DOUGLAS COUNTY
COLORADO

Preliminary Plan
Staff Report

DATE: MAY 1, 2024

TO: DOUGLAS COUNTY BOARD OF COUNTY COMMISSIONERS

THROUGH: DOUGLAS J. DEBORD, COUNTY MANAGER

FROM: TERENCE T. QUINN, AICP, DIRECTOR OF COMMUNITY DEVELOPMENT

CC: TREVOR BEDFORD, AICP, SENIOR PLANNER
JEANETTE BARE, AICP, CURRENT PLANNING MANAGER
STEVEN E. KOSTER, AICP, ASSISTANT DIRECTOR OF PLANNING SERVICES

SUBJECT: **CASTLE PINES VILLAGE PRELIMINARY PLAN FILING 14A, 2nd AMENDMENT**

PROJECT FILE: SB2023-033

APPLICANT:
JOHN NIEMI
CASTLE PINES SUMMIT LLC
9360 TEDDY LANE, SUITE 201
LONE TREE, CO 80124

REPRESENTATIVE:
DANIEL MADISON
MANHARD CONSULTING
7600 EAST ORCHARD ROAD, SUITE 150-N
GREENWOOD VILLAGE, CO 80111

PLANNING COMMISSION HEARING:	**MAY 6, 2024 @ 6:00 P.M.**
BOARD OF COUNTY COMMISSIONERS HEARING:	**MAY 14 ,2024 @ 2:30 P.M.**

I. EXECUTIVE SUMMARY

The request is for approval of a preliminary plan for 17 single-family detached residential lots, and an associated private road, Trinity Peak Point, on approximately 7.95 acres in the Castle Pines Village Planned Development (CPVPD). The site is located in the central portion of Douglas County, on the north side of Country Club Drive. Access will occur via a private road connection to Golden Bear Lane. Water and sewer services is provided by the Castle Pines Metro District (CPMD).

The public hearing before the Planning Commission is scheduled for May 6, 2024. Staff will provide an update to the Board regarding the Planning Commission's recommendation at the May 14 Board hearing.

II. REQUEST

A. Request

The request is for approval of a preliminary plan consisting of 17 single-family residential lots, and an associated private road on approximately 7.95 acres.

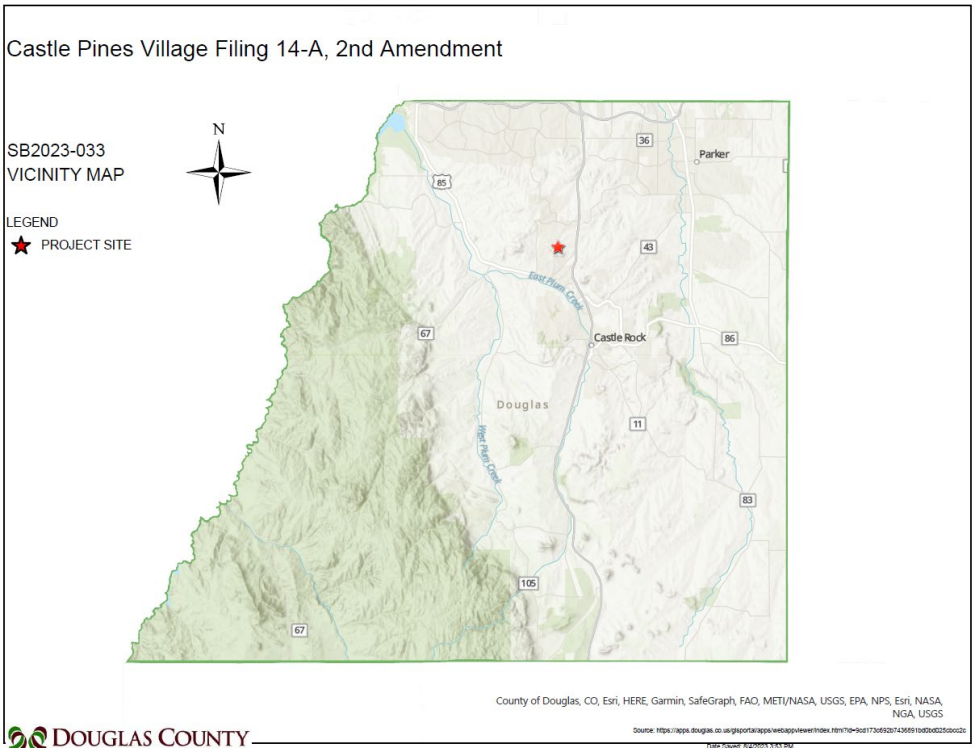
B. Process

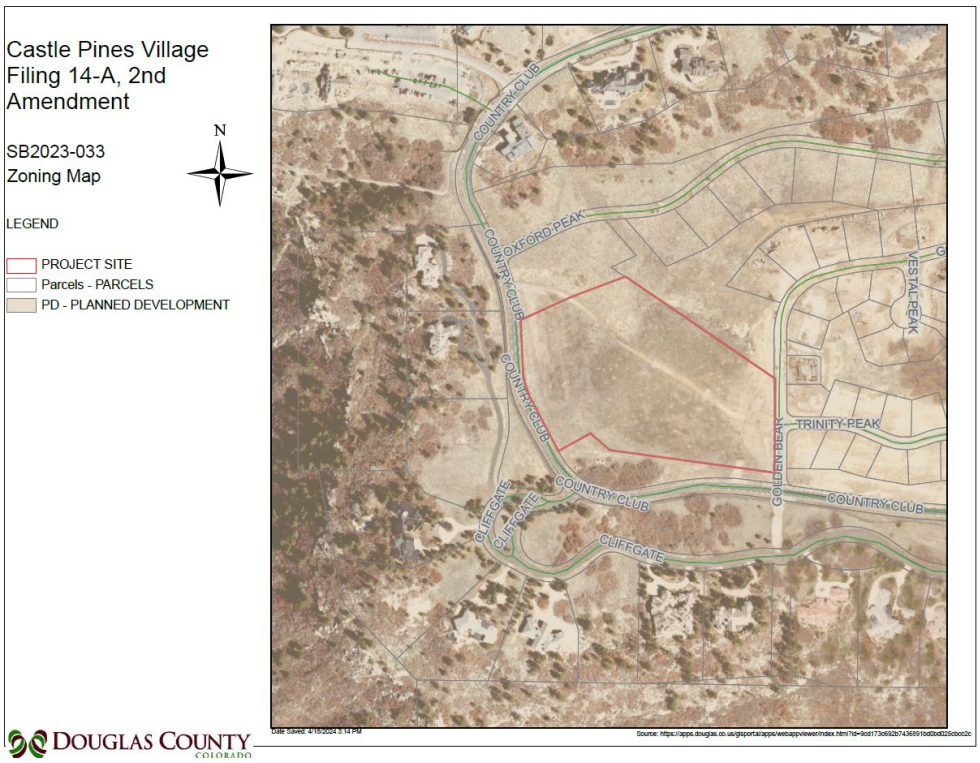
A preliminary plan application is processed pursuant to Article 4 of the *Douglas County Subdivision Resolution (DCSR)*. Article 4 states the intent of the process is "An in-depth analysis of the proposed subdivision, including a review of the design considering the ability to obtain water and sanitation, identified geologic hazards, environmentally sensitive areas, wildlife habitat areas, source of required services, vehicular and pedestrian circulation, storm drainage and water quality, relationship to surrounding land uses, and conformance with the Master Plan."

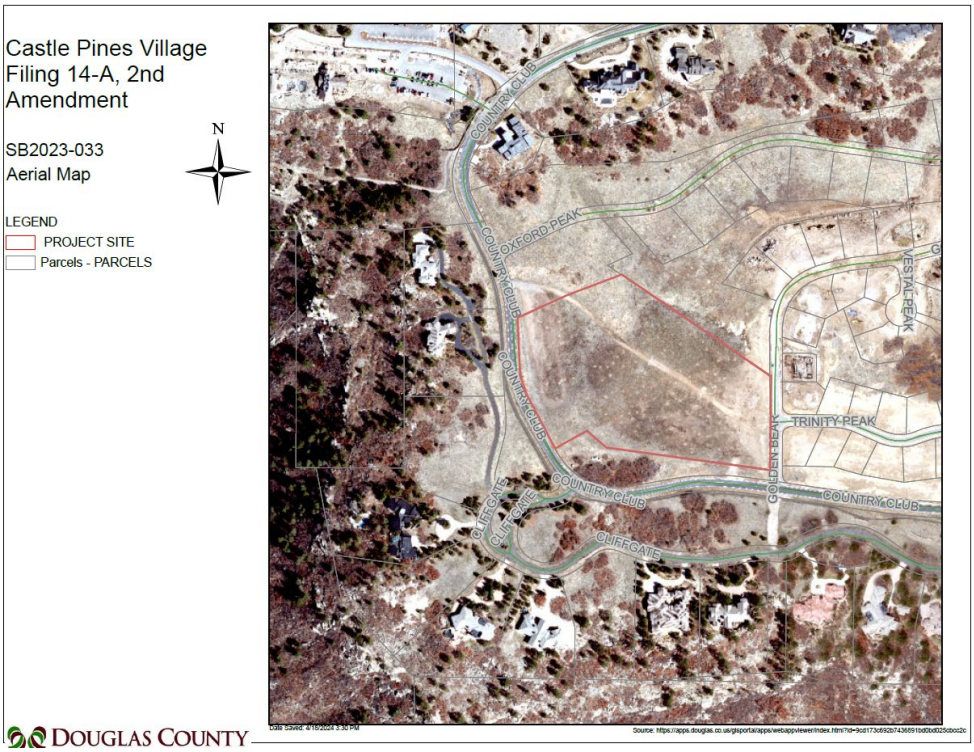
Per Section 405.08 of the DCSR, "The Board shall evaluate the preliminary plan, staff report, referral agency comments, applicant responses, Planning Commission recommendations, public comment and testimony, and shall either approve, approve with conditions, table for further study, remand to the Planning Commission, or deny the preliminary plan. The Board's action shall be based on the evidence presented; compliance with adopted County standards, regulations, and policies; and other guidelines."

C. Location

The project area is located within the CPVPD, on the northeast corner of the intersection of Country Club Drive and Golden Bear Lane. The following Vicinity, Zoning, and Aerial Maps highlight site location and existing conditions.


Castle Pines Village Filing 14-A, 2nd Amendment
SB2023-033
VICINITY MAP
N
LEGEND
PROJECT SITE
Parker
Castle Rock
Douglas
East Plum Creek
West Plum Creek
36
85
43
67
86
11
83
105
67
County of Douglas, CO, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, Esri, NASA, NGA, USGS
DOUGLAS COUNTY


Castle Pines Village Filing 14-A, 2nd Amendment
SB2023-033
Zoning Map
N
LEGEND
PROJECT SITE
Parcels - PARCELS
PD - PLANNED DEVELOPMENT
COUNTRY CLUB
OXFORD PEAK
VESTAL PEAK
TRINITY PEAK
GOLDEN BEAR
CLIFFGATE
DOUGLAS COUNTY
COLORADO



D. Project Description

This application is to subdivide a 7.95 acre superblock into 17 detached single-family residential lots and one tract within Planning Area (PA) R-20 of the CPVPD. Proposed single-family lots range from approximately 11,120 to 23,940 square feet in size. Site access is proposed via a private road connecting to Golden Bear Drive.

At the time of final plat, Tract A (0.08 acres) will be dedicated to the Castle Pines Homes Association (CPHA) for water, drainage, landscaping, and open space. CPMD will also be provided with a blanket easement over Tract A at final plat for maintenance of water and drainage facilities. Additionally, a secondary drainage easement will be granted at final plat to Douglas County over Tract A and other drainage easements for maintenance in the event that the system owner fails to maintain the improvements.

A 10-foot landscape easement is proposed along lots abutting Country Club Drive for landscape screening. A 15-foot utility easement is proposed along lots abutting Country Club Drive, a 15-foot utility and drainage easement is proposed along Trinity Peak Point and Golden Bear Lane, and a 20-foot utility easement is proposed between Lots 8 and 9.

As referenced in Note 14 on the Preliminary Plan, the subdivision will be subject to the alternative development standards for clustered residential dwellings as allowed within CPVPD Section IV.A.5. The purpose of the alternative standards is to provide a varied residential development pattern, to provide more interesting neighborhoods,

and to allow flexibility for lot clustering and open space preservation. Adjacent Castle Pines Village Filings 41 and 44-A were developed under the alternative development standards, and this preliminary plan is a continuation of that concept. The standards require that 30% of a project area be devoted to open space. This was accomplished with the Castle Pines Village Filing 14-A plat that noted a maximum of 43 units could be developed on Lot 623 using alternative development standards.

Project Details	
Zoning	CPVPD PA R-20
Gross Site Acreage	7.95 acres
Residential Lots	17 single-family lots
Tracts	1 tract
Gross Density	2.14 dwelling units per acre

III. CONTEXT

A. Background

The CPVPD was approved by Douglas County in 1984. The CPVPD provides for a maximum of 2,792 residential units. The community Is nearing its anticipated buildout with approximately 1,900 platted lots. The subject site is within PA R-20, which allows a maximum residential density of two dwelling units per acre. PA R-20 is approximately 27.5 acres and currently has 10 single-family residences. With the addition of 17 units in this preliminary plan, the density of PA R-20 would be 1.02 dwelling units per acre.

In 1995, the Board approved Castle Pines Village Filing 14-A, which included the platting of Lot 623 as a superblock lot. The Board approved Castle Pines Village Filing 14-A, 1st Amendment in 2020, which further divided Lot 623 into two superblock lots, Lot 623-A and Lot 623-B, and a tract. The current preliminary plan request is proposed to develop Lot 623-A into 17 detached single-family residential lots.

B. Adjacent Land Uses and Zoning

The site is located in a single-family residential area of the CPVPD.

	Zoning	Land Use
North	CPVPD	Residential Castle Pines Village Filing 44-A
South	CPVPD	CPMD and CPHA Tracts Castle Pines Village Filing 14-A
East	CPVPD	Residential Castle Pines Village Filing 41
West	CPVPD	Residential Castle Pines Village 14-A

IV. PHYSICAL SITE CHARACTERISTICS

A. Site Characteristics and Constraints

The site is bounded on south by a CPMD tract, to the west by Country Club Drive, to the east by Golden Bear Lane, and to the north by Castle Pines Village Filing 44-A. The site has minimal vegetation and slopes downward to the east.

B. Access

Access for all lots is proposed off of a private road, Trinity Peak Point, that will connect to Golden Bear Lane to the east. The road is owned by the Castle Pines Homes Association and maintained by CPMD. A Traffic Memo for the project has been reviewed and accepted by Public Works Engineering (Engineering).

C. Soils and Geology

Colorado Geological Survey (CGS) reviewed the request and noted concerns that groundwater levels may be shallower than previously measured. In the 2016 report provided by the applicant, groundwater was observed at depths of 5.5 to 23.5 feet. CGS recommended that the county require updated water level observations and analysis of proposed surface grades and basement floor elevations relative to the updated water levels. The applicant will address these concerns during the final plat and construction plan review phase when more precise lot grading, finished floor elevations, and basement floor elevations can be established. Further mitigation or basement restrictions could be required.

D. Drainage and Erosion

Engineering has reviewed the Phase II Drainage Report and found it to be acceptable. A blanket water, drainage, and access easement across Tract A will be granted to CPMD for ownership and maintenance with the County to accept backup drainage easements via the final plat.

E. Floodplain

No mapped 100-year floodplain is located within the preliminary plan area.

F. Wildlife

The CMP Wildlife Resources map shows the site as moderate habitat value for wildlife. The site is not located within an overland connection, wildlife movement corridor, or wildlife crossing area. The applicant provided a Biological Resources Review by ATWELL, which states that there is no suitable habitat for threatened or endangered species in the project area and that the project would likely have no impact on federally listed species potentially present in Douglas County.

A wildlife report prepared for the CPVPD in 1996 (Preservation of Major Wildlife Use and Movement Patterns, Castle Pines Village and Castle Pines North) does not include any notable wildlife planning recommendations for this area and indicates that

wildlife use is light because of generally sparse cover. The greatest areas of wildlife movement within proximity of the site are COS-6, which is north of the site in Filings 30 and 44-A, and COS-7, which is east of the site in Filing No. 41.

Colorado Parks and Wildlife (CPW) commented on the preliminary plan application, indicating that the main impacts of the project to wildlife are the loss and fragmentation of habitat, which can be mitigated with contiguous open space. CPW provided recommendations in the event raptors, prairie dogs, and burrowing owls are found on site, along with recommendations for educating future residents about wildlife. CPW also recommended that the applicant develop a weed management plan, which the applicant has provided.

G. Historic Preservation

Douglas County Historic Preservation reviewed the cultural resource review by ATWELL and requests that any recommendations in that review are followed if any resources are found. Information is also provided with recommendations for resource evaluation and documentation in the event any are discovered.

V. PROVISION OF SERVICES

A. Schools

The Douglas County School District (DCSC) did not respond to the referral request. No cash-in-lieu or school land dedication is required for this project due to the previous dedication of land for a school site.

B. Fire Protection

South Metro Fire Rescue (SMFR) provides fire and emergency services for the subdivision. SMFR reviewed the application and commented with no objection.

C. Sheriff Services

The Douglas County Sheriff's Office (DCSO) will provide police protection to the site. Responses were not received from the DCSO and E911. The Office of Emergency Management responded with no concerns.

D. Water & Sanitation

The Castle Pines Metropolitan District (CPMD) will provide water and sewer services to the development. A water commitment letter and other documentation was provided by the CPMD for this preliminary plan. The Colorado Division of Water Resources (CDWR) reviewed the application and stated the proposed water supply is adequate and can be provided without causing injury to decreed water rights. The County's water consultant, Lytle Water Solutions (LWS), reviewed the application and stated that there is sufficient water to serve the uses proposed in this application.

E. Utilities

Area utility service providers were provided a referral on this application. AT&T reviewed the request and there should be no conflicts with AT&T facilities. Xcel Energy requested ta note regarding utility easements. CORE Electric Cooperative (CORE) reviewed the request and provided comments on easement locations and requested a general utility encroachment note. The applicant revised the preliminary plan to add the requested utility easements along with notes regarding encroachments, addressing these comments. No other utility provider issued comments on the application.

F. Dedications

The following dedications are anticipated at the time of final plat.

Roads	The private roadway tract will be owned and maintained by the CPHA for roadway right-of-way, utilities, and drainage purposes.
Tracts	The CPHA will accept ownership and maintenance of Tracts A at the time of final plat
Drainage and Blanket Access Easements	A secondary drainage easement across Tract A and all drainage facilities will be dedicated to Douglas at the time of final plat in the event that the system owner fails to maintain the improvements
Utilities	Douglas County will accept general purpose utility easements at the time of final plat.

G. Parks, Trails, and Open Space

All parks dedication requirements have been fulfilled in Castle Pines Village, and no additional park land dedication is required.

VI. PUBLIC NOTICE AND INPUT

In accordance with Section 408 of the *DCSR*, public notice is required to be published in the Douglas County News-Press and posted on the site by the applicant. In addition to the notice requirements, adjacent landowners were mailed courtesy notices at the beginning of the referral period. No public comment has been received at the writing of this staff report. All referral agency comments are outlined in the Referral Agency Response Report, as well as the referral response letters, attached to this staff report.

VII. PLANNING COMMISSION HEARING

The Planning Commission is scheduled to hear the proposal at its May 6, 2024, public hearing. Staff will provide an update on the Planning Commission hearing on the record at the Board of County Commissioners public hearing.

VIII. STAFF ANALYSIS

A preliminary plan may be approved upon the finding by the Board of County Commissioners that the following standards have been met:

403.01 Conforms with the goals, objectives, and policies of the Master Plan.

Staff Comment: The CMP states that while approval criteria for land use applications require a finding of compliance with the CMP, "…the competing values of the Plan must be balanced through the public review process to achieve the larger vision of the community." As such, the CMP acknowledges its own competing values and that implementation can only be achieved through the balancing of community values during the review process.

The property is located within the Castle Pines Separated Urban Area (SUA) as identified in Section 2 of the CMP. Objective 2-1A of the CMP calls for urban development to be directed to designated urban areas and prioritizes the buildout of developing urban areas such as the Castle Pines SUA.

403.02 Addresses the design elements established in Article 4, Section 404.

Staff Comment: The proposed subdivision is in conformance with the design elements. Proposed lot sizes allow for setbacks that conform to the alternative development standards of the CPVPD. The proposed design allows for adequate resident and guest parking. The site has no Class 3 geologic hazards, yet more in depth analysis of groundwater levels will be necessary at final plat. Individual building analysis will occur at building permit to assure proper construction methods are utilized per the recommendations of the applicant's geotechnical investigation. Subdivision wide drainage and grading concepts have been reviewed and accepted by Douglas County Engineering on a preliminary basis. The applicant will take care to protect archaeological and historical resources if uncovered during construction. Vehicular, pedestrian, and bicycle access is provided through inclusion of internal connections to the network of streets as well as connection to community trails located on the south side of Country Club Drive.

403.03 Conforms with Section 18A, Water Supply – Overlay District, of the Zoning Resolution.

Staff Comment: DCZR Section 1803A establishes approval standards to be used in the evaluation of land use applications reviewed under Section 18A. The CDWR and LWS have reviewed the preliminary plan request and required water documentation and have determined that the supply is adequate.

1803A.01 The applicant has demonstrated that the water rights can be used for the proposed uses.

Staff comment: The applicant has submitted water documentation that demonstrates Castle Pines Metro District has the necessary water rights to

serve the proposed uses within the subdivision. CDWR and LWS reviewed the application and indicated that the amount of water is adequate to serve the subdivision without injuring other decreed water rights.

1803A.02 The reliability of a renewable right has been analyzed and is deemed sufficient by the County based on its priority date within the Colorado System of Water Rights Administration.

Staff comment: No new renewable water rights are proposed to serve the development.

1803A.03 The Water Plan is deemed adequate and feasible by the County to ensure that water supply shortage will not occur due to variations in the hydrologic cycle.

Staff comment: A Water Plan is not required for review of proposed water service by a District.

1803A.04 The Water Plan is sufficient to meet the demand applicable to the project based on the minimum water demand standards in Section 1805A herein.

Staff comment: A Water Plan is not required for review of proposed water service by a District

403.04 Provides for a public wastewater collection and treatment system and, if other methods of wastewater collection and treatment are proposed, such systems comply with State and local laws and regulations.

Staff Comment: Sanitation service will be provided by the Castle Pines Metro District. Douglas County Health Department has provided a favorable recommendation regarding the proposed sanitary service.

403.05 Identifies all areas of the proposed subdivision, which may involve soil or topographical conditions presenting hazards or requiring special precautions and the proposed uses of these areas are compatible with such conditions.

Staff Comment: A geotechnical study was provided by the applicant and reviewed by CGS. CGS identified concerns regarding groundwater levels. The applicant will provide a more in-depth analysis of groundwater levels in relation to final floor elevations, basement floor elevations, and lot grading. Geotechnical explorations of individual building sites will be required as part of the building permit process.

403.06 Provides adequate drainage improvements.

Staff Comment: A Phase II Drainage Report has been reviewed by Engineering and found to be acceptable. CPHA will own and maintain drainage improvements for the subdivision. A Phase III Drainage report will be reviewed through the final plat process and formal easements established in conjunction with construction plans.

403.07 Provides adequate transportation improvements.
Staff Comment: Engineering has reviewed and accepted the traffic memo provided with the preliminary plan.

403.08 Protects significant cultural, archaeological, natural, and historical resources and unique landforms.
Staff Comment: No unique landforms are located within the subject property. During construction activity within the development, the applicant, its successors and assigns shall take all reasonable care to watch for historic resources, paleontological resources and other cultural history resources and shall immediately notify Douglas County in the event of such discovery.

403.09 Has available all necessary services, including fire and police protection, recreation facilities, utility services, streets, and open space to serve the proposed subdivision.
Staff Comment: The proposed subdivision will be served by South Metro Fire, the Douglas County Sheriff's Office, the Douglas County School District, Xcel Energy, Comcast and CenturyLink. Roads are private and are to be owned by CPHA and maintained by CPMD.

403.10 Meets the criteria set forth in the Zoning Resolution for bonus lots regarding site design standards and density bonus approval standards of the associated zone district.
Staff Comment: No density bonus is being sought with this request.

403.11 Does not interfere with the extraction of any known commercial mining deposit.
Staff Comment: There are no significant mineral deposits on site per the Douglas County Minerals Extraction Master Plan.

IX. STAFF ASSESSMENT

Staff has evaluated the preliminary plan request in accordance with Article 4 of the *DCSR*. Should the Board find that the approval standards for the preliminary plan are met; the following proposed conditions should be considered for inclusion in the motion:

1. During construction activity within the development, the applicant, its successors and assigns shall take all reasonable care to watch for historic resources, paleontological resources, and other cultural history resources and shall immediately notify Douglas County and complete appropriate Colorado Office of Archaeology and Historic Preservation data management forms in the event of such discovery.

2. During construction activity within the development, the applicant, its successors and assigns shall conduct a burrowing owl study if any earth moving will take place between March 15 and October 31.

3. Colorado Parks and Wildlife literature shall be made available to both prospective homeowners and homebuyers regarding the existence of wildlife in the area and how to minimize conflicts.

4. Updated water level observations and analysis of proposed surface grades and basement floor elevations relative to the updated water levels will be required at final plat.

5. Technical corrections to the record copy of the preliminary plan exhibit shall be made to the satisfaction of Douglas County.

6. All commitments and promises made by the applicant or the applicant's representative during the public hearing and/or agreed to in writing and included in the public record have been relied upon by the Board of County Commissioners in approving the application; therefore, such approval is conditioned upon the applicant's full satisfaction of all such commitments and promises.

ATTACHMENTS **PAGE**

DOUGLAS COUNTY
COLORADO

Department of Community Development

www.douglas.co.us

Planning Services

LAND USE APPLICATION

Please fill in this application form completely. An incomplete application will not be processed.

Note: Neither the Planning Commission nor the Board of County Commissioners should be contacted regarding an open application.

OFFICE USE ONLY

PROJECT FILE #:

PROJECT NAME:

PROJECT TYPE: Single Family Residential

PLANNING FEES:

MARKETING NAME:

SITE ADDRESS: Northwest Corner of Country Club Drive and Golden Bear Lane.

ENGINEERING FEES:

OWNER(S):

Name(s): John Niemi with Castle Pines Summit LLC

TOTAL FEES:

Address: 9360 Teddy Lane, Suite 201, Lone Tree, CO 80124

Phone: 303-790-9555

RELATED PROJECTS:

Email: john@theaidangroup.com

AUTHORIZED REPRESENTATIVE *(requires notarized letter of authorization if other than owner)*

Name: Daniel Madison with Manhard Consulting

Address: 7600 East Orchard Road, Suite 150-N Greenwood Village, CO 80111

Phone: 303-708-0500

Email: Dmadison@manhard.com

LEGAL DESCRIPTION:

Subdivision Name: Castle Pines Village

Filing #: 14-A Lot #: 623-A Block #: N/A Section #: 16 Township: 7 South Range: 67 West

STATE PARCEL NUMBER(S): 2351-162-10-002

ZONING:

Present Zoning: Planned Development Proposed Zoning: Planned Development Gross Acreage: 7.947

Gross Site Density (DU per AC): 2.13 # of Lots or Units Proposed: 17

SERVICE PROVIDERS:

Fire District: South Metro Fire Rescue District Metro District: Castle Pines Metro Dist. Gas: Xcel Energy

Water: Castle Pines Metro Dist. Sewer: Castle Pines Metro Dist. Electric: CORE

Roads: ☐ Public ☒ Private (please explain): Trinity Peak Court (Private Road owned by Castle Pines HOA)

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

07-28-2023

Date

PREBLE'S MEADOW JUMPING MOUSE

What is the Prebles' 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 main stream 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.

ANY APPROVAL GIVEN BY DOUGLAS COUNTY DOES NOT OBVIATE THE NEED TO COMPLY WITH APPLICABLE FEDERAL, STATE, OR LOCAL LAWS AND/OR REGULATIONS.

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:

Liisa Niva
Fish and Wildlife Biologist
Ecological Services
Colorado Field Office
P.O.Box 25486, DFC (MS 65412)
Denver, CO 80225-0486
303-236-4773

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

Manhard CONSULTING

Civil Engineering
Surveying & Geospatial Services
Water Resources Management
GIS Services
Construction Management

July 28, 2023
Douglas County
Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, CO 80104

Re: Castle Pines Village Filing 14-A, 2nd Amendment
A replat of Lot 623 A of Filing No. 14-A, 1st Amendment – Project Narrative

The applicant, Castle Pines Summit, LLC, is submitting this Preliminary Plan – Single-Family Residential application for 7.947 acres of land located in the Castle Pines Village Planned Development for review and approval by Douglas County. This plan proposes to replat the entirety of the existing superblock lot, Lot 623-A, of Castle Pines Village Filing 14-A, 1st Amendment, as recorded at reception number 2021015240 into 17 single-family residential lots. One tract, Tract A, is also proposed and will include drainage infrastructure and open space to serve the proposed development. The subject property is located within Planning Area R-20 of the Castle Pines Village Planned Development and allows for two dwelling units per acre. With the additional 17 dwellings from Filing 14-A, 2nd Amendment, Planning Area R-20 will now have approximately 27 dwellings spread over 27.5 acres, equivalent to 1.0 d.u./acre.

The development lies within the northern portion of Castle Pines Village within the northeast quarter and northwest quarter of Section 16, Township 7 South, Range 67 West of the 6th Principal Meridian. To the northwest, the property is bounded by the Castle Pines Village Filing 44A-1st Amendment, Lot 623B-1 as recorded at Reception Number 2022034697. Tract A of Castle Pines Village Filing 44A-1st Amendment as recorded at Reception Number 2022034697 borders the site to the northeast. To the west, the property is bound by Country Club Drive. The south side of the property is bound by the open space tract, Tract A, of Castle Pines Village Filing 14A, 1st Amendment as recorded at Reception Number 2021015240. To the east the property is bound by Golden Bear Lane.

One proposed cul-de-sac of approximately 650 feet in length, together with the necessary water and sanitary sewer infrastructure required to serve the proposed lots will be designed and constructed in accordance with Castle Pines Metropolitan District standards. A Phase II drainage report has been submitted with this application which references the two existing extended detention basins as well as both existing and proposed storm sewer infrastructure serving this project in accordance with Douglas County and Mile High Flood Control District standards. No floodplains are designated on the subject property and all lots lie within Zone X as shown on the attached FEMA Flood Insurance Rate Map, Map Number 08035C0160G, with an effective date of September 4, 2020.

All Douglas County School District dedication requirements have been fulfilled with the dedication of a parcel of land in the neighboring Castle Pines Town Center located within the City of Castle Pines and no further school dedications or cash-in-lieu payments are required. All parks dedication requirements were fulfilled during the initial stages of Castle Pines Village with the dedication of land along East Plum Creek and no further parks dedications are required.

Potable water and sanitary sewer service will be provided by the Castle Pines Metropolitan District. Electrical service will be provided by Core Electric Cooperative and natural gas service will be provided by Xcel Energy. Telephone and telecommunication services will be provided by Lumen Technologies and Comcast. All necessary utilities required to serve the subject property currently exist along the property frontage or within the subject property.

If you have any questions, please feel free to call me at 303-708-0500.

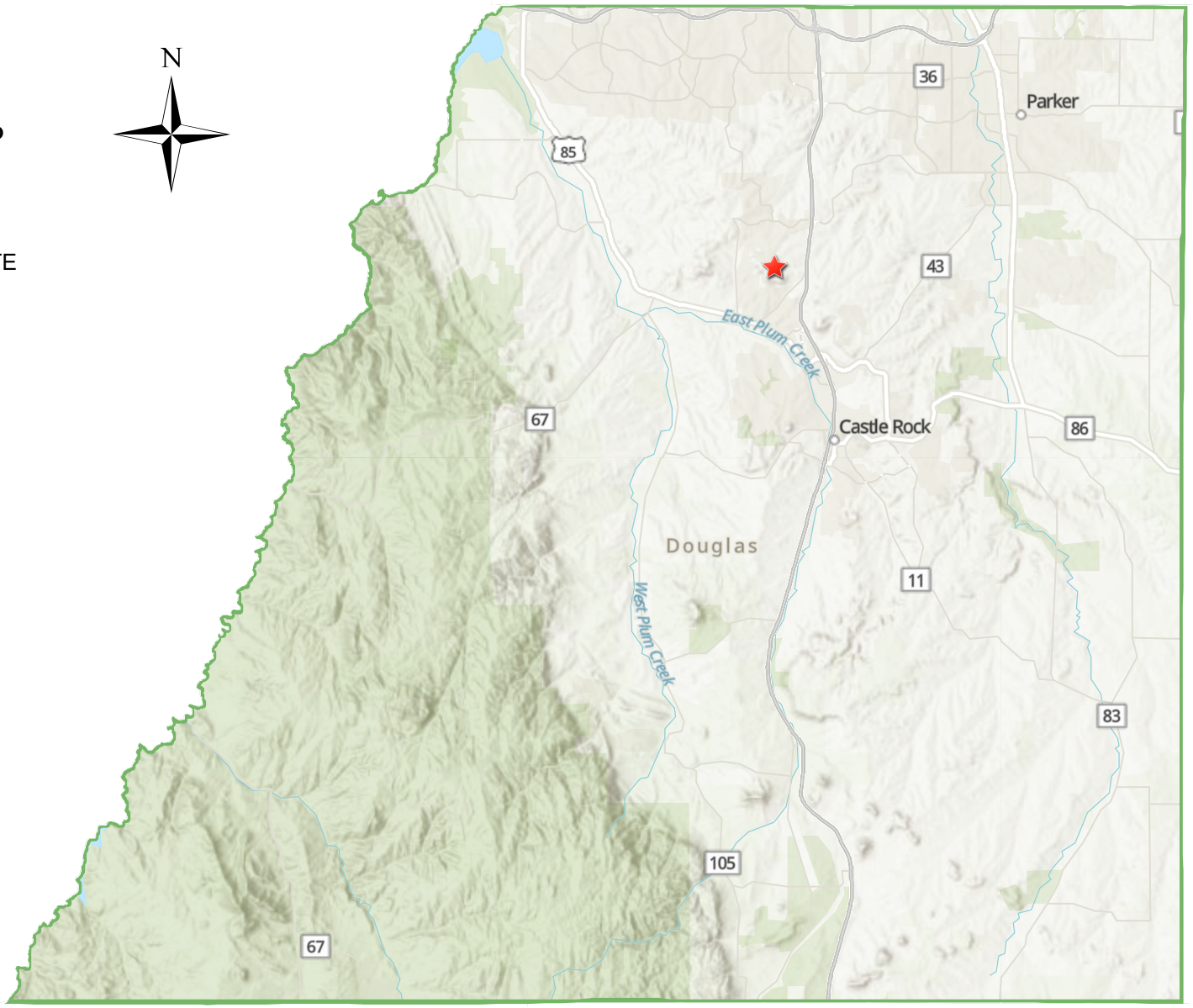
Sincerely,
Manhard Consulting

Daniel Madison, P.E.

Castle Pines Village Filing 14-A, 2nd Amendment

SB2023-033
VICINITY MAP

LEGEND
PROJECT SITE



Source: https://apps.douglas.co.us/gisportal/apps/webappviewer/index.html?id=9cd173c692b7436891bd0bd025cbcc2c

Date Saved: 8/4/2023 3:53 PM

Castle Pines Village Filing 14-A, 2nd Amendment

SB2023-033

Zoning Map

N

LEGEND

- PROJECT SITE
- Parcels - PARCELS
- PD - PLANNED DEVELOPMENT

Date saved: 4/18/2024 3:14 PM

Source: https://apps.douglas.co.us/gisportal/apps/webappviewer/index.html?id=9cd173c692b7436891bd0bd025cbcc2c

Castle Pines Village Filing 14-A, 2nd Amendment

SB2023-033

Aerial Map

N

LEGEND

PROJECT SITE

Parcels - PARCELS

Date saved: 4/18/2024 3:30 PM

Source: https://apps.douglas.co.us/gisportal/apps/webappviewer/index.html?id=9cd173c692b7436891bd0bd025cbcc2c

Agency	Date Received	Agency Response	Response Resolution
Addressing Analyst	01/23/2024	Received: The street shown as TRINITY PEAK COURT should be revised to PLACE or POINT. Contact DCAddressing@douglas.co.us or 303.660.7411 with questions.	Applicant revised street name to TRINITY PEAK POINT
AT&T Long Distance - ROW	02/11/2024	Received: This is in response to your eReferral with a utility map showing any buried AT&T Long Line Fiber Optics near Country Club Dr Castle Pines, Colorado. The Earth map shows the project area in red and 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.	No response required
Black Hills Energy		No Response Received:	No response required
Building Services	01/22/2024	No Comment:	No response required
Castle Pines Homes Association	02/01/2024	Received: See attached letter Summary of comments: CPHA requested an area for street parking and a landscape easement.	Requested street parking area and landscape easement have been provided.
Castle Pines Village Metro District	01/30/2024	Received: See attached letter Summary of comments: 1. CPMD requested a utility easement between Lots 9 and 10. 2. CPMD noted that more details including construction plans and Phase III drainage report will be required during final plat process.	1. Requested utility easement added between Lots 9 and 10. 2. Construction plans and a Phase III Drainage Report will be provided during final plat process.
CenturyLink		No Response Received:	No response required

Agency	Date Received	Agency Response	Response Resolution
Cherry Creek Basin Water Quality Authority	01/31/2024	Received: The Cherry Creek Basin Water Quality Authority (Authority) acknowledges notification from Douglas County that the proposed development plans for SB2023-003, Castle Pines Village Preliminary Plan Filing 14A, 1st Revision 3 have been or will be reviewed by Douglas County for compliance with the applicable Regulation 72 construction and post-construction requirements. Based on the Authority's current policy, the Authority will no longer routinely conduct a technical review and instead the Authority will defer to Douglas County's review and ultimate determination that the proposed development plans comply with Regulation 72. If a technical review of the proposed development plan is needed, please contact LandUseReferral@ccbwqa.org. The review may include consultation with the Authority's Technical Manager to address specific questions or to conduct a more detailed Land Use Review, if warranted.	No response required.
City of Castle Pines		No Response Received:	No response required
Colorado Division of Water Resources	01/18/2024	Received: See attached letter Summary of comments: It is the State Engineer's Office opinion that the proposed water supply is adequate.	No response required

Agency	Date Received	Agency Response	Response Resolution
Colorado Geological Survey	02/01/2024	Received: See attached letter. Summary of comments: CGS has concerns regarding shallow groundwater and basement feasibility. CGS recommends updated water level observations and analysis or proposed surface grades and basement floor elevations related to updated water levels.	Applicant will provide updated water level observations and analysis of proposed surface grades and basement floor elevations related to updated water levels during final plat process.
Colorado Parks and Wildlife (Northcentral DC - Dist 541)	01/30/2024	Received: See attached letter Summary of comments: 1. CPW recommended a weed management plan be provided. 2. CPW provided recommendations for a burrowing owl survey in addition to other guidelines for developments with potential for wildlife.	1. Applicant provided a weed management plan 2. Cover sheet includes a note regarding guidelines for a burrowing owl survey.
Comcast		No Response Received:	No response required

Agency	Date Received	Agency Response	Response Resolution
CORE Electric Cooperative	01/31/2024	Received: CORE will require a 15-foot utility easement to be granted along Country Club Drive. In addition, add to the plan the following note: No improvements that conflict with or interfere with construction, maintenance or access to utilities shall be placed within the utility easements. Prohibited improvements include, but are not limited to, permanent structures, buildings, counter-forts, decks, stairs, window wells, air conditioning units, retaining walls/components and other objects that may interfere with the utility facilities or access, use and maintenance thereof. Prohibited improvements may be removed by the entities responsible for providing the utility services. The owners of the property subject to or adjacent to the utility easements shown herein are responsible for the maintenance and operation of such areas, which does not include utility lines and related facilities. When the owner(s) or adjacent owners fail to adequately maintain such utility easements, including the removal of prohibited improvements, the maintenance, operation, reconstruction and removal shall be at the cost of the owner(s).	1. 15-foot utility easements have been added to the Preliminary Plan. 2. A standard note, acceptable to the County, has been added to the Cover Sheet of the Preliminary Plan.
Douglas County Conservation District	02/01/2024	Received: See attached letter Summary of comments: 1. Recommended a weed management plan be provided. 2. Provided recommendations for erosion control and dust mitigation.	1. Applicant provided a weed management plan. 2. Applicant will provide information regarding dust mitigation as a part of construction plans and Grading Erosion and Sediment Control (GESC) plans during the final plat process.

Agency	Date Received	Agency Response	Response Resolution
Douglas County Health Department	01/23/2024	Received: See attached letter Summary of comments: 1. Provided a favorable recommendation regarding water service and sewage disposal. 2. Recommended that applicant take measures to minimize fugitive dust.	Applicant will provide information regarding dust mitigation as a part of construction plans and Grading Erosion and Sediment Control (GESC) plans during the final plat process.
Douglas County Historic Preservation	02/01/2024	Received: Please see attached comments. Summary of comments: Follow the recommendations in the cultural resource review provided by the applicant.	No response required.
Douglas County Parks and Trails	01/31/2024	No Comment:	No response required
Douglas County School District RE 1		No Response Received:	No response required
Engineering Services	01/30/2024	Received: See attached letter Summary of comments: 1. Requested a street cross section. 2. Asked for clarification of ownership and maintenance for Tract A and the roadway. 3. Asked for clarification for drainage runoff plans. 4. Requested updated information in traffic memo.	1. Applicant provided street cross section in preliminary engineering plans. 2. Applicant clarified ownership and maintenance responsibilities of Tract A and roadway 3. Applicant clarified drainage runoff plans. 4. Applicant updated traffic memo. 5. Douglas County Engineering confirmed comments were addressed on 03/18/2024 with attached email.
Mile High Flood District	01/23/2024	No Comment:	No response required
Office of Emergency Management	01/18/2024	Received: OEM has no concerns with this project	No response required
Rural Water Authority of Douglas County		No Response Received:	No response required
Sheriff's Office		No Response Received:	No response required
Sheriff's Office E911		No Response Received:	No response required

Agency	Date Received	Agency Response	Response Resolution
South Metro Fire Rescue	01/22/2024	Received: South Metro Fire Rescue (SMFR) has reviewed the provided documents and has no objection to the proposed Preliminary Plan. Applicants and Contractors are encouraged to contact SMFR regarding the applicable permit requirements for the proposed project.	No response required.
Town of Castle Rock	01/18/2024	Received: See TOCR Memo	No response required
Wildfire Mitigation	02/01/2024	No Comment:	No response required
Xcel Energy-Right of Way & Permits	01/17/2024	Received: See attached letter Summary of comments: Standard comments regarding easements and encroachment language.	Utility easements will be dedicated at the time of final plat. A standard note, acceptable to the County, has been added to the Cover Sheet of the Preliminary Plan

January 30, 2024

Trevor Bedford
Douglas County Department of Community Development/Planning Services
100 Third Street
Castle Rock, CO 80104

RE: Castle Pines Village Filing No. 14-A, 2nd Amendment (SB2023-033)

Dear Mr. Bedford:

Thank you for the opportunity to comment on the development proposal for the Castle Pines Village Filing No. 14-A, 2nd Amendment Project (Project #: SB2023-033). The mission of Colorado Parks and Wildlife (CPW) is to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. Our goal in responding to land use proposals such as this is to provide complete, consistent, and timely information to all entities who request comment on matters within our statutory authority.

District Wildlife Manager Justin Olson recently analyzed the site. The 7.947-acre site is located within Castle Pines Village in Planning Area R-20 and northwest of the intersection of Country Club Drive and Golden Bear Lane. All property surrounding the proposed development site is a mix of currently developed land with residential amenities and open space. The proposed Castle Pines Village Filing No. 14-A, 2nd Amendment project is requesting the creation of 17 single-family residential lots within the acreage. The main impacts to wildlife from this development would be fragmentation and loss of habitat. Although it is impossible to eliminate fragmentation and habitat loss with any development, impacts to wildlife can be minimized through the use of clustering configurations, density reduction, and providing open space for wildlife.

Fragmentation of wildlife habitat has been shown to impede the movement of wildlife across the landscape. Open space areas are more beneficial to wildlife if they connect to other nearby natural areas. The areas of wildlife habitat that most closely border human development show heavier impacts than do areas on the interior of the open space. However, when open space areas are smaller in size, the overall impacts of the fragmentation is greater (Odell and Knight, 2001). Thus, Colorado Parks and Wildlife (CPW) recommends that the community of Castle Pines and Douglas County employ a collaborative approach with neighboring cities and towns and with other developments within the county to maintain wildlife habitat in as whole a state as possible. By keeping open space areas contiguous and of larger size, the overall benefit to wildlife increases dramatically.

When planning trails in the development area, special consideration should be given to the impact trails have on wildlife within the area. Trails should not cut through riparian areas and should remain at least 50 feet from them. They should also be placed at the edges of open space areas and should be no wider than 8 feet throughout their entire length. Trails have the ability to contribute to fragmentation of habitat, disrupting the natural movement of wildlife through an area, and the spreading of noxious weeds.

