COVER SHEET

811 Know what's below. Call before you dig.

DRAWING NO.
01
SHEET NO. 01



ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

DATE

THESE CONSTRUCTION DRAWINGS HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR STREET AND DRAINAGE IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

NO.	BY	DATE	REVISION

SEAL:

8678 CONCORD CENTER DR #200
ENGLEWOOD, CO 80112
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rickengineering.com
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER
RICK

PROJECT NO: D022118 | DRAWN/DESIGNED BY: KRA
DATE: 08/26/2025 | CHECKED BY: RF

PINEY TRAIL ESTATES

LOCATION AND EXTENT PLAN EXHIBIT

DOUGLAS COUNTY, CO

OVERALL SITE PLAN

811 Know what's below. Call before you dig.

DRAWING NO.
LS1.1
SHEET NO. 01

NO. | BY | DATE | REVISION

SEAL:

8678 CONCORD CENTER DR #200
ENGLEWOOD, CO 80112

303-537-8020
rickengineering.com

SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

RICK

PROJECT NO: D02211B | DRAWN/DESIGNED BY: KRA
DATE: 08/26/2025 | CHECKED BY: RF

PINEY TRAIL ESTATES

LOCATION AND EXTENT PLAN EXHIBIT

DOUGLAS COUNTY, CO

SITE PLAN ENLARGEMENT

_____
ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW

_____
DATE

THESE CONSTRUCTION DRAWINGS HAVE BEEN REVIEWED BY DOUGLAS COUNTY FOR STREET AND DRAINAGE IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

811 Know what's below. Call before you dig.

DRAWING NO.
LS1.2
SHEET NO. 02