Noxious weeds should be monitored very closely. The spread and control of noxious weeds on and around this Castle Pines Village site is a concern for wildlife. Invasive plants endanger the ecosystem by disturbing natural processes and jeopardizing the survival of native plants and the wildlife that depend on them. CPW would recommend implementation of a weed management plan that may already exist within Castle Pines or Douglas County.

CPW would expect a variety of wildlife species to utilize this site on a regular basis, most notably small to mid-sized mammals, song birds, and raptors, but also with the possibility for big game species (elk, deer, bear, and mountain lion), reptiles, and amphibians to be present. Raptors are protected from take, harassment, and nest disruption at both the state and federal levels. Should a nest ever get built or be discovered, CPW recommends that buffer zones around nest sites be implemented during any period of activity that may interfere with nesting season. This will prevent the intentional or unintentional destruction of an active nest. For further information on this topic, a copy of the document “Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors,” is available from your local District Wildlife Manager. Entities can also consult CPW High Priority Habitat (HPH) recommendations for guidelines pertaining to raptor restrictions, as well as other important wildlife species. CPW HPH tables can be obtained from your local District Wildlife Manager. Following the recommendations outlined in this document will decrease the likelihood of unintentional take through disturbance.

Prairie dog colonies may exist within the development site, and should they be discovered, the possibility exists for the presence of burrowing owls. Burrowing owls live on flat, treeless land with short vegetation, and nest underground in burrows dug by prairie dogs, badgers, and foxes. These raptors are classified as a state threatened species and are protected by both state and federal laws, including the Migratory Bird Treaty Act. These laws prohibit the killing of burrowing owls or disturbance of their nest. Therefore, if any earth-moving will begin between March 15th and August 31st, a burrowing owl survey should be performed. Guidelines for performing a burrowing owl survey can be obtained from your local District Wildlife Manager.

CPW also recommends that any discovered prairie dog colony be completely vacated of living animals prior to the start of any earth-moving. If prairie dogs are present and any earth-moving is to be done on site, CPW recommends euthanasia or relocation (with the appropriate permit) prior to any work being done. If relocation is chosen, please consult with the local District Wildlife Manager for the required permit.

Future residents should be informed that wildlife such as fox, coyotes, deer, elk, and even an occasional bear or mountain lion might frequent the development area in search of food and cover. Coyotes, foxes, cottontail rabbits, and raccoons are several species that have adapted well to living in urban environments. This proposed site within Castle Pines Village also has the potential for the presence of bears that have been accustomed to living in close proximity to humans. Bears, as well as other wildlife, should not be a concern for residents if the following CPW recommendations are met: People moving into and residing in this area take the proper precautions to prevent unnecessary conflicts with wildlife through the use of pet leash laws, protection of their pets when not under direct supervision, and reducing attractants on their property.

Homeowners can do their part by **not** inviting wildlife into their yards. Due to the potential for human-wildlife conflicts associated with this project, please consider the following recommendations when educating future homeowners about the existence of wildlife in the area:

- Pet foods and bowls should be kept indoors.
- Garbage should be kept in secure containers to minimize its attractiveness to wildlife. Trash should be placed in containers with tight seals and remain indoors until shortly before pickup.
- Feeding of wildlife, with the exception of birds, **is illegal.**
- "Living with Wildlife" pamphlets are available through CPW offices.

For further information, Colorado Parks and Wildlife can provide copies of the following brochures: "Your Guide to Avoiding Human-Coyote Conflicts," "Don't Feed the Wildlife," "Living with Bears," and "Too Close for Comfort: Avoid Conflicts with Wildlife in the City" to residents of the surrounding open space. These brochures can also be downloaded from our web site at http://cpw.state.co.us/learn/Pages/LivingwithWildlife.aspx.

Thank you again for the opportunity to comment on the Castle Pines Village Filing No. 14-A, 2nd Am Project. Please do not hesitate to contact us about ways to continue managing the property in order to maximize wildlife value while minimizing potential conflicts. If you have any further questions, please contact District Wildlife Manager Justin Olson at (303) 291-7131.

Sincerely,

Matt Martinez
Area Wildlife Manager

Cc: M. Leslie, S. Schaller, J. Olson

23 January 2024

Trevor Bedford
100 Third St.
Castle Rock, CO 80104

RE: SB2023-033, Request to subdivide 17 single-family residential lots and 1 tract
DCHD Case No. 1168

Dear Trevor Bedford,

Thank you for the opportunity to review and comment on the Subdivision – Preliminary Plan for the request to subdivide 17 single-family residential lots and 1 tract located at the northwest corner of Country Club Drive and Golden Bear Lane. Douglas County Health Department (DCHD) staff have reviewed the application for compliance with applicable environmental and public health regulations. After Reviewing the application, DCHD has the following comments:

Water and Sewer Service
A will-serve letter has been provided by Castle Pines Metro District. Based on this letter, DCHD is providing a favorable recommendation regarding the proposed method of water service and sewage disposal.

Fugitive Dust
Exposure to air pollution is associated with several health problems including asthma, lung cancer, and heart disease. Earthmoving, infrastructure installation, and general land construction and development may contribute to increased fugitive dust emissions. We recommend that the applicant utilize all available methods to minimize fugitive dust. Control measures or procedures that may be employed include but are not limited to, watering, chemical stabilization, carpeting roads with aggregate, and speed restrictions.

Radon
Radon is a naturally occurring radioactive gas that is present at high levels in all parts of Colorado due to the presence of uranium in the soil. Radon can enter homes and long-term exposure causes lung cancer. In order to prevent radon from infiltrating the home, DCHD recommends designing new homes so that they are radon resistant. This includes laying a barrier beneath the flooring system, installing a gas-tight venting pipe from the gravel level through the roof, and sealing and caulking the foundation thoroughly. More information regarding radon and radon-resistant construction techniques can be found here: https://www.epa.gov/radon/building-new-home-have-you-considered-radon.

Please feel free to contact me at (720)643-2492 or bhuff@douglas.co.us if you have any questions about our comments.

Sincerely,

Benjamin Huff, MPH

cc: Caitlin Gappa

COLORADO
Division of Water Resources
Department of Natural Resources

January 18, 2024

Trevor Bedford, Senior Planner
Douglas County Community Development
Transmitted via email: tbedford@douglas.co.us

RE: Castle Pines Village Filing 14-A, 2nd Amendment
Case No. SB2023-033
Part of the NE ¼ NW ¼ and part of the NW ¼ NE ¼ of Sec. 16, T7S, R67W, 6th P.M.
Water Division 1, Water District 8
CDWR Assigned Referral No. 31150

Dear Trevor Bedford:

We have reviewed the above-referenced submittal concerning the proposal to subdivide approximately 7.95 acres known as Lot 623-A, Castle Pines Village Filing No. 14-A, 1st Amendment into 17 single-family residential lots.

Water Supply Demand

According to the letters from Castle Pines Metropolitan District ("District") dated January 8, 2024 ("Letters"), the water requirements are 0.82 acre-feet/year per single-family lot or 13.94 acre-feet/year for all 17 lots.

Source of Water Supply

The proposed water supplier is the District. According to the Letters, the District is committed to serving all future proposed developments in its service area, including this development. According to the Letters, the District has 3,224.56 acre-feet/year of Denver Basin groundwater (of which 14.11 acre-feet require augmentation prior to withdrawal) based on a 100-year aquifer life. The District also has 4,565 acre-feet/year decreed surface water rights on East Plum Creek, the South Platte, and its tributaries. Based on information previously provided to this office, a study conducted by the District indicated that when its surface water rights are maximized with storage, the average yield of 1,030 acre-feet per year will be available for use. Projected demand for the District at full buildout is 1,690 acre-feet, which is less than the District's available supplies. **If this information is not correct, the District must provide an updated report of its supplies and the average yield of its supplies as well as its current demands and total demand at full build out.**

The District's water supply includes water from bedrock aquifers in the Denver Basin. The State Engineer's Office does not have evidence regarding the length of time for which this source will be a physically and economically viable source of water. According to section 37-90-137(4)(b)(I), C.R.S., "Permits issued pursuant to this subsection (4) shall allow withdrawals on the basis of an aquifer life of one hundred years." Based on this **allocation** approach, the annual amounts of water decreed are equal to one percent of the total amount, as determined by rules 8.A and 8.B of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7. Therefore, the water may be withdrawn in those annual amounts for a maximum of 100 years.

State Engineer's Office Opinion

Based upon the above and pursuant to sections 30-28-136(1)(h)(I) and 30-28-136(1)(h)(II), C.R.S., it is our opinion that the proposed water supply is **adequate** and can be provided **without causing injury to decreed water rights** so long as the District is committed to provide water service for this subdivision.

Our opinion that the water supply is **adequate** is based on our determination that the amount of water required annually to serve the subdivision is physically available, based on current conditions.

Our opinion that the water supply can be provided **without causing injury** is based on our determination that the amount of water that is legally available on an annual basis for the proposed uses is greater than the annual amount of water required to supply existing water commitments and the demands of the proposed subdivision.

Our opinion is qualified by the following:

The Division 1 Water Court has retained jurisdiction over the final amount of water available under the decrees reference by the District, pending actual geophysical data from the aquifer.

The amounts of water in the Denver Basin aquifers, and identified in this letter, are calculated based on estimated current aquifer conditions. The source of some of the District's supplies is from a non-renewable aquifer, the allocations of which are based on a 100 year aquifer life. The county should be aware that the economic life of a water supply based on wells in a given Denver Basin aquifer may be less than the 100 years used for allocation due to anticipated water level declines.

Additional Comments

The application materials indicate that a stormwater detention structure may be constructed as a part of this project. The Applicant should be aware that unless the structure can meet the requirements of a "storm water detention and infiltration facility" as defined in section 37-92-602(8), C.R.S., the structure may be subject to administration by this office. The Applicant should review DWR's *Administrative Statement Regarding the Management of Storm Water Detention Facilities and Post-Wildland Fire Facilities in Colorado*, attached, to ensure that the notification, construction and operation of the proposed structure meets statutory and administrative requirements. The Applicant is encouraged to use *Colorado Stormwater Detention and Infiltration Facility Notification Portal* to meet the notification requirements, located at: https://maperture.digitaldataservices.com/gvh/?viewer=cswdif.

Please contact Wenli.Dickinson@state.co.us or(303) 866-3581 x8206 with any questions.

Sincerely,

Ioana Comaniciu, P.E.
Water Resource Engineer

Attachment: *Administrative Statement Regarding the Management of Storm Water Detention Facilities and Post-Wildland Fire Facilities in Colorado*

Ec: Castle Pines Metro District File

COLORADO
Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 821
Denver, CO 80203

Administrative Statement Regarding the Management of Storm Water Detention Facilities and Post-Wildland Fire Facilities in Colorado

February 11, 2016

The Division of Water Resources (DWR) has previously administered storm water detention facilities based on DWR's "Administrative Approach for Storm Water Management" dated May 21, 2011. Since the passage of Colorado Senate Bill 15-212, that administrative approach has been superseded. This document describes SB 15-212, codified in section 37-92-602(8), Colorado Revised Statutes (C.R.S.), and how the law directs administrative requirements for storm water management. The document is for informational purposes only; please refer to section 37-92-602(8) for comprehensive language of the law.

Pursuant to section 37-92-602(8), storm water detention facilities and post-wildland fire facilities shall be exempt from administration under Colorado's water rights system only if they meet specific criteria. The provisions of SB15-212 apply to surface water throughout the state. SB15-212 *only* clarifies when facilities may be subject to administration by the State Engineer; all facilities may be subject to the jurisdiction of other government agencies and must continue to obtain any permits required by those agencies.

Storm Water Detention Facilities

Pursuant to section 37-92-602(8), a storm water detention and infiltration facility ("Detention Facility") is a facility that:

- Is owned or operated by a government entity or is subject to oversight by a government entity, including those facilities that are privately owned but are required by a government entity for flood control or pollution reduction.
- Operates passively and does not subject storm water to any active treatment process.
- Has the ability to continuously release or infiltrate at least 97 percent of all of the water from a rainfall event that is equal to or less than a five-year storm within 72 hours of the end the rainfall event.
- Has the ability to continuously release or infiltrate at least 99 percent of all of the water from a rainfall event that is greater than a five-year storm within 120 hours of the end the rainfall event.
- Is operated solely for storm water management.

In addition, to qualify for the allowances provided in SB-212, the facility:

- Must not be located in the Fountain Creek watershed, unless the facility is required by or operated pursuant to a Colorado Discharge Permit System Municipal Separate Storm Sewer System Permit issued by the Department of Public Health and Environment pursuant to Article 8 of Title 25, C.R.S.
- Must not use water detained in the facility for any other purpose nor release it for subsequent diversion by the person who owns, operates, or has oversight over the facility. The facility cannot be operated as the basis for a water right, credit, or other water use right.
- Must not expose ground water.
- May include a structure or series of structures of any size.

If the Detention Facility was constructed *on or before* August 5, 2015 and meets all the requirements listed above, it does not cause material injury to vested water rights and will not be subject to administration by the State Engineer.

If the Detention Facility is constructed after August 5, 2015, meets the requirements listed above, and the operation of the detention facility does not cause a reduction to the natural hydrograph as it existed prior to the upstream development, it has a rebuttable presumption of non-injury pursuant to paragraph 37-92-602(8)(c)(II). A holder of a vested water right may bring an action in a court of competent jurisdiction to determine whether the operation of the detention facility is in accordance with paragraph 37-92-602(8)(c)(II)(A) and (B) has caused material injury. If the court determines that the vested water rights holder has been injured, the detention facility will be subject to administration.

In addition, for Detention Facilities constructed after August 5, 2015, the entity that owns, operates, or has oversight for the Detention Facility must, prior to the operation of the facility, provide notice of the proposed facility to the Substitute Water Supply Plan (SWSP) Notification List for the water division in which the facility is located. Notice must include: the location of proposed facility, the approximate surface area at design volume of the facility, and data that demonstrates that the facility has been designed to comply with section 37-92-602(8)(b) paragraphs (B) and (C). The State Engineer has not been given the statutory responsibility to review notices, however, DWR staff may choose to review notices in the course of their normal water administration duties. Not reviewing notices does not preclude the Division Engineer from

taking enforcement action in the event that the above criteria are not met in design and/or operation.

To satisfy the notification requirement, operators are encouraged to use the Colorado Stormwater Detention and Infiltration Facility Notification Portal developed by Urban Drainage and Flood Control District ("UDFCD"), located at: https://maperture.digitaldataservices.com/gvh/?viewer=cswdif.

Types of detention Facilities contemplated under this statute include underground detention vaults, permanent flood detention basins,[1] extended detention basins,[2] and full spectrum detention basins.[3] Storm Water Best Management Practices[4] (BMPs) not contemplated above, including all Construction BMPs and non-retention BMPs, do not require notice pursuant to SB-212 and are allowed at the discretion of the Division Engineer. Green roofs are allowable as long as they intercept only precipitation that falls within the perimeter of the vegetated area. Green roofs should not intercept or consume concentrated flow, and should not store water below the root zone. BMPs that rely on retention, such as retention ponds and constructed wetlands, will be subject to administration by the State Engineer.

Any detention facility that does not meet all of the statutory criteria described above, in design or operation, is subject to administration by the State Engineer.

[1] Flood detention basin: An engineered detention basin designed to capture and slowly release peak flow volumes to mitigate flooding (Urban Drainage and Flood Control, 2010).
[2] Extended detention basin: An engineered detention basin with an outlet structure designed to slowly release urban runoff over an extended time period (Urban Drainage and Flood Control, 2010).
[3] Full spectrum detention basin: An extended detention basin designed to mimic pre-development peak flows by capturing the Excess Urban Runoff Volume and release it over a 72 hour period (Urban Drainage and Flood Control, 2010).
[4] Best management practice: A technique, process, activity, or structure used to reduce pollutant discharges in stormwater (Urban Drainage and Flood Control, 2010).

Post-Wildland Fire Facilities

Pursuant to section 37-92-602(8), a post-wildland fire facility is a facility that:

- Includes a structure or series of structures that are not permanent.
- Is located on, in or adjacent to a nonperennial stream[5].
- Is designed and operated to detain the least amount of water necessary, for the shortest duration of time necessary, to achieve the public safety and welfare objectives for which it is designed.
- Is designed and operated solely to mitigate the impacts of wildland fire events that have previously occurred.

In addition, to qualify for the allowances provided in SB-212, the facility:

- Must be removed or rendered inoperable after the emergency conditions created by the fire no longer exist, such that the location is returned to its natural conditions with no detention of surface water or exposure of ground water.
- Must not use water detained in the facility for any other purpose nor release it for subsequent diversion by the person who owns, operates, or has oversight over the facility. The facility will not be operated as the basis for a water right, credit, or other water use right.

If the post-wildland fire facility meets the requirements listed above, it does not cause material injury to vested water rights. While DWR recognizes that post-wildland fire facilities are essential to the protection of public safety and welfare, property, and the environment, DWR may, from time to time, request that the person who owns, operates, or has oversight of the post-wildland fire facility supply information to DWR to demonstrate they meet the criteria set forth above.

If a post-wildland fire facility does not meet all the criteria set forth above, it will be subject to administration by the State Engineer.

[5] DWR may use the National Hydrography Dataset or other reasonable measure to determine the classification of a stream

Resources and References

Colorado Stormwater Detention and Infiltration Facility Notification Portal: https://maperture.digitaldataservices.com/gvh/?viewer=cswdif

Colorado Senate Bill15-212: http://www.leg.state.co.us/CLICS/CLICS2015A/csl.nsf/fsbillcont3/13B28CF09699E67087257DE8006690D8?Open&file=212_enr.pdf

United States Geological Survey National Hydrography Dataset: http://nhd.usgs.gov/

Urban Drainage and Flood Control District 37-92-602(8) explanation memo and FAQ's: http://udfcd.org/crs-37-93-6028-explanation-memo-and-faqs/

Urban Drainage and Flood Control District. (2010). *Urban Storm Drainage Criteria Manual: Volume 3, Best Management Practices*, updated November 2015. Located at: http://udfcd.org/volume-three

REFERRAL RESPONSE REQUEST – PRELIMINARY PLAN

Date sent: January 11, 2024 Comments due by: **February 1, 2024**

Project Name:	Castle Pines Village Filing No. 14-A, 2nd Amendment
Project File #:	SB2023-033
Project Summary:	Applicant is requesting a Preliminary Plan for subdivision of 17 single-family residential lots within Planning Area R-20 of Castle Pines Village. The proposal is located northwest of the intersection of Country Club Drive and Golden Bear Lane.

Information on the identified development proposal located in Douglas County is enclosed. Please review and comment in the space provided.

☐ No Comment	
☐ Please be advised of the following concerns:	
X☐ See letter attached for detail.	
Agency: Douglas County Conservation District	**Phone #:** 303 218 2622
Your Name: David Shohet, President	**Your Signature:** DocuSigned by: David Shohet 6E6057CEE3D2404...
(please print)	**Date: 2/1/24**

Agencies should be advised that failure to submit written comments prior to the due date, or to obtain the applicant's written approval of an extension, will result in written comments being accepted for informational purposes only.

Sincerely,

Trevor Bedford, Senior Planner

Enclosure

DOUGLAS CONSERVES

DOUGLAS COUNTY CONSERVATION DISTRICT

PO Box 688 / 7519A E. Hwy 86 Franktown, CO 80116 / 303-218-2622

February 1, 2024

RE: SB2023-33, Castle Pines Village Preliminary Plan Filing 14A 1st Revision

According to the Natural Resources Conservation Service (NRCS) soils survey, the Fondis-Kutch association 5 to 15 percent slopes, is "somewhat limited" for dwellings with and without basements, and small commercial buildings due to shrink-swell and depth to soft bedrock. Due to the limitations on the above soils on the site, alternatives to mitigate the limitations of the soil will be required in your engineering design or construction techniques.

According to the NRCS soils survey, the Fondis-Kutch association 5 to 15 percent slopes, is "somewhat limited" for streets, roads, and shallow excavations due to frost action, slope, shrink-well properties, and low strength. Due to the limitations on the above soils on the site, alternatives to mitigate the limitations of the soil will be required in your engineering design or construction techniques.

Topsoil should be stripped to a depth of 6 inches and all stockpiles should have side slopes no steeper than 3:1 and seeded. All disturbed areas should be seeded and mulched with weed free hay mulch at 4,000 lbs. /acre. All disturbed areas should be reseeded between the planting dates of Nov. 1-April 30th. Grass seed should be drilled at a depth of ¼ to ½ inch deep and if broadcasted, double the rate.

The Douglas County Conservation District recommends disturbed land be mulched or revegetated within 45 days of disturbance.

The Conservation District recommends using a phased grading approach. By limiting the area being graded to 15 acres or less and seeding with native grasses the land area disturbed is minimized. The development site is 67.3 acres.

DOUGLAS COUNTY CONSERVATION DISTRICT
PO Box 688 / 7519A E. Hwy 86 Franktown, CO 80116 / 303-218-2622

There is no Integrated Noxious Weed Control plan, and it is recommended that an integrated weed management program be reviewed and approved by the Douglas County Weed Inspector and/or Weed Advisory board, the County Extension Agent, NRCS, or a qualified weed management professional prior to the land use authority approval.

Vehicle tracking control stations need to be installed at all entrance and exit points on the site. The station should consist of a pad of 3 to 6-inch rock or a vehicle control pad/mat to strip mud from tires prior to vehicles leaving the construction site to prevent spreading of noxious weeds.

The channels of many of the major streams are not stable and undergo substantial shifts in alignment during flood events. Upstream development increases the magnitude and frequency of local flooding. Floods that exceed the computed 100-year storm do regularly occur. The Conservation District does not support development proposals that are located in or near drainages or development that disturbs wetlands. This development is at the upper most reach of Newlin Gulch.

Silt fences or other forms of erosion barriers need to be planned and installed as a temporary sediment control device used on construction sites to protect water quality.

The Douglas County Conservation District strongly recommends that Low Impact Development (LID) techniques be implemented for economic and conservation benefits.

Thank you for the opportunity to respond.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Castle Rock Area, Colorado

SB2022-033

Preface

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

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

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

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

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

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

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

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

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

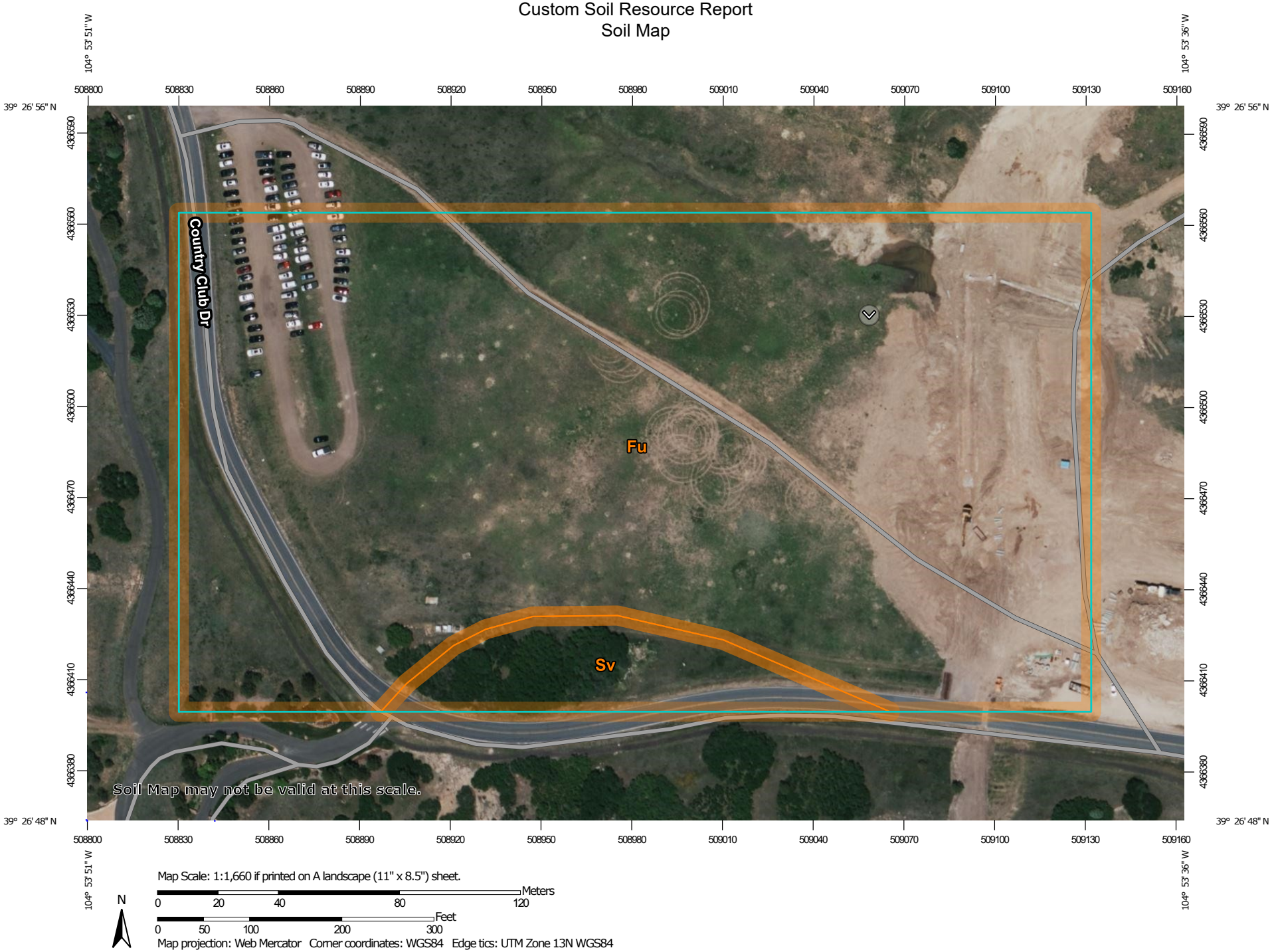
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Castle Rock Area, Colorado
Survey Area Data: Version 16, Aug 24, 2023

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

Date(s) aerial images were photographed: 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
Fu	Fondis-Kutch association	11.4	92.9%
Sv	Stony steep land	0.9	7.1%
Totals for Area of Interest		**12.3**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Castle Rock Area, Colorado

Fu—Fondis-Kutch association

Map Unit Setting

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

Map Unit Composition

Fondis and similar soils: 50 percent
Kutch and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fondis

Setting

Landform: Valley sides, draws
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits over coarse-silty outwash derived from arkose

Typical profile

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

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

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

Description of Kutch

Setting

Down-slope shape: Linear

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Bresser

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

Newlin

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

Hilly gravelly land

Percent of map unit: 4 percent
Hydric soil rating: No

Aquic haplustolls

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

Sv—Stony steep land

Map Unit Setting

National map unit symbol: jr0c
Elevation: 5,500 to 6,600 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 49 to 51 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Stony steep land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stony Steep Land

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile

H1 - 0 to 6 inches: cobbly sandy loam
H2 - 6 to 20 inches: cobbly sandy loam
H3 - 20 to 24 inches: unweathered bedrock

Properties and qualities

Slope: 9 to 65 percent
Depth to restrictive feature: 10 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R049XY206CO - Stony Foothill
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Dwellings With Basements (SB2023-033)

ENG - Engineering

Dwellings are single-family houses of three stories or less. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

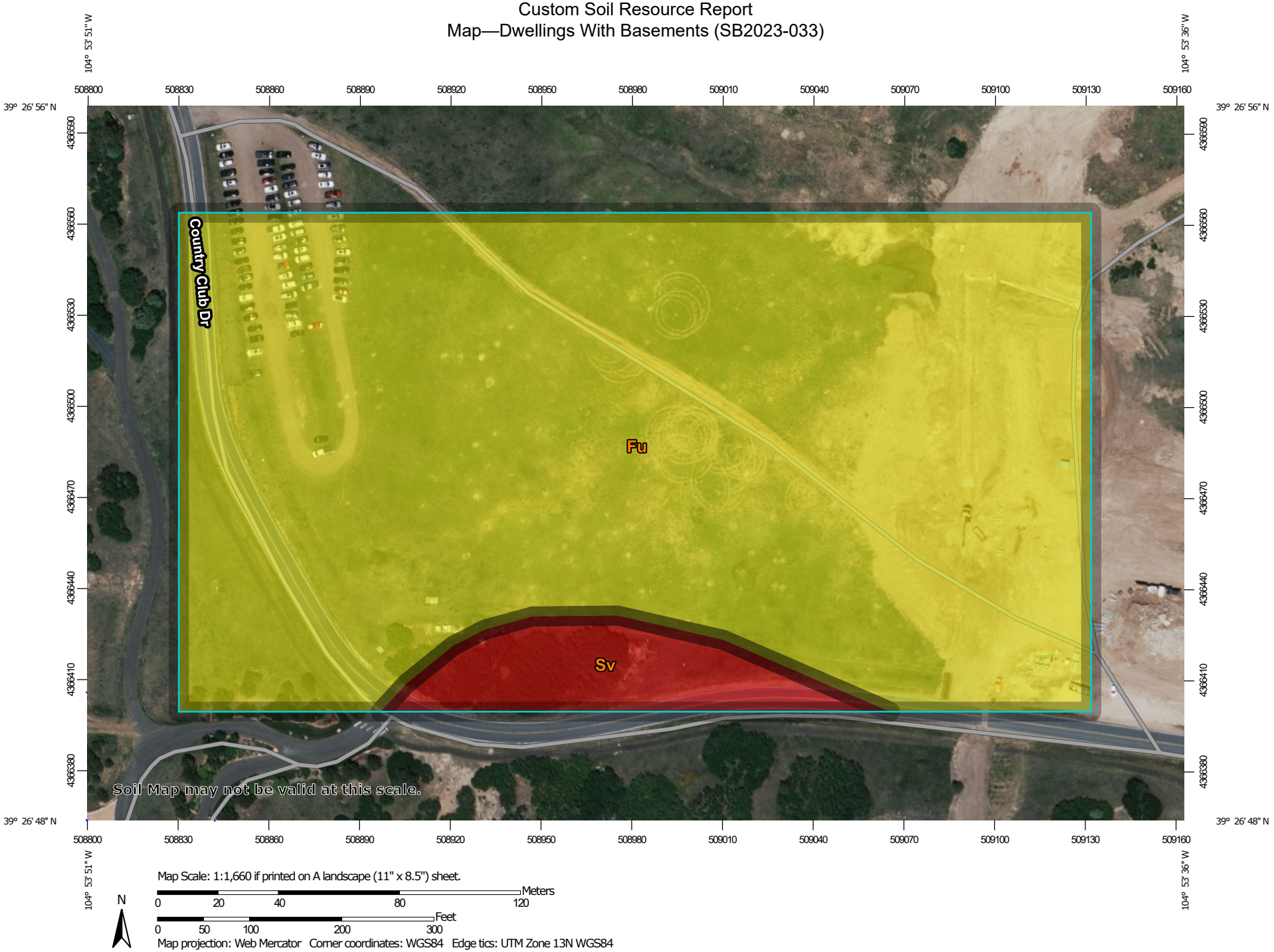
The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Dwellings With Basements (SB2023-033)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Castle Rock Area, Colorado
Survey Area Data: Version 16, Aug 24, 2023

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

Date(s) aerial images were photographed: 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.

Tables—Dwellings With Basements (SB2023-033)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Fu	Fondis-Kutch association	Somewhat limited	Fondis (50%)	Slope (0.16)	11.4	92.9%
				Shrink-swell (0.01)		
Sv	Stony steep land	Very limited	Stony steep land (100%)	Depth to hard bedrock (1.00)	0.9	7.1%
				Slope (1.00)		
				Large stones (0.21)		
Totals for Area of Interest					**12.3**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Somewhat limited	11.4	92.9%
Very limited	0.9	7.1%
Totals for Area of Interest	**12.3**	**100.0%**

Rating Options—Dwellings With Basements (SB2023-033)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

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

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

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

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

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT
PRELIMINARY PLAN

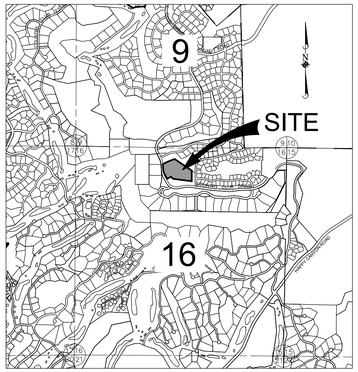
A REPLAT OF CASTLE PINES VILLAGE FILING NO. 14-A, 1ST AMENDMENT, LOT 623-A
IN PLANNING AREA R-20
LOCATED IN THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 16,
TOWNSHIP 7 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
COUNTY OF DOUGLAS, STATE OF COLORADO
SUBDIVISION OF 7.9466 ACRES, 17 RESIDENTIAL LOTS, 1 TRACT
SB ___-_____

LEGAL DESCRIPTION:

LOT 623-A OF CASTLE PINES VILLAGE FILING NO. 14-A, 1ST AMENDMENT, RECORDED AT RECEPTION NO. 2021015240, IN THE OFFICE OF THE DOUGLAS COUNTY CLERK AND RECORDER;

SAID PARCEL OF LAND LOCATED WITHIN THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 7 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, IN THE COUNTY OF DOUGLAS, STATE OF COLORADO.

CONTAINING 346,155 SQUARE FEET OR 7.9466 ACRES



VICINITY MAP

(SCALE: 1" = 2000')

SHEET INDEX	
SHEET NO.	SHEET TITLE
1	COVER SHEET
2	OVERALL PLAN

LAND USE SUMMARY TABLE

LOTS	ACREAGE	% OF GROSS LAND	OWNERSHIP	MAINTENANCE
LOTS 1-17	7.13	89.74%	OWNER	OWNER
PRIVATE ROADWAYS				
TRINITY PEAK COURT	0.73	9.20%	CPHA [1]	CPMD [2]
TRACTS				
TRACT A (UTILITIES, DRAINAGE, LANDSCAPING, AND OPEN SPACE PURPOSES)	0.08	1.05%	CPHA	CPHA
TOTAL	7.94	100.00%		

*CPHA IS THE ABBREVIATION FOR THE CASTLE PINES HOMES ASSOCIATION.
**CPMD IS THE ABBREVIATION FOR THE CASTLE PINES METROPOLITAN DISTRICT.

GENERAL NOTES:

1. ACCORDING TO COLORADO LAW, C.R.S. 13-80-105, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVERED SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.

2. BASIS OF BEARINGS: THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 16 BEARS SOUTH 89°47'58" EAST, PER CASTLE PINES VILLAGE FILING NO. 44-A, RECORDED FEBRUARY 5, 2021 AT RECEPTION NO. 2021015248, WITH THE NORTHEAST CORNER OF SAID SECTION 16 MONUMENTED BY A 3.25 INCH ALUMINUM CAP, STAMPED LS 12046 AND THE NORTH QUARTER CORNER OF SAID SECTION 16 MONUMENTED BY A 3.25 INCH ALUMINUM CAP, STAMPED PLS 23521, 1993.

3. TRACT A, AS SHOWN HEREON, IS HEREBY DEDICATED TO THE CASTLE PINES HOMES ASSOCIATION, THEIR SUCCESSORS AND ASSIGNS AND IS ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE CASTLE PINES HOMES ASSOCIATION FOR WATER, DRAINAGE, LANDSCAPING, AND OPEN SPACE PURPOSES.

4. A BLANKET WATER, DRAINAGE, AND ACCESS EASEMENT ACROSS TRACT A IS HEREBY GRANTED TO CASTLE PINES METROPOLITAN DISTRICT, THEIR SUCCESSORS AND ASSIGNS AND IS ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE CASTLE PINES METROPOLITAN DISTRICT FOR THE PURPOSES OF ACCESSING, MAINTAINING, CONSTRUCTING, RECONSTRUCTING, REMOVING AND REPAIR OF WATER LINE AND DRAINAGE AND STORMWATER MANAGEMENT IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO MANHOLES, INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, RIPRAP, AND RELATED APPURTENANCES THERETO, LYING WITHIN TRACT A.

5. A SECONDARY DRAINAGE EASEMENT ACROSS TRACT A AND THE DRAINAGE EASEMENTS AS SHOWN HEREON IS HEREBY GRANTED TO DOUGLAS COUNTY FOR THE PURPOSES OF ACCESSING, MAINTAINING AND REPAIRING STORM WATER MANAGEMENT IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, RIPRAP, DETENTION BASINS, FOREBAYS, MICRO-POOLS AND WATER QUALITY FACILITIES (COLLECTIVELY, THE "FACILITIES") IN THE EVENT THE CASTLE PINES METROPOLITAN DISTRICT, ITS SUCCESSORS, AND ASSIGNS ("SYSTEM OWNER") FAILS TO SATISFACTORILY MAINTAIN OR REPAIR SAID FACILITIES. A BLANKET ACCESS EASEMENT OVER CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT (THE "SUBDIVISION") IS ALSO HEREBY GRANTED TO DOUGLAS COUNTY, BUT ONLY FOR THE PURPOSE OF ACCESSING THE FACILITIES IN THE EVENT THAT THE DRAINAGE EASEMENTS DO NOT PROVIDE ADEQUATE ACCESS. THE MAINTENANCE AND REPAIR OF THE FACILITIES LOCATED WITHIN THE SUBDIVISION, AS SHOWN ON THE CONSTRUCTION PLANS ACCEPTED BY DOUGLAS COUNTY OR ON THE PLAT FOR THE SUBDIVISION, SHALL BE THE RESPONSIBILITY OF THE SYSTEM OWNER. IN THE EVENT SUCH MAINTENANCE AND REPAIRS ARE NOT PERFORMED BY THE SYSTEM OWNER TO THE SATISFACTION OF DOUGLAS COUNTY, THEN DOUGLAS COUNTY SHALL HAVE THE RIGHT, BUT NOT THE OBLIGATION, TO ENTER SAID SUBDIVISION, AFTER TEN (10) DAYS PRIOR WRITTEN NOTICE TO THE SYSTEM OWNER, UNLESS THERE IS AN EMERGENCY, IN WHICH CASE DOUGLAS COUNTY SHALL GIVE NOTICE AS SOON AS PRACTICABLE, TO PERFORM ALL NECESSARY WORK, THE COST OF WHICH SHALL BE PAID BY THE SYSTEM OWNER UPON BILLING. IN THE EVENT THE SYSTEM OWNER FAILS TO REIMBURSE DOUGLAS COUNTY WITHIN THIRTY (30) DAYS AFTER SUBMISSION OF THE BILL FOR THE COSTS INCURRED, DOUGLAS COUNTY WILL HAVE THE RIGHT TO ENFORCE SUCH OBLIGATION BY APPROPRIATE LEGAL ACTION. IT IS THE SYSTEM OWNER'S RESPONSIBILITY TO CONSTRUCT, MAINTAIN, AND REPAIR THE FACILITIES IN A MANNER CONSISTENT WITH ALL APPLICABLE PLANS APPROVED OR ACCEPTED BY DOUGLAS COUNTY.

6. PRIOR TO ISSUANCE OF ANY BUILDING PERMITS WITHIN CASTLE PINES VILLAGE, FILING NO. 14-A, 2ND AMENDMENT, LOT SPECIFIC DATA REGARDING SOILS, GEOLOGY AND CONSTRUCTION MUST BE OBTAINED AND REVIEWED BY A QUALIFIED GEOTECHNICAL ENGINEER. SUCH DATA SHALL BE PRESENTED TO THE DOUGLAS COUNTY BUILDING DEPARTMENT FOR REVIEW. AS A RESULT OF THIS DATA, FOUNDATION MODIFICATIONS, SUBSURFACE DRAINAGE SYSTEMS, AND/OR OTHER BUILDING DESIGN/CONSTRUCTION MODIFICATIONS MAY BE REQUIRED.

7. AT THE TIME OF CONSTRUCTION, ESPECIALLY DURING EXCAVATION AND GRADING, THE OWNER, ITS SUCCESSORS, OR ASSIGNS SHALL EXERCISE REASONABLE CARE IN OBSERVANCE FOR THE PRESENCE OF HISTORIC, PALEONTOLOGICAL OR OTHER CULTURAL RESOURCES AND SHALL IMMEDIATELY NOTIFY DOUGLAS COUNTY IN THE EVENT OF SUCH DISCOVERY.

8. A BURROWING OWL STUDY IN ACCORDANCE WITH ESTABLISHED PRACTICES SHALL BE CONDUCTED PRIOR TO ANY CONSTRUCTION ACTIVITIES OCCURRING BETWEEN MARCH 15 AND OCTOBER 31 IN ANY AREA CONTAINING A PRAIRIE DOG COLONY.

9. THE ENTIRE PROPERTY IS LOCATED WITHIN ZONE X AND LIES OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS INDICATED ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 08035C0160G, PANEL 160F OF 495, EFFECTIVE DATE SEPTEMBER 4, 2020.

10. THE HOMES TO BE CONSTRUCTED ON LOTS 1 THROUGH 17 WILL BE DEVELOPED IN ACCORDANCE WITH THE CONVENTIONAL DEVELOPMENT STANDARDS PER SECTION IV, LAND USE PLANNING AREAS, RESIDENTIAL, SUB-SECTION D OF THE CASTLE PINES VILLAGE DEVELOPMENT GUIDE AS RECORDED AT BOOK 600, PAGE 1.

11. ALL DISTANCES ARE GROUND DISTANCES IN U.S. SURVEY FEET.

12. ALL DIMENSIONS SHOWN HEREON ARE RECORD AND MEASURED UNLESS OTHERWISE NOTED.

13. FIDELITY NATIONAL TITLE INSURANCE COMPANY ORDER NUMBER: ABC70802230, DATED APRIL 10, 2023, WAS RELIED UPON FOR RECORD INFORMATION REGARDING RIGHTS-OF WAYS, EASEMENTS AND ENCUMBRANCES.

ADD NOTE: No improvements that conflict with or interfere with construction, maintenance or access to utilities shall be placed within the utility easements. Prohibited improvements include, but are not limited to, permanent structures, buildings, counter-forts, decks, stairs, window wells, air conditioning units, retaining walls/components and other objects that may interfere with the utility facilities or access, use and maintenance thereof. Prohibited improvements may be removed by the entities responsible for providing the utility services. The owners of the property subject to or adjacent to the utility easements shown herein are responsible for the maintenance and operation of such areas, which does not include utility lines and related facilities. When the owner(s) or adjacent owners fail to adequately maintain such utility easements, including the removal of prohibited improvements, the maintenance, operation, reconstruction and removal shall be at the cost of the owner(s).

OWNER:
CASTLE PINES SUMMIT, LLC
9360 TEDDY LANE, SUITE 201
LONE TREE, CO 80124
303-790-9555

COVER SHEET

DRAWN BY | REVISIONS | DATE

Manhard CONSULTING
7600 East Orchard Road, Suite 150-N, Greenwood Village, CO 80111 ph:303.708.0500 manhard.com
Civil Engineering • Surveying • Water Resource Management • Construction Management

CASTLE PINES VILLAGE FILING NO. 14A, 2ND AMENDMENT
DOUGLAS COUNTY, COLORADO
COVER SHEET

PROJ. MGR.: JWW
PROJ. ASSOC.: JAF
DRAWN BY: MKW
DATE: 07/26/23
SCALE: N/A

SHEET 1 OF 2
CPS.CRC003

JULY 28, 2023 - 13:26 Dwg Name: P:\Docs\c03\Data\Surv\Final Drawings\Plat of Subdivision\Preliminary Plat\CPS.CRC003-51000.dwg Updated By: JFalder

CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT

A REPLAT OF CASTLE PINES VILLAGE FILING NO. 14-A, 1ST AMENDMENT, LOT 623-A
IN PLANNING AREA R-20
LOCATED IN THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 16,
TOWNSHIP 7 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
COUNTY OF DOUGLAS, STATE OF COLORADO
7.9466 ACRES - 17 RESIDENTIAL LOTS
SB2023-___

LEGEND

- = PROPERTY LINE
- = SECTION LINE
- = PROPOSED RIGHT-OF-WAY
- = EXISTING EASEMENT
- = PROPOSED DETENTION WG POND EASEMENT
- = FOUND SECTION CORNER AS NOTED
- ●1 = FOUND NO. 5 REBAR WITH 1.25" BLUE PLASTIC CAP STAMPED, "PLS 38605 DEA INC"
- ●2 = FOUND NO. 5 REBAR WITH 1.25" YELLOW PLASTIC CAP STAMPED, "PLS 37929"
- ●3 = FOUND NO. 5 REBAR WITH 1.25" YELLOW PLASTIC CAP STAMPED, "MANHARD PLS 38445"
- ○1 = SET 18" LONG NO. 5 REBAR WITH 1.25" RED PLASTIC CAP STAMPED, "MANHARD PLS 38199" FLUSH WITH GROUND

GRAPHIC SCALE
0 50 75 100 150
(IN FEET)
1 inch = 50 ft.
U.S. SURVEY FEET

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	26°07'09"	345.00'	157.27'	S16°31'10"E	155.92'
C2	90°37'55"	17.00'	26.89'	S49°41'02"W	24.17'
C3	258°27'47"	50.00'	225.55'	S07°03'37"E	77.46'
C4	78°27'47"	25.00'	34.24'	N82°56'23"E	31.62'
C5	80°37'55"	17.00'	23.92'	S44°41'02"E	22.00'

DRAWN BY | REVISIONS | DATE

Manhard CONSULTING
7600 East Orchard Road, Suite 150-N, Greenwood Village, CO 80111 ph:303.708.0500 manhard.com
Civil Engineering & Consulting Services | Surveying & GIS
Water Resource Management | Construction Management

CASTLE PINES VILLAGE FILING NO. 14A, 2ND AMENDMENT
DOUGLAS COUNTY, COLORADO
OVERALL PLAN

PROJ. MGR.:	JWW
PROJ. ASSOC.:	JAF
DRAWN BY:	MKW
DATE:	07/26/23
SCALE:	1"=50'

SHEET 2 OF 2
CPS.CRC003


PROJECT AREA
Country Club Dr
Massive Peak Loop
Oxford Peak Ln
Country Club Pkwy
Dakota Dr
Cliffgate Ln
Equinox Dr
Glengarry Pl
Capulin Pl
Castle Pines Dr N
CASTLE PINES VILLAGE
Tournament Dr
Hummingbird Dr
E Happy Canyon Rd
Hidden Valley Ln
N

COLORADO GEOLOGICAL SURVEY

1801 Moly Road
Golden, Colorado 80401

Matthew L. Morgan
State Geologist and
Director

February 1, 2024

Trevor Bedford
Planning Services
Douglas County Community Development
100 Third Street
Castle Rock, CO 80104

Location:
NE¼ NW¼ Section 16,
T7S, R67W of the 6th P.M.
39.4484, -104.8959

Subject: **Castle Pines Village Filing No. 14-A, 2nd Amendment**
File Number SB2023-033; Douglas County, CO; CGS Unique No. DU-24-0014

Dear Trevor:

Colorado Geological Survey has reviewed the Castle Pines Village Filing No. 14-A Preliminary Plan referral for 17 single-family residential lots within Planning Area R-20 of Castle Pines Village, located northwest of the intersection of Country Club Drive and Golden Bear Lane.

The available referral documents include a Geologic and Preliminary Geotechnical Investigation, Castle Pines Village Preliminary Plans No. 41 and 44, Northwest of Country Club Drive and Cliffgate Lane (CTL|Thompson Project No. DN48,342.001-115-R1, February 13, 2019). CGS reviewed this report on March 15, 2019, October 21, 2020, and December 1, 2021 as part of the Castle Pines Village Preliminary Plan No. 41 and Castle Pine Village Filing No. 44A referral requests. CGS offers the following comments and recommendations.

Shallow groundwater and basement feasibility. Groundwater was observed at depths of 5.5 to 23.5 feet in July/August of 2016 within Filing No. 14-A. We agree with CTL on page 10, "groundwater is likely perched on or near the surface of cemented sandstone." Grading information was not provided in the referral documents. CGS is concerned that groundwater levels may be even shallower than was previously measured in 2016. It would be prudent for the county to require updated water level observations and analysis of proposed surface grades and basement floor elevations (BFEs) relative to the updated water levels. This information is needed to verify that full-depth basements are feasible and for use in design of the subsurface drainage.

In their 2019 report (page 14), CTL states that "an underdrain system is planned below all of the proposed sanitary sewer mains throughout the development." CTL also recommends installing positive cutoff (concrete) walls, and that "underdrain services should be installed deep enough so that the lowest point or the sump pit of the basement foundation drain can be connected to the underdrain service as a gravity outlet." Interceptor drains were also planned along the perimeter of the western and southern borders of Preliminary Plan No. 41. It is unclear what is planned within Filing No. 14-A. An underdrain system should only be allowed if it discharges to a gravity outfall. Individual foundation perimeter drains discharging to the underdrain system, if allowed, or to an interior pumped sump will still be necessary on all lots.

CTL's recommendations regarding expansive soils and bedrock, difficult excavation conditions, subgrade preparation, foundation, floor system and pavement design are valid but *preliminary*. CTL's page 19 recommendations for additional consultation, observation, testing, investigation, analysis, and design are valid and should be strictly adhered to.

Thank you for the opportunity to review and comment on this project. If you have questions or require further review, please call me at 303-384-2632 or email acrandall@mines.edu.

Sincerely,

Amy Crandall

Amy Crandall, P.E.
Engineering Geologist

DV 23-324

DOUGLAS COUNTY
COLORADO

www.douglas.co.us

Department of Community Development
Planning Services

REFERRAL RESPONSE REQUEST – PRELIMINARY PLAN

Date sent: January 11, 2024 Comments due by: **February 1, 2024**

Project Name:	Castle Pines Village Filing No. 14-A, 2nd Amendment
Project File #:	SB2023-033
Project Summary:	Applicant is requesting a Preliminary Plan for subdivision of 17 single-family residential lots within Planning Area R-20 of Castle Pines Village. The proposal is located northwest of the intersection of Country Club Drive and Golden Bear Lane.

Information on the identified development proposal located in Douglas County is enclosed. Please review and comment in the space provided.

☐	No Comment	
☐	Please be advised of the following concerns:	
☒	See letter attached for detail.	
Agency: ENGINEERING		**Phone #:** 4318
Your Name: AL PETERSON *(please print)*		**Your Signature:**
		Date: 1/30/24

Agencies should be advised that failure to submit written comments prior to the due date, or to obtain the applicant's written approval of an extension, will result in written comments being accepted for informational purposes only.

Sincerely,

Trevor Bedford, Senior Planner

Enclosure

DOUGLAS COUNTY
COLORADO

January 30, 2024 DV 23-324

Trevor Bedford
Douglas County Planning
100 Third Street
Castle Rock, CO. 80104

RE: Castle Pines Village Filing 14-A, 2nd Amendment – Preliminary Plan

Dear Trevor,

Engineering has reviewed the Preliminary Plan for the above referenced project and the following items have been noted:

1. Please identify in this Preliminary Plan the street cross section that fits inside the proposed 40' private ROW.

2. Please clarify (in the note on the Site Plan) that the "40' wide private urban local" refers to the ROW and not the street section.

3. Per County Standards the minimum drainage tract/easement is 25'. If the 20' drainage tract is acceptable to the Castle Pines Metro District, then it can remain as such.

4. Please define who the owner of Tract A will be.

5. Please note the Castle Pines Homes Association will be the owner of the private roadway.

6. On the Drainage Plan it appears that the majority of Basin OS1 is tributary to an area located just south of Lot 16. How will this runoff be collected and conveyed to an appropriate detention area? Is it anticipated that a swale section along back of Lots 12-16 will be provided to intercept runoff prior to reaching these lots and that perhaps a Type C inlet will be proposed behind lot 16 to collect this runoff? An addition drainage tract could be added between Lots 16 and 17 to convey this runoff to the currently proposed storm sewer system.

Engineering cannot support the approval of the Preliminary Plan until these issues have been addressed. With the next submittal, please enclose a written response to these comments. Should you have any questions in regard to these comments, I can be reached at 303-660-7490.

Respectfully,

Al Peterson
Senior Development Review Engineer

c: Matt Williams, P.E., Assistant Director of Public Works Engineering
Daniel Madison, P.E., Manhard Consulting
DV File

Daniel J. Madison

From: Al Peterson <APeterso@douglas.co.us>
Sent: Monday, March 18, 2024 7:49 AM
To: Daniel J. Madison
Subject: [EXTERNAL] RE: SB2023-033 Review

Follow Up Flag: Follow up
Flag Status: Flagged

Dan,

Sorry to just be getting back to you……I was out of town for 10 days.

The Preliminary Plan is good with Engineering!

AP

From: Daniel J. Madison <dmadison@manhard.com>
Sent: Friday, March 8, 2024 4:50 PM
To: Al Peterson <APeterso@douglas.co.us>
Cc: Trevor Bedford <tbedford@douglas.co.us>; Michael A. McGuire <mmcguire@manhard.com>
Subject: RE: SB2023-033 Review

Al,

Wanted to check in and see if you have had a chance to complete your review of our Preliminary Plat submittal for Castle Pines Village Filing 14A. Planning only had a few minor revisions to the Prelim Plat and we are hoping to move towards scheduling public hearings.

Thanks,
-Dan

Daniel J. Madison, PE | **Operations Manager, Greenwood Village**
7600 East Orchard Road, Suite 150-N, Greenwood Village, CO 80111
d: 303.531.3217 | c: 847.636.8680 | manhard.com

Manhard CONSULTING
Civil Engineering | Surveying | Water Resources Management
Construction Management | Landscape Architecture | Planning

From: Trevor Bedford <tbedford@douglas.co.us>
Sent: Tuesday, March 5, 2024 4:37 PM
To: Daniel J. Madison <dmadison@manhard.com>; Michael A. McGuire <mmcguire@manhard.com>
Subject: [EXTERNAL] SB2023-033 Review

Michael,

I worked with Brett to get this reviewed and have some minor changes to the exhibit. There is a small tweak to the title block and replacing some language in the notes to clarify that easements and tracts aren't being dedicated right now, since that will be done with the plat. I also have some language that we prefer to use to replace the notes requested by CORE and Xcel. The language has been used on other plats that received the same comments.

Brett let me know that you had asked about hearing dates and that you were still waiting on final approval from the metro district. I think the best course of action would be to wait until we get approval from them and at least get this round of review comments from engineering to confirm they do not have anything major left. At that point, I would be comfortable getting you on the calendar. Here are some of our upcoming hearing dates with advertising deadlines shown to give you an idea of what you could target:

PC: Business Meetings and Public Hearings	**BCC:** Business Meetings, Land Use Meetings, and Public Hearings	**Public Notice Submittal to Newspaper:** 14-day notice (Wednesday)
Apr 1 (M)		Mar 6 (W)
	Apr 9 (T)	Mar 13 (W)
Apr 15 (M)		Mar 20 (W)
	Apr 23 (T)	Mar 27 (W)
May 6 (M)		Apr 10 (W)
	May 14 (T)	Apr 17 (W)
May 20 (M)	May 21* (T)	Apr 24 (W)
Jun 3 (M)		May 8 (W)
	Jun 11 (T)	May 15 (W)
June 17 (T)		May 22 (W)
	Jun 25 (T)	May 29 (W)

Let me know if you have any questions.

Thank you,

Trevor Bedford, AICP | Senior Planner
Douglas County Department of Community Development
Planning Services Division
Address | 100 Third St., Castle Rock, CO 80104
Direct | 303.814.4372 **Main** | 303.660.7460
Email tbedford@douglas.co.us

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.285.6612**
violeta.ciocanu@xcelenergy.com

January 17, 2024

Douglas County Planning Services
100 Third Street
Castle Rock, CO 80104

Attn: Trevor Bedford

Re: Castle Pines Village Filing No. 14-A, 2nd Amendment, Case # SB2023-033

Public Service Company of Colorado's (PSCo) Right of Way and Permits Referral Desk has reviewed the plat for **Castle Pines Village Filing No. 14-A, 2nd Amendment**. As always, thank you for the opportunity to take part in the review process. For these *single-family residential* lots and to ensure that adequate utility easements are available within this development and per state statutes, Public Service Company requests that the following language or plat note is placed on the preliminary and final plats for the subdivision:

> *Utility easements are dedicated to Douglas County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

The property owner/developer/contractor must complete the application process for any new natural gas service via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details.

Additional easements may need to be acquired by separate document. The Designer must contact the appropriate Right-of-Way Agent.

Not ready to apply? Our Builder Developer Representatives can provide you with capacity and process information during the concept phase of a project. Contact us at *BDRCO@xcelenergy.com or learn more at* Building and Remodeling (xcelenergy.com)

As a safety precaution, PSCo would like to remind the developer to contact Colorado 811 for utility locates prior to construction.

Violeta Ciocanu (Chokanu) - Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-285-6612 – Email: violeta.ciocanu@xcelenergy.com

REFERRAL RESPONSE REQUEST – PRELIMINARY PLAN

Date sent: January 11, 2024 Comments due by: **February 1, 2024**

Project Name:	Castle Pines Village Filing No. 14-A, 2nd Amendment
Project File #:	SB2023-033
Project Summary:	Applicant is requesting a Preliminary Plan for subdivision of 17 single-family residential lots within Planning Area R-20 of Castle Pines Village. The proposal is located northwest of the intersection of Country Club Drive and Golden Bear Lane.

Information on the identified development proposal located in Douglas County is enclosed. Please review and comment in the space provided.

☒ No Comment	
☐ Please be advised of the following concerns:	
☐ See letter attached for detail.	
Agency: Mile High Flood District	**Phone #:** 303-455-6277
Your Name: Katie Kerstiens	**Your Signature:** Katie Kerstiens
(please print)	**Date: 1/23/2024**

Agencies should be advised that failure to submit written comments prior to the due date, or to obtain the applicant's written approval of an extension, will result in written comments being accepted for informational purposes only.

Sincerely,

Trevor Bedford, Senior Planner

Enclosure

Trevor Bedford, Senior 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:	Castle Pines Village, Filing No 14-A, 2nd Amendment
Project File #:	**SB2023-033**
S Metro Review #	REFSP24-00005
Review date:	January 22, 2024
Plan reviewer:	Aaron Miller 720.989.2246 aaron.miller@southmetro.org
Project Summary:	Applicant is requesting a Preliminary Plan for subdivision of 17 single-family residential lots within Planning Area R-20 of Castle Pines Village. The proposal is located northwest of the intersection of Country Club Drive and Golden Bear Lane.
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 no objection to the proposed Preliminary Plan. Applicants and Contractors are encouraged to contact SMFR regarding the applicable permit requirements for the proposed project.

February 1, 2024

Trevor Bedford
Planning Services
Douglas County Community Development
100 Third Street
Castle Rock, CO 80104

Re: SB2023-033, Castle Pines Village Filing No. 14-A

Dear Mr. Bedford:

The letter provides comments regarding the request to approve a Preliminary Plan for subdivision of 17 single-family residential lots within Planning Area R-20 of Castle Pines Village. The proposal is located northwest of the intersection of Country Club Drive and Golden Bear Lane.

Upon review of the ATWELL cultural resource review the Curator has no further recommendations at this time. Please follow ATWELL's recommendations if any discovers are made or resources are found.

There is potential for buried archaeological resources related to prehistoric activities in the project area and potential for the discovery of subsurface cultural deposits during ground moving activities. Should buried artifacts and features be discovered, we recommend a qualified archaeologist evaluate the significance of materials before work continues. If material is significant, we recommend completion of the appropriate Colorado Office of Archaeology and Historic Preservation (OAHP) Data Management and Historic and/or Prehistoric Component forms, following OAHP guidelines, with accompanying sketch maps and photographs. Completed forms are submitted to OAHP to ensure that Douglas County's historic or prehistoric data is included in the Colorado OAHP state-wide database of cultural resources.

Thank you in advance for your attention to the preservation and protection of Douglas County's cultural resources for future generations.

Sincerely,

Brittany Cassell

Brittany Cassell, Curator

External Referral Comments

TO: Trevor Bedford, Douglas County Planning

FROM: Darcie Hartman, Development Services Technician, Development Services Department

DATE: January 16, 2024

SUBJECT: COU24-0002, Project No. SB2023-033

Thank you for the opportunity to review and respond to the Castle Pines Village No.14-A, 2nd Amendment. The application was reviewed by various Town Departments with no concerns from the Town reviewers. Please keep us informed of any changes to the proposal. Thank you.

— THE —
VILLAGE™
CASTLE PINES

February 1, 2024

Douglas County Department of Community Development
Planning Services
Attn. Trevor Bedford, Senior Planner
100 Third Street, Castle Rock, Colorado 80104

Ref: Castle Pines Village Filing No. 14-A, 2nd Amendment
Project File #: SB2023-033

Delivered by E-mail and 1st Class US Mail

Dear Mr. Bedford,

The Castle Pines Homes Association Design Review Committee (DRC) has reviewed the subject plan. In a meeting held with the Developer, the DRC informed him that the following plan modifications are required before the Committee will approve the plan:

1. The installation of at least two off-street parking areas on Trinity Peak Court. These parking areas are required to be of sufficient length and width to accommodate parking for three normal-sized vehicles.
2. Record a fifteen (15) foot landscaping easement in addition to the ten (10) foot utility easement on the rear of lots 9, 10, and 11 to allow for screening of the rear of the homes from Country Club Drive.

If you need additional information or have any questions, please contact me at 303.814.1345 or by email at mark@thevillagecastlepines.com. Thank you.

On behalf of the Castle Pines Homes Association
Sincerely,

Mark G. Larson
General Manager

cc: Design Review Committee
The Aidan Group, Attn: John Niemi

CASTLE PINES HOMES ASSOCIATION, LLC
688 W. Happy Canyon Road – Castle Rock, CO 80108
303.814.1345 | 303.814.1563 | admin@thevillagecastlepines.com

— THE —
VILLAGE
CASTLE PINES

February 27, 2024

Douglas County Department of Community Development
Planning Services
Attn. Trevor Bedford, Senior Planner
100 Third Street, Castle Rock, Colorado 80104

Ref: Castle Pines Village Filing No. 14-A, 2nd Amendment
Project File #: SB2023-033
Castle Pines Homes Association Letter Same Subject Dated February 1, 2022

Dear Mr. Bedford,

The Castle Pines Homes Association Design Review Committee (DRC) had a meeting with the developer of the subject property and reviewed the concerns we raised in our February 1, 2024 letter. Those concerns were:

1. The installation of at least two off-street parking areas on Trinity Peak Court. These parking areas are required to be of sufficient length and width to accommodate parking for three normal-sized vehicles.
2. Record a fifteen (15) foot landscaping easement in addition to the ten (10) foot utility easement on the rear of lots 9, 10, and 11 to allow for screening of the rear of the homes from Country Club Drive.

The developer has agreed to expand the width of road pavement in front of lots 4,5,6 and 7 on Trinity Peak Court to accommodate the parking requirement referenced. The DRC also agreed to reduce the landscaping easement from fifteen (15) feet to ten (10) feet on the rear of lots 9, 10, and 11.

If you need additional information or have any questions, please contact me at 303.814.1345 or by email at mark@thevillagecastlepines.com. Thank you.

On behalf of the Castle Pines Homes Association
Sincerely,

Mark G. Larson
General Manager

cc: Design Review Committee
The Aidan Group, Attn: John Niemi

CASTLE PINES HOMES ASSOCIATION, INC.
688 W. Happy Canyon Road – Castle Rock, CO 80108
T: 303.814.1345 F: 303.814.1563 E: admin@thevillagecastlepines.com
THEVILLAGECASTLEPINES.COM

February 15, 2024

Trevor Bedford, AICP
Douglas County Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, CO 80104

RE: Castle Pines Village Filing No. 14, 2nd Amendment – Preliminary Plan
Project File No. SB2023-033
Post Referral Review Comments

Dear Trevor,
We are hereby re-submitting the revised plat and associated documents for the Castle Pines Village Filing No. 14, 2nd Amendment Preliminary Plat application, Project File No. SB2023-033. This letter provides a summary of the revisions made to the revised plat and the associated documents to address the referral agency comments or concerns received to date. The referral agency comments are summarized in bold font below and the actions taken to address the comments or concerns are shown in unbolded text.

GENERAL COMMENTS:

1. **Add a general note that this will be developed using the alternative development standards.**
2. **Colorado Geological Survey (CGS) has concerns with shallow groundwater in the area and recommends updated water level observations and analysis of proposed surface grades and basement floor elevations relative to the updated water levels. See the CGS referral response for more information.**

Response –

1. *General note 14 has been added to sheet 1 of the preliminary plan.*
2. *The applicant is working with the Geotechnical Engineer to address this comment and we plan to address this as part of the Final Plat and Construction Document Phase when the design will be at a level for lot grading, finished floor elevations, and basement floor elevations can be better established. It is noted that updated water level observations may be needed based on the Geotechnical Engineers recommendations. The geotechnical report for this project has been relied upon for the recent construction of residential homes associated with the first phase directly east of this project known as Filing 41. At the time of Filing 41 approvals, additional geotechnical information was not required nor did subsurface water impede the constructability in Filing 41 which is identified as being closer to the subsurface water compared to Filing 14.*

REFERRAL AGENCY COMMENTS AND CONCERNS:

Addressing Analyst:
The street shown as TRINITY PEAK COURT should be revised to PLACE or POINT.
Contact DCAddressing@douglas.co.us or 303.660.7411 with questions.

Response – Street name has been revised to TRINITY PEAK POINT.

AT&T Long Distance – ROW:
This is in response to your eReferral with a utility map showing any buried AT&T Long Line Fiber Optics near Country Club Dr Castle Pines, Colorado. The Earth map shows the project area in red and 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.

Response – Noted.

Black Hills Energy:
No response received.

Response – No comments were provided.

Building Services:
No comment.

Response – No comments were provided.

Castle Pines Homes Association (CPHA):

1. **The installation of at least two off-street parking areas on Trinity Peak Court. These parking areas are required to be sufficient length and width to accommodate parking for three normal-sized vehicles.**
2. **Record a fifteen (15) foot landscaping easement in addition to the ten (10) foot utility easement on the rear of lots 9, 10, and 11 to allow for screening of the rear of the homes from Country Club Drive.**

Response –

1. *The applicant has worked directly with CPHA's Design Review Committee (DRC) to address the comments received. The Plan has been revised to incorporated a street parking area along the private road Trinity Peak Point to accommodate visitors. The length of this area is approximately 260 ft along curb line, which will provide room for six to eight 9'x20' parking spaces after accounting for the proposed driveways of Lots 4-7. A verbal approval of this concept was provided from the CPHA's Design Review Committee (DRC) in regard to satisfying this comment.*
2. *A 10 ft landscape easement has been added to the plan on the west side of the property at the back of lots 9, 10, and 11, adjacent to Country Club Drive. This 10 ft landscape easement will provide a dedicated area for landscape screening. CORE Electric has required the existing 10 ft telecom easement be increased to a 15 ft telecom easement along County Club Drive in this location as well. This additional telecom easement along with the 10' landscape easement creates a 25' buffer from Country Club Drive and further restricts the ability to grant a larger landscape easement. A verbal approval of this concept provided from the CPHA's Design Review Committee (DRC) in regard to this comment.*
3. *The applicant will continue working directly with CPHA's DRC to provide written approval to their comments.*

Castle Pines Village Metro District:
Castle Pines Metropolitan District (CPMD) has received the provided documents, which are currently under review. Applicants are encouraged to contact CPMD for updates.

Response – The applicant is working directly with the CPMD in regard to the status of their review and will respond to their comments once received.

CenturyLink (Lumen):
No response received.

Response – Noted.

Cherry Creek Basin Water Quality Authority:
The Cherry Creek Basin Water Quality Authority (Authority) acknowledges notification from Douglas County that the proposed development plans for SB2023-033, Castle Pines Village Preliminary Plan Filing 14, 1st Revision 3 have been or will be reviewed by Douglas County for compliance with the applicable Regulation 72 construction and post-construction requirements. Based on the Authority's current policy, the Authority will no longer routinely conduct a technical review and instead the Authority will defer to Douglas County's review and ultimate determination that the proposed development plans comply with Regulation 72. If a technical review of the proposed development plan is needed, please contact LandUseReferral@ccbwqa.org. The review may include consultation with the Authority's Technical Manager to address specific questions or to conduct a more detailed Land Use Review, if warranted.

Response – Noted.

City of Castle Pines:
No response received.

Response – No comments were provided.

Colorado Division of Water Resources:

- **The State Engineer's Office noted, "it is our opinion that the proposed water supply is adequate and can be provided without causing injury to decreed water rights so long as the District is committed to provide water service for this subdivision.**

- **It was also noted that, "The application materials indicate that a stormwater detention structure may be constructed as part of this project.**

Response –

- *Noted. Water supply is considered adequate.*
- *The applicant does want to clarify that there is not a new stormwater detention facility proposed with this development. The existing detention facility north of the site, which accounted for flows from this property will be utilized for stormwater storage.*

Colorado Geological Survey:
Colorado Geological Survey noted in regards to shallow groundwater and basement feasibility, "It would be prudent for the county to require updated water level observations and analysis of proposed surface grades and basement floor elevations (BFE's) relative to updated water levels"

1. *Response – The applicant is working with the Geotechnical Engineer to address this comment and we plan to address this as part of the Final Plat and Construction Document Phase when the design will be at a level for lot grading, finished floor elevations, and basement floor elevations can be better*

established. It is noted that updated water level observations may be needed based on the Geotechnical Engineers recommendations. The geotechnical report for this project has been relied upon for the recent construction of residential homes associated with the first phase directly east of this project known as Filing 41. At the time of Filing 41 approvals, additional geotechnical information was not required nor did subsurface water impede the constructability in Filing 41 which is identified as being closer to the subsurface water compared to Filing 14.

Colorado Parks and Wildlife (CPW):
"CPW would recommend the implications of a weed management plan…"

"Raptors are protected from take, harassment, and nest disruption at both the state and federal levels. Should a nest ever get built or discovered, CPW recommends that buffer zones around nest sites be implemented during any period of activity that may interfere with nesting season."

"…if any earth-moving will begin between March 15th and August 31st, a burrowing owl survey should be performed."

Response –

- *Please see the Weed Management Plan provided with this resubmittal, note that this project is considered a part of Filing No. 43 in the Weed Management plan. The Plan was approved as part of the first phase of development directly east of Filing No. 14 and has been implemented with recent weed mitigation efforts taking place on Filing No. 14.*
- *Noted.*
- *Noted. Note 8 on the Preliminary Plan states these guidelines for burrowing owl survey.*

Comcast:
No response received.

Response – No comments were provided.

CORE Electric Cooperative:

1. **CORE will require a 15-foot utility easement to be granted along Country Club Drive.**
2. **Add the provided note to the Cover Sheet of the Preliminary Plan.**

Response –

1. *A 15-foot utility easement has been added to the Preliminary Plan.*
2. *The requested note has been added to the Cover Sheet of the Preliminary Plan.*

Douglas County Conservation District:
District provided a number of erosion control recommendations including: stockpile and disturbed area seeding and mulching, vehicle tracking control, silt fence, etc.

The District also noted, "There is no Integrated Noxious Weed Control plan…"

Response –

- *Noted. As part of the Final Plat and Construction Document phase of this project, a Grading, Drainage, and Erosion Control (GESC) plan will be prepared in accordance with the Douglas County GESC Manual. This plan will address the concerns mentioned.*
- *Please see the Weed Management Plan provided with this resubmittal, note that this project is considered a part of Filing No. 43 in the Weed Management plan. The Plan was approved as part of the first phase of development directly east of Filing No. 14 and has been implemented with recent weed mitigation efforts taking place on Filing No. 14.*

Douglas County Health Department:

- **"…DCHD is providing a favorable recommendation regarding the proposed method of water service and sewage disposal."**
- **"We recommend that the applicant utilize all available methods to minimize fugitive dust."**

Response –

- *Favorable recommendation is Noted.*
- *As part of the Final Plat and Construction Document phase of this project, a Grading, Drainage, and Erosion Control (GESC) plan will be prepared in accordance with the Douglas County GESC Manual. This plan will provide direction for dust mitigation which will help minimize fugitive dust.*

Douglas County Historic Preservation:

Douglas County Historic Preservation noted, "Upon review of the ATWELL cultural resource review the Curator has no further recommendations at this time. Please follow ATWELL's recommendations if any discoveries are made or resources are found."

Response – Noted.

Douglas County Parks and Trails:

No comment.

Response – No comments were provided.

Douglas County School District RE 1

See response received.

Response – No comments were provided.

Douglas County – Engineering Services:

Public Works Engineering provided the following comments:

1. **Please identify in this Preliminary Plan the street cross section that fits inside the proposed 40' private ROW.**
2. **Please clarify (in the note on the Site Plan) that the "40' wide private urban local" refers to the ROW and not the street section.**
3. **Per County standards the minimum drainage tract/easement is 25'. If the 20' drainage tract is acceptable to the Castle Pines Metro District, then it can remain as such.**
4. **Please define who the owner of Tract A will be.**
5. **Please note the Castle Pines Homes Association will be the owner of the private roadway.**
6. **On the Drainage Plan it appears that the majority of Basin OS1 is tributary to an area located just south of Lot 16. How will this runoff be collected and conveyed to the appropriate detention area? Is it anticipated that a swale section along back of Lots 12-16 will be provided to intercept runoff prior to reaching these lots and that perhaps a Type C inlet will be proposed behind Lot 16 to collect this runoff? An additional drainage tract could be added between Lots 16 and 17 to convey this runoff to the currently proposed storm sewer system.**

Traffic Engineering provided the following comments:

- **"Based on the above interpretation of the 1985 study, the land area being considered already has the number of lots that was anticipated. The 17 proposed lots would be in excess of the number of units designated for this land area."**

Response –
Public Works Engineering

1. *A proposed street cross section has been added to the Preliminary Engineering Plan.*
2. *Due to the addition of the parallel parking along a portion of the roadway, the ROW is no longer a standard 40' width. The text has been revised to read "PRIVATE ROAD R.O.W. VARIES". Two street cross sections have been added to detail the two typical width sections of the private road.*
3. *We will confirm the acceptability of this 20' drainage tract with the Castle Pines Homes Association who will become the tract's owner. It should be noted that 20' wide drainage tracts have been acceptable in adjacent Filings.*
4. *Castle Pines Homes Association will be Tract A's owner and has been noted in the Land Use Summary Table on the preliminary plan.*
5. *Castle Pines Homes Association will the owner of the Private road and has been noted in the Land Use Summary Table on the preliminary plan.*
6. *The Phase II Drainage Report narrative outlines the intent of the design for overland runoff from Basin OS1 will follow existing drainage paths overland into Major Basin A, where side lot drainage swales will convey flows into the proposed roadway. No Type C inlet or drainage tract is proposed in this area.*

Traffic Engineering

- *We have worked directly with the County Engineering Department to satisfy the comments received on the traffic memo. The traffic memo has been updated with our resubmittal to include a section on project trip generation compared to the 1985 Master TIA. This outlines the number of lots anticipated in the Master TIA and how there is a reduction in density compared to the Master TIA and the PD Planning Area. Additional excerpts have also been added to support the traffic memo findings.*

Lytle Water Solutions, LLC:
The State Engineer's Office noted, "…it is our opinion that there is a sufficient water supply to serve Filing 14-A."
Response – Noted.

Mile High Flood District:
No comment.

Response – No comments were provided.

Office of Emergency Management
OEM has no objections to this project.

Response – Noted.

Rural Water Authority of Douglas County
No response received.

Response – No comments were provided.

Sheriff's Office
No response received.

Response – No comments were provided.

Sheriff's Office E911
No response received.

Response – No comments were provided.

South Metro Fire Rescue:
South Metro Fire has reviewed the provided documents and has no objection to the proposed Preliminary Plan. Applicants and Contractors are encouraged to contact SMFR regarding the applicable permit requirements for the proposed project.

Response – Noted.

Town of Castle Rock
The City of Castle Rock noted, "The application was reviewed by various Town Departments with no concern from the Town reviewers."

Response – No comments were provided.

Wildfire Mitigation:
No comment.

Response – No comments were provided.

Xcel Energy – Right of Way & Permits:
Public Service Company requests that the provided language be placed on the preliminary and final plats for the subdivision, as related to utility easements.

Response – The requested language has been added as note 13 on the fist page of the Preliminary Plan.

With these revisions, we hope you now find the revised preliminary plan and related documents acceptable for consideration by the Douglas County Planning Commission and Board of County Commissioners. If you have any additional comments or additional concerns, please feel free to contact me at your earliest convenience.

Thank you,
Manhard Consulting

Daniel Madison, P.E.

April 11, 2024

Trevor Bedford, AICP
Douglas County Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, CO 80104

RE: Castle Pines Village Filing 14-A, 2nd Amendment
Project File No. SB2023-033
Douglas County Planning Services Review Comments

Dear Trevor,

We are hereby re-submitting the revised plat and associated documents for the Castle Pines Village Filing No. 14, 2nd Amendment Preliminary Plan application, Project File No. SB2023-033. This letter provides a summary of the revisions made to the revised plat and the associated documents to address the Douglas County Planning Services comments or concerns received to date. The Douglas County Planning Services comments are summarized in bold font below and the actions taken to address the comments or concerns are shown in unbolded text.

General Comments:

1. **Revise title block to include " Preliminary Plan" on top row and remove line beginning with " A replat of …"**

   Response – Title block has been revised.

2. **Replace "is hereby" with "will be" in several notes. See redlines.**

   Response – Notes have been revied.

3. **Add a note explaining the 10' landscaping easement.**

   Response – A note explaining the 10' landscaping easement has been added.

4. **The proposed 15' telecom easement shown on page 2 should be called a utility easement.**

   Response – The easement text has been revised to utility easement.

5. **Replace General Note 14 of the following note:**

   The Homes to be constructed in this subdivision will be developed in accordance with the alternative development standards per section IV, land use planning areas, Residential, Sub-Section E of the Castle Pines Village Development Guide as recorded at book 600, Page 1 and later amended at Book 619, Page 9.

   Response – Note 14 has been replaced with the note given.

6. **Remove General note 13, as well as the Improvements Note, and replace with the following notes which have been acceptable to both CORE and Xcel on other plats:**

   Non-exclusive utility easements (UE) located as shown are hereby granted for the installation, maintenance, and operations of utilities: including but not limited to street lights, electric lines, gas lines, cable television lines, fiber optic lines, and telephone lines, as well as perpetual right for ingress and egress for installation, maintenance, and replacement of such lines.

   Utility easements as shown heron will not be allowed to be encroached upon by buildings, ornamental columns, window wells, counterforts, patios, decks, accessory structures, monuments, retaining walls and their components.

   Response – Note 13 has been replaced with the note given.

With these revisions, we hope you now find the revised preliminary plan and related documents acceptable for consideration by the Douglas County Planning Commission and Board of County Commissioners. If you have any additional comments or additional concerns, please feel free to contact me at your earliest convenience.

Thank you,
Manhard Consulting

Daniel Madison, P.E.

April 12, 2024

Jason LeTellier
Castle Pines Metropolitan District
5880 Country Club Drive
Castle Rock, CO 80108

RE: Filing 14-A, 2nd Amendment Review
Project File No. SB2023-033
Castle Pines Metro District Review Comments

Dear Jason,
We are hereby re-submitting the revised plat and associated documents for the Castle Pines Village Filing No. 14, 2nd Amendment Preliminary Plan application, Project File No. SB2023-033. This letter provides a summary of the revisions made to the Preliminary Plan, Preliminary Engineering Plans, and Phase II Drainage Report to address the Castle Pines Metropolitan Districts comments or concerns received to date. The Castle Pines Metropolitan District comments are summarized in bold font below and the actions taken to address the comments or concerns are shown in unbolded text.

REFERRAL AGENCY COMMENTS AND CONCERNS:

General Comments:

1. **The Filing 14-A submittal is only a Preliminary Submittal, and NOT a Final Plat submittal. The included plans are not a final construction set of plans and the submitted Drainage Report is only a Phase II Report, and not a complete Phase III Report. (See additional comments below).**

Response – Noted. Construction Documents and Phase III Drainage Report will be provided for review as part of the Final Plat process.

2. **Overall concept of the proposed subdivision appears "acceptable" at the Preliminary Submittal status from and engineering perspective.**

Response – Noted.

3. **Detailed Construction Plans should be developed and submitted prior to final approvals for Filing 14-A. The detailed full engineering design plans should include detailed street, water main, sanitary sewer and storm sewer plan and profiles, as well as other information if/as required by the District and/or Douglas County.**

Response – Noted. Construction Documents will be provided for review as part of the Final Plat process.

Specific Document Comments

Preliminary Plan

1. **The included Project Narrative notes that potable water and sanitary sewer will be provided by Castle Pines Metro District. It is anticipated that appropriate construction of a Sanitary Main and a Potable Water Main, with associated Fire Hydrant(s) will be required within Trinity Peak Court. However, construction plans for the subdivision (grading), Water, Sanitary and Drainage & Streets have NOT BEEN PROVIDED for review and/or approvals.**

Response – Noted. Construction Documents will be provided for review as part of the Final Plat process.

Geotechnical Report:

1. **Construction recommendations within this report should be followed for the proposed subdivision.**

Response – Noted.

Preliminary Plan Exhibit Revised

1. **The district requests a 20' utility easement between lots 9 and 10 for a future water line.**

Response – The alternative 20' utility easement has been added between lots 8 and 9.

2. **This "Revised" Preliminary Plan is identical to the included "original" Preliminary Plan, EXCEPT for removal for the Revised Plan of the following note – which we would anticipate the Castle Pines Metro District may wish to have added back:**

10. The homes to be constructed on lots 1 through 17 will be developed in accordance with the conventional development standards per section IV, land use planning areas, residential, sub-section D of the Castle Pines Village Development Guide as recorded at book 600. Page 1.

Response – See note 15 regarding development standards for Filing 14A, 2nd Amendment.

Drainage Report:

1. **There are some typos and /or errors in the text of the report (as marked up). While not critical to the overall report information, the applicant and/or District may wish to have those corrected before final submittal(s).**

Response –. Typos and errors have been corrected.

2. **The proposed Filing 14-A site will contribute developed runoff to two existing Full Spectrum Detention Ponds, Pond J and Pond K. The submitted Filing 14-A Phase II Drainage Report (re: pdf pg.8) indicated there will be less total SF of impervious area for proposed Filing 14-A than was planned for from the Filing 14-A development stormwater runoff should be adequately addressed in the existing Ponds J & K.**

Response – Additional compliance tables have been added to the report to show that the developed flows for this project are less than was assumed in the original drainage reports and therefore that Ponds J and K have adequate capacity.

3. **Based on the prior comment, Filing 14-A would appear to be adequately provided for by existing Ponds J & K. However, there appears to be some potentially conflicting information as noted in our markups which may suggest a higher overall % Imperviousness for Filing 14-A than was originally planned for. The District requests the applicant provide clarification on this discrepancy.**

Response – Additional compliance tables have been added to the report to show that the developed flows for this project are less than was assumed in the original drainage reports and therefore that Ponds J and K have adequate capacity.

With these revisions, we hope the District will find the submitted documents acceptable. If you have any additional comments or additional concerns, please feel free to contact me at your earliest convenience.

Thank you,
Manhard Consulting

Daniel Madison, P.E.

CASTLE PINES
METROPOLITAN DISTRICT

5880 Country Club Drive, Castle Rock, Colorado 80108
p | 303-688-8330 f | 303-688-8339

January 8, 2024

Douglas County Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, Colorado 80104

Re: Castle Pines Village Filing No. 14-A (2nd Amendment) – Lot 623-A Minor Development
Evidence of Water Supply

To Whom It May Concern:

Pursuant to Section 1805.A.02 of the Douglas County Zoning Resolution, Castle Pines Metropolitan District (the "District") confirms its willingness and ability to serve the parcel that is the subject of Castle Pines Village Filing No. 14-A 2nd Amendment – Lot 623-A.

Service:
The District has committed to providing potable water service to developments within its service area based upon the water supply sources identified in the report provided herewith. The proposed development is within the District. The connection to and use of District lines, mains, and facilities is conditioned upon compliance with all of the rules, regulations, and requirements of the District, including payment of appropriate fees, approval of engineered utility construction drawings, satisfactory inspection of constructed improvements, and purchase of taps or redemption of tap certificates required to serve each proposed home.

Water Demand:
At full build-out, the projected water demand for the District (excluding golf course irrigation demands that are met by treated wastewater and Denver Basin water rights owned by the golf course entities) is approximately 1,690 acre-feet per year. This projected water demand includes the proposed development. Actual water use in 2022 was 1,305 acre-feet.

Water rights underlying the property *have not* been conveyed to Castle Pines Metropolitan District.

Water Supply:
The District's existing water supply, as summarized in the CPMD Denver Basin Water Rights Summary attached hereto, exceeds 3,000 acre-feet per year, and is sufficient to meet the projected District demand of 1,690 acre-feet per year. The District's water supply is decreed for municipal, domestic, and irrigation uses, which uses are consistent with the planned water uses in the proposed development. The District's water supply is sufficient to meet the demands of the proposed development.

Water Quality:
The District treats and tests its water in compliance with Colorado Department of Public Health and Environment requirements and provides high-quality potable water to all of its customers. Please see our most recent Consumer Confidence Report, which has been attached to this letter.

Feasibility of Service:
The District's infrastructure and long-range capital improvements planning are designed to provide service to all properties within its service area and to meet projected build-out demand. It is physically possible and economically feasible for the District to provide service to the proposed development.

Sincerely,

Joshua Shackelford, P.E.
District Manager, Castle Pines Metropolitan District

Enc.: CPMD Denver Basin Water Rights Summary
CPMD Consumer Confidence Report

CPMD Denver Basin Water Rights
6-May-22

Aquifer	Case No.	Decreed Amt. (af/yr)	Aug. Plan	CPMD Amt. NT (af/yr)	CPMD Amt. NNT (af/yr)	CPMD Total NT and NNT
Upper Dawson	85CW4671	153.00		117.70		
	85CW4662	138.00		10.15		
	Subtotal	291.00		127.85		127.85
Lower Dawson	79CW270	558.00		280.29		
	00CW128	55.00		55.00		
	85CW468	34.40			12.60	
	80CW370	72.00		58.80		
	80CW054	202.00		15.65		
	84CW059	354.00	98CW468		1.51	
	Subtotal	1,275.40		409.74	14.11	423.85
Denver	W-8452-76	639.00		567.43		
	00CW128	45.00		45.00		
	80CW371	64.00		60.60		
	85CW469	753.70	85CW469		250.65	
	84CW060	1,432.36	98CW468		107.53	
	17CW3063	6.10	17CW3063		6.10	
	Subtotal	2,940.16		673.03	364.28	1,037.31
Arapahoe	85CW470	1,771.00		1,115.53		
	84CW061	1,724.00		126.81		
	17CW3063	5.90		5.90		
	Subtotal	3,500.90		1,248.24		1,248.24
Laramie-Fox Hills	85CW471	604.00		333.63		
	84CW062	692.00		51.18		
	17CW3063	2.50		2.50		
	Subtotal	1,298.50		387.31		387.31
Total		9,305.96		2,846.17	378.39	3,224.56

CPMD Surface Water Rights
6-May-22

Case No.	Source	Structures	Type	Rate	Volume (af/yr)	Absolute/ Conditional	CPMD Undivided Share
85CW479	East Plum Creek	G-1 & G-2 and alternate points	Direct use and storage	4,000 gpm	1,623.00	Conditional	75%
04CW292	East Plum Creek	G-4 - G-8, S-1 & S-2	Direct use	21 cfs		Conditional	50%
		Plum Creek Reservoir	Storage	100 cfs	1,700, with right to refill	Conditional	50%
		Rueter-Hess Reservoir	Storage	100 cfs	4,000, with right to refill	Conditional	50%
		Denver Basin Aquifers	Storage			Conditional	50%
04CW308	South Platte River and tributaries	Chatfield Reservoir	Storage	Rate of river flow	1,000, with right to refill	Conditional	50%
Combined Limit					4,565.00		

Castle Pines Metropolitan District
2023 Drinking Water
Consumer Confidence Report
For Calendar Year 2022

Public Water System ID # CO0118005

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water.

General Information About Drinking Water

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice about drinking water from their healthcare providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- ***Microbial contaminants***, such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ***Inorganic contaminants***, such as salts and metals, can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ***Pesticides and herbicides*** may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- ***Organic chemical contaminants***, including synthetic and volatile organic chemicals, are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- ***Radioactive contaminants*** can be naturally occurring or be the result of oil and gas production and mining activities.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than in other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline (1-800-426-4791) or at http://www.epa.gov/safewater/lead.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protections for public health.

Our Water Source(s)

Source	Water Type	Potential Sources of Contamination
Well A10	Ground Water	Urban recreational grasses, fallow, deciduous forest, evergreen forest, septic systems, and road miles.
Well De10R	Ground Water	
Well Lda10R	Ground Water	
Well A8	Ground Water	
Well De8	Ground Water	
Well A4R	Ground Water	
Well A12	Ground Water	
Well De2	Ground Water	
Well Lda12	Ground Water	

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. You may obtain a copy of the report by visiting: wqcdcompliance.com/ccr the report is located under "Guidance: Source Water Assessment Reports". Search the table using 118005, CASTLE PINES VILLAGE MD, or by contacting Matt Padgett at 303-688-8330.

Potential sources of contamination in our source water area could come from urban recreational grasses, fallow, deciduous forest, evergreen forest, septic systems, and road miles.

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that **could** occur. It does not mean that the contamination **has or will** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Please contact Matt Padgett at 303-688-8330 to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, and to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

General Water Characteristics

Castle Pines Metropolitan District frequently receives questions relating to the general characteristics of the water being provided. This table summarizes a few key characteristics of the water and offers a brief description. The range represented in this table is representative of the typical water conditions. For more information, please contact Matt Padgett at 303-688-8330.

Parameter	Range	Unit of Measure	Description
pH	7.0 – 7.9	pH	pH is a measure of the acidic or basic properties of a liquid. It uses a scale of 0-14 with a pH of 7 considered neutral. Values less than 7 are acidic and values greater than 7 are basic. Water at Castle Pines Metro District can fluctuate slightly but remains very close to neutral.
Hardness	120 – 171	mg/L	Hardness in water is a measure of the calcium and magnesium content of the water. Higher hardness requires more soap to cause suds and can also leave deposits on glassware, sinks, and anything that is regularly in contact with water. Hardness does not have any impact on health. The hardness at Castle Pines Metro District is considered to be moderate.
	7 – 10	grains/gallon	
Chlorine	0.20 – 0.80	mg/L	Chlorine is added to drinking water to keep the water safe. It provides a disinfection barrier but is not harmful to health at the levels maintained by Castle Pines Metro District. Distance from the water plants is the primary factor in determining the amount of chlorine at a given location.
Iron	0 – 0.10	mg/L	Iron is removed at the water plants at Castle Pines Metro District for aesthetic reasons and is therefore usually not detectable. Water can sometimes increase in iron content as it moves through the distribution system but remains low. There are no health impacts of iron at these levels.

Detected Contaminants

Castle Pines Metropolitan District routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2022, unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, maybe more than one year old. The "Range" column in the table(s) below will show a single value for those contaminants that were sampled only once. Violations, if any, are reported in the next section of this report.

Note: Only detected contaminants appear in this report. If no tables appear in this section, that means that Castle Pines Metropolitan District did not detect any contaminants in the last round of monitoring unless otherwise noted.

Terms and Abbreviations		
Term	**Abbreviation**	**Definition**
Maximum Contaminant Level Goal	MCLG	The 'Goal' is the level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.
Maximum Contaminant Level	MCL	The 'Maximum Allowed' is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Below Detection Level	BDL	Sample results were below minimum detectable amounts
Treatment Technique	TT	A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Action Level	AL	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Maximum Residual Disinfectant Level Goal	MRDLG	The level of a drinking water disinfectant, below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Maximum Residual Disinfectant Level	MRDL	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Average of Individual Samples	No Abbreviation	The typical value. Mathematically it is the sum of values divided by the number of samples.
Range of Individual Samples	No Abbreviation	The lowest value to the highest value.
Number of Samples	No Abbreviation	The number or count of values.
Gross Alpha, Including RA, Excluding RN & U	No Abbreviation	This is the gross alpha particle activity compliance value. It includes radium-226 but excludes radon 222 and uranium.
Microscopic Particulate Analysis	MPA	An analysis of surface water organisms and indicators in water. This analysis can be used to determine performance of a surface water treatment plant or to determine the existence of surface water influence on a ground water well.
Variance and Exemptions	V/E	Department permission not to meet an MCL or a treatment technique under certain conditions.
Parts per million = Milligrams per liter	ppm = mg/L	One part per million corresponds to one minute in two years or a single penny in $10,000.
Parts per billion = Micrograms per liter	ppb = ug/L	One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000.
Parts per trillion = Nanograms per liter	ppt = nanograms/L	One part per trillion corresponds to one minute in 2,000,000 years or a single penny in $10,000,000,000.
Parts per quadrillion = Picograms per liter	ppq = picograms/L	One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.
Picocuries per liter	pCi/L	Picocuries per liter is a measure of the radioactivity in water.
Nephelometric Turbidity Unit	NTU	Nephelometric turbidity unit is a measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Not Applicable	N/A	Not Applicable
Violation	No Abbreviation	A failure to meet a Colorado Primary Drinking Water Regulation.
Formal Enforcement Action	No Abbreviation	An escalated action taken by the State (due to the number and/or severity of violations) to bring a non-compliant water system back into compliance by a certain time, with an enforceable consequence if the schedule is not met.

Disinfectants Sampled in the Distribution System

Treatment Technique Requirement: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm ***OR***
If the sample size is less than 40 samples no more than 1 sample is below 0.2 ppm
Typical Sources: Water additive used to control microbes

Contaminant Name	Time Period	Results	Number of Samples Below-Level	Sample Size	TT Violation	MRDL
Chlorine	December 2022	Lowest period percentage of samples meeting TT requirement: 100%	0	6	No	4.0 ppm

Lead and Copper Sampled in the Distribution System

Analyte Name	Monitoring Period	90th Percentile	Number of Samples	Unit of Measure	Action Level	Sample Sites Above Action Level	AL or TT Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the Action Level (unless specified as short-term)
COPPER	06-14-2021 to 08-28-2021	0.37	20	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
LEAD	06-14-2021 to 08-28-2021	1.3	20	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Disinfection By-Products Sampled in the Distribution System

Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)
Total Trihalomethanes (TTHM)	2022	5.0	5.0 – 5.0	1	ppb	80	N/A	No	Byproduct of drinking water disinfection.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Inorganic Contaminants Sampled at the Entry Point to the Distribution System										
Analyte Name	**Year**	**Average of Individual Samples**	**Range of Individual Samples (Lowest - Highest)**	**Number of Samples**	**Unit of Measure**	**MCL**	**MCLG**	**MCL Violation?**	**Typical Sources**	**Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)**
BARIUM	2021	0.1	0.1 to 0.1	1	ppm	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
FLUORIDE	2021	0.8	0.8 to 0.8	1	ppm	4	4	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
NITRATE	2021	0.2	0.2 to 0.2	1	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
SELENIUM	2017	2.5	0.9 – 4.1	2	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	Hair or fingernail loss; numbness of fingers or toes; circulatory problems

Synthetic Organic Contaminants Sampled at the Entry Point to the Distribution System										
Analyte Name	**Year**	**Average of Individual Samples**	**Range of Individual Samples (Lowest - Highest)**	**Number of Samples**	**Unit of Measure**	**MCL**	**MCLG**	**MCL Violation?**	**Typical Sources**	**Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)**
Di(2-ethylhexyl)phthalate	2017	0.18	0 – 0.71	4	ppb	6	0	No	Discharge from rubber and chemical factories	Possible increased risk of getting cancer

Radionuclides Sampled at the Entry Point to the Distribution System

Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest – Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical sources	Potential Health Effects from Long-Term Exposure Above the MCL (unless specified as short-term)
COMBINED RADIUM	2021	2.2	2.2 to 2.2	1	pCi/L	5	0	No	Erosion of natural deposits.	Some people who drink water containing radium -226 or -228 in excess of the MCL over many years may have an increased risk of getting cancer.
COMBINED URANIUM	2021	0.86	0.86 to 0.86	1	ppb	30	0	No	Erosion of natural deposits	Some people who drink water containing Uranium in excess of the MCL over many years may have an increased risk of cancer.
GROSS ALPHA	2021	3.2	3.2 to 3.2	1	pCi/L	15	0	No	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha in excess of the MCL over many years may have an increased risk of cancer.

Unregulated Contaminants

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod) Consumers can review UCMR results by accessing the NCOD.

***More information about the contaminants that were included in UCMR3 monitoring can be found at: http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx. Learn more about the EPA UCMR at: http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/contact.cfm.

Secondary Contaminants(SC)/ Other Monitoring(OM)	Year	Average	Range	Sample Size	Unit	Secondary Standards/ MCL
SODIUM (SC)	2021	17.8	17.8 to 17.8	1	ppm	N/A

Secondary Contaminants (SC) standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends these standards but does not require water systems to comply. **Other Monitoring (OM)** standards are usually enforceable guidelines for contaminants, which were either voluntarily tested and met or fell within the acceptable range of EPA Standards. Or they were required by the State and were found to have no detectable contaminants.

Violations

Type	Category	Analyte	Compliance Period
No Violations Occurred in the Calendar Year of 2022			

CASTLE PINES
METROPOLITAN DISTRICT

5880 Country Club Drive, Castle Rock, Colorado 80108
p | 303-688-8330 f | 303-688-8339

January 8, 2024

Douglas County Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, Colorado 80104

Re: Castle Pines Village Filing No. 14-A (2nd Amendment) – Lot 623-A Minor Development
Evidence of Sanitation Service

To Whom It May Concern:

This letter confirms that the Castle Pines Metropolitan District will provide sanitary sewer service to the 17 proposed single-family residential lots known as Lots 1 through 17 in Filing No. 14-A (2nd Amendment).

Sincerely,

Joshua Shackelford, P.E.
District Manager, Castle Pines Metropolitan District

CASTLE PINES
METROPOLITAN DISTRICT

5880 Country Club Drive, Castle Rock, Colorado 80108
p | 303-688-8330 f | 303-688-8339

January 8, 2024

Mr. Trevor Bedford, AICP, Senior Planner
Douglas County Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, Colorado 80104

Re: Castle Pines Metropolitan District Presumptive Water Demand Assumptions

Dear Trevor,

This letter is provided to inform Douglas County of the presumptive water demand assumptions used by Castle Pines Metropolitan District (the "District") throughout our service area. In accordance with the Castle Pines Metropolitan District Rules and Regulations, as amended, Article VII, Appendix A EQR Schedule, the District uses one single-family residence (EQR) as the basis for assigning demands to each class of user or land use, whereby 1 EQR is the equivalent demand rate of one single-family residence within the District's service area.

Water Demand:
The total demand for one single-family lot (1 EQR) is based on the rate of 730 gallons per day of water use. Thus, the presumptive water demand is 267,200 gallons per year, or 0.82 acre-feet per year per EQR.

Water Supply:
The District's existing water supply, as summarized in the CPMD Denver Basin Water Rights Summary attached hereto, exceeds 3,000 acre-feet per year, and is sufficient to meet the projected District demand of 1,690 acre-feet per year at full build-out.

Sincerely,

Joshua Shackelford, P.E.
District Manager, Castle Pines Metropolitan District

Enc.: CPMD Denver Basin Water Rights Summary

CPMD Denver Basin Water Rights
6-May-22

Aquifer	Case No.	Decreed Amt. (af/yr)	Aug. Plan	CPMD Amt. NT (af/yr)	CPMD Amt. NNT (af/yr)	CPMD Total NT and NNT
Upper Dawson	85CW4671	153.00		117.70		
	85CW4662	138.00		10.15		
	Subtotal	291.00		127.85		127.85
Lower Dawson	79CW270	558.00		280.29		
	00CW128	55.00		55.00		
	85CW468	34.40			12.60	
	80CW370	72.00		58.80		
	80CW054	202.00		15.65		
	84CW059	354.00	98CW468		1.51	
	Subtotal	1,275.40		409.74	14.11	423.85
Denver	W-8452-76	639.00		567.43		
	00CW128	45.00		45.00		
	80CW371	64.00		60.60		
	85CW469	753.70	85CW469		250.65	
	84CW060	1,432.36	98CW468		107.53	
	17CW3063	6.10	17CW3063		6.10	
	Subtotal	2,940.16		673.03	364.28	1,037.31
Arapahoe	85CW470	1,771.00		1,115.53		
	84CW061	1,724.00		126.81		
	17CW3063	5.90		5.90		
	Subtotal	3,500.90		1,248.24		1,248.24
Laramie-Fox Hills	85CW471	604.00		333.63		
	84CW062	692.00		51.18		
	17CW3063	2.50		2.50		
	Subtotal	1,298.50		387.31		387.31
Total		9,305.96		2,846.17	378.39	3,224.56

CPMD Surface Water Rights
6-May-22

Case No.	Source	Structures	Type	Rate	Volume (af/yr)	Absolute/ Conditional	CPMD Undivided Share
85CW479	East Plum Creek	G-1 & G-2 and alternate points	Direct use and storage	4,000 gpm	1,623.00	Conditional	75%
04CW292	East Plum Creek	G-4 - G-8, S-1 & S-2	Direct use	21 cfs		Conditional	50%
		Plum Creek Reservoir	Storage	100 cfs	1,700, with right to refill	Conditional	50%
		Rueter-Hess Reservoir	Storage	100 cfs	4,000, with right to refill	Conditional	50%
		Denver Basin Aquifers	Storage			Conditional	50%
04CW308	South Platte River and tributaries	Chatfield Reservoir	Storage	Rate of river flow	1,000, with right to refill	Conditional	50%
Combined Limit					4,565.00		

CASTLE PINES
METROPOLITAN DISTRICT

5880 Country Club Drive, Castle Rock, Colorado 80108
p | 303-688-8330 f | 303-688-8339

January 8, 2024

Douglas County Department of Community Development
Planning Services Division
100 Third Street
Castle Rock, Colorado 80104

Re: Castle Pines Village Filing No. 14-A (2nd Amendment) – Lot 623-A Minor Development
Water Division 1, Water District 8
Water Demand Calculation

To Whom It May Concern:

This letter is provided to accompany the attached Water Supply Information Summary for the Castle Pines Village Filing No. 14-A Amendment 2 – Lot 623-A Minor Development. The project is proposed to include 17 single-family residential lots and a drainage tract (Tract A), with homes located on Lots 1 through 17. No irrigation or other proposed water demands are planned for Tract A.

The total water demand for the 17 single-family lots is based on the assumed water demand rate of 0.82 acre-feet per year per lot. This assumed water demand rate includes both household and irrigation use. The total annual water demand for this project is estimated to be 13.94 acre-feet per year (17 lots multiplied by 0.82 acre-feet per year per lot).

Sincerely,

Joshua Shackelford, P.E.
District Manager, Castle Pines Metropolitan District

Enc.: Water Supply Information Summary
CPMD Denver Basin Water Rights Summary

FORM NO.
GWS-76
05/2011

WATER SUPPLY INFORMATION SUMMARY

STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Room 821, Denver, CO 80203
Main (303) 866-3581 water.state.co.us

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County, "Adequate evidence that a water supply that is sufficient in terms of quantity, quality, and dependability will be available to ensure an adequate supply of water."

1. NAME OF DEVELOPMENT AS PROPOSED: Castle Pines Village Filing 14-A, 2nd Amendment - Lot 623-A

2. LAND USE ACTION: Subdivision

3. NAME OF EXISTING PARCEL AS RECORDED:
SUBDIVISION: Castle Pines Village , FILING (UNIT) 14 , BLOCK n/a , LOT 623-A

4. TOTAL ACREAGE: 7.945

5. NUMBER OF LOTS PROPOSED 17 PLAT MAP ENCLOSED? ☒ YES or ☐ NO

6. PARCEL HISTORY – Please attach copies of deeds, plats, or other evidence or documentation.

A. Was parcel recorded with county prior to June 1, 1972? ☐ YES or ☒ NO

B. Has the parcel ever been part of a division of land action since June 1, 1972? ☐ YES or ☒ NO

If yes, describe the previous action:

7. LOCATION OF PARCEL – Include a map delineating the project area and tie to a section corner.

_____1/4 of the NW 1/4, Section 16, Township 7 ☐ N or ☒ S, Range 67 ☐ E or ☒ W

Principal Meridian (choose only one): ☒Sixth ☐New Mexico ☐Ute ☐Costilla

Optional GPS Location: GPS Unit must use the following settings: Format must be **UTM**, Units must be **meters**, Datum must be **NAD83**, Unit must be set to **true N**, ☐ Zone 12 or ☐ Zone 13

Easting: _____

Northing:

8. PLAT – Location of all wells on property must be plotted and permit numbers provided.

Surveyor's Plat: ☒ YES or ☐ NO If not, scaled hand drawn sketch: ☐ YES or ☐ NO

9. ESTIMATED WATER REQUIREMENTS

USE	WATER REQUIREMENTS Gallons per Day	Acre-Feet per Year
HOUSEHOLD USE # 17 of units	12,445	13.94
COMMERCIAL USE # _____ of S. F		
IRRIGATION # _____ of acres		
STOCK WATERING # _____ of head		
OTHER: _____		
TOTAL	12,445	13.94

10. WATER SUPPLY SOURCE

☐ EXISTING WELL ☐ DEVELOPED SPRING

WELL PERMIT NUMBERS

_____

_____

_____

☐ NEW WELLS -

PROPOSED AQUIFERS – (CHECK ONE)

☐ ALLUVIAL ☐ UPPER ARAPAHOE
☐ UPPER DAWSON ☐ LOWER ARAPAHOE
☐ LOWER DAWSON ☐ LARAMIE FOX HILLS
☐ DENVER ☐ DAKOTA
☐ OTHER: _____

☐ MUNICPAL
☐ ASSOCIATION
☐ COMPANY
☒ DISTRICT

NAME CASTLE PINES METROPOLITAN

LETTER OF COMMITMENT FOR SERVICE ☒ YES or ☐ NO

WATER COURT DECREE CASE NUMBERS:

See attached Castle Pines Metropolitan District Denver Basin Water Rights Table

11. WAS AN ENGINEER'S WATER SUPPLY REPORT DEVELOPED? ☒ YES or ☐ NO IF YES, PLEASE FORWARD WITH THIS FORM. (This may be required before our review is completed.)

12. TYPE OF SEWAGE DISPOSAL SYSTEM

☐ SEPTIC TANK/LEACH FIELD

☐ LAGOON

☐ ENGINEERED SYSTEM (Attach a copy of engineering design.)

☒ CENTRAL SYSTEM CASTLE PINES METROPOLITAN DISTRICT

DISTRICT NAME: (TREATMENT BY PLUM CREEK WATER RECLAMATION AUTHORITY)

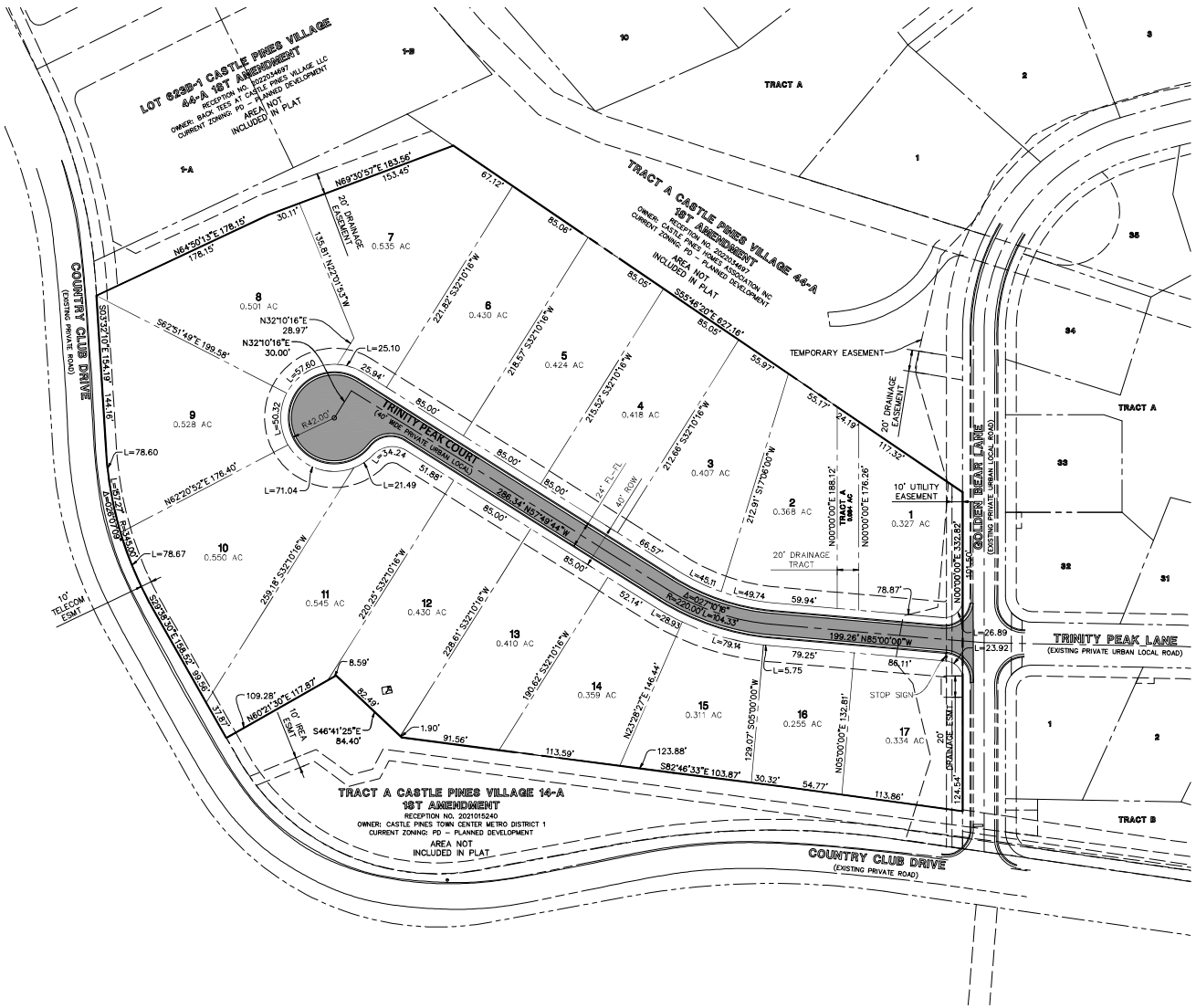
☐ VAULT

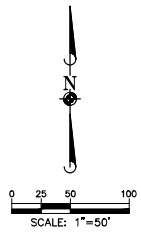
LOCATION SEWAGE HAULED TO: _____

☐ OTHER:

FILING 14-A, 2ND AMENDMENT - LOT 623-A PRELIMINARY PLAN

LYING IN THE NORTHEAST AND NORTHWEST QUARTER OF SECTION 16, TOWNSHIP 7 SOUTH, RANGE 67 WEST OF
THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF DOUGLAS, STATE OF COLORADO
SUBDIVISION OF 7.95 ± ACRES, 17 RESIDENTIAL LOTS, 1 TRACT
PLANNING SERVICES FILE NUMBER : SB2022-033





OWNER–AIDEN GROUP
9360 TEDDY LANE,
SUITE 201
LONE TREE, CO 80124

CONTACT: JOHN NIEMI
PHONE: 303-790-9555

ENGINEER–MANHARD CONSULTING
7600 EAST ORCHARD ROAD
SUITE 150–N
GREENWOOD VILLAGE, CO 80111

CONTACT: DANIEL MADISON
PHONE: 303-708-0500

Manhard CONSULTING
7600 East Orchard Road, Suite 150N, Greenwood Village, CO 80111
Civil Engineering | Surveying | Water Resource Engineering | Geospatial Services | GIS
Water Resource Management | Construction Management

FILING 14-A, 2ND AMENDMENT - LOT 623-A
DOUGLAS COUNTY, COLORADO
SITE PLAN

PROJ. MGR. DJM
PROJ. RESOC. AJH
DRAWN BY:
DATE: 07/28/2023

SHEET
2 OF 6
CPSCRCO03

PRELIMINARY - NOT FOR CONSTRUCTION

Castle Pines Village Preliminary Plan Filing 14A, 2nd Amendment
Project File # SB2023-033
Board of County Commissioner's Staff Report - Page 108 of 191

CPMD Denver Basin Water Rights
6-May-22

Aquifer	Case No.	Decreed Amt. (af/yr)	Aug. Plan	CPMD Amt. NT (af/yr)	CPMD Amt. NNT (af/yr)	CPMD Total NT and NNT
Upper Dawson	85CW4671	153.00		117.70		
	85CW4662	138.00		10.15		
	Subtotal	291.00		127.85		127.85
Lower Dawson	79CW270	558.00		280.29		
	00CW128	55.00		55.00		
	85CW468	34.40			12.60	
	80CW370	72.00		58.80		
	80CW054	202.00		15.65		
	84CW059	354.00	98CW468		1.51	
	Subtotal	1,275.40		409.74	14.11	423.85
Denver	W-8452-76	639.00		567.43		
	00CW128	45.00		45.00		
	80CW371	64.00		60.60		
	85CW469	753.70	85CW469		250.65	
	84CW060	1,432.36	98CW468		107.53	
	17CW3063	6.10	17CW3063		6.10	
	Subtotal	2,940.16		673.03	364.28	1,037.31
Arapahoe	85CW470	1,771.00		1,115.53		
	84CW061	1,724.00		126.81		
	17CW3063	5.90		5.90		
	Subtotal	3,500.90		1,248.24		1,248.24
Laramie-Fox Hills	85CW471	604.00		333.63		
	84CW062	692.00		51.18		
	17CW3063	2.50		2.50		
	Subtotal	1,298.50		387.31		387.31
Total		9,305.96		2,846.17	378.39	3,224.56

CPMD Surface Water Rights
6-May-22

Case No.	Source	Structures	Type	Rate	Volume (af/yr)	Absolute/ Conditional	CPMD Undivided Share
85CW479	East Plum Creek	G-1 & G-2 and alternate points	Direct use and storage	4,000 gpm	1,623.00	Conditional	75%
04CW292	East Plum Creek	G-4 - G-8, S-1 & S-2	Direct use	21 cfs		Conditional	50%
		Plum Creek Reservoir	Storage	100 cfs	1,700, with right to refill	Conditional	50%
		Rueter-Hess Reservoir	Storage	100 cfs	4,000, with right to refill	Conditional	50%
		Denver Basin Aquifers	Storage			Conditional	50%
04CW308	South Platte River and tributaries	Chatfield Reservoir	Storage	Rate of river flow	1,000, with right to refill	Conditional	50%
Combined Limit					4,565.00		

Civil Engineering
Surveying & Geospatial Services
Water Resources Management
GIS Services
Construction Management

February 16, 2024

Douglas County
Department of Public Works
Engineering Division
100 Third Street
Castle Rock, CO 80104

Re: Castle Pines Village Filing 14-A, 2nd Amendment
A replat of Lot 623-A – Traffic Memorandum

PROPOSED LAND USE AND ACCESS

This letter serves to outline the traffic impacts from the proposed Castle Pines Village Filing 14, 2nd Amendment Minor Development project and accounts for the additional trips generated by the proposed plan. The Filing 14-A, 2nd Amendment development proposes seventeen new single-family detached residential homes, and one tract. All site generated trips will access the site from a single point of access on Golden Bear Lane from the proposed roadway of Trinity Peak Point.

AREA ROADWAYS

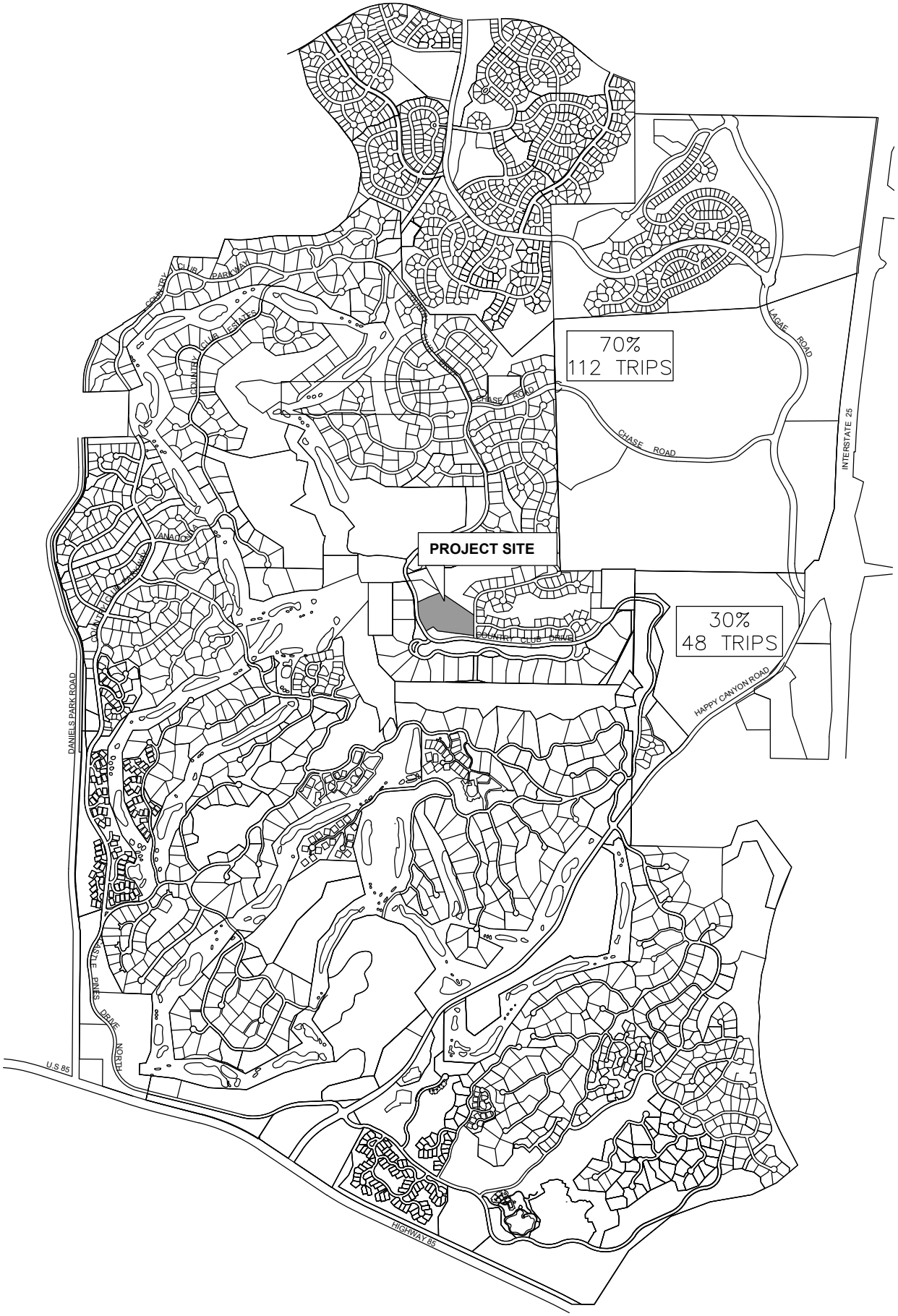
The major roadways in the area are shown on Figure 1 below and include the following:

Country Club Drive / Chase Lane Country Club Drive forms the western and southern boundary of the project and connects to Chase Lane to the north. Chase Lane connects to Lagae Road which provides access to I-25 through a connection with Hess Road to the north and Happy Canyon Road to the south.

Country Club Drive / Happy Canyon Road Country Club drive connects to Happy Canyon Road to the south. Happy Canyon Road functions as a minor arterial through Castle Pines Village and provides access to I-25 to the east and access to US Highway 85 to the west.

FIGURE 1. VICINITY MAP

FIGURE 2. DIRECTIONAL DISTRUBUTION SITE-GENERATED TRAFFIC



TRIP GENERATION

A trip generation summary for the proposed Castle Pines Village Filing 14-A, 2ND Amendment residential development is shown in **Table 1** below. The trip generation rates for the proposed residential development were obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Land Use Code 210 (Single-Family Detached Housing) was used to calculate the number of vehicular trips the development will generate during the following time periods: (1) weekday AM peak hour; (2) weekday PM peak hour; and (3) average weekday.

Table 1
ESTIMATED TRAFFIC GENERATION
Castle Pines Village – Filing 14-A, 2ND Amendment
Douglas County, CO

		Trip Generation Rates (1)					Vehicle Trips Generated				
		Average	AM Peak Hour		PM Peak Hour		Average	AM Peak Hour		PM Peak Hour	
Trip Generating Category	Quantity	Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
Proposed Land Use											
Single-Family Detached Housing (2)	17 DU(3)	9.43	0.182	0.518	0.592	0.348	160	3	9	10	6

Notes:
(1) Source: Trip Generation, Institute of Transportation Engineers, 11th Edition, 2021
(2) ITE Land Use No. 210 (Single-Family) Detached Housing
(3) DU = Dwelling Units

A total of 160 average weekday trips are anticipated with the proposed development, with approximately 12 new trips expected to occur during the AM peak hour and approximately 16 new trips are expected to occur during the PM peak hour.

PROJECT TRIP GENERATION COMPARED TO THE 1985 MASTER TIA

The Master Traffic Impact Analysis titled; *Traffic Impact Analysis Castle Pines Amended Planned Development, prepared by BRW, Inc, and dated March 1985* (Master TIA) outlines the overall traffic analysis for Castle Pines Village. The Master TIA assumed 17 Traffic Analysis Zones (TAZ's) throughout Castle Pines Village to assign trip generation for various land use areas. Our projects is within TAZ 7 abutting TAZ 8 direction to the south, as shown in the Master TIA Figure 4. Per *Table 2 – Site Trip Generation* of the Master TIA, TAZ 7 and TAZ 8 generate 754 and 1,127 daily trips respectively. Using today's ITE Trip Generation Manual, and a rate of 9.43 for residential units we can deduce that TAZ 7 trip generation would yield 80 DU's and TAZ 8 yields 119 DU's. TAZ 7 represents an area of land that has been developed with 80 residential lots with the only remaining undeveloped land being the subject property, Filing 14A. TAZ 8 represents an area of land that has been developed with 82 residential lots and the remaining undeveloped area is zoned open space and will not support future DU's. The Master TIA estimated that together TAZ 7 and TAZ 8 would account for 199 DU's of traffic demand. The proposed Filing 14A development will bring the combined TAZ 7 and TAZ 8 to 179 DU's which is 37 DU's less than the trip generation accounted for in the Master TIA.

The Castle Pines Village Filing 14-A recorded Plat identifies that the subject property, Lot 623, can be developed into 43 allowable units. The proposed project is only developing 17 lots and therefore is reducing to the number of lots planned. The Castle Pines Village PD also outlines the subject property as part of Planning Area R-20 which allows for 2 DU per gross acres of the planning area. With the

proposed Filing 14-A 2nd Amendment planning only 17 residential lots, planning area R-20 will be built out at 1 DU/gross acre, well below the allowable max density.

The proposed development with 17 lots, is a reduction in density assumed in both by the Master TIA and by the PD Planning Area.

TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

The distribution of trips generated by the proposed development was based on the surrounding local road network, the existing traffic patterns, and the proposed local and regional destinations. The new trips for the proposed development were distributed to the surrounding roadway network as detailed below and shown in **Figure 2**.

Roadway Distribution

Chase Road: Overall site trips totaling 112 (70%) are assumed to travel from Country Club Drive to Gate 5 using Chase Road.

Happy Canyon Road: Overall site trips totaling 48 (30%) are assumed to travel from Country Club Drive to Happy Canyon Road.

SUMMARY AND CONCLUSIONS

Based on the analysis presented in this Memo, the following conclusions can be made regarding the traffic impacts of the proposed Castle Pines Village Filing 14-A, 2nd Amendment project:

- The proposed development is expected to generate approximately 160 daily trips with 12 new vehicle-trips occurring during the weekday AM peak hour and 16 new vehicle-trips occurring during the weekday PM peak hour.
- The proposed site generated trips are approximately 10% less trips than what was originally anticipated for the area (TAZ 7 and TAZ 8) in the Master TIA.
- Many factors affect trip generation rates including the average age of residents, affluence, employment status, and lifestyle. The ITE Trip Generation Manual provides a conservative estimate of trips based on the general population. The existing Castle Pines Village Planned Development community has a higher ratio of older and retired residents. As a result, the estimated number of vehicle-trips used herein are believed to be overly conservative.

If you have any questions, please feel free to call me at 303-708-0500.

Sincerely,
Manhard Consulting

Daniel Madison, P.E.
MANHARD CONSULTING

Attachments:

- Excerpts from *Traffic Impact Analysis Castle Pines Amended Planned Development, prepared by BRW, Inc, and dated March 1985* (Master TIA)
- Castle Pines Village Filing 14A Recorded Plat
- Excerpts from *Castle Pines Village Planned Development Guide, dated July 2015* (PD)

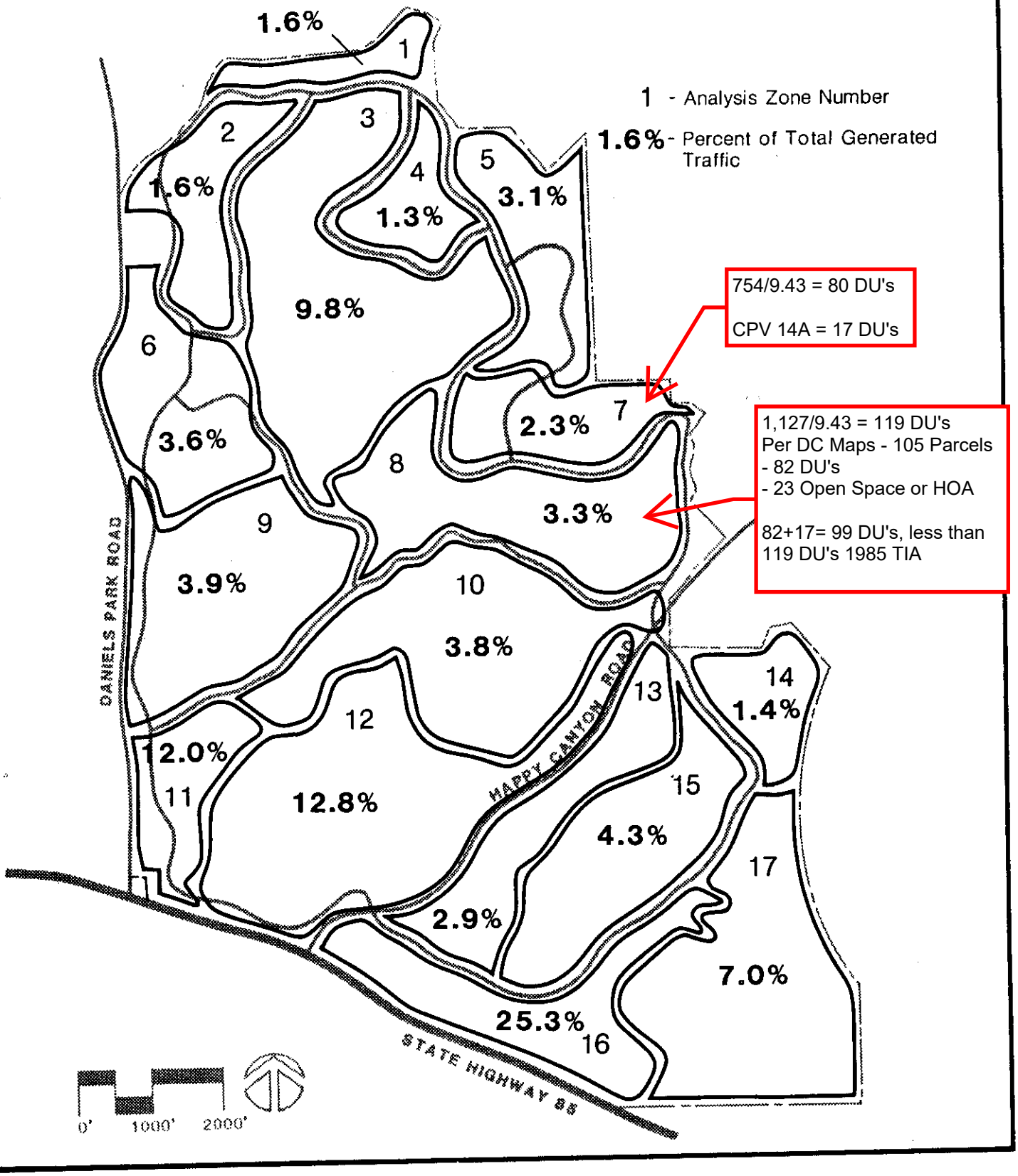
TABLE 2
SITE TRIP GENERATION
CASTLE PINES

ZONE	TOTAL TRIPS DAILY	PM PEAK HOUR	PM PEAK HOUR IN	PM PEAK HOUR OUT
1	530	53	34	10
2	530	58	38	20
3	3,287	341	226	115
4	423	50	33	17
5	1,051	124	83	41
6	1,200	120	77	43
7	754	84	56	28
8	1,127	119	78	41
9	1,287	144	95	49
10	1,273	139	92	47
11	4,009	453	230	223
12	4,282	474	260	214
13	984	116	78	38
14	437	50	33	17
15	1,441	154	101	53
16	8,445	953	472	481
17	2,324	245	160	85
TOTAL	33,384	3,677	2,146	1,531

754/9.43=80 DU's

1,127/9.43=119 DU's

Source: "Trip Generation: An Informational Report", Institute of Transportation Engineers, 1979.



CASTLE PINES
AMENDED PLANNED DEVELOPMENT

Traffic Analysis Zones

4
FIGURE

PLAT IDENTIFICATION SHEET

RECEPTION # : DC9534204

DATE: 7-27-95

TIME: 16:25

FEE: $ 40.00 **(4 Pages)**

GRANTOR: Parcels 4-20 Limited Liability Company
(OWNER/SIGNER)

GRANTEE: Castle Pines Village #14A
(SUBDIVISION NAME OR NAME OF PLAT)

LEGAL: 16-7-67
(SECTION-TOWNSHIP-RANGE)

Plat Correction Affidavit Recorded 8/19/96 #9610038 B-1381 P-1616

Plat Correction Affidavit Recorded 2/29/96 #9610037 B-1381 P-1615

Building Envelope Adjustment Certificate Issued 11/21/95 #9555694

Lot Line Adjustment Cert #9632319 06/13/96 B-1348 P. 1933

CASTLE PINES VILLAGE FILING 14-A

PORTIONS OF PLANNING AREAS R-31, COS-8, R-4 AND R-20

Located in the North 1/2 of Section 16, Township 7 South, Range 67 West of the 6th P.M., Douglas County, Colorado

22 Dwelling Units to be developed using conventional development standards (Lots 601-622), and 43 Allowable Units to be developed using alternative development standards (Lot 623)

70.06 Acres

SURVEYOR'S CERTIFICATE

I, MICHAEL C. CREGGER, a duly registered Professional Land Surveyor in the State of Colorado, do hereby certify that this plat truly and correctly represents the results of a survey made on April 1995, by me or under my direct supervision and that all monuments exist as shown hereon; that mathematical closure errors are less than 1:50,000 (second order); and that said plat has been prepared in full compliance with all applicable laws of the State of Colorado dealing with monuments, subdivisions or surveying of land and all provisions, within my control, of the Douglas County Subdivision Regulations.

I attest the above on this 20th day of July 1995

Michael C. Cregger

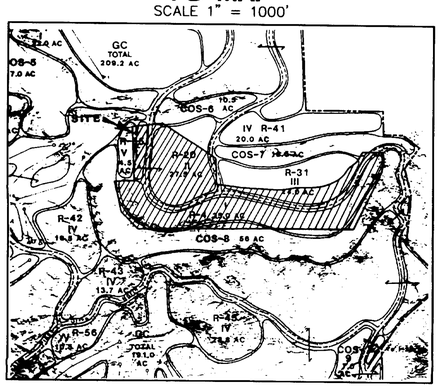
MICHAEL C. CREGGER
Professional Land Surveyor
Colorado Registration No. 22564

NOTICE: According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

COLORADO REGISTERED MICHAEL C. CREGGER 22564 PROFESSIONAL LAND SURVEYOR

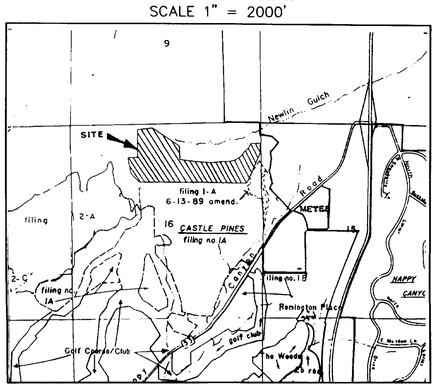
PD MAP

SCALE 1" = 1000'



VICINITY MAP

SCALE 1" = 2000'



GENERAL NOTES:

1. Information regarding existing easements and right-of-ways was obtained from title commitment No. PC1038206-2, dated January 6, 1995, prepared by Land Title Guarantee Company, and does not constitute a title search by TST Inc. of Denver, Consulting Engineers.
2. The building sites will require soils engineering and analysis by qualified soils engineers as follows:
   A. Each site must have a foundation soils analysis;
   B. Any structure built on a slope that exceeds 25% may require special engineering design.
   C. Each site must be evaluated for lot grading with respect to increasing the potential for rockfall on the steep slopes adjacent to the site.
3. Open Space Tracts A, B, C, D, E and F, as platted hereon, are hereby conveyed to Castle Pines Village Filing 14 Homeowner's Association, to be held as common open space and will be maintained by said association.
4. Open Space Tracts G and H, Country Club Drive and Cliffgate Lane as platted hereon, are hereby conveyed to the Castle Pines Homes Association.
5. The Utility and Private Access Easements, as platted hereon, shall be maintained as follows:

   Easement across Lots 601, 602 and 603 shall be maintained jointly by the owners of Lots 601, 602 and 603.

   Easement across Lots 620, 621 and 622 shall be maintained jointly by the owners of Lots 620, 621 and 622.
6. The six foot (6') wide trail easement, as platted hereon, is hereby dedicated to the Castle Pines Homes Association for pedestrian use only by Castle Pines Village residents and their guests. Equestrian, golf cart or other motorized vehicle use is prohibited within this easement.
7. Prior to construction of residential structures on Lots 601, 602, 621 and 622, the lot owner is required to provide a paved surface of adequate width and turn radii within 250 feet of the residential structure for emergency vehicle use in accordance with Castlewood Fire District requirements.
8. All residential structures constructed on the lots platted hereon are required to be contained within the building envelope designated on each lot.
9. Lot 623 is subject to a 30 foot building setback from the right-of-way line of Country Club Drive.
10. By executing this plat, the owners of the lands described hereon have laid out, platted, and subdivided the lands described in this plat into lots, private access easements and tracts, and into water and sanitary sewer main line, general utilities, and drainage easements designated as such on this plat under the name and style of CASTLE PINES VILLAGE FILING 14-A. The owners hereby grant for the benefit of the Castle Pines Metropolitan District (the "District"), the Castle Pines Homes Association, Inc. (the "Association"), cable communication system providers and other public utility providers, as appropriate, the following easements.
    A. Easements as shown on this plat for the purposes of constructing, reconstructing, operating, repairing, replacing and/or removing buried or underground drainage, sanitary sewer main lines, water main lines, street lights, improvements and appurtenances thereto, maintained by the Castle Pines Metropolitan District current policy.
    B. General utility easements as granted by this plat for the purposes of constructing, reconstructing, using, maintaining, repairing, replacing and/or removing utility and drainage facilities, including but not limited to, electric lines, gas lines, telephone lines, cable television lines, and related appurtenances.
11. In addition to the easements described above, the following easements are granted for the benefit of the District, the Association, cable communication system providers, and other public utility providers, as appropriate, and other purposes shown on this plat
    A. Lots shall be subject to an easement for placement, replacement, maintenance, and repair of improvements for irrigation of common area lying outside the boundaries of utility easements as shown on this plat, provided, however, that all above ground improvements utilized for such irrigation purposes shall be placed to comply with the Amended and Restated Declaration and other applicable rules and in a manner so as not to unreasonably interfere with the use of the lots.
    B. Lots shall be subject to an easement for encroachment of roadway, path, and parking improvements outside the boundaries of the roadways, paths and parking areas shown on this plat to accommodate and allow for placement as actually located upon the ground. The Castle Pines Metropolitan District (the "District") is not responsible for maintenance of cut or fill slopes outside of the dedicated right-of-way except to protect the roadway from structural damage. Vegetation and revegetation maintenance will be the responsibility of the adjacent land owner.
    C. Lots shall be subject to easements for encroachments of utility improvements and facilities outside the boundaries of the utility easements as shown on this plat, provided, however, that all such utilities shall be located below the surface of the ground with the exception of electric transformer boxes, telephone service boxes, cable television service boxes, and fire hydrants and appurtenances which shall be located to comply with the Amended and Restated Declaration and other applicable rules and in a manner so as not to unreasonably interfere with the use of the lot.
12. Prior to issuance of a building permit for the twenty-first lot of this plat, a secondary access acceptable to Castlewood Fire District, Douglas County Engineering and the Castle Pines Metropolitan District must be constructed.

LEGAL DESCRIPTION – Castle Pines Village Filing 14-A

A tract of land located in the North half of Section 16, Township 7 South, Range 67 West of the 6th Principal Meridian, Douglas County, Colorado, being described as follows:

Commencing at the Northeast corner of said Section 16, as monumented by a 3-1/2 inch aluminum cap, LS 12046 and considering the North line of the Northeast quarter of said Section 16 to bear South 89°48'23" West, with all bearings contained herein relative thereto; thence South 17°46'02" West, 1724.10 feet to the North line of Castle Pines Filing 1-A, according to the recorded plat thereof, and the POINT OF BEGINNING of this description; thence along said North line, North 89°05'28" West, 2934.92 feet; thence departing said line, North 43°45'34" West, 334.57 feet; thence North 11°00'00" West, 430.00 feet; thence South 90°00'00" East, 280.00 feet; thence North 00°00'00" East, 760.00 feet; thence North 84°30'00" East, 425.00 feet; thence South 55°45'36" East, 903.06 feet; thence South 00°00'00" West, 358.08 feet to the centerline of an existing road; thence the following courses along said centerline: South 81°49'48" East, 381.53 feet; thence along a curve to the left having a delta of 04°03'41", a radius of 1000.00 feet, an arc of 70.89 feet and a chord which bears South 83°51'39" East, 70.87 feet; thence South 85°53'29" East, 375.53 feet; thence along a curve to the left having a delta of 11°46'48", a radius of 640.00 feet, an arc of 131.58 feet, and a chord which bears North 88°13'07" East, 131.35 feet; thence North 82°19'43" East, 142.11 feet; thence along a curve to the right having a delta of 06°59'56", a radius of 600.00 feet, an arc of 73.29 feet and a chord which bears North 85°49'41" East, 73.25 feet; thence North 89°19'39" East, 184.51 feet; thence along a curve to the left having a delta of 24°05'16", a radius of 620.00 feet, an arc of 260.66 feet, and a chord which bears North 77°17'01" East, 258.74 feet; thence North 65°14'23" East, 60.85 feet; thence along a curve to the left having a delta of 32°07'29", a radius of 375.00 feet, an arc of 210.26 feet, and a chord which bears North 49°10'39" East, 207.51 feet; thence North 33°06'54" East, 22.17 feet; thence along a curve to the right having a central angle of 21°31'42", a radius of 205.00 feet, an arc of 77.03 feet, and a chord which bears North 43°52'45" East, 76.57 feet; thence North 54°38'36" East, 50.04 feet; thence along a curve to the left having a delta of 27°44'36", a radius of 255.00 feet, an arc of 123.47 feet, and a chord which bears North 40°46'18" East, 122.27 feet; thence North 26°54'00" East, 83.72 feet; thence departing said centerline, North 89°48'23" East, 274.77 feet to the East line of the Northeast quarter of said Section 16; thence along said East line, South 00°54'32" West, 275.05 feet; thence departing said East line South 26°39'00" West, 897.79 feet to said North line of Castle Pines Filing 1-A; thence along said North line North 89°05'28" West, 110.10 feet to the POINT OF BEGINNING of this description, containing 70.06 acres, more or less.

APPROVAL OF COUNTY COMMISSIONERS

This plat was approved for filing by the Board of County Commissioners of Douglas County, CO, on the 18 day of JULY, 1995, subject to any conditions specified hereon. This approval is with the understanding that all expenses incurred with respect to required improvements for all utility services, paving, grading, landscaping, curbs, gutters, sidewalks, road lighting, road signs, flood protection devices, drainage structures, and all other improvements that may be required shall be the responsibility of the subdivider and not of Douglas County. The responsibility for maintaining private roads, including the removal of snow accumulations, shall be with the subdivider or his assigns in perpetuity.

Chair, Board of County Commissioners — Date 7/27/95

APPROVAL OF PLANNING COMMISSION

The sketch plan for this plat was reviewed by the Planning Commission of Douglas County, Colorado on the 13th day of March, 1995, A.D.

File No: SB94-122

By: Planning Director, on Behalf of the Planning Commission

OWNERSHIP AND DEDICATION CERTIFICATE

The undersigned, being all the owners, mortgagees, beneficiaries of deeds of trust and holders of other interests of the lands described herein, have laid out, subdivided and platted said lands into lots, tracts, streets and easements as shown hereon under the name and subdivision of CASTLE PINES VILLAGE FILING 14-A. All streets and rights-of-way shown hereon are private roads and are also dedicated as utility easements. The rights-of-way for Country Club Drive and Cliffgate Lane are hereby dedicated to the Castle Pines Homes Association.

OWNER

Parcels 4-20 Limited Liability Company,
A Colorado Limited Liability Company

By: Jack M. Stern, Manager

STATE OF COLORADO }
COUNTY OF ARAPAHOE } §

The foregoing instrument was acknowledged before me this 20th day of July, 1995 by Jack M. Stern

WITNESS my hand and official seal.

My commission expires: 12/10/95

Notary Public

TITLE VERIFICATION

We, Land Title Guarantee Company, duly qualified, insured, and licensed by the State of Colorado, do hereby certify only that we have examined the title of all land platted hereon and that title to such land is in the dedicators free and clear of all liens, taxes, and encumbrances, except as shown.

7/27/95 — Date

By: Title Officer, Land Title Guarantee Company

STATE OF Colorado }
COUNTY OF Douglas } §

The foregoing instrument was acknowledged before me this 27th day of July, 1995 by Beth Miller.

WITNESS my hand and official seal.

My commission expires: 7-13-99

Notary Public

PATRICIA M. BENEFIEL
NOTARY PUBLIC
STATE OF COLORADO
My Commission Expires 7-13-99

CLERK AND RECORDER'S CERTIFICATE

STATE OF Colorado }
COUNTY OF Douglas }

I hereby certify that this instrument was filed in my office on this 27th day of July, 1995 at 10:50 o'clock a.m./p.m. and was recorded at Reception Number

By: County Clerk

OWNER/DEVELOPER:

Parcels 4-20 Limited Liability Company
42 Inverness Drive East, Suite 100
Englewood, CO 80112

ENGINEER/SURVEYOR:

TST Inc. of Denver, Consulting Engineers
102 Inverness Terrace East, Suite 105
Englewood, CO 80112

TST INC. OF DENVER Consulting Engineers

Castle Pines Village Filing 14-A

SHEET 1 OF 4

Sun Jul 16 23:58:07 1995

CASTLE PINES VILLAGE FILING 14-A

PORTIONS OF PLANNING AREAS R-31, COS-8, R-4 AND R-20

Located in the North 1/2 of Section 16, Township 7 South, Range 67 West of the 6th P.M., Douglas County, Colorado

22 Dwelling Units to be developed using conventional development standards (Lots 601-622), and 43 Allowable Units to be developed using alternative development standards (Lot 623)

70.06 Acres

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C001	665.00	136.72	136.48	N88°13'07"E	11°46'48"
C002	575.00	70.24	70.19	S85°49'41"W	06°59'56"
C003	645.00	39.60	39.59	N87°34'08"E	03°31'02"
C004	645.00	135.17	134.92	N71°14'36"E	12°00'26"
C005	400.00	212.79	210.29	N49°59'58"E	30°28'50"
C006	25.00	36.42	33.28	N52°27'32"W	83°27'43"
C007	140.00	280.45	235.85	S46°39'33"W	114°46'27"
C008	825.00	419.83	415.32	S89°28'03"W	29°09'26"
C009	75.00	46.90	46.14	S87°11'46"E	35°49'47"
C010	225.00	109.28	108.21	S83°11'44"E	27°49'42"
C011	275.00	227.74	221.29	N73°23'05"W	47°26'59"
C012	325.00	150.17	148.83	S83°52'22"E	26°28'25"
C012A	325.00	39.92	39.90	S74°09'18"E	07°02'17"
C012B	325.00	110.25	109.72	S87°23'31"E	19°26'08"
C013	175.00	85.00	84.16	N83°11'44"W	27°49'42"
C014	125.00	78.17	76.90	N87°11'46"W	35°49'47"
C014A	125.00	13.74	13.73	S72°25'48"E	06°17'51"
C014B	125.00	64.43	63.72	N89°39'18"E	29°31'56"
C015	775.00	394.39	390.15	S89°28'03"W	29°09'26"
C015A	775.00	155.70	155.44	N80°38'40"E	11°30'39"
C015B	775.00	213.17	212.50	S85°43'13"E	15°45'35"
C015C	775.00	25.52	25.52	S76°53'50"E	01°53'12"
C016	190.00	160.83	156.08	S79°47'44"W	48°30'03"
C016A	190.00	83.35	82.68	S88°31'16"E	25°08'04"
C016B	190.00	77.49	76.95	N67°13'42"E	23°21'59"
C017	25.00	27.64	26.25	S87°13'05"W	63°20'44"
C018	125.00	176.13	161.92	N78°31'25"E	80°44'04"
C018A	125.00	84.93	83.31	S80°34'25"E	38°55'44"
C018B	125.00	79.45	78.12	N61°45'12"E	36°25'03"
C018C	125.00	11.75	11.75	N40°51'02"E	05°23'17"
C019	25.00	21.03	20.41	N62°15'05"E	48°11'23"
C020	50.00	241.19	66.67	N51°50'36"W	276°22'46"
C020A	50.00	111.19	89.66	N53°40'31"E	127°25'00"
C020B	50.00	129.99	96.35	N11°51'54"E	148°57'46"
C021	25.00	21.03	20.41	S14°03'42"W	48°11'23"
C022	75.00	70.40	67.85	N65°02'55"E	53°47'03"
C023	25.00	49.98	42.07	N30°46'52"W	114°33'24"
C024	190.00	119.96	117.98	N08°24'34"E	36°10'32"
C025	25.00	37.93	34.39	N33°47'04"E	86°55'31"
C026	651.00	14.99	14.99	N65°53'58"E	01°19'09"
C027	406.00	144.75	143.99	N55°01'32"E	20°25'41"
C028	406.00	82.88	82.74	N38°57'48"E	11°41'47"
C029	174.00	65.38	64.99	S43°52'45"W	21°31'42"
C030	286.00	136.25	134.97	N40°59'43"E	27°17'46"
C030A	286.00	14.08	14.08	N53°13'57"E	02°49'18"
C030B	286.00	122.17	121.24	N39°35'04"E	24°28'28"
C031	150.00	163.52	155.54	N58°34'37"E	62°27'33"

TST

TST INC. OF DENVER Consulting Engineers

Castle Pines Village Filing 14-A

SHEET 2 OF 4

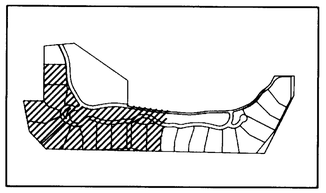
CASTLE PINES VILLAGE FILING 14-A

PORTIONS OF PLANNING AREAS R-31, COS-8, R-4 AND R-20

Located in the North 1/2 of Section 16, Township 7 South, Range 67 West of the 6th P.M., Douglas County, Colorado

22 Dwelling Units to be developed using conventional development standards (Lots 601-622), and 43 Allowable Units to be developed using alternative development standards (Lot 623)

70.06 Acres



SHEET INDEX

CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C006	395.00	180.08	178.52	S16°33'54"E	26°07'14"
C007	265.00	67.78	67.59	S36°57'09"E	14°39'15"
C008	25.00	49.53	41.82	S12°28'58"W	113°31'27"
C009	75.00	65.53	63.46	N85°43'34"W	50°03'29"
C010	125.00	396.20	249.98	S28°30'04"W	181°36'14"
C010A	125.00	122.48	117.64	N88°46'00"W	56°08'21"
C010B	125.00	94.60	92.35	S41°29'03"W	43°21'33"
C010C	125.00	71.02	70.07	S03°31'37"W	32°33'19"
C010D	125.00	108.58	105.20	S37°38'08"E	49°46'09"
C011	165.00	203.73	191.04	N82°06'24"E	70°44'47"
C011A	165.00	119.17	116.60	S83°12'40"E	41°22'56"
C011B	165.00	84.56	83.64	N61°24'56"E	29°21'51"
C012	75.00	87.86	82.92	N80°17'37"E	67°07'12"
C013	625.00	403.36	396.39	S84°38'06"E	36°58'38"
C013A	625.00	59.98	59.96	S68°53'45"E	05°29'56"
C013B	625.00	210.61	209.61	S81°17'56"E	19°18'26"
C013C	625.00	132.76	132.51	N82°57'43"E	12°10'15"
C014	260.00	97.29	96.73	N87°35'48"E	21°26'24"
C014A	260.00	86.19	85.80	N86°22'24"E	18°59'37"
C014B	260.00	11.10	11.10	S82°54'24"E	02°26'47"
C015	125.00	103.36	100.44	N74°37'43"E	47°22'32"
C015A	125.00	47.44	47.16	N87°26'35"E	21°44'49"
C015B	125.00	46.19	45.92	N65°59'05"E	21°10'11"
C015C	125.00	9.73	9.73	N53°10'13"E	04°27'32"
C017	325.00	269.15	261.52	S73°23'05"E	47°26'59"
C017A	325.00	128.71	127.87	S66°19'42"E	22°41'29"
C017B	325.00	30.19	30.18	S52°19'16"E	05°19'22"
C018	275.00	227.74	221.29	S73°23'05"E	47°26'59"
C019	250.00	346.44	319.38	S89°21'34"E	79°23'57"
C020	75.00	62.01	60.26	N74°37'43"E	47°22'32"
C021	310.00	116.00	115.33	N87°35'48"E	21°26'24"
C022	575.00	371.09	364.68	S84°38'06"E	36°58'38"
C023	125.00	146.43	138.20	N80°17'37"E	67°07'12"
C024	115.00	142.00	133.15	N82°06'24"E	70°44'47"
C025	85.00	229.54	165.88	S14°50'35"W	154°43'35"
C026	125.00	100.91	98.19	S69°04'46"W	46°15'13"
C027	25.00	29.98	28.22	N80°18'45"E	68°43'11"
C028	265.00	162.92	160.37	S82°56'24"E	35°13'29"
C029	740.00	241.81	240.73	N88°48'31"E	18°43'21"
C030	1025.00	72.66	72.64	S83°51'38"E	04°03'41"
C031	5.00	11.86	9.27	S13°37'55"E	135°51'06"
C032	80.00	214.77	155.84	S21°32'03"W	153°48'57"
C033	5.00	11.86	9.27	N56°42'02"E	135°51'06"
C034	130.00	148.66	140.69	S21°32'03"W	65°31'09"
C035	200.00	277.16	255.50	S89°21'34"E	80°35'32"
C039	300.00	216.95	212.25	S81°20'00"E	41°26'02"
C039A	300.00	181.28	178.53	S77°55'37"E	34°37'18"
C039B	300.00	35.67	35.65	N81°21'21"E	06°48'45"
C041	225.00	69.14	68.87	S05°17'53"W	17°36'21"
C042	75.00	56.99	55.63	S07°40'00"E	43°32'08"

MATCH LINE – SEE SHEET 4

MATCH LINE – SEE SHEET 2

COUNTRY CLUB AT CASTLE PINES GOLF COURSE SUBDIVISION

LOT 5

LOT 601

LOT 602
1.99 ACRES

LOT 603
2.25 ACRES

LOT 604
2.63 ACRES

LOT 605
2.23 ACRES

LOT 606
1.86 ACRES

LOT 607
1.59 ACRES

LOT 608
1.83 ACRES

LOT 609
1.73 ACRES

LOT 610
1.75 ACRES

LOT 611
1.83 ACRES

LOT 612
1.77 ACRES

LOT 613

LOT 623
(MAXIMUM OF 43 UNITS ALLOWABLE ON THIS SITE AS PER DEVELOPMENT GUIDE)
12.43 ACRES

OPEN SPACE TRACT A
6.89 ACRES

OPEN SPACE TRACT B
0.80 ACRES

OPEN SPACE TRACT D
0.39 ACRES

OPEN SPACE TRACT E
0.14 ACRES

OPEN SPACE TRACT F
0.48 ACRES

OPEN SPACE TRACT G
0.24 ACRES

COUNTRY CLUB DRIVE

CLIFFGATE LANE

PLANNING AREA R-20 UNPLATTED

PLANNING AREA R-31 UNPLATTED

PLANNING AREA COS-8 UNPLATTED

CASTLE PINES FILING 1-A COMMUNITY OPEN SPACE

ROAD & UTILITY EASEMENT BOOK 852, PAGE 1153 (NO WIDTH SPECIFIED) ALSO ROAD EASEMENT BOOK 852, PAGE 1167 (NO WIDTH SPECIFIED)

FOUND OR SET #4 REBAR W/ CAP MARKED: TST 22564 (TYPICAL)

FOUND OR SET #4 REBAR W/ CAP MARKED: TST 22564 AT 21' OFFSET OUT OF EXISTING ROADWAY. (TYPICAL)

FOUND PK NAIL W/ BRASS TAG TST 22564 IN ROCK

10' UTILITY EASEMENT (TYPICAL)

BLDG. ENVELOPE (TYPICAL)

6' TRAIL & UTILITY EASEMENT

30' SANITARY SEWER EASEMENT

20' UTILITY EASEMENT

30' UTILITY & PRIVATE ACCESS EASEMENT

N90°00'00"E 320.61

S90°00'00"E 280.00

N00°00'00"W 760.00

N00°00'00"W 278.60

S00°00'00"W 358.08

N89°45'12"E 302.88

S81°49'44"E 381.53

S85°53'29"E 375.53

N79°26'51"E 129.73

N81°49'44"W 451.52

N11°00'00"W 280.24

N43°45'34"W 334.57

S29°37'31"E 158.41

S40°30'02"E 95.23

S70°11'44"E 188.48

N64°23'56"E 239.43

S62°31'12"E 96.02

S81°58'52"E 247.90

N89°05'28"W 2934.92

TST INC. OF DENVER
Consulting Engineers

Castle Pines Village
Filing 14-A
SHEET 3 OF 4

Sun Jul 16 11:45:17 1995

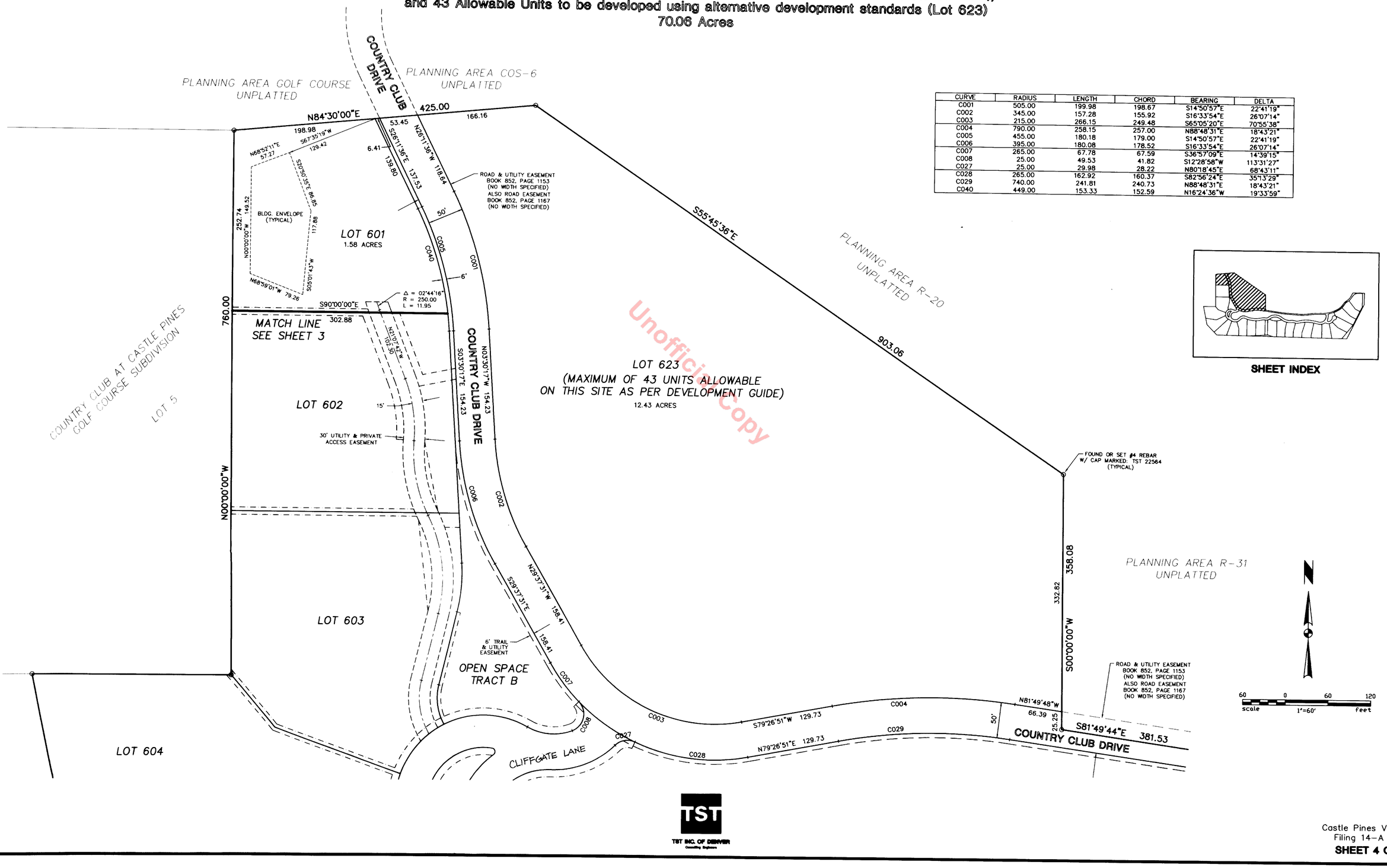
CASTLE PINES VILLAGE FILING 14-A

PORTIONS OF PLANNING AREAS R-31, COS-8, R-4 AND R-20

Located in the North 1/2 of Section 16, Township 7 South, Range 67 West of the 6th P.M., Douglas County, Colorado

22 Dwelling Units to be developed using conventional development standards (Lots 601-622), and 43 Allowable Units to be developed using alternative development standards (Lot 623)

70.06 Acres



CURVE	RADIUS	LENGTH	CHORD	BEARING	DELTA
C001	505.00	199.98	198.67	S14°50'57"E	22°41'19"
C002	345.00	157.28	155.92	S16°33'54"E	26°07'14"
C003	215.00	266.15	249.48	S65°05'20"E	70°55'38"
C004	790.00	258.15	257.00	N88°48'31"E	18°43'21"
C005	455.00	180.18	179.00	S14°50'57"E	22°41'19"
C006	395.00	180.08	178.52	S16°33'54"E	26°07'14"
C007	265.00	67.78	67.59	S36°57'09"E	14°39'15"
C008	25.00	49.53	41.82	S12°28'58"W	113°31'27"
C027	25.00	29.98	28.22	N80°18'45"E	68°43'11"
C028	265.00	162.92	160.37	S82°56'24"E	35°13'29"
C029	740.00	241.81	240.73	N88°48'31"E	18°43'21"
C040	449.00	153.33	152.59	N16°24'36"W	19°33'59"

SHEET INDEX

TST INC. OF DENVER
Consulting Engineers

Castle Pines Village
Filing 14-A

SHEET 4 OF 4

Sun Jul 16 12:01:23 1995

Exhibit A.1

TABULATION OF PLATTED UNITS

CASTLE PINES AMENDED P.D.

Planning Area	Acres	Maximum D.U./Acre	# Units Approved / Platted	Date of Platting / Approval	Revisions / Replats	Date of Revisions / Replats
R-1	22.0	1				
R-2	27.5	1				
R-3	67.5	1				
R-4	35.0	1				
R-5	36.5	1				
R-6	60.0	1				
R-7	147.0	1	77	06/23/81		
R-8	23.2	1	13	06/23/81		
R-9	14.5	1	12	06/23/81		
R-10	16.5	1				
R-11	6.0	1	4	06/23/81		
R-12	104.8	1	82	11/17/81		
R-13	***See RP Parcels below***					
R-14	54.0	2				
R-15	9.5	2				
R-16	12.5	2				
R-17	8.5	2				
R-18	8.0	2				
R-19	57.5	2				
R-20	27.5	2				
R-21	45.0	2				
R-22	22.0	2				

Section VIII: Master Plan

CTL | THOMPSON INCORPORATED

GEOLOGIC AND PRELIMINARY GEOTECHNICAL INVESTIGATION CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44 NORTHWEST OF COUNTRY CLUB DRIVE AND CLIFFGATE LANE CASTLE PINES, COLORADO

Prepared For:

CASTLE PINES SUMMIT, LLC
9360 Teddy Lane, Suite 201
Lone Tree, Colorado 80124

Attention: John Niemi

Project No. DN48,342.001-115-R1

February 13, 2019

1971 West 12th Avenue | Denver, Colorado 80204 | Phone: 303-825-0777 | Fax: 303-825-4252

TABLE OF CONTENTS

SCOPE

This report presents the results of our Geologic and Preliminary Geotechnical Investigation for Castle Pines Village Preliminary Plans No. 41 and 44 (formerly known as Upper Meadows Parcel) in Castle Pines, Colorado (Fig. 1). The report was originally prepared in November 2016 under our Project No. DN48,342.000. We understand Castle Pines Summit, LLC has purchased the property and plans to develop the site. We have updated the report based on a revised site layout. The purpose of our investigation was to evaluate subsurface conditions to assist in planning of site development and residential construction. The report includes descriptions of soil and bedrock strata, groundwater conditions found in our exploratory borings in 2016, and discussions of site development and construction as influenced by geotechnical considerations. The scope was described in a Service Agreement (DN 18-0638) dated December 10, 2018.

This report is based on subsurface conditions found in our exploratory borings, results of field and laboratory tests, engineering analysis of field and laboratory data, and our experience. The discussions and criteria presented in this report are intended for planning purposes only. Additional investigation will be necessary to design foundations and floor systems, pavements and other improvements. A summary of our conclusions and recommendations follows, with more detailed discussion in the report.

SUMMARY OF FINDINGS AND CONCLUSIONS

1. The primary geologic hazards are expansive soil and bedrock, and very shallow groundwater. The presence of cemented sandstone at and below grade will likely create challenging excavation conditions.

2. Strata encountered in our exploratory borings consisted of about 1 to 15 feet of sandy clay underlain by sandstone, claystone and interbedded claystone/sandstone bedrock. Silty to clayey sand was encountered from the ground surface in two borings. Very hard, cemented sandstone was encountered at relatively shallow depths in twenty-three of twenty-six borings. Drilling refusal occurred at depths of 3 to 20.5 feet in nine borings. Testing indicates the sandy clay, claystone, and interbedded

claystone/sandstone are expansive, and we judge the sand and sandstone are non-expansive.

3. During the initial investigation (TH-1 through TH-13) groundwater was encountered during drilling in six borings at depths of 9 to 14 feet. When the holes were checked in May 2016, groundwater was measured in eleven borings at depths of about 0.5 to 11 feet. On July 29, 2016 groundwater was measured in six holes at depths of 6 to 10.5 feet. The remaining holes were dry or could not be found.

   Groundwater was encountered during drilling of our subsequent investigation (TH-14 through TH-26) in four borings at depths of 9 to 25 feet. When checked in August 2016 water was measured in five borings at depths of about 6 to 23.5 feet.

   The data indicate groundwater is likely perched on or near the surface of the cemented sandstone.

4. We generally recommend keeping basements at least 3 and preferably 5 feet above groundwater. Installation of an interceptor drain along the western and southern perimeter of the site is recommended to facilitate basement construction. We understand an underdrain below the sanitary sewer mains and an interceptor drain are planned as part of the development.

5. Excavation of cemented sandstone will likely require rock excavation methods including the use of heavy ripping, pneumatic hammers, rock saws, and/or blasting.

6. Non-expansive sand and sandstone, and variably expansive sandy clay, claystone and interbedded claystone/sandstone are present at depths likely to impact shallow foundations and slabs-on-grade. The data suggest the higher swelling claystone layers are relatively thin. Based on preliminary data, we estimate total potential heave could range from about less than 0.5 to 4.4 inches at the existing ground surface considering a 24-feet depth of wetting. A majority of the heave estimates are 1-inch or less.

7. Shallow foundations can be used where low swelling or non-expansive soil and bedrock are found at depths likely to influence foundation performance. Deep foundations should be anticipated for areas where higher swelling clay and claystone are present near anticipated basement levels. The presence of very hard sandstone may require use of micropiles rather than drilled piers.

8. Slab-on-grade basement floors are suitable for low and some moderate risk sites. Structurally-supported floors should be used in non-basement finished living areas. A preliminary estimate of risk of poor slab-on-grade

basement floor performance for each boring is presented on Fig. 6. In areas of moderate risk (TH-5 and TH-11) structurally supported basement floors may be necessary.

9. Pavement subgrade will likely consist of primarily of sandy clay, sandstone bedrock, or fill of similar composition. Sandy clay is considered to have relatively poor pavement support characteristics. Sand and sandstone are considered better subgrade material. Douglas County specifies a minimum composite section of 3 inches of asphalt over 6 inches of base course or a full depth asphalt section of 5 inches for local streets and minor collectors. Where sandy clay subgrade is present, thicker pavements may be necessary. A design-level subgrade investigation should be performed prior to paving.

10. Overall surface drainage should be designed to provide rapid run-off of surface water away from the proposed structures. Water should not be allowed to pond near the crest of slopes, or on or adjacent to pavements.

SITE CONDITIONS

Castle Pines Village Preliminary Plans No. 41 and 44 (formerly known as Upper Meadows Parcel) are located northwest of Country Club Drive and Cliffgate Lane in Castle Pines, Colorado (Photo 1). The property is bordered by Country Club Drive to the south and west, the Castle Pines Metropolitan District facility to the east, and undeveloped land and single-family residences on the north

The ground is covered with grasses and scattered scrub oak and pines. The site slopes west to east with an overall relief of about 50 feet. A ravine runs through the center of the parcel with some visible outcrops of cemented sandstone. The outcrops are visible in the Photo 1. An existing water line runs from the adjacent metropolitan district facility through the ravine to the western edge of the property.

Photo 1 – Google Earth© Aerial Site Photo, June 2017

We reviewed historical aerial photographs to evaluate previous site uses that could impact development, soil behavior, and foundation performance. The photographs indicate that, outside of installation of buried utilities and streets adjacent to the parcel, little development activity has occurred since 1937. Evidence of previous earthwork on the site was not apparent.

PROPOSED DEVELOPMENT

We understand the property is planned for residential development. Plans provided by David Evans & Associates show 60 single-family lots with associated infrastructure are planned within Preliminary Plan No. 41 and 23 single-family lots are planned within Preliminary Plan No. 44. An open space area with trails will be included in the ravine, in the middle portion of the parcel. A detention area and drainage outfall structures are also planned within the ravine. We anticipate the residences will be one or two-story, wood framed structures with basements and attached multi-car garages. Some lots will likely be graded for walk-out basement construction. We envision devel-

opment consisting of residential roadway construction and installation of buried utilities, with some minor overlot grading. Access to the subdivision will occur via Country Club Drive on the south and Oxford Peak Lane on the north.

INVESTIGATION

We initially investigated subsurface conditions in 2016 by drilling and sampling thirteen borings (TH-1 through TH-13) within Preliminary Plan No. 41. These borings were drilled to depths of 3 to 25 feet below existing ground elevations. Some borings required the use of a buggy-mounted drill rig due to very soft surface soil conditions caused by shallow groundwater in April and May, 2016.

We subsequently drilled thirteen additional borings (TH-14 through TH-26) within Preliminary Plan No. 44 on August 10, 2016 (Fig. 1). The borings were spaced about 300 to 500 feet apart. The borings were advanced to depths of 7 to 25 feet using 4-inch diameter, continuous-flight auger, and a truck-mounted CME-45 drill rig. Drilling depths of six borings were limited by refusal in cemented sandstone.

Prior to both drilling events, we contacted the Utility Notification Center of Colorado and local sewer and water districts to identify locations of buried utilities.

Samples of the soil and bedrock were obtained at 5-feet intervals using a 2.5-inch diameter (O.D.) modified California barrel sampler driven by a 140-pound hammer falling 30 inches. A bulk sample of the auger cuttings in the upper 10 feet of one boring was also obtained. Our representatives were present during drilling to observe drilling operations, log the soil and bedrock encountered, and obtain samples. Upon completion of drilling, the holes were left open to facilitate delayed groundwater measurements. The boring locations and existing ground surface elevations were surveyed by others. Summary logs of the borings are presented in Appendix A.

Samples of soil and bedrock were returned to our laboratory where they were examined by our engineers. Laboratory tests included dry density, moisture content, percent silt and clay-sized particles (passing the No. 200 sieve), Atterberg limits, and swell-consolidation. Swell-consolidation tests were performed by wetting the samples under approximate existing overburden pressures (the pressure exerted by the overlying soil). Results of laboratory tests are presented in Appendix B and summarized in Table B-I.

SUBSURFACE CONDITIONS

Strata encountered in our exploratory borings consisted of about 1 to 15 feet of sandy clay underlain by sandstone, claystone and interbedded claystone/sandstone bedrock. Silty to clayey sand was encountered from the ground surface in two borings. Pertinent engineering characteristics of the soil and bedrock are described in the following paragraphs.

Clay and Sand

About 1 to 15 feet of sandy clay was encountered from the ground surface in twenty-four borings. The clay was medium stiff to very stiff based on results of field penetration resistance tests. One sandy clay sample compressed 0.2 percent, one did not swell, and nine swelled 0.1 to 6.9 percent when wetted. Three samples contained 50 to 75 percent silt and clay-sized particles and exhibited moderate to high plasticity. Up to 8 feet of silty to clayey sand was encountered in TH-13 and TH-22. We judge the sand is non-expansive.

Bedrock

Bedrock was encountered in all twenty-six borings at depths ranging from 1 to 15 feet below the existing ground surface. The bedrock consisted of sandstone, claystone and interbedded claystone/sandstone. Sandstone was predominant. The bedrock was

weathered to very hard. Layers of very hard, cemented sandstone were encountered in twenty-three borings. Drilling refusal occurred in nine borings at depths of 3 to 20.5 feet. We have summarized the depth to the hard bedrock and estimated surface elevation at each boring on Fig. 2and the estimated depth to cemented sandstone from existing grades on Fig. 3.

One claystone sample compressed 1.1 percent and nine swelled 0.5 to 6.5 percent when wetted. Two claystone samples contained 52 and 72 percent silt and clay-sized particles. Two interbedded bedrock samples swelled 1.0 and 2.1 percent when wetted and three contained 31 to 73 percent silt and clay-sized particles. Eight sandstone samples contained 10 to 41 percent silt and clay-sized particles.

Groundwater

During the initial investigation (TH-1 through TH-13) groundwater was encountered during drilling in six borings at depths of 9 to 14 feet. When the holes were checked in May 2016, groundwater was measured in eleven borings at depths of about 0.5 to 11 feet. On July 29, 2016 groundwater was measured in six holes at depths of 6 to 10.5 feet. The remaining holes were dry or could not be found.

Groundwater was encountered during drilling of our subsequent investigation (TH-14 through TH-26) in four borings at depths of 9 to 25 feet. When checked in August 2016 groundwater was measured in five borings at depths of about 6 to 23.5 feet.

The data indicate groundwater is likely perched on or near the surface of the cemented sandstone. The drop in groundwater between May and July likely represents seasonal variation.

GEOLOGIC HAZARDS

Geology and geologic hazards were evaluated using available literature and site reconnaissance. According to the Geologic Map of the Sedalia Quadrangle, Douglas County, Colorado (Morgan, M.L., McHarge, J.L., Barkmann, P.E., 2005), the site is underlain at shallow depth by the Dawson Formation (middle Eocene) which consists of subangular to well-rounded clasts of quartz and feldspar. Lenses of fine claystone up to several feet in thickness are often found within the formation. Our borings indicate that sandy clay and sand overly the sedimentary bedrock. The clay and claystone are expansive.

Our study identified conditions on the site that constitute potential geologic hazards. These hazards can be mitigated with proper planning, engineering, design and construction. The hazards we identified include:

- Expansive soil and bedrock,
- Shallow Groundwater, and
- Regional issues of seismicity and radioactivity.

These hazards and conceptual mitigation methods are discussed in the following sections. The presence of cemented sandstone will also influence development and residence construction.

<u>Expansive Soil and Bedrock</u>

The sandy clay, claystone, and interbedded claystone/sandstone bedrock encountered are expansive. There is risk that ground heave will damage pavements, slabs-on-grade and foundations. We used the results of swell tests to evaluate the potential heave of the soil and bedrock. The analysis involves dividing the soil profile into layers and modeling the swell characteristics of each layer from representative tests using a 24-feet depth of wetting below existing grades. Based on the swell-consolidation test results and our experience, we have estimated the potential ground heave for each

boring as shown in Table A. We have also provided our opinion of estimated risk of poor basement slab-on-grade performance on Fig. 6.

TABLE A
ESTIMATED POTENTIAL HEAVE

Boring	Estimated Heave at Existing Grade (inch)	Relative Risk of Poor Basement Slab Performance
TH-1	2.2	Low
TH-2	1.1	Low
TH-3	1.1	Low
TH-4	<0.5	Low
TH-5	1.5	Moderate*
TH-6	<0.5	Low
TH-7	<0.5	Low
TH-8	0.7	Low
TH-9	2.8	Low
TH-10	0.6	Low
TH-11	<0.5	Moderate*
TH-12	<0.5	Low
TH-13	<0.5	Low
TH-14	3.1	Low
TH-15	<0.5	Low
TH-16	<0.5	Low
TH-17	1.3	Low
TH-18	<0.5	Low
TH-19	4.4	Low
TH-20	<0.5	Low
TH-21	<0.5	Low
TH-22	<0.5	Low
TH-23	0.6	Low
TH-24	<0.5	Low
TH-25	1.9	Low
TH-26	0.8	Low

*Moderate risk due to claystone present near anticipated basement level

Cemented Sandstone

Although cemented sandstone is not necessarily a geologic hazard, it will present excavation challenges. Rock outcrops were observed during our site visit in the ravine running through the center portion of the parcel. In addition to visible outcrops, relatively shallow, very hard, cemented sandstone was encountered in twenty-three borings. The

depth to very hard cemented sandstone varied from 1 to 16 feet. We have summarized the depths and elevations of very hard cemented sandstone on Figs. 2 and 3.

The presence of cemented sandstone could present challenging excavation conditions. Overlot grading in cemented sandstone using scrapers will likely be limited. Utility trench excavations using backhoes may also be restricted. The sandstone will likely require rock excavation methods using heavy rippers, blasting, rock saws, and/or pneumatic hammers. In order to reuse the rock it would need to be broken down to pieces no larger than 6-inches in diameter and blended with soil-like fill.

Seismicity

No potentially active faults are known near the site. The soil and bedrock units are not expected to respond unusually to seismic activity. According to the International Residential Code (IRC) for seismic design, we believe the site classifies as Site Class C.

Shallow Groundwater

Groundwater was encountered at depths of 0.5 to 11 feet below this site in May of 2016 and at depths of 5.5 to 23.5 feet in July/August of 2016. The data indicate groundwater is likely perched on or near the surface of cemented sandstone.
We typically recommend at least 3 feet, preferably 5 feet, of clearance between groundwater and basements. We believe groundwater issues can be reduced, if not eliminated, through installation of subsurface drains.

Radioactivity

It is normal in the Front Range of Colorado and nearby eastern plains to measure radon gas in poorly ventilated spaces in contact with soil or bedrock. Radon-222 gas is considered a health hazard and is one of several radioactive products in the chain of the

natural decay of uranium into stable lead. Radioactive nuclides are common in the soils and sedimentary rocks underlying the subject site. Because these sources exist on the site, there is potential for radon gas accumulation in poorly ventilated spaces (e.g. residential basements). The amount of soil gas that can accumulate is a function of many factors, including the radio-nuclide activity of the soil and bedrock, construction methods and materials, pathways for soil gas and existence of poorly-ventilated accumulation areas. Typical mitigation methods consist of sealing soil gas entry areas and periodic ventilation of below-grade spaces and perimeter drain systems. Radon rarely accumulates to significant levels in well-ventilated above-grade spaces. The only reliable method to determine the concentration of radon is to perform testing after construction.

SITE DEVELOPMENT

The primary geotechnical concerns that we believe will influence development and building performance are the presence of expansive soil and bedrock, cemented sandstone, and shallow groundwater. These concerns can be mitigated with proper planning, engineering, design and construction. We believe there are no geologic or geotechnical constraints at this site that would preclude development. The following sections discuss site development considerations.

Excavation

We believe the soil and a portion of the bedrock penetrated by our exploratory borings can be excavated with typical heavy-duty equipment. Cemented sandstone will likely require heavy ripping, blasting, rock saws, and/or pneumatic hammers. Contractors should be familiar with applicable local, state and federal safety regulations, including the current Occupational Safety and Health Administration (OSHA) Excavation and Trench Safety Standards. Based on our investigation and OSHA standards, we anticipate the sandy clay will classify as Type B or C soil, the sand as Type C, and the bedrock as Type A or B. Type A, B and C soils require maximum slope inclinations of

¾:1,1:1, and 1½:1 (horizontal:vertical), respectively, for temporary excavations in dry conditions. Saturated soils may necessitate more shallow inclination. Excavation slopes specified by OSHA are dependent upon soil types and groundwater conditions encountered. The contractor's "competent person" is required to identify the soils encountered in the excavations and refer to OSHA standards to determine appropriate slopes. Stockpiles of soils and equipment should not be placed within a horizontal distance equal to one-half the excavation depth, from the edge of the excavation. A professional engineer should design excavations deeper than 20 feet.

Slopes

We recommend permanent cut and fill slopes be designed with a maximum grade of 3:1 (horizontal to vertical). If site constraints do not permit construction with recommended slope, we should be contacted to evaluate the subsurface soils and steeper slopes. Surface drainage should not be allowed to sheet flow across slopes or pond near the crest of slopes. All cut and fill slopes should be designed and re-vegetated as soon as possible after grading to reduce potential for erosion problems.

Site Grading

We were provided grading plans for Preliminary Plan No. 41 which shows relatively minor grading is planned for a majority of the site. The deepest cuts (up to about 10 feet) are planned along the southern portion of the parcel and fills up to about 8 feet are planned at the north end of the site. The on-site soil and bedrock can be used as grading fill provided vegetation and other deleterious materials are removed. Cemented sandstone was found at or very near proposed grades and anticipated basement levels for a majority of the site. Where cemented sandstone is removed it can be broken into pieces no larger than 6-inches in diameter and blended with grading fill. We can evaluate other uses of this material upon request.

If imported fill material is required, it should ideally consist of granular soil having a maximum particle size of 3-inches and contain less than 50 percent silt and clay-sized particles (passing the No. 200 sieve). The import material should exhibit a liquid limit less than 40 percent and a plasticity index of less than 20 percent. Other fill materials not meeting the above criteria may be acceptable and should be reviewed by us prior to import.

Fill Placement

Prior to fill placement, debris, vegetation, organic matter, tree roots and deleterious material should be substantially removed from areas to receive fill. The excavation surface should be scarified to a depth of at least 8 inches (where possible), moisture conditioned and compacted to the criteria below. The on-site soils free of vegetation are suitable for use as site grading fill. Site grading fill should be placed in thin (8 inches or less) loose lifts, moisture conditioned to within 2 percent of optimum moisture content for sand and between optimum and 3 percent above optimum moisture content for clay, and compacted to at least 95 percent of standard Proctor maximum dry density (ASTM D 698). The placement and compaction of site grading fill should be observed and density tested by our representative during construction. Guideline site grading specifications are presented in Appendix C.

The properties of fill will affect the performance of foundations, slabs-on-grade, utilities, and pavements. Our experience indicates fill and backfill can settle, even if properly compacted to criteria provide above. Factors that influence the amount of settlement are depth of fill, material type, degree of compaction, amount of wetting and time. The degree of compression of fill under its own weight will likely range from low for granular soils (½ percent or less), to moderate for clay/sand mixtures (1 to 2 percent).

Subsurface Drains

Groundwater concerns were identified that merit the use of subsurface drains. A discussion of anticipated drains for this project is presented below.

Underdrain below Public ROW

Our firm advocates underdrain systems below sanitary sewer mains and services to control water that may accumulate in response to development. Underdrains also help to control shallow water and unusually deep wetting, which can lead to higher frequency of settlement or heave-related foundation problems and frequent pumping from basement foundation drain systems. We understand an underdrain system is planned below all of the proposed sanitary sewer mains throughout the development.

The underdrain should consist of ¾ to 1.5-inch clean, free draining gravel surrounding a perforated PVC pipe (Fig. 7). We believe use of perforated pipe below sanitary sewer mains is the most effective approach to control groundwater. The line should consist of smooth, perforated, or slotted rigid PVC pipe placed at a grade of at least 0.5 percent. A positive cutoff (concrete) should be constructed around the sewer pipe and underdrain pipe immediately downstream of the point where the underdrain pipe leaves the sewer trench (Fig. 8). Solid pipe should be used down gradient of this cutoff wall. The underdrains should be designed to discharge to a gravity outfall constructed with a permanent concrete headwall and trash rack. The underdrain should be installed with clean-outs. To reduce the risk of cross-connecting sewer and underdrain services, we recommend using a 4-inch diameter pipe for sewer services and 3-inch diameter pipe for the underdrain services.

Where feasible, the underdrain services should be installed deep enough so that the lowest point or the sump pit of the basement foundation drain can be connected to the underdrain service as a gravity outlet (Fig. 8). For non-walkout basements, the low point of the basement foundation drain may be about 3 feet deeper than the sewer service. For residences with walkout basements, the low point of the basement foundation drain will be below the frost stem wall in the rear portion of the basement. The foundation drain in a walkout basement would require a deeper underdrain service for a gravity discharge and may not be practical. For these conditions, we suggest the front portion of the foundation drain be connected to the underdrain and a sump pit and pump used for the rear portion.

Interceptor Drain

We recommend an interceptor drain along the perimeter of the western and southern borders of Preliminary Plan No. 41 (Fig. 5). If permitted, the drain may be constructed in a common trench with the sanitary sewer. The drain should include washed gravel with 4-inch perforated pipe in a trench, or Mirafi G200N (or equivalent) drain board attached to a 4-inch perforated pipe in a trench (Figs. 10 and 11). The drain depth, slope, exact location, and outfall should be evaluated as part of grading design. The drain should bottom at least 3 feet below adjacent basements. We are available to assist in design of the interceptor drain.

Utilities

Water and sewer lines are usually constructed beneath paved roads. Hard rock excavation should be anticipated at this site. Compaction of trench backfill can have a significant effect on the life and serviceability of pavements. Trench backfill should be placed in thin (8 inches or less) loose lifts and be moisture conditioned and compacted as described in Fill Placement. The placement and compaction of trench fill and backfill should be observed and tested by our firm during construction.

We do not recommend compaction of trench backfill using a sheepsfoot wheel attachment on a backhoe or trackhoe. The upper portion of the trenches should be widened to allow the use of a self-propelled compactor. Special attention should be paid to backfill placed adjacent to manholes as we have seen instances where settlement in excess of 2 percent has occurred. Any improvements placed over backfill should be designed to accommodate movement.

Pavements

Pavement subgrade will likely consist primarily of sandy clay, sandstone bedrock, or fill of similar composition. Sandy clay is considered to have relatively poor pavement support characteristics. Sand and sandstone are considered better subgrade material. Douglas County specifies a minimum composite section of 3 inches of asphalt over 6 inches of base course or a full depth asphalt section of 5 inches for local streets and minor collectors. Where sandy clay subgrade is present, thicker pavements may be necessary. Douglas County also requires swell mitigation which often includes placement of 12 inches of additional base course when pavement subgrade samples swell more than 2 percent under an applied pressure of 100-150 psf. A design-level subgrade investigation should be performed prior to paving.

BUILDING CONSTRUCTION CONSIDERATIONS

The following discussions are preliminary and are not intended for design or construction. Design-level investigations should be performed on a lot-specific basis after grading is complete.

Foundations

The borings indicate most of the site is underlain by comparatively shallow sandstone. There are some locations where comparatively high swelling sandy clay, clay-

stone and interbedded claystone/sandstone are present. Footing foundations can be used where low swelling or non-expansive soil and bedrock are found. We believe that non-expansive or low swelling soil and bedrock underlie most of the parcel. For areas where higher swelling samples of claystone and interbedded claystone/sandstone were encountered; deep foundations should be anticipated. Use of micropiles (not drilled piers) may be necessary due to very hard rock.

Slab-On-Grade Construction

Slab-on-grade floors may be considered for basement floors for non-expansive/low swell sites. We believe the majority of the site is low-risk for poor basement slab performance. TH-5 and TH-11 were considered moderate risk due to presence of claystone bedrock near anticipated basement levels (Fig. 6).

The following precautions will be required to reduce the potential for damage due to movement of slabs-on-grade placed at this site:

1. Isolation of the slabs from foundation walls, columns and other slab penetrations;

2. Voiding of interior partition walls to allow for slab movement without transferring the movement to the structure;

3. Flexible water and gas connections to allow for slab movement. A flexible plenum above furnaces will be required; and

4. Proper surface grading and foundation drain installation to reduce water availability to sub-slab and foundation soils.

Structurally-supported basement floors are recommended where a buyer cannot tolerate potential movement. Structurally-supported floor systems should be anticipated in all non-basement finished living areas. Design and construction issues associated with structural floors include ventilation and lateral loads. Where structurally-supported floors are installed over a crawl space, the required air space depends on the materials

used to construct the floor and the potential expansion of the underlying soils. Building codes require a clear space of 18 inches between exposed earth and untreated wood floor components.

Below-Grade Areas

Surface water can penetrate relatively permeable loose backfill soils located adjacent to buildings and collect at the bottom of relatively impermeable basement excavations causing wet or moist conditions. Basement and below grade foundation walls should be designed for lateral earth pressures. Foundation drains should be constructed around the lowest excavation levels and ideally should be connected to an underdrain system to provide a gravity outlet.

Surface Drainage

The performance of improvements will be influenced by surface drainage. When developing an overall drainage scheme, consideration should be given to drainage around each residence. The ground surface around the residences should be sloped to provide positive drainage away from the foundation. We recommend a slope of at least 10 percent for the first 10 feet surrounding each residence, where practical. If the distance between houses is less than 20 feet, the slope in this area should be 10 percent to the swale between houses. Where possible, drainage swales should slope at least 2 percent; more slope is desirable. Variation from these criteria is acceptable in some areas. For example, for lots graded to direct drainage from the rear yard to the front, it is difficult to achieve the recommended slope at the high point behind the house. We believe it is acceptable to use a slope of about 6 inches in the first 10 feet at this location. Roof downspouts and other water collection systems should discharge well beyond the limits of all backfill around structures.

Proper control of surface runoff is also important to control the erosion of surface soils. Concentrated sheet flow should not be directed over unprotected slopes. Water should not be allowed to pond at the crest of slopes. Permanent slopes should be prepared in such a way to reduce erosion.

Attention should be paid to compact the soils behind curb and gutter adjacent to streets and in utility trenches during the development. If surface drainage between preliminary development and construction phases is neglected, performance of the roadways, flatwork and foundations may be poor.

RECOMMENDED FUTURE INVESTIGATIONS

Based on the results of the investigation and the proposed development, we recommend the following investigations and services by our firm:

1. Consultation during design of sub-surface drains.
2. Construction testing and observation during site development, including compaction testing of grading fill, utility trench backfill, and pavements;
3. Subgrade investigation and pavement design after grading;
4. Design-level Soils and Foundation Investigations after grading; and
5. Foundation installation observations.

LIMITATIONS

Our borings were widely spaced to provide a general picture of subsurface conditions for preliminary planning of development and residential construction. We believe this investigation was conducted in a manner consistent with that level of care and skill ordinarily used by geotechnical engineers practicing under similar conditions. No warranty, express or implied, is made.

If we can be of further service in discussing either the contents of this report or the analysis of the influence of subsurface conditions on the design of the proposed development, please call.

CTL | THOMPSON, INC.

Chris Fitzsimmons, E.I.T.
Staff Engineer

Reviewed by:

Ronald M. McOmber
Feb 13 2019

Ronald M. McOmber, P.E.
Chairman, Senior Principal

CF:RMM/nn

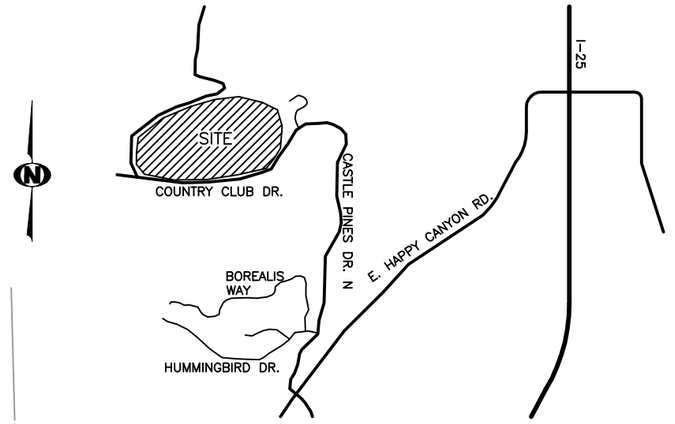
Via e-mail: johnn@mesahd.com
Johnw@mesahd.com
Matt.Buster@deainc.com

LEGEND:

TH–1 ● LOCATION OF EXPLORATORY BORING DRILLED APRIL/MAY, 2016.

TH–14 ○ LOCATION OF EXPLORATORY BORING DRILLED AUGUST, 2016.

0 100 200
SCALE: 1" = 200'



VICINITY MAP
NOT TO SCALE

PRELIMINARY PLAN NO. 44

PRELIMINARY PLAN NO. 41

TH–1 TH–2 TH–3 TH–4 TH–5 TH–6 TH–7 TH–8 TH–9 TH–10 TH–11 TH–12 TH–13 TH–14 TH–15 TH–16 TH–17 TH–18 TH–19 TH–20 TH–21 TH–22 TH–23 TH–24 TH–25 TH–26

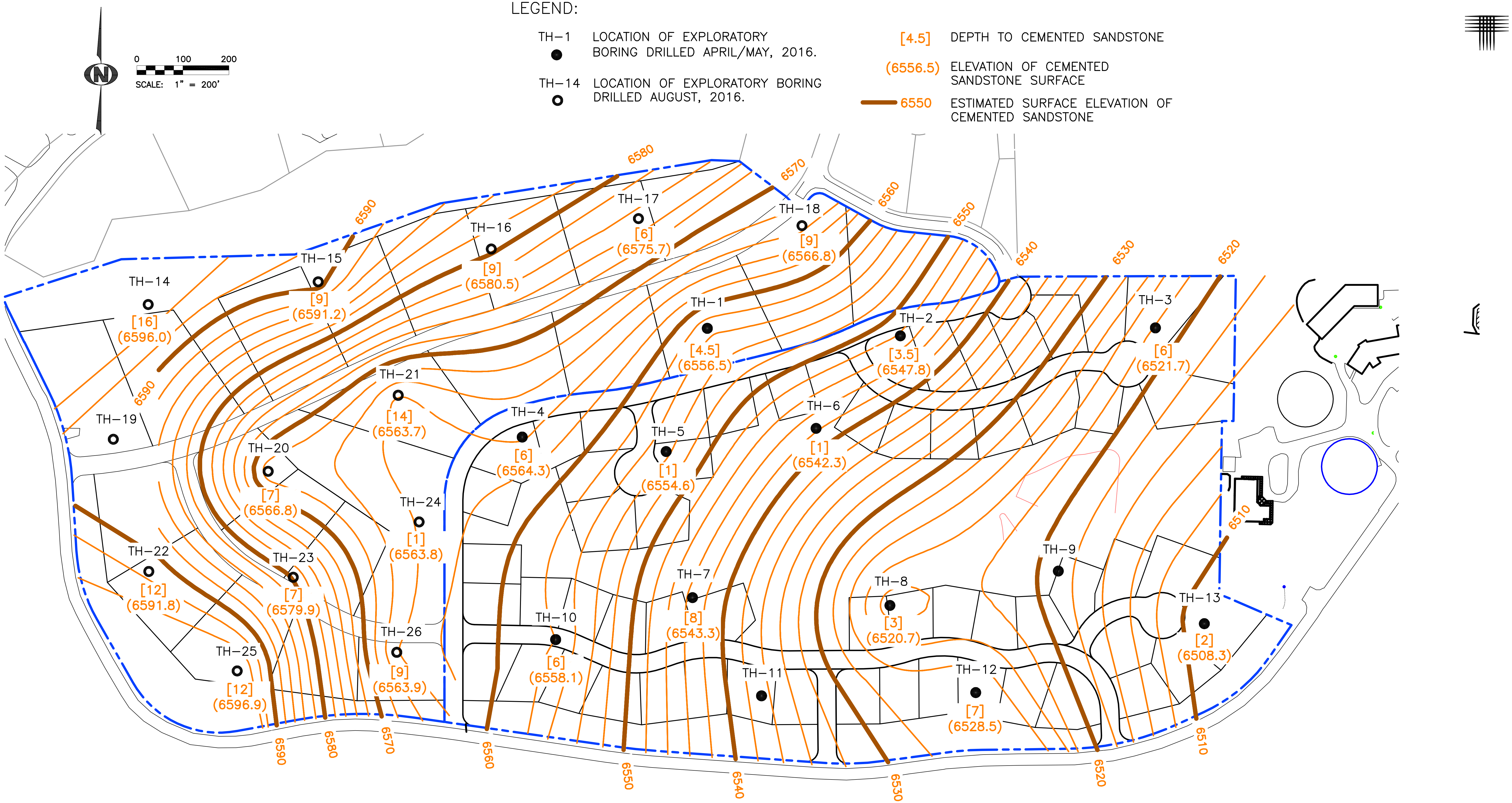
OXFORD PEAK LN.
GOLDEN BEAR LN.
STEWART PEAK WAY
VESTAL PEAK CT.
TRINITY PEAK LN.
PARNASSUS CT.
COUNTRY CLUB DR.
TRACT C

Locations of Exploratory Borings

Fig. 1

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
Castle Pines Village Preliminary Plan Filing 14A, 2nd Amendment
Project File # SB2023-033
Board of County Commissioner's Staff Report - Page 148 of 191

CTLT Project No. DN48,342.001-115-R1


SCALE: 1" = 200'
0 100 200
LEGEND:
TH-1 LOCATION OF EXPLORATORY BORING DRILLED APRIL/MAY, 2016.
TH-14 LOCATION OF EXPLORATORY BORING DRILLED AUGUST, 2016.
[4.5] DEPTH TO CEMENTED SANDSTONE
(6556.5) ELEVATION OF CEMENTED SANDSTONE SURFACE
6550 ESTIMATED SURFACE ELEVATION OF CEMENTED SANDSTONE
TH-14 [16] (6596.0)
TH-15 [9] (6591.2)
TH-16 [9] (6580.5)
TH-17 [6] (6575.7)
TH-18 [9] (6566.8)
TH-1 [4.5] (6556.5)
TH-2 [3.5] (6547.8)
TH-3 [6] (6521.7)
TH-19
TH-21 [14] (6563.7)
TH-4 [6] (6564.3)
TH-5 [1] (6554.6)
TH-6 [1] (6542.3)
TH-20 [7] (6566.8)
TH-24 [1] (6563.8)
TH-22 [12] (6591.8)
TH-23 [7] (6579.9)
TH-26 [9] (6563.9)
TH-25 [12] (6596.9)
TH-10 [6] (6558.1)
TH-7 [8] (6543.3)
TH-11
TH-8 [3] (6520.7)
TH-12 [7] (6528.5)
TH-9
TH-13 [2] (6508.3)
6590
6580
6570
6560
6550
6540
6530
6520
6510

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T Project No. DN48,342.001-115-R1

Depth to and Estimated Elevation of Cemented Sandstone Surface

Fig. 2

LEGEND:

TH–1 ● LOCATION OF EXPLORATORY BORING DRILLED APRIL/MAY, 2016.

TH–14 ○ LOCATION OF EXPLORATORY BORING DRILLED AUGUST, 2016.

INDICATES AREA WHERE CEMENTED SANDSTONE IS VERY NEAR OR AT EXISTING GRADE

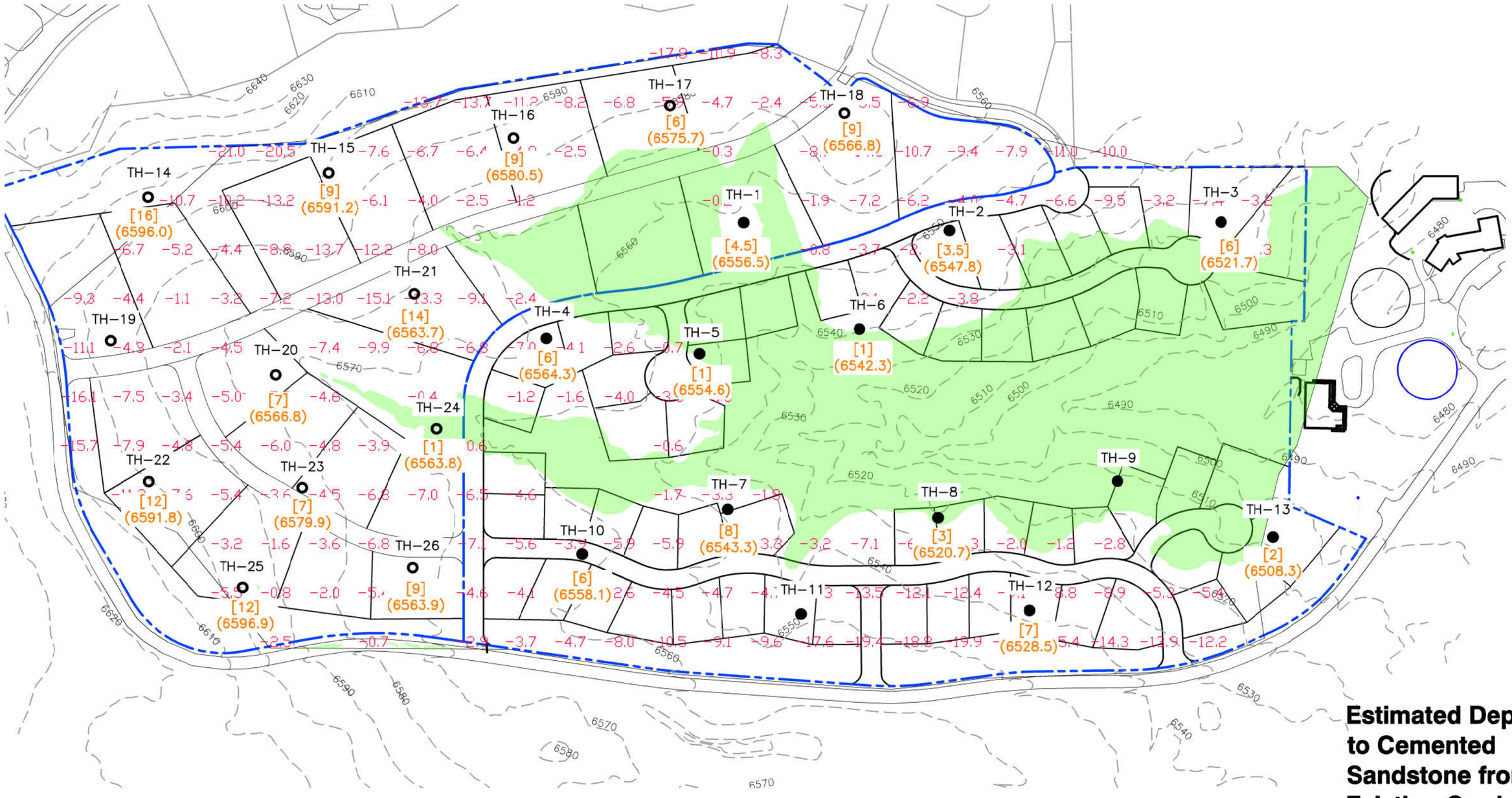
–25 INDICATES APPROXIMATE DEPTH OF CEMENTED SANDSTONE BELOW EXISTING GROUND SURFACE (FEET)

[4.5] DEPTH TO CEMENTED SANDSTONE

(6556.5) ELEVATION OF CEMENTED SANDSTONE SURFACE

6550 ESTIMATED SURFACE ELEVATION OF CEMENTED SANDSTONE

0 100 200
SCALE: 1" = 200'



Estimated Depth to Cemented Sandstone from Existing Grades

Fig. 3

LEGEND:

TH–1 ● LOCATION OF EXPLORATORY BORING DRILLED APRIL/MAY, 2016.

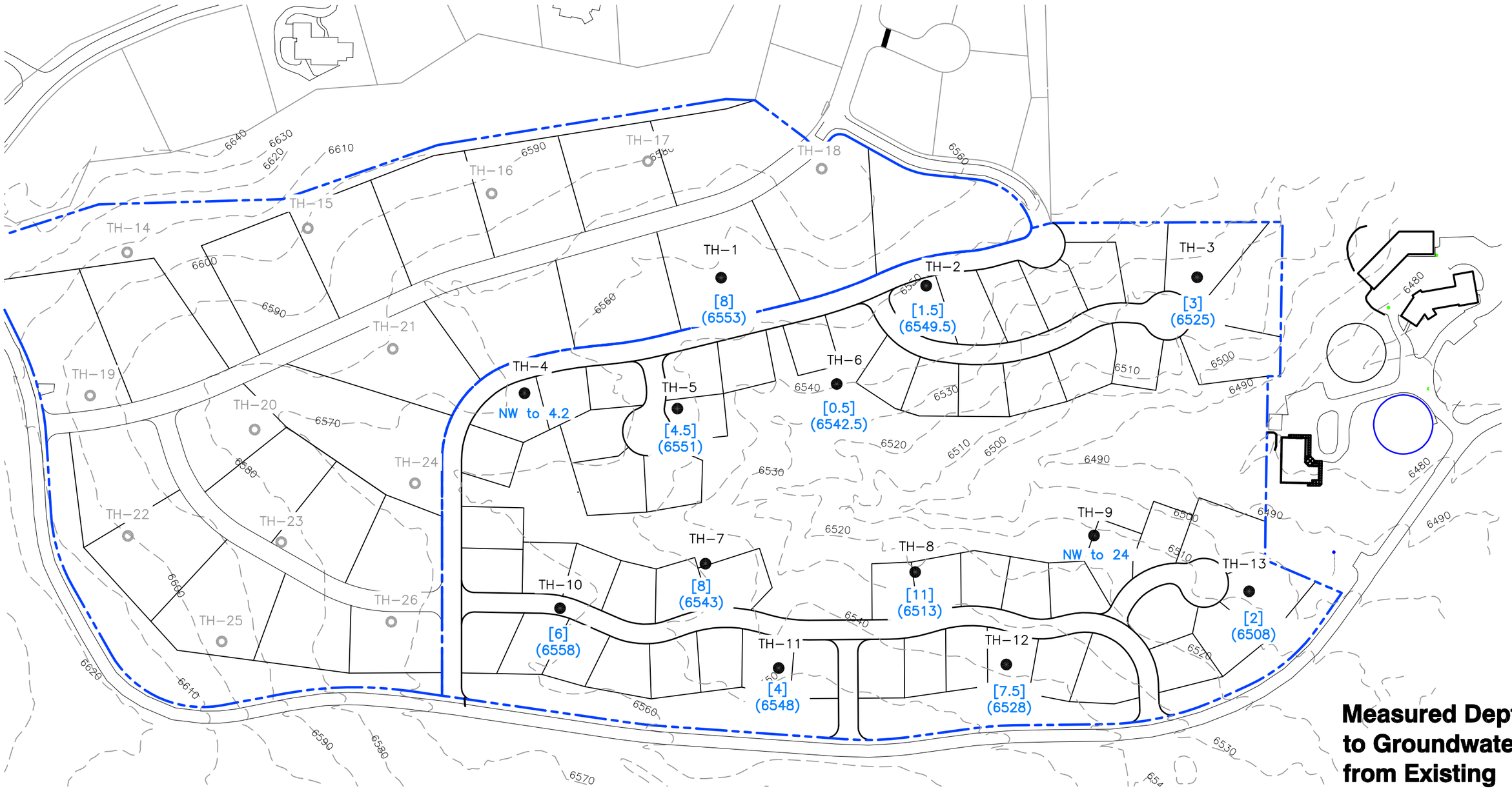
TH–14 ◎ LOCATION OF EXPLORATORY BORING DRILLED AUGUST, 2016.

[8] INDICATES MEASURED DEPTH TO GROUNDWATER (FEET)

(6553) INDICATES APPROXIMATE ELEVATION OF GROUNDWATER (FEET)

NW to 4.2 INDICATES NO WATER TO BOTTOM OF HOLE AT 4.2 FEET

0 100 200
SCALE: 1" = 200'



Measured Depth to Groundwater from Existing Grade (May 2016)

Fig. 4

CTLT Project No. DN48,342.001-115-R1

LEGEND:

TH–1 ● LOCATION OF EXPLORATORY BORING DRILLED APRIL/MAY, 2016.

TH–14 ○ LOCATION OF EXPLORATORY BORING DRILLED AUGUST, 2016.

[10.5] INDICATES MEASURED DEPTH TO GROUNDWATER (FEET)

(6550.5) INDICATES APPROXIMATE ELEVATION OF GROUNDWATER (FEET)

NW to 13.5 INDICATES NO WATER TO BOTTOM OF HOLE AT 13.5 FEET

CNF COULD NOT FIND BORING

RECOMMENDED LOCATION OF INTERCEPTOR DRAIN

0 100 200

SCALE: 1" = 200'

TH–14 NW to 13.5
TH–15 NW to 8.5
TH–16 NW to 11
TH–17 NW to 5
TH–18 NW to 24
TH–19 NW to 23
TH–20 NW to 6
TH–21 [19.5] (6558.2)
TH–22 [16] (6587.8)
TH–23 NW to 23
TH–24 [5.5] (6559.3)
TH–25 [23.5] (6585.4)
TH–26 [14] (6558.9)
TH–1 [10.5] (6550.5)
TH–2 [6.5] (6544.8)
TH–3 [8.0] (6519.7)
TH–4 NW to 4.5
TH–5 [5.9] (6549.7)
TH–6 NW to 2.5
TH–7 NW to 7.7
TH–8 [6.0] (6517.7)
TH–9 CNF
TH–10 [8.5] (6553.6)
TH–11 NW to 7
TH–12 NW to 13.3
TH–13 CNF

Measured Depth to Groundwater from Existing Grade (July/August 2016)

Fig. 5

LEGEND:

TH–1 LOCATION OF EXPLORATORY BORING DRILLED APRIL/MAY, 2016.

TH–14 LOCATION OF EXPLORATORY BORING DRILLED AUGUST, 2016.

LOW RISK

MODERATE RISK

0 100 200

SCALE: 1" = 200'

PRELIMINARY PLAN NO. 44

PRELIMINARY PLAN NO. 41

TH–1 TH–2 TH–3 TH–4 TH–5 TH–6 TH–7 TH–8 TH–9 TH–10 TH–11 TH–12 TH–13 TH–14 TH–15 TH–16 TH–17 TH–18 TH–19 TH–20 TH–21 TH–22 TH–23 TH–24 TH–25 TH–26

OXFORD PEAK LN.

GOLDEN BEAR LN.

STEWART PEAK WAY

VESTAL PEAK CT.

TRINITY PEAK LN.

PARNASSUS CT.

COUNTRY CLUB DR.

6640 6630 6620 6610 6600 6590 6580 6570 6560 6550 6540 6530 6520 6510 6500 6490 6480 6470

CASTLE PINES SUMMIT, LLC

CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44

Castle Pines Village Preliminary Plan Filing 14A, 2nd Amendment

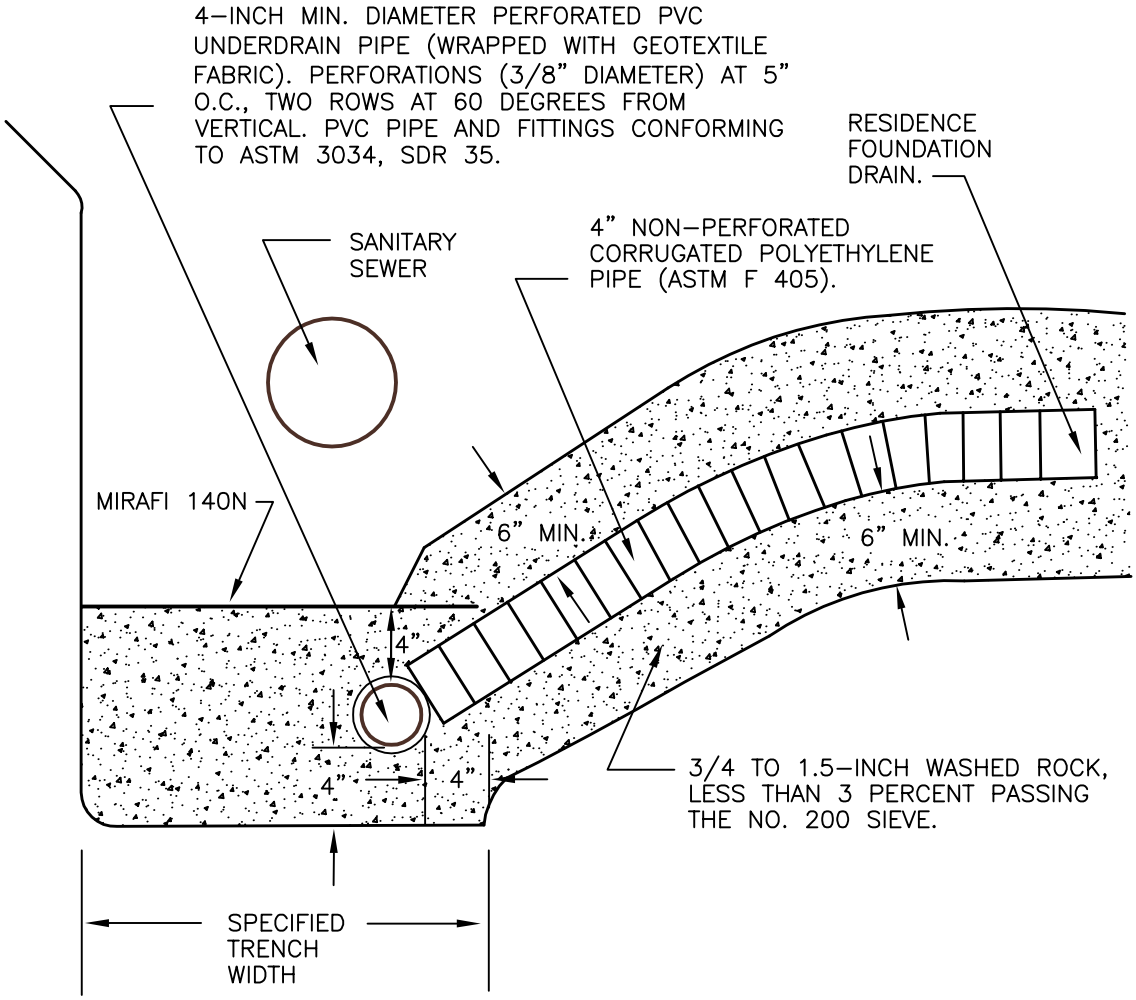
Project File # SB2023-033

Board of County Commissioner's Staff Report - Page 153 of 191

CTLT Project No. DN48,342.001-115-R1

Estimated Risk of Poor Slab-On-Grade Basement Floor Performance Fig. 6

50-UNDERDRAIN_02

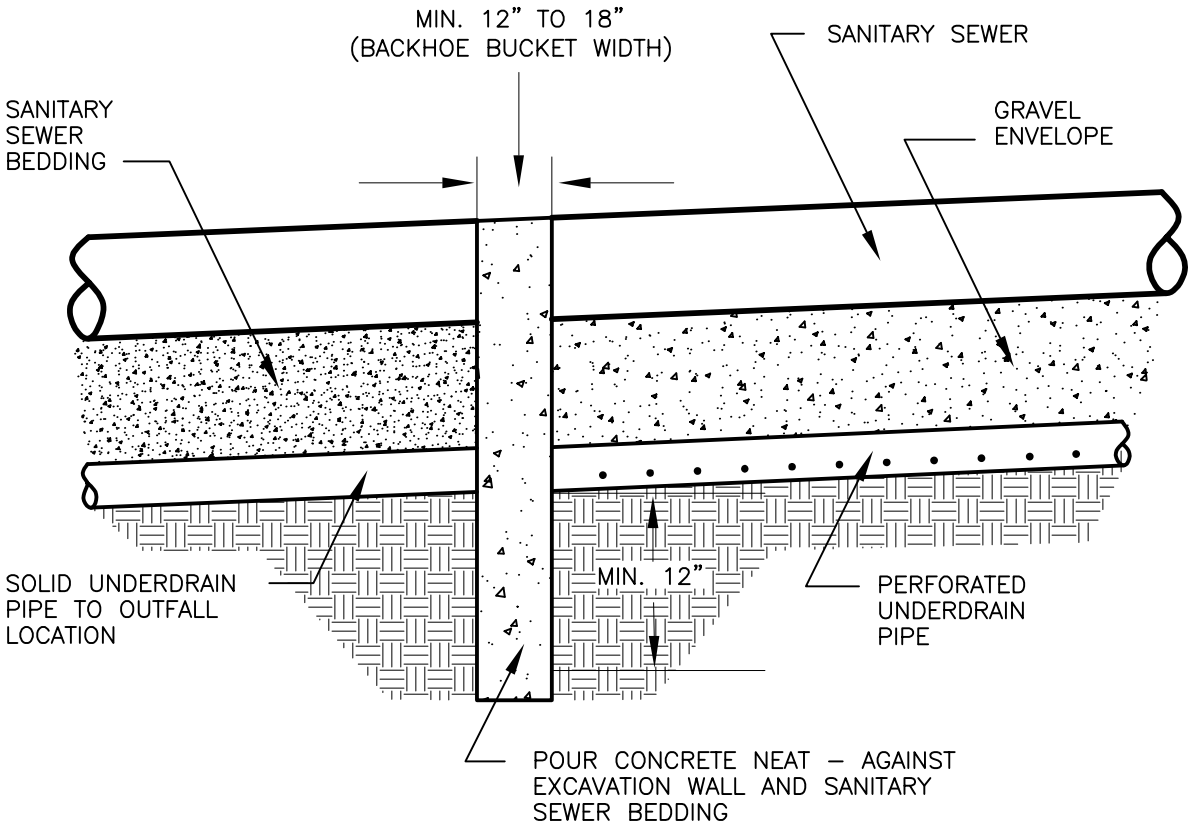


NOTE: NOT TO SCALE

Conceptual Sewer Underdrain Detail

Fig. 7

50-UNDERDRAIN_05



NOTE:
THE CONCRETE CUTOFF WALL SHOULD EXTEND INTO THE UNDISTURBED SOILS OUTSIDE THE UNDERDRAIN AND SANITARY SEWER TRENCH A MINIMUM DISTANCE OF 12 INCHES.

Underdrain Cutoff Wall Detail

Fig. 8

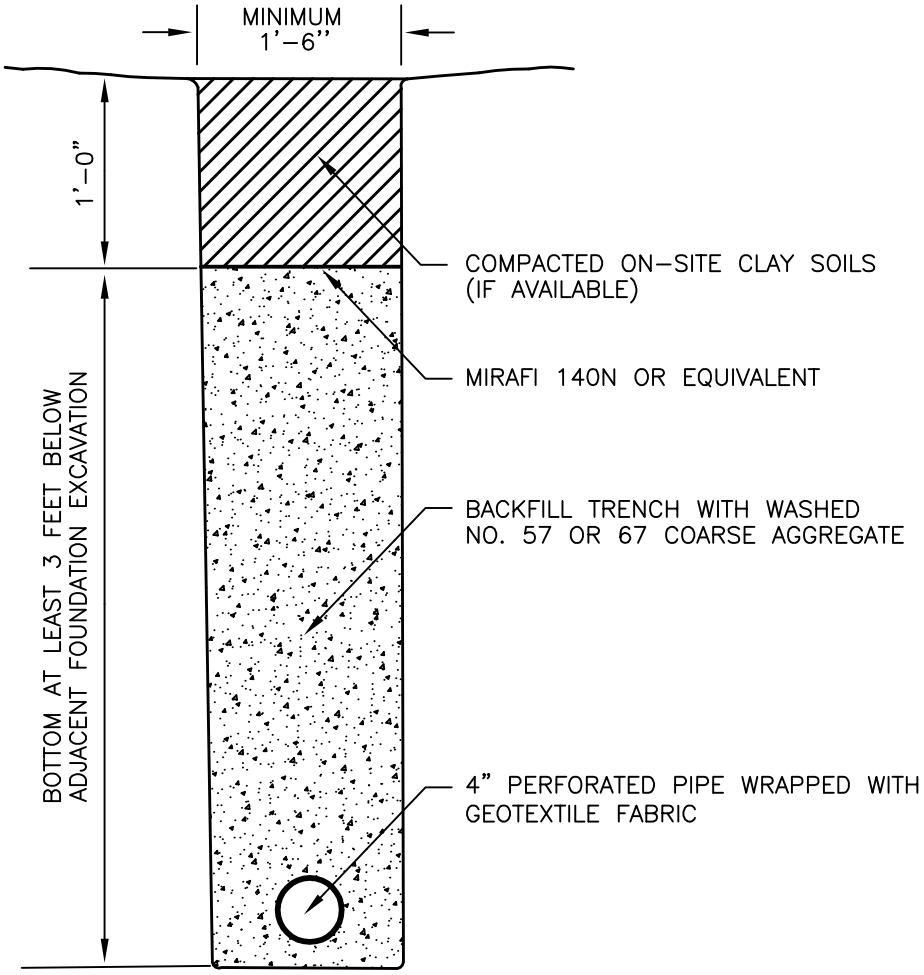
CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTLE Project No. DN48,342.001-115-R1

NOT TO SCALE

Conceptual Underdrain Service Profile

Fig. 9

20-INTERCEPTOR_03



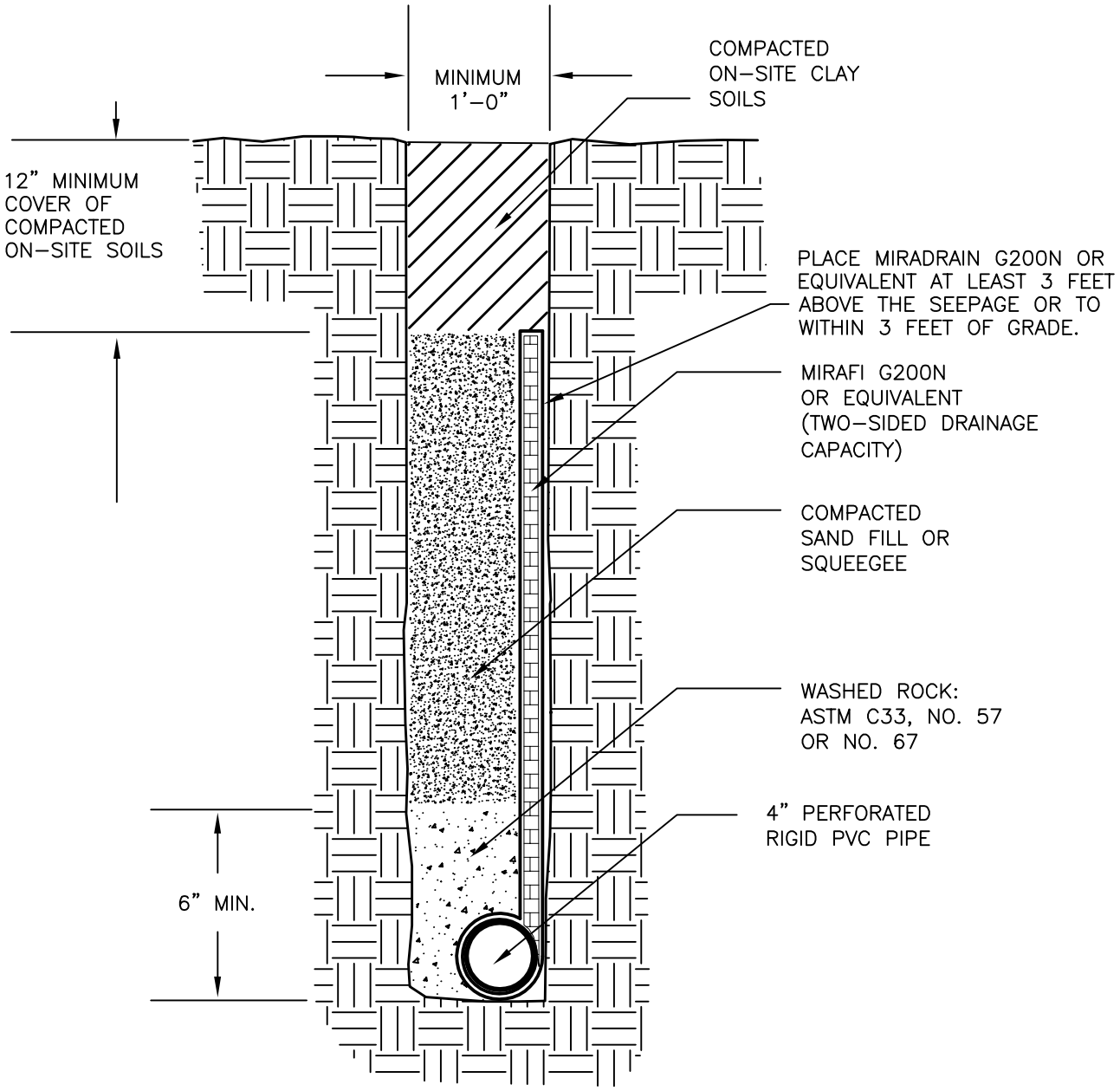
NOTES:
1) DRAIN SHOULD SLOPE TO GRAVITY DISCHARGE.

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL\T Project No. DN48,342.001-115-R1

Typical Interceptor Drain Detail

Fig. 10

20-INTERCEPTOR_06



NOTE: DRAIN SHOULD SLOPE TO GRAVITY DISCHARGE.

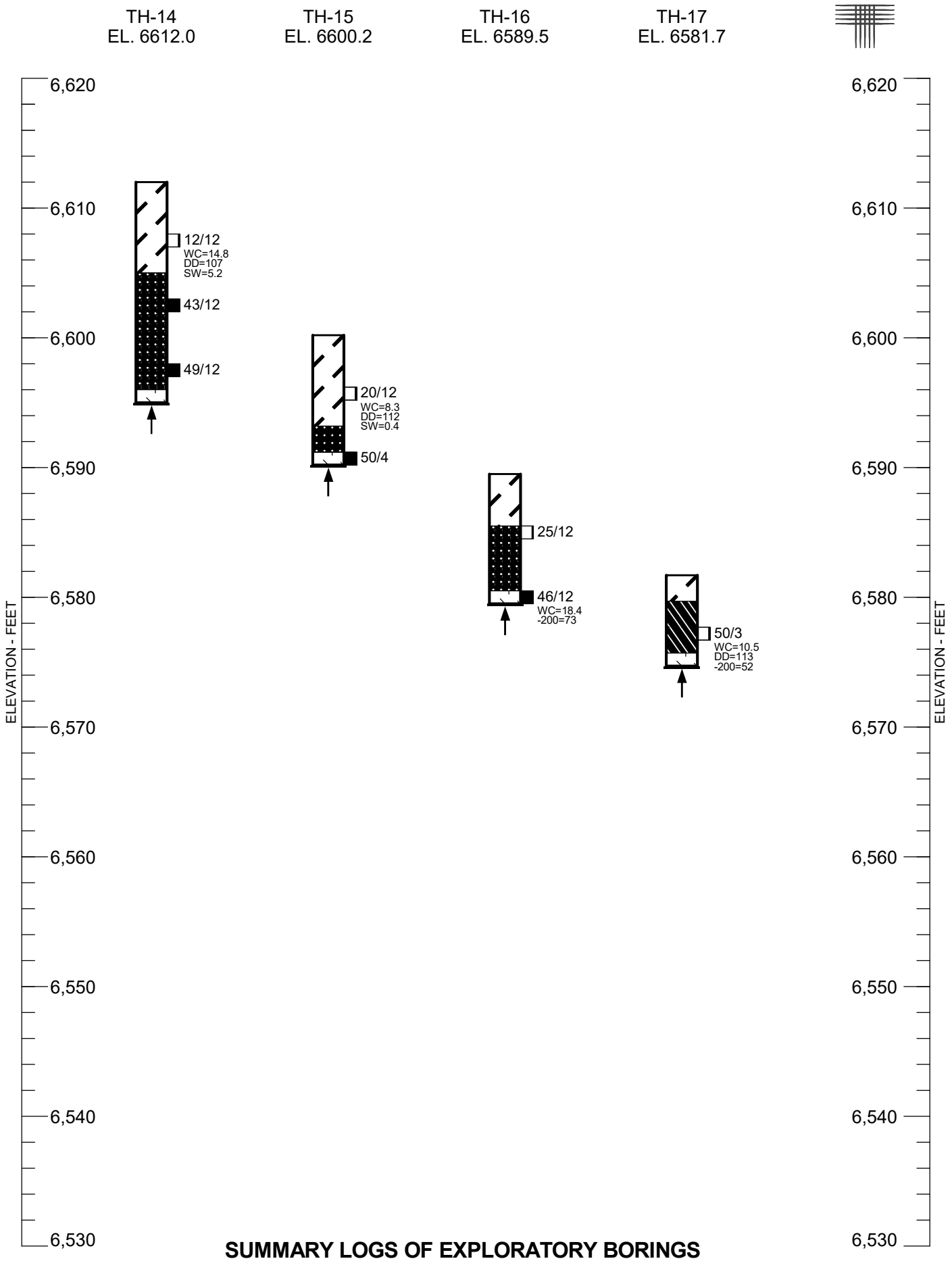
NOT TO SCALE

Typical Interceptor Drain

Fig. 11

APPENDIX A

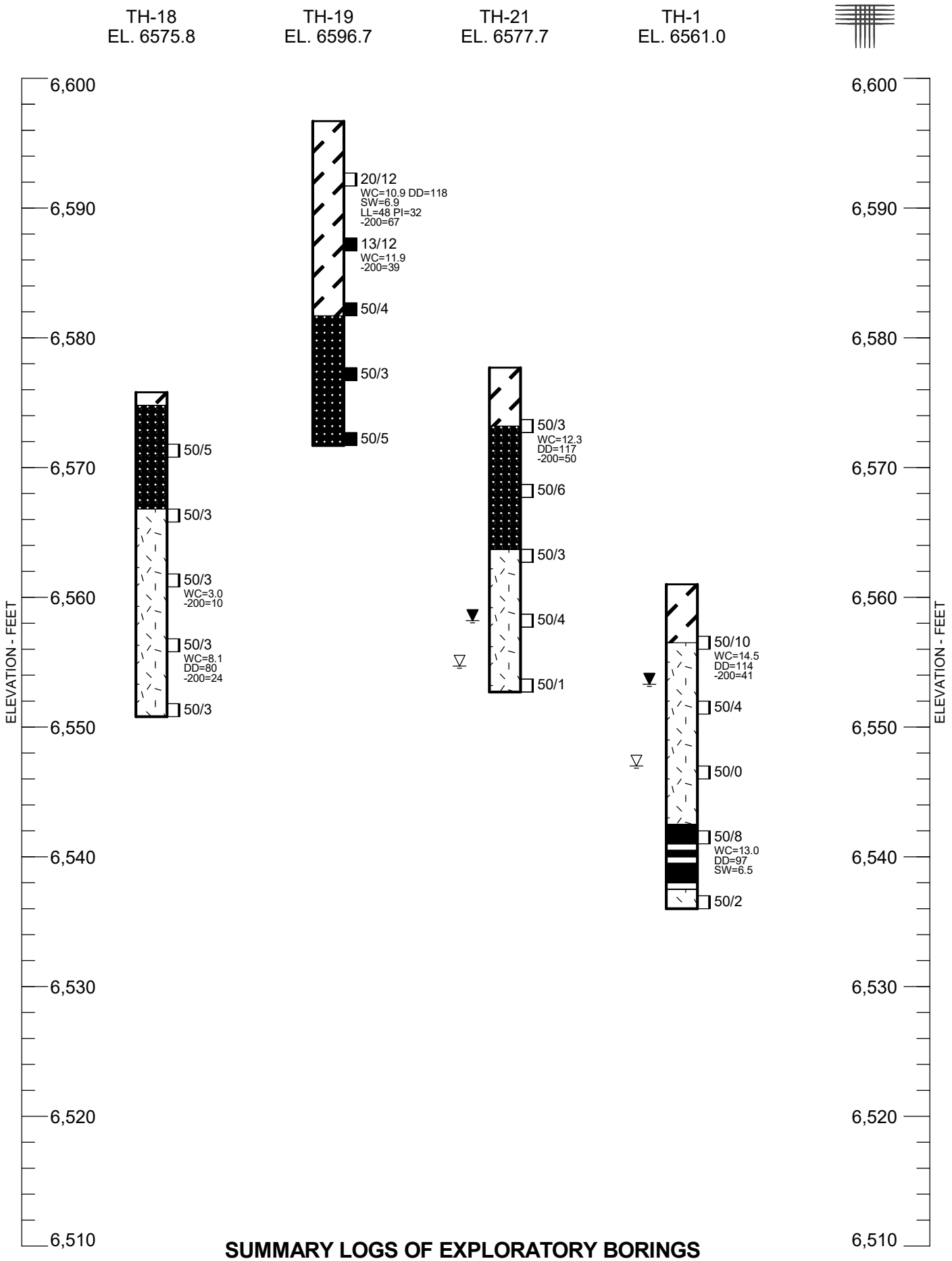
SUMMARY LOGS OF EXPLORATORY BORINGS



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

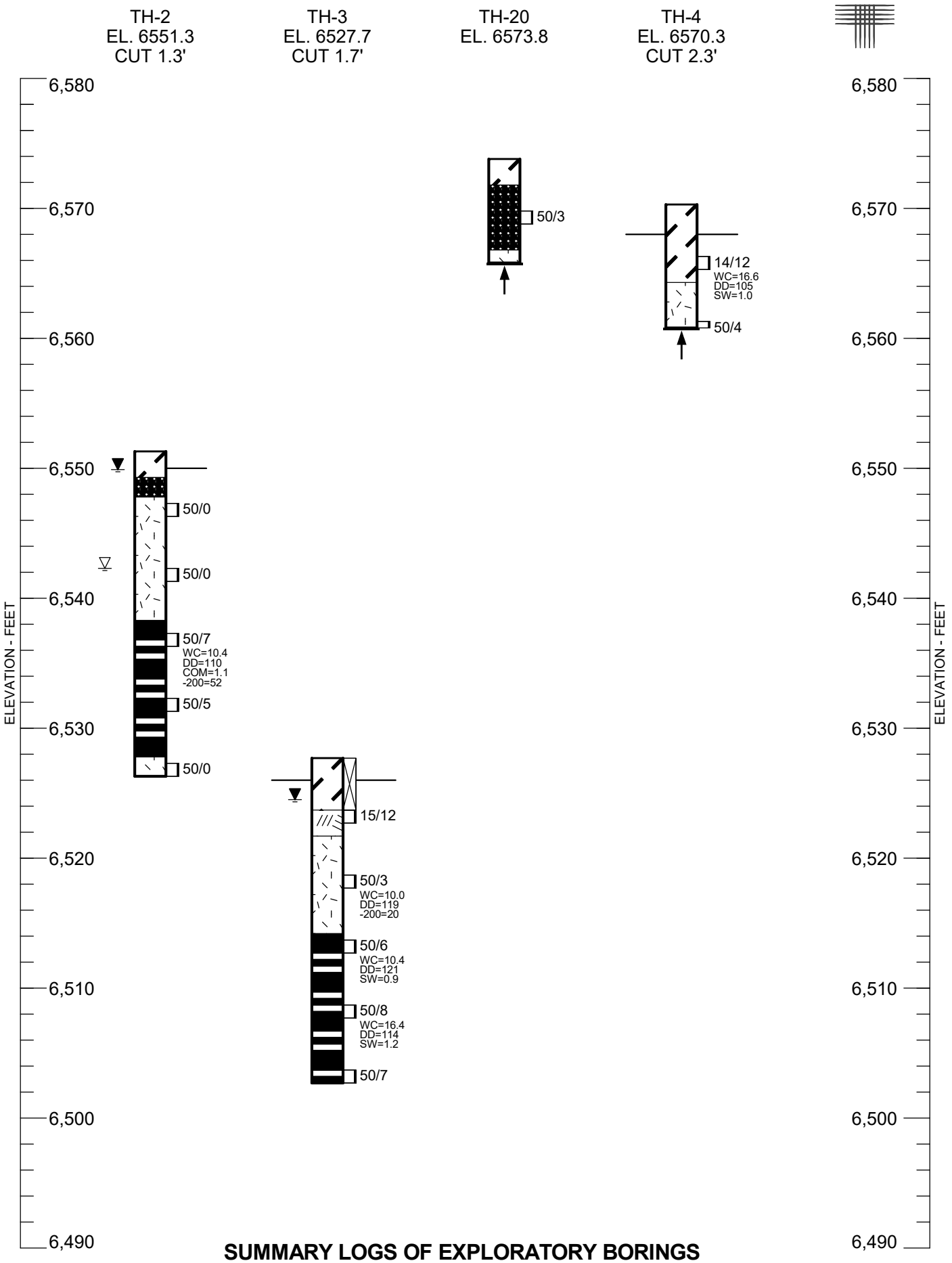
FIG. A- 1



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

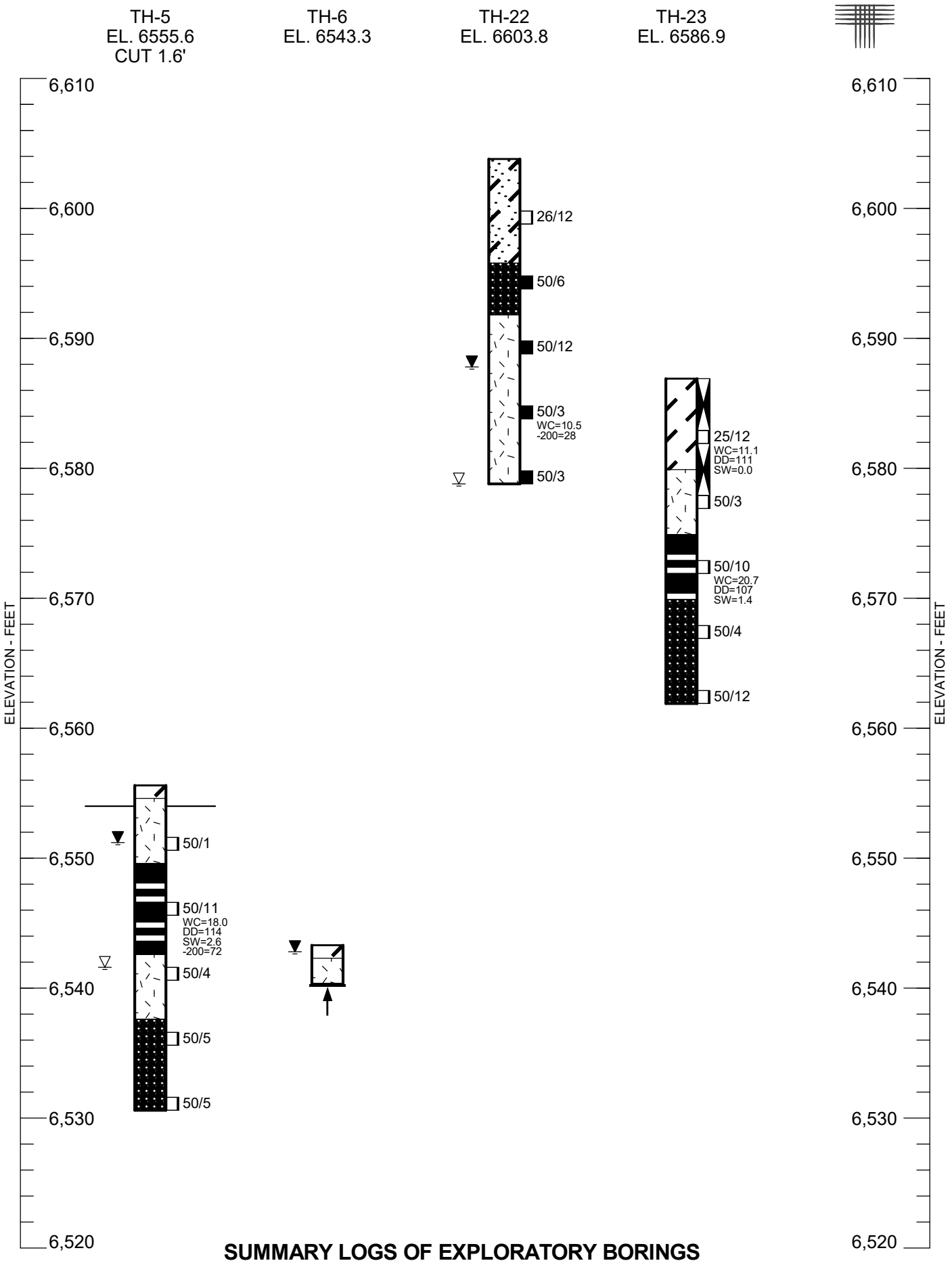
FIG. A- 2



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

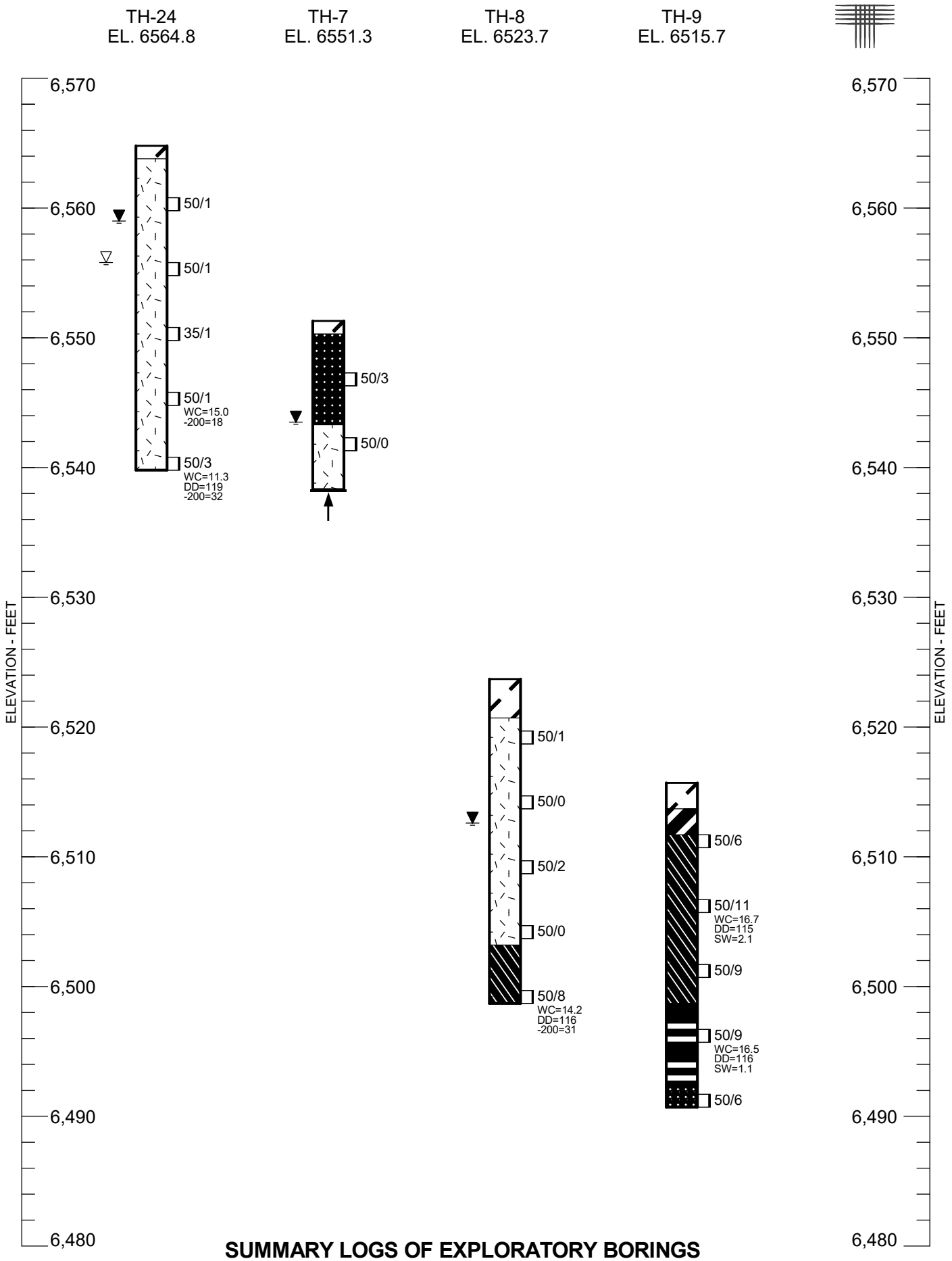
FIG. A- 3



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

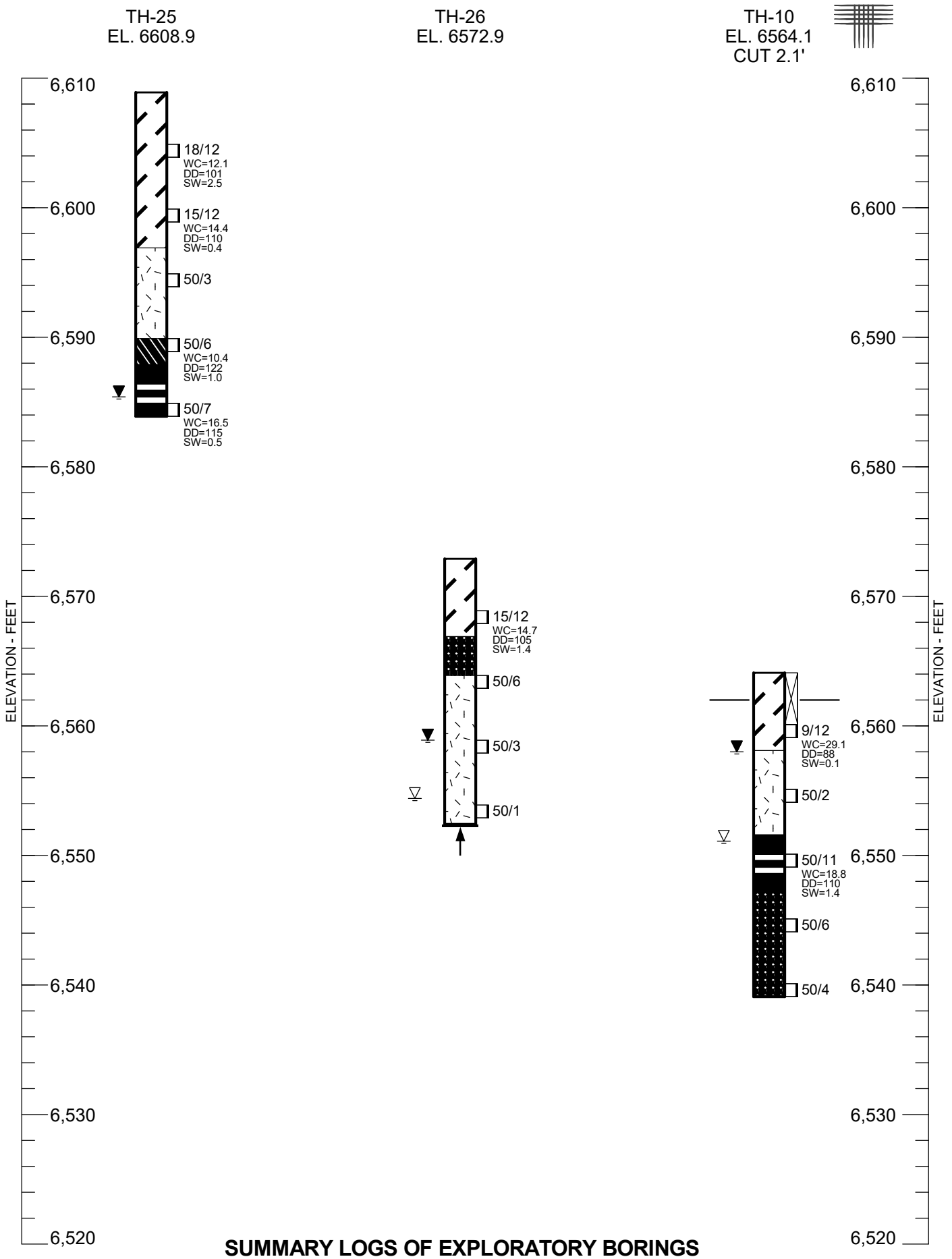
FIG. A- 4



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

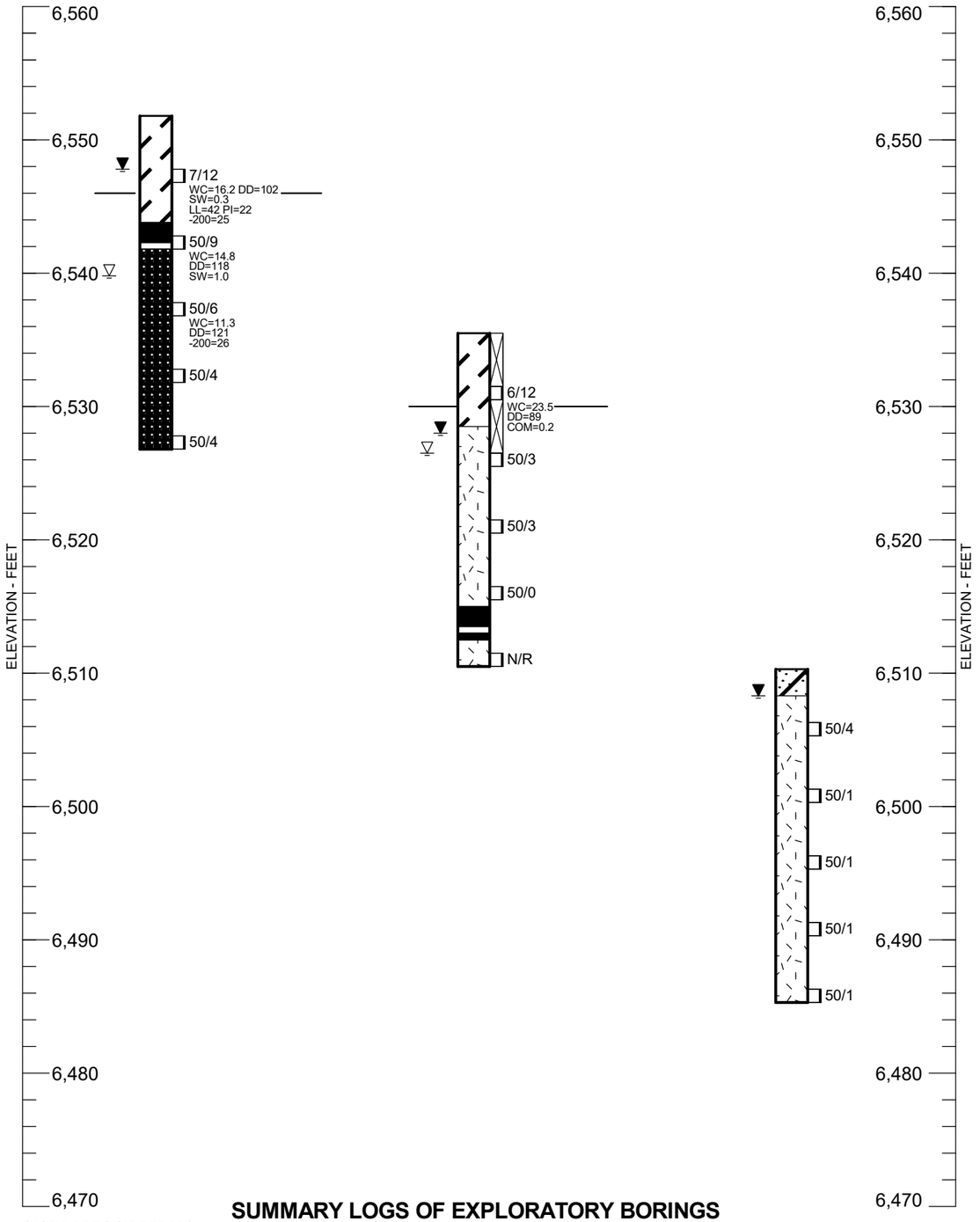
FIG. A- 5



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

FIG. A- 6



SUMMARY LOGS OF EXPLORATORY BORINGS

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

LEGEND:

- CLAY, SANDY, WITH OCCASIONAL SAND LENSES, MEDIUM STIFF TO VERY STIFF, SLIGHTLY MOIST TO VERY MOIST, BROWN, WHITE, GRAY, DARK BROWN, LIGHT BROWN (CL).
- SAND, SILTY, MEDIUM DENSE, MOIST, BROWN (SM).
- SAND, CLAYEY, MEDIUM DENSE, SLIGHTLY MOIST, BROWN, TAN, LIGHT BROWN (SC).
- WEATHERED SANDSTONE, MOIST, BROWN.
- WEATHERED CLAYSTONE, SLIGHTLY MOIST, BROWN, GRAY, RUST.
- BEDROCK, CLAYSTONE, HARD TO VERY HARD, SLIGHTLY MOIST TO MOIST, RUST, OLIVE, WHITE.
- BEDROCK, SANDSTONE, WITH CEMENTED LENSES, HARD TO VERY HARD, SLIGHTLY MOIST TO MOIST, BROWN, TAN, OLIVE, WHITE.
- BEDROCK, INTERBEDDED CLAYSTONE/SANDSTONE, HARD TO VERY HARD, SLIGHTLY MOIST TO MOIST, BROWN, GRAY, WHITE, RUST, OLIVE.
- CEMENTED SANDSTONE, SLIGHTLY MOIST, BROWN, WHITE, OLIVE.
- DRIVE SAMPLE. THE SYMBOL 50/10 INDICATES 50 BLOWS OF AN AUTOMATIC 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 10 INCHES.
- WATER LEVEL MEASURED AT TIME OF DRILLING.
- WATER LEVEL MEASURED SEVERAL DAYS AFTER DRILLING.
- PRACTICAL DRILL REFUSAL.
- INDICATES APPROXIMATE PROPOSED GRADE AT BORING LOCATION.

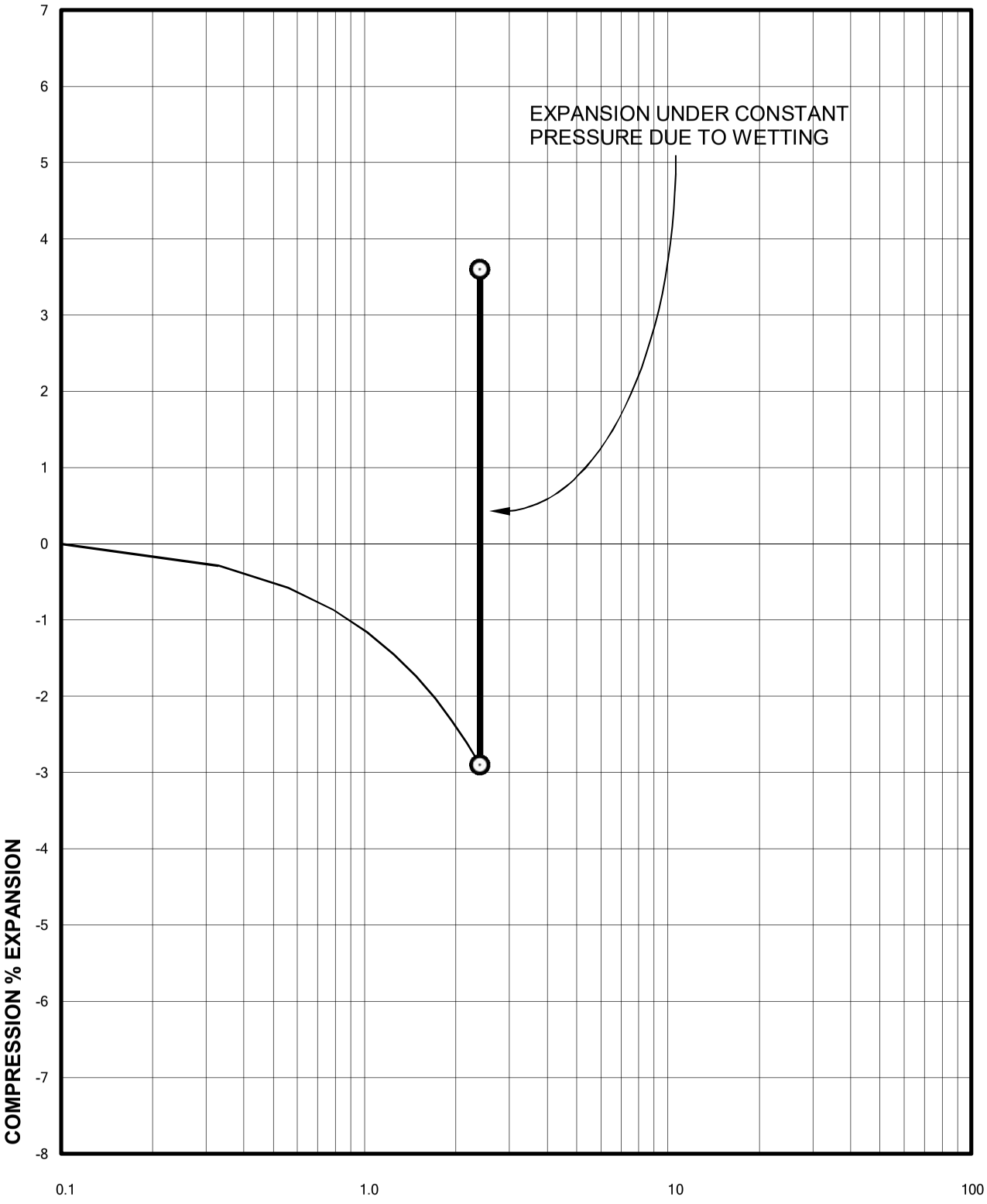
NOTES:

1. THE BORINGS WERE DRILLED APRIL 27 THROUGH MAY 13, AND AUGUST 10, 2016 USING 4-INCH DIAMETER, CONTINUOUS-FLIGHT SOLID-STEM AUGER AND A TRUCK-MOUNTED CME-45 DRILL RIG OR BUGGY MOUNTED CME-55 DRILL RIG.
2. BORING LOCATIONS AND ELEVATIONS WERE SURVEYED BY OTHERS.
3. WC - INDICATES MOISTURE CONTENT (%).
   DD - INDICATES DRY DENSITY (PCF).
   SW - INDICATES SWELL WHEN WETTED UNDER APPLIED PRESSURE (%).
   COM- INDICATES COMPRESSION WHEN WETTED UNDER APPLIED PRESSURE (%).
   LL - INDICATES LIQUID LIMIT.
   PI - INDICATES PLASTICITY INDEX.
   -200 - INDICATES PASSING NO. 200 SIEVE (%).
4. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS AND CONCLUSIONS CONTAINED IN THIS REPORT.

FIG. A- 7

APPENDIX B

LABORATORY TEST RESULTS AND TABLE B-I



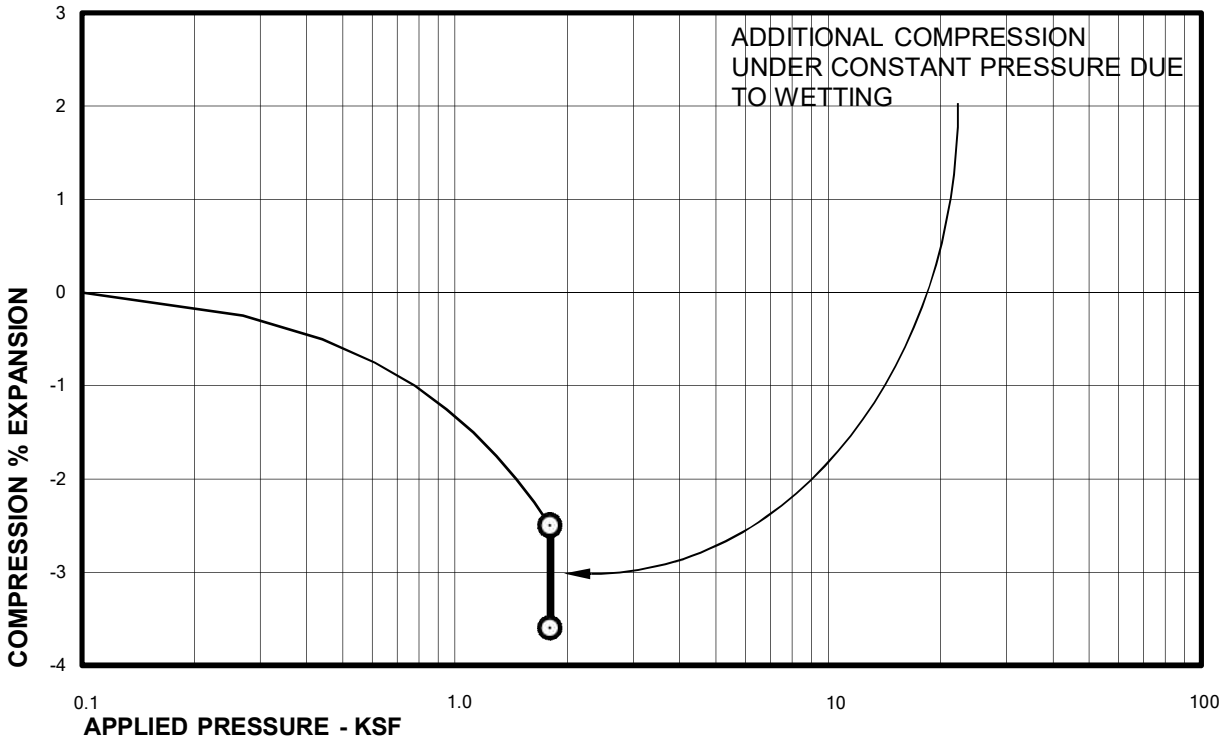
Sample of CLAYSTONE
From TH-1 AT 19 FEET

DRY UNIT WEIGHT= 97 PCF
MOISTURE CONTENT= 13.0 %

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

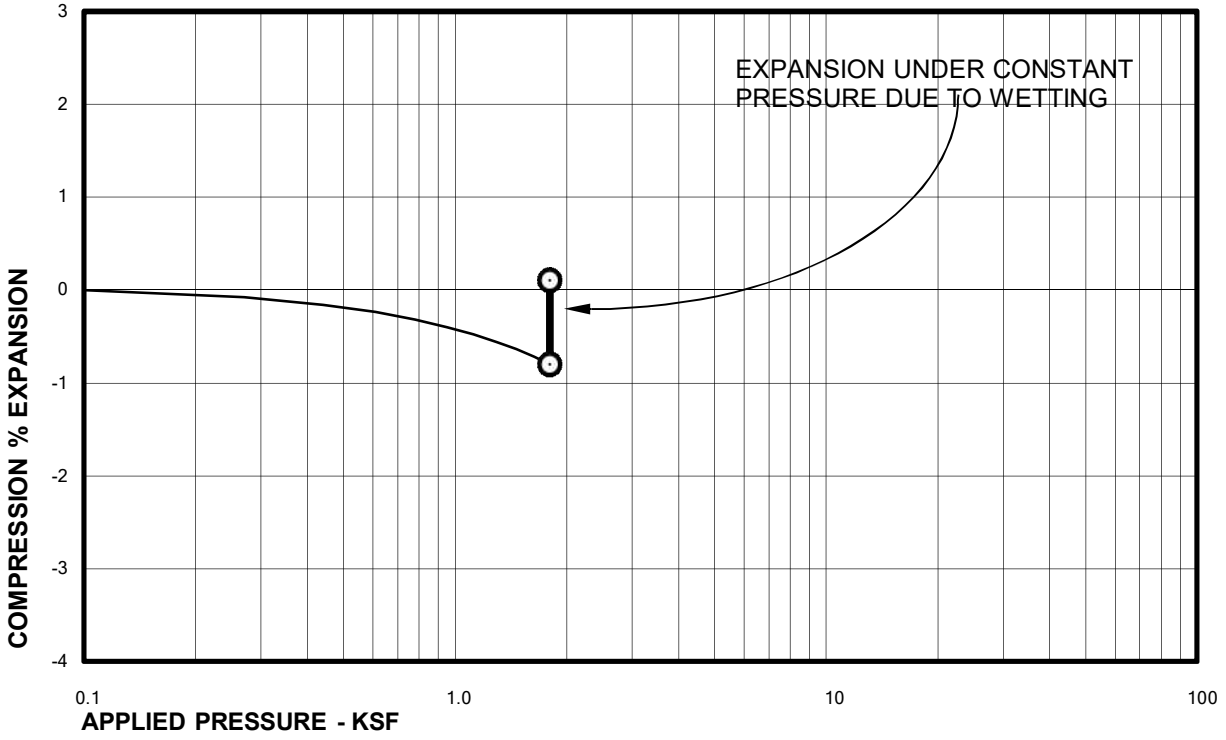
Swell Consolidation Test Results

FIG. B-1



Sample of CLAYSTONE
From TH-2 AT 14 FEET

DRY UNIT WEIGHT= 110 PCF
MOISTURE CONTENT= 10.4 %



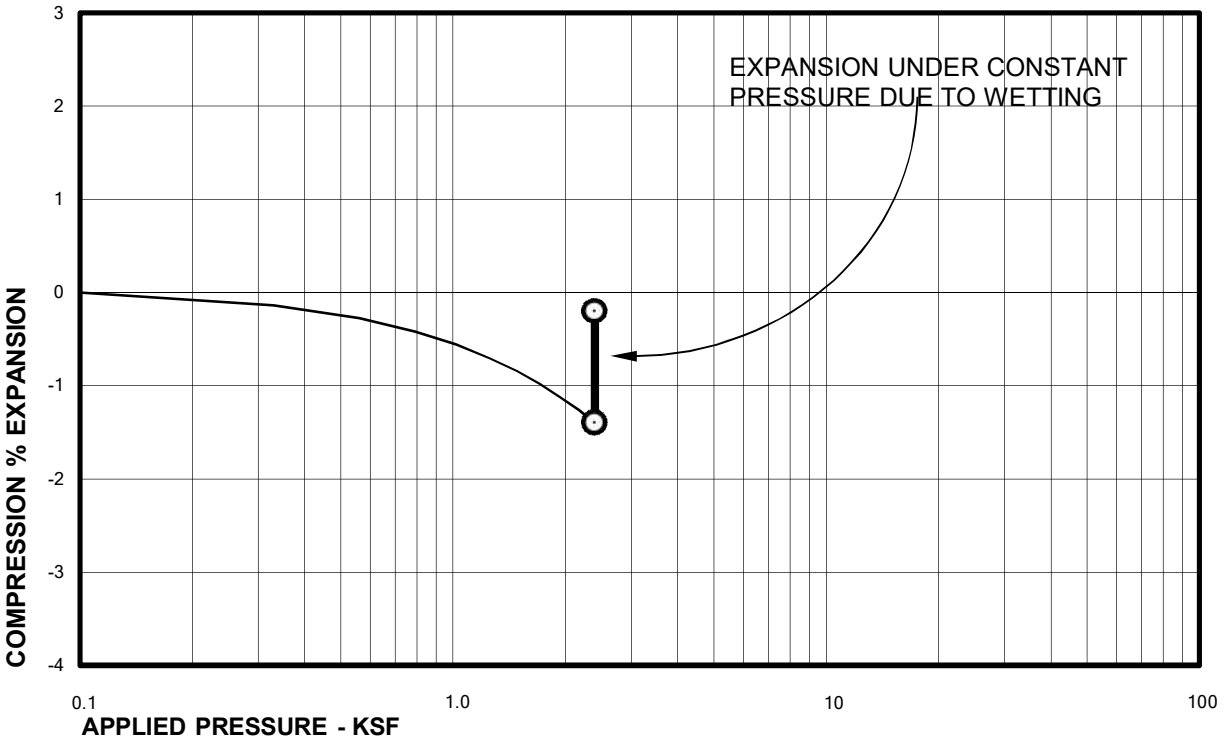
Sample of CLAYSTONE
From TH-3 AT 14 FEET

DRY UNIT WEIGHT= 121 PCF
MOISTURE CONTENT= 10.4 %

Swell Consolidation Test Results

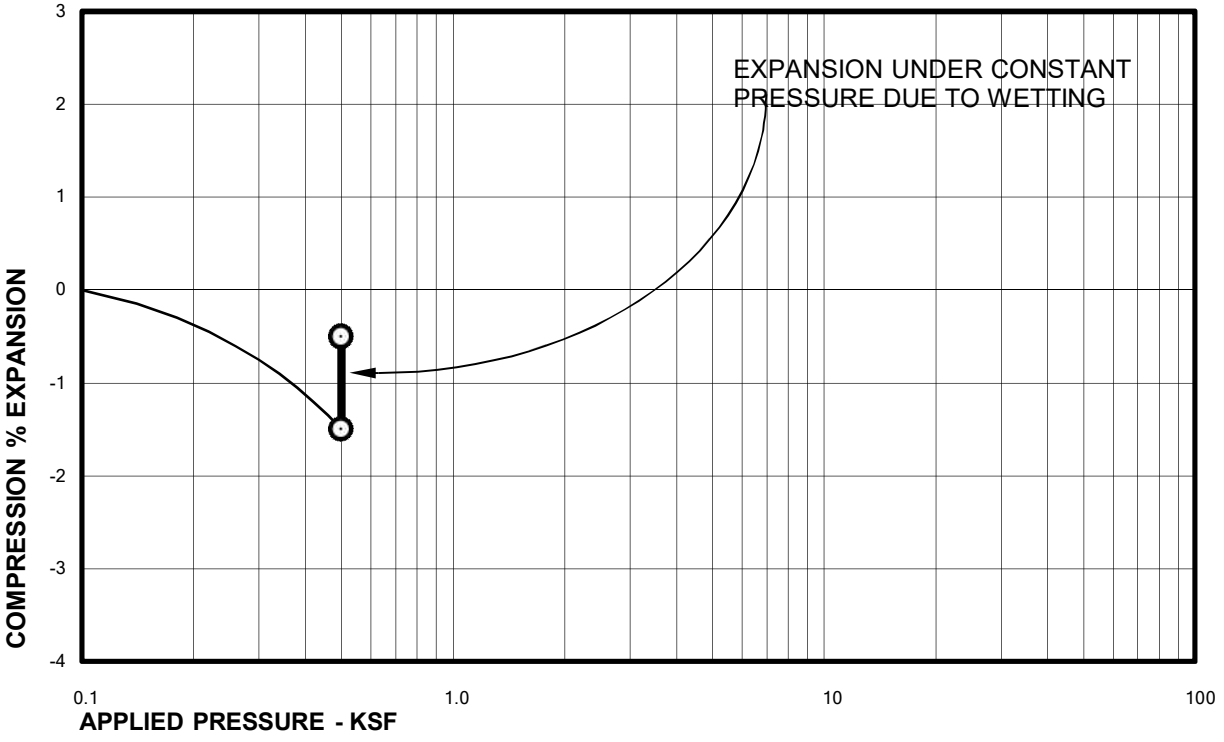
FIG. B-2

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CLAYSTONE
From TH-3 AT 19 FEET

DRY UNIT WEIGHT= 114 PCF
MOISTURE CONTENT= 16.4 %



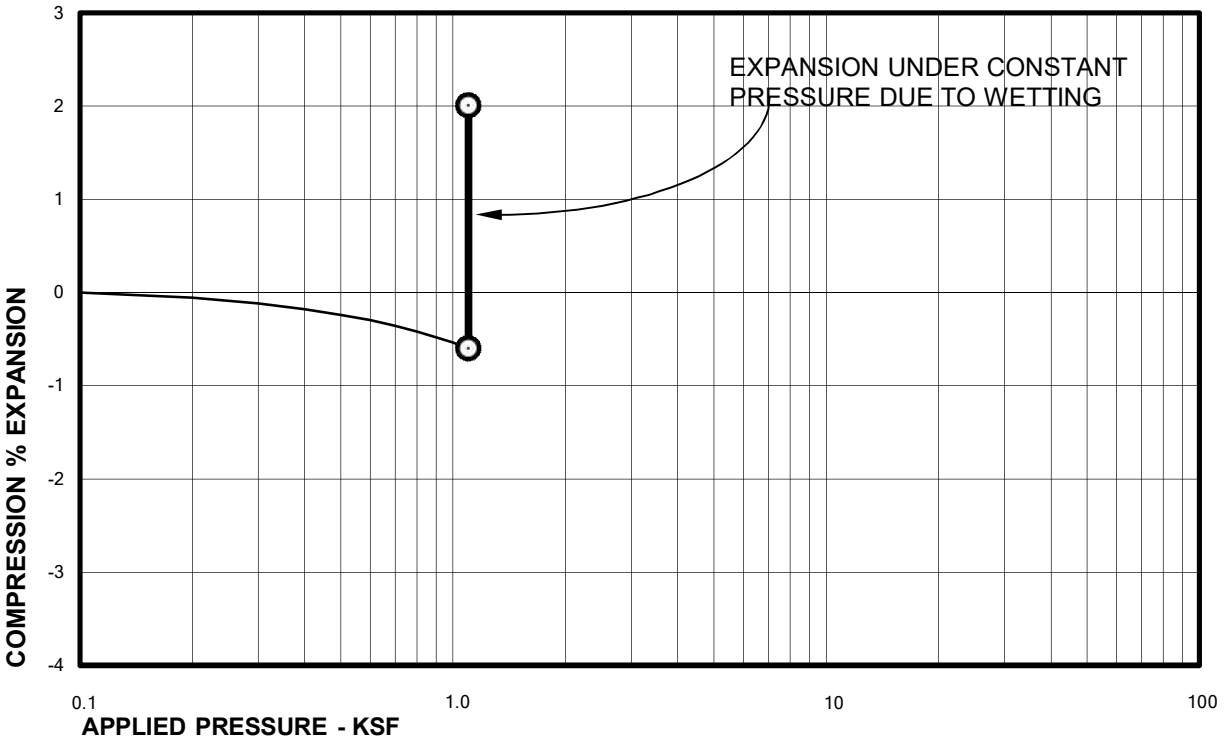
Sample of CLAY, SANDY (CL)
From TH-4 AT 4 FEET

DRY UNIT WEIGHT= 105 PCF
MOISTURE CONTENT= 16.6 %

Swell Consolidation Test Results

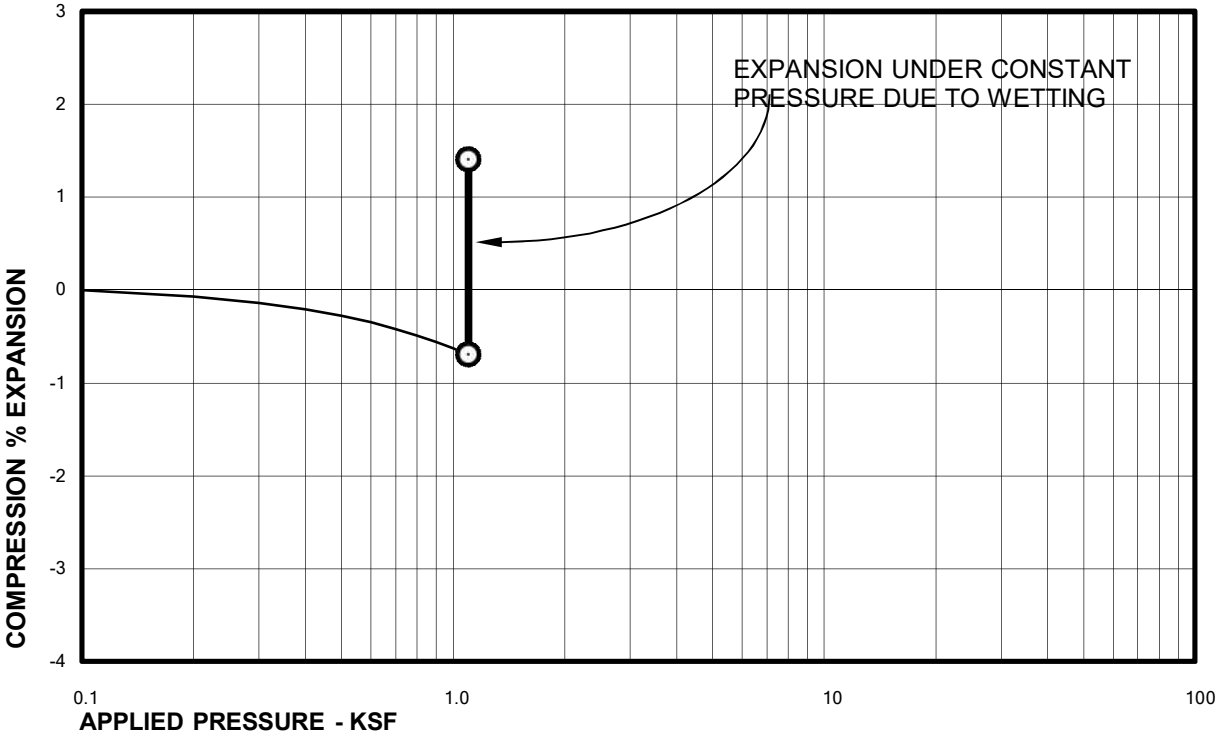
FIG. B-3

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CLAYSTONE
From TH-5 AT 9 FEET

DRY UNIT WEIGHT= 114 PCF
MOISTURE CONTENT= 18.0 %



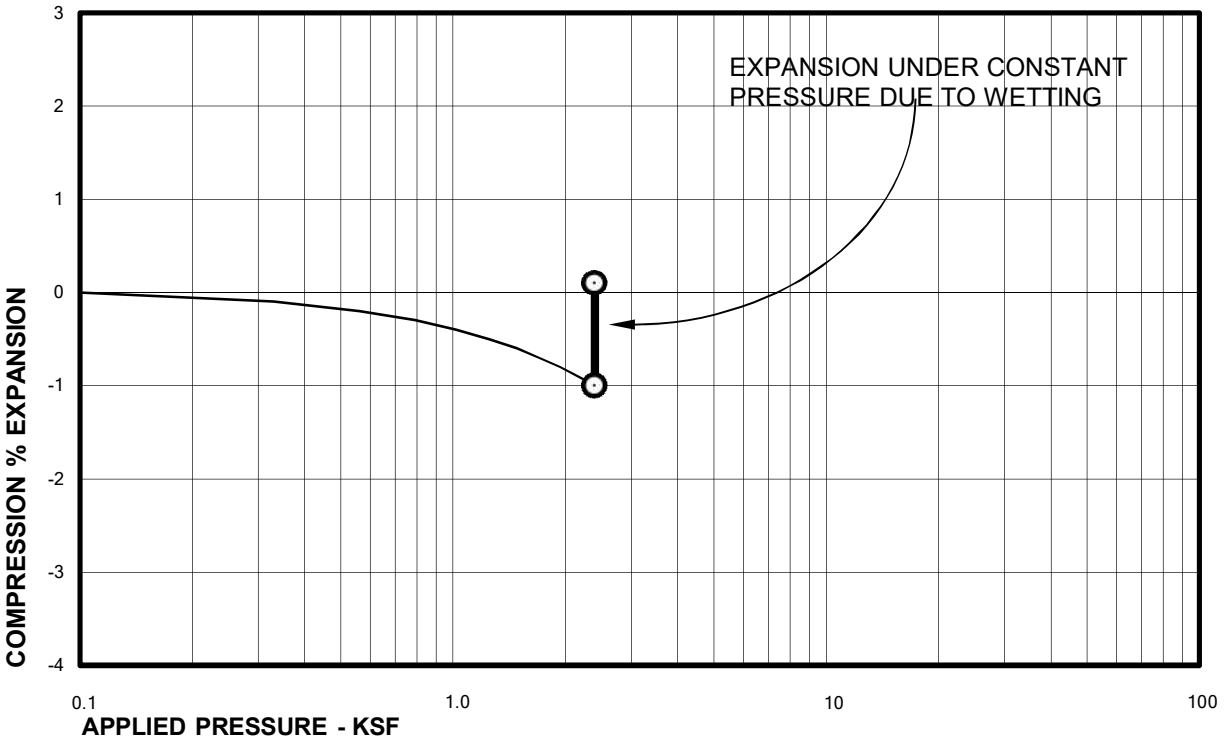
Sample of INTERBEDDED CLAYSTONE/SANDSTONE
From TH-9 AT 9 FEET

DRY UNIT WEIGHT= 115 PCF
MOISTURE CONTENT= 16.7 %

Swell Consolidation Test Results

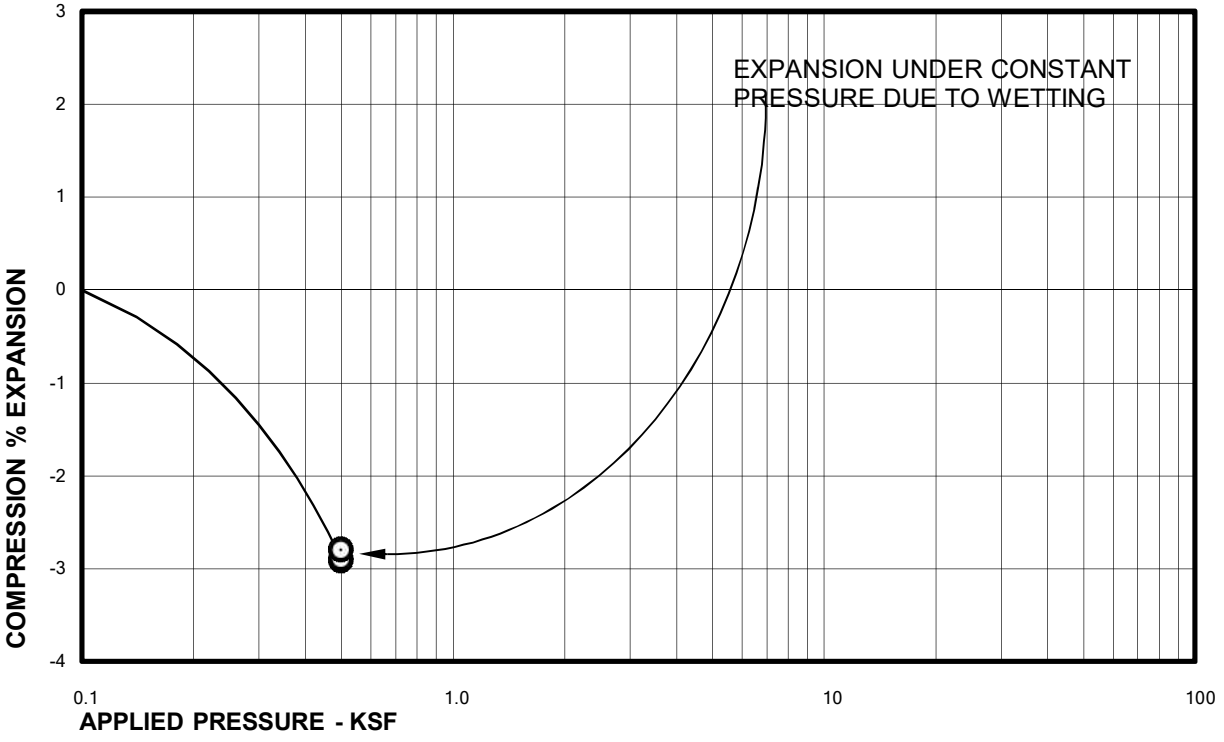
FIG. B-4

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CLAYSTONE
From TH-9 AT 19 FEET

DRY UNIT WEIGHT= 116 PCF
MOISTURE CONTENT= 16.5 %



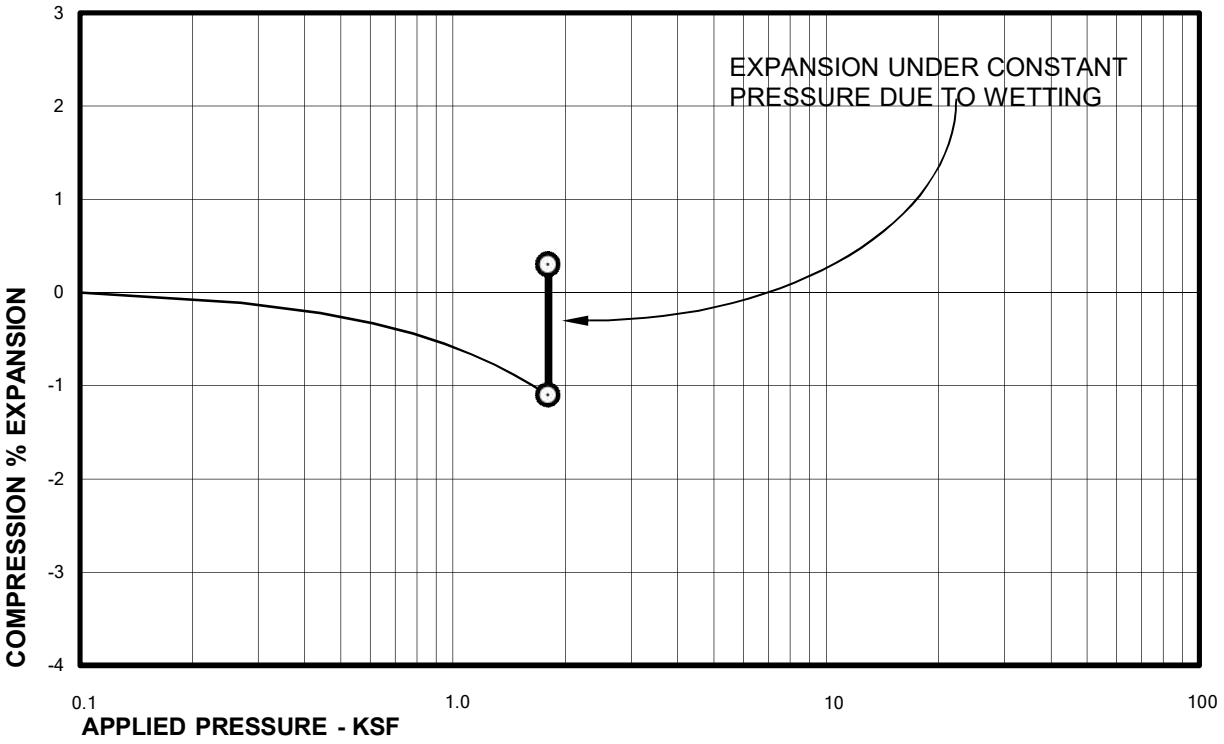
Sample of CLAY, SANDY (CL)
From TH-10 AT 4 FEET

DRY UNIT WEIGHT= 88 PCF
MOISTURE CONTENT= 29.1 %

Swell Consolidation Test Results

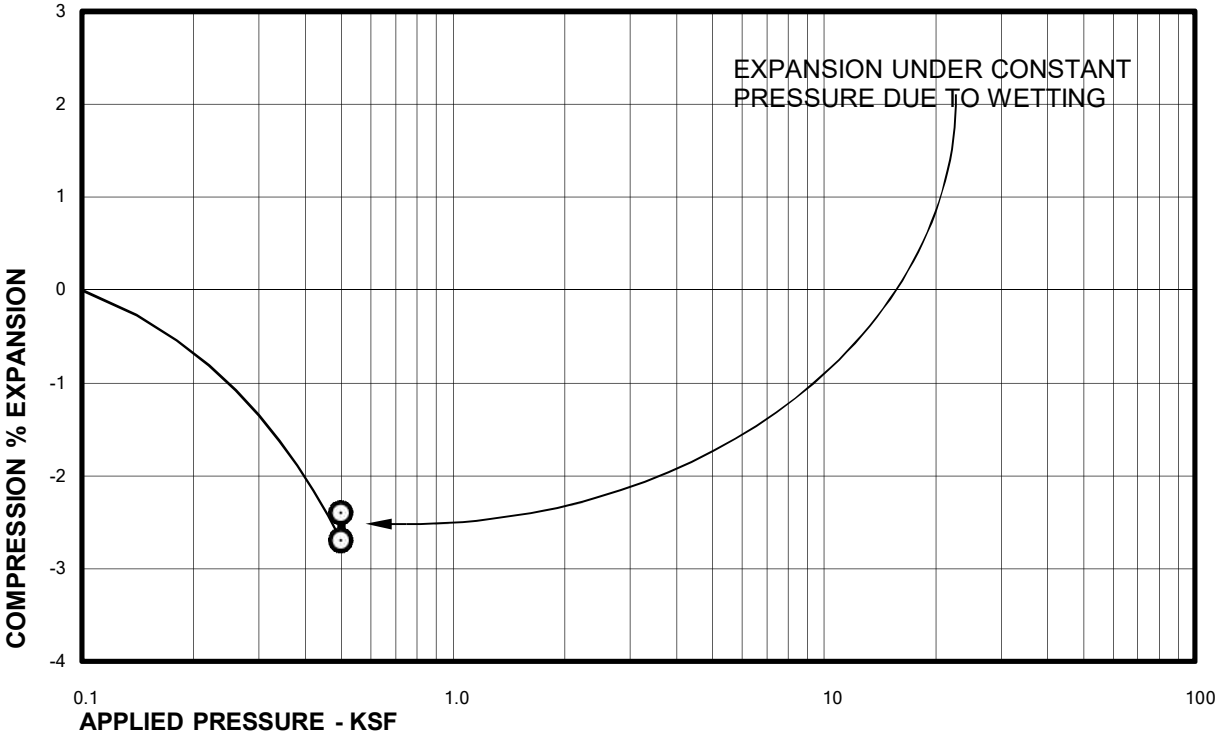
FIG. B-5

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CLAYSTONE
From TH-10 AT 14 FEET

DRY UNIT WEIGHT= 110 PCF
MOISTURE CONTENT= 18.8 %



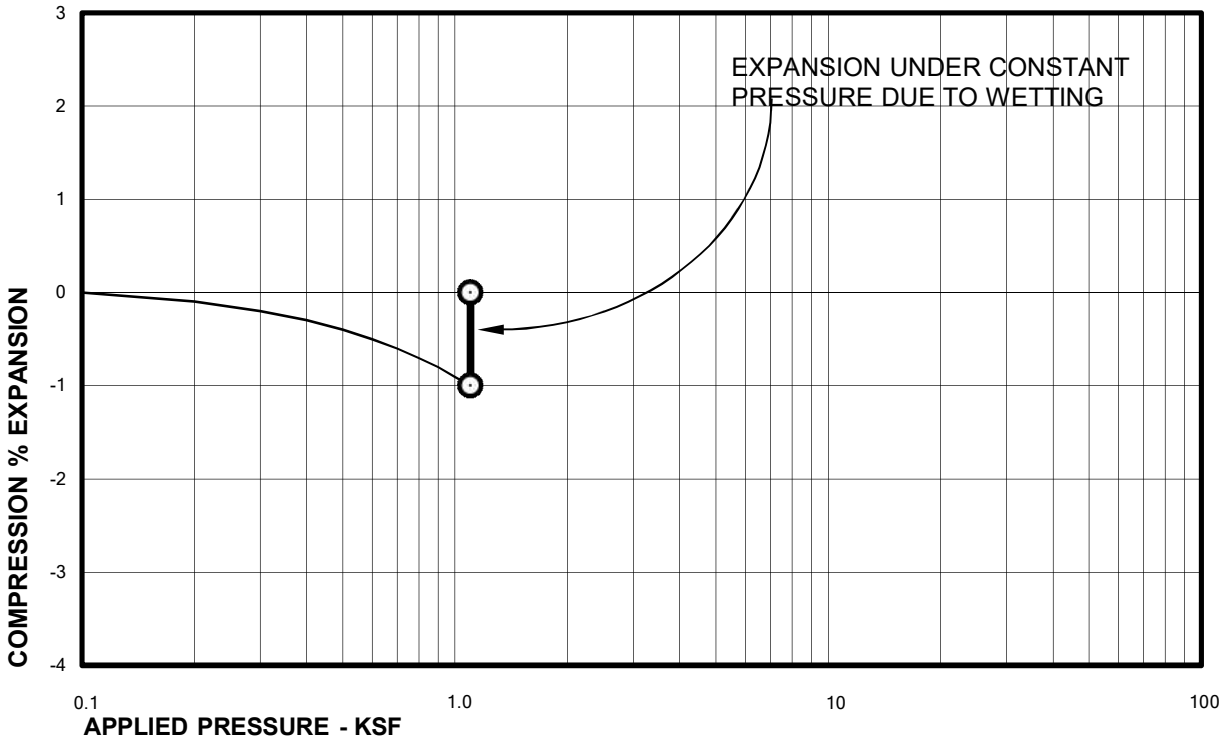
Sample of CLAY, SANDY (CL)
From TH-11 AT 4 FEET

DRY UNIT WEIGHT= 102 PCF
MOISTURE CONTENT= 16.2 %

Swell Consolidation Test Results

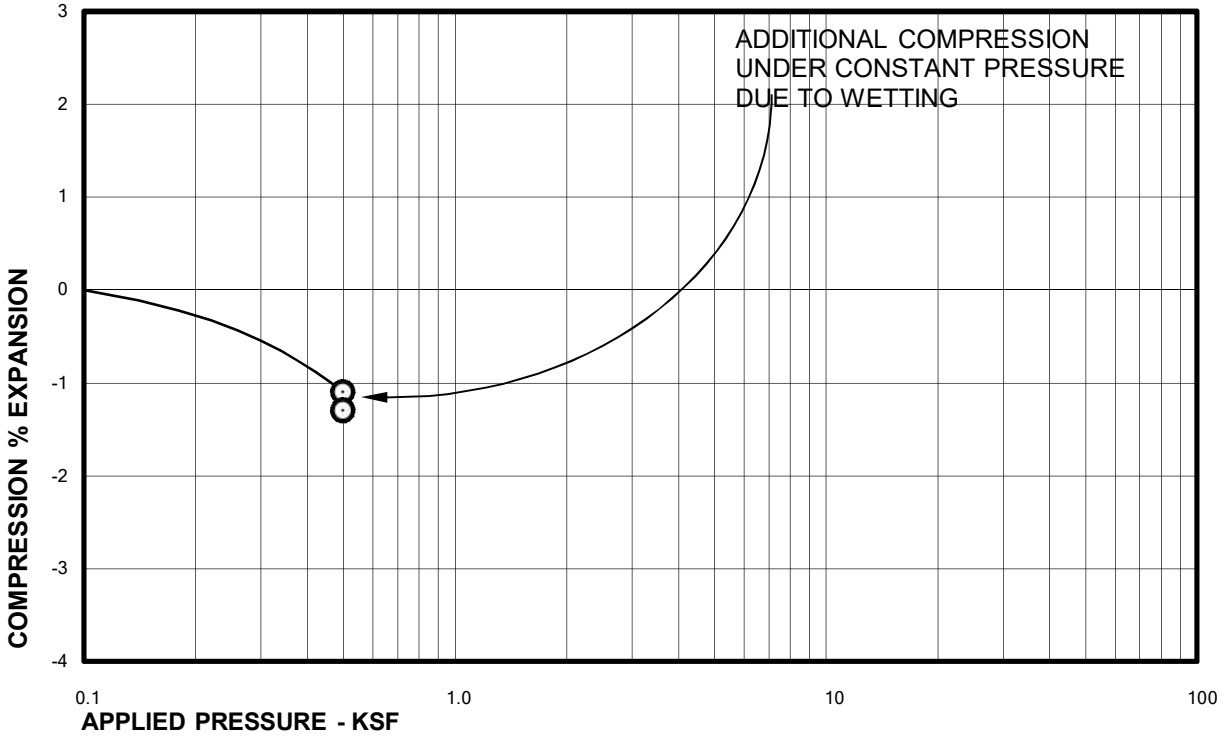
FIG. B-6

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CLAYSTONE
From TH-11 AT 9 FEET

DRY UNIT WEIGHT= 118 PCF
MOISTURE CONTENT= 14.8 %



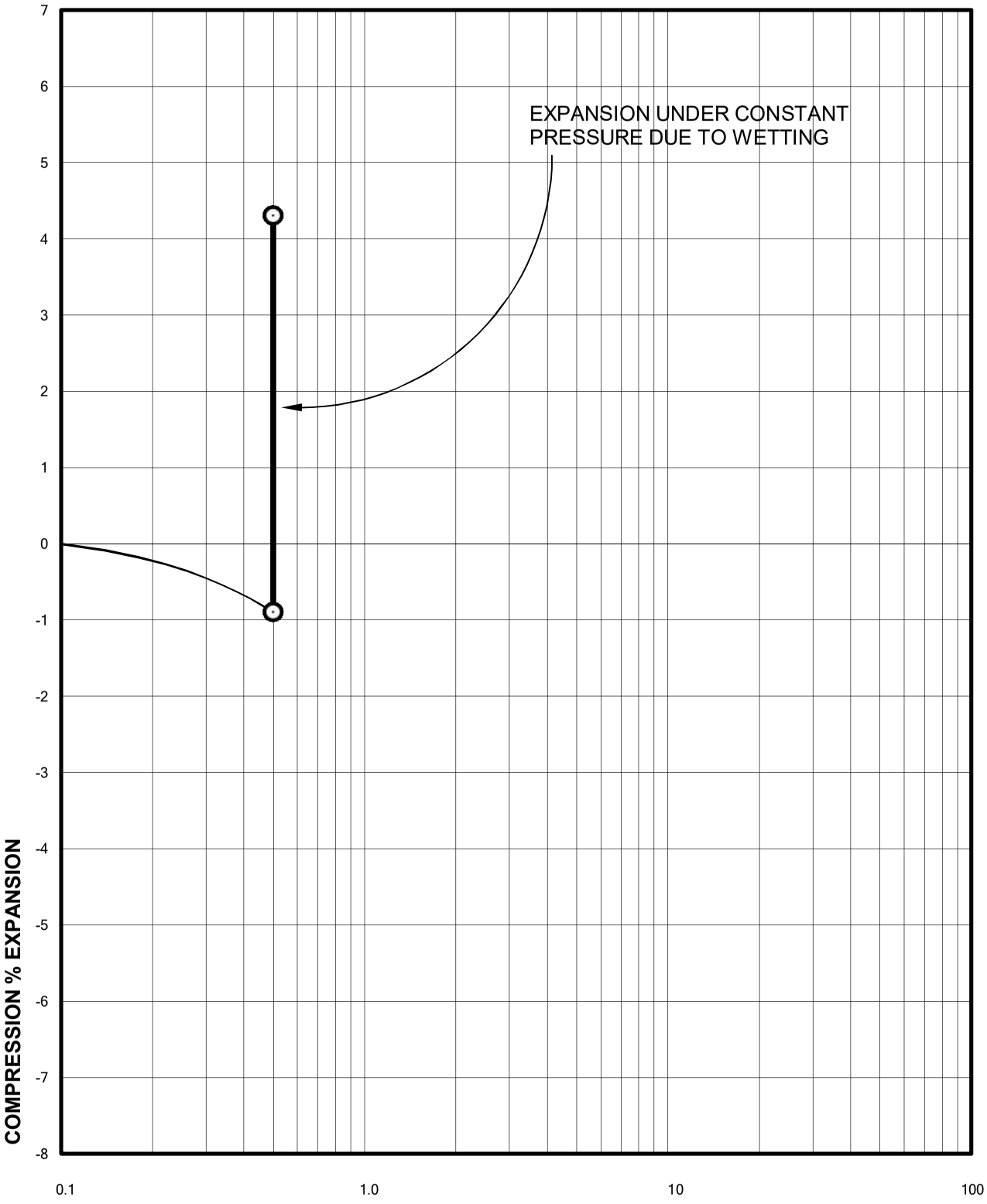
Sample of CLAY, SANDY (CL)
From TH-12 AT 4 FEET

DRY UNIT WEIGHT= 89 PCF
MOISTURE CONTENT= 23.5 %

Swell Consolidation Test Results

FIG. B-7

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



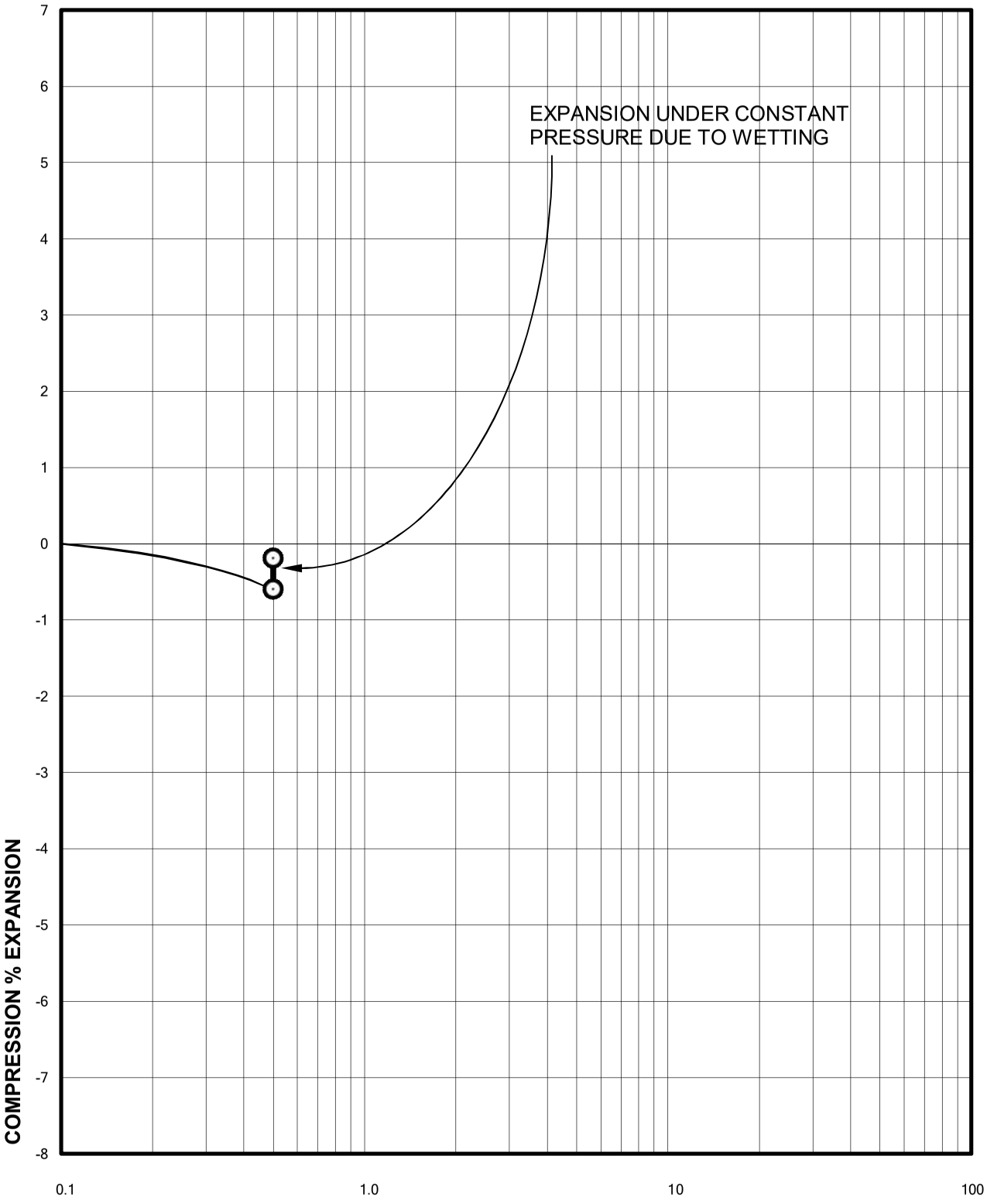
Sample of CLAY, SANDY (CL)
From TH-14 AT 4 FEET

DRY UNIT WEIGHT= 107 PCF
MOISTURE CONTENT= 14.8 %

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

Swell Consolidation Test Results

FIG. B-8



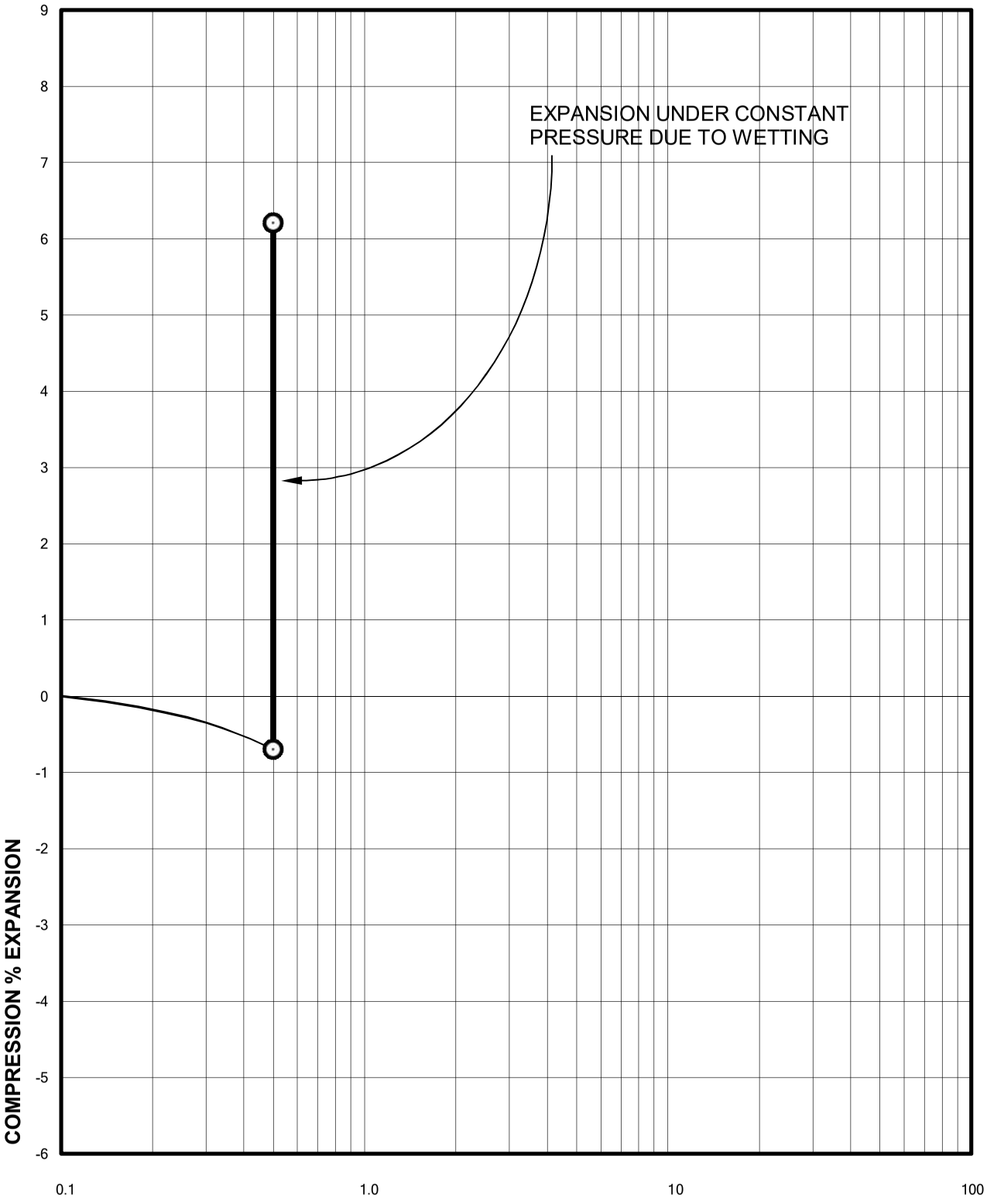
Sample of CLAY, SANDY (CL)
From TH-15 AT 4 FEET

DRY UNIT WEIGHT= 112 PCF
MOISTURE CONTENT= 8.3 %

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

Swell Consolidation Test Results

FIG. B-9



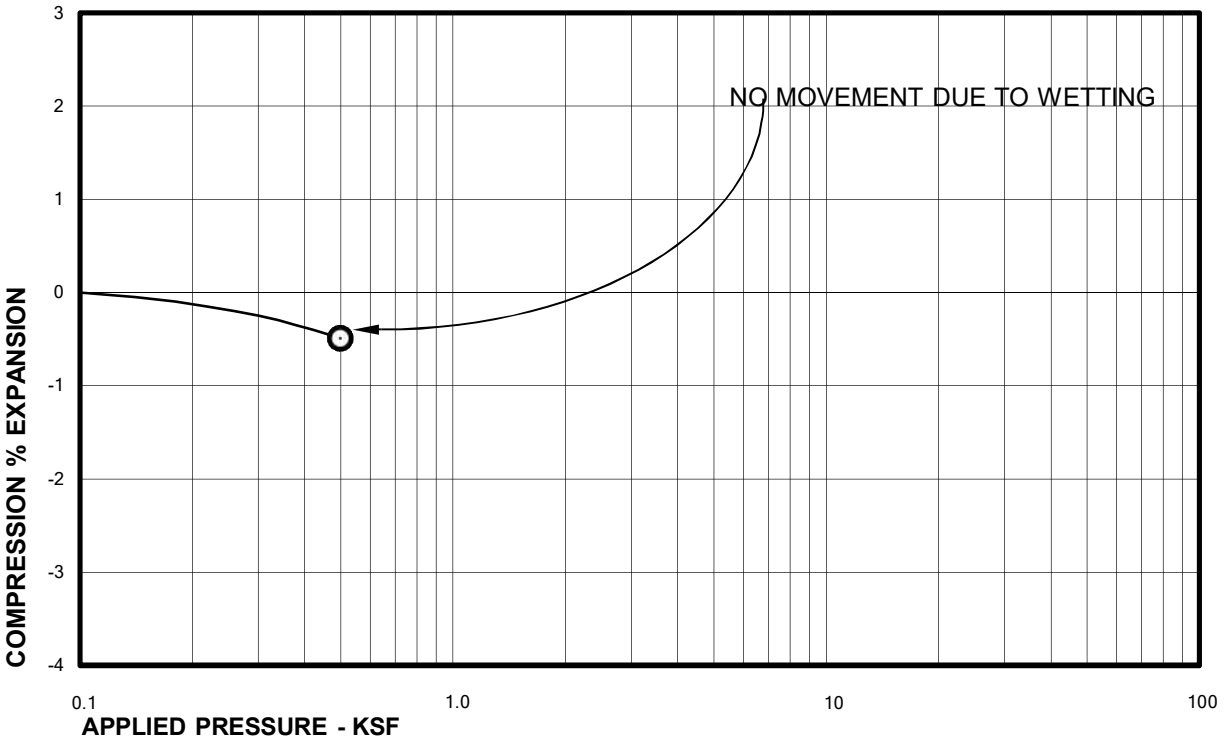
Sample of CLAY, SANDY (CL)
From TH-19 AT 4 FEET

DRY UNIT WEIGHT= 118 PCF
MOISTURE CONTENT= 10.9 %

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

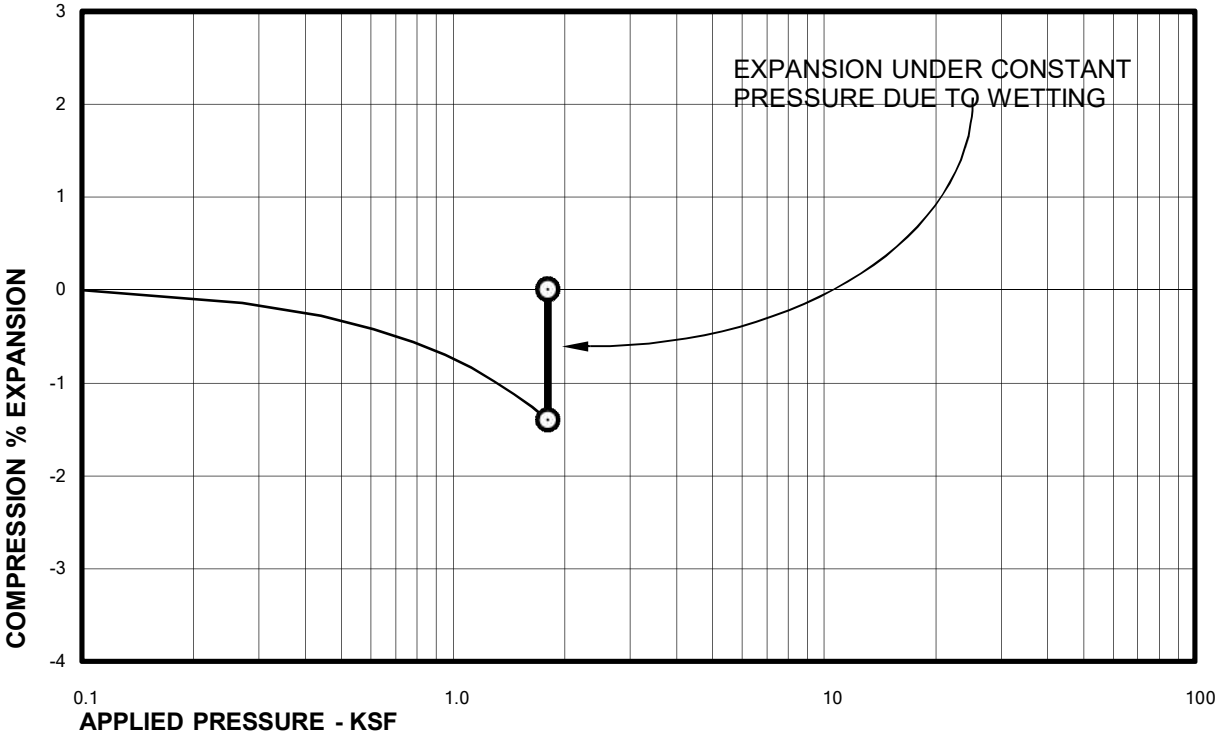
Swell Consolidation Test Results

FIG. B-10



Sample of CLAY, SANDY (CL)
From TH-23 AT 4 FEET

DRY UNIT WEIGHT= 111 PCF
MOISTURE CONTENT= 11.1 %



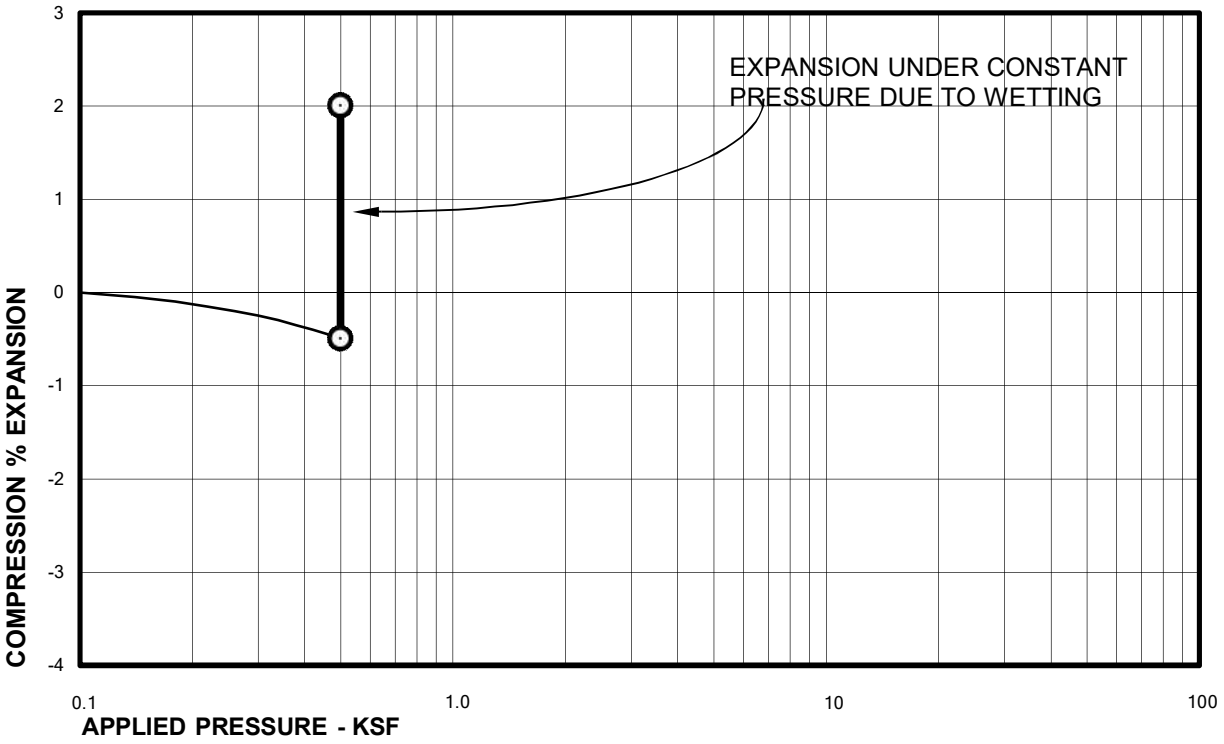
Sample of CLAYSTONE
From TH-23 AT 14 FEET

DRY UNIT WEIGHT= 107 PCF
MOISTURE CONTENT= 20.7 %

Swell Consolidation Test Results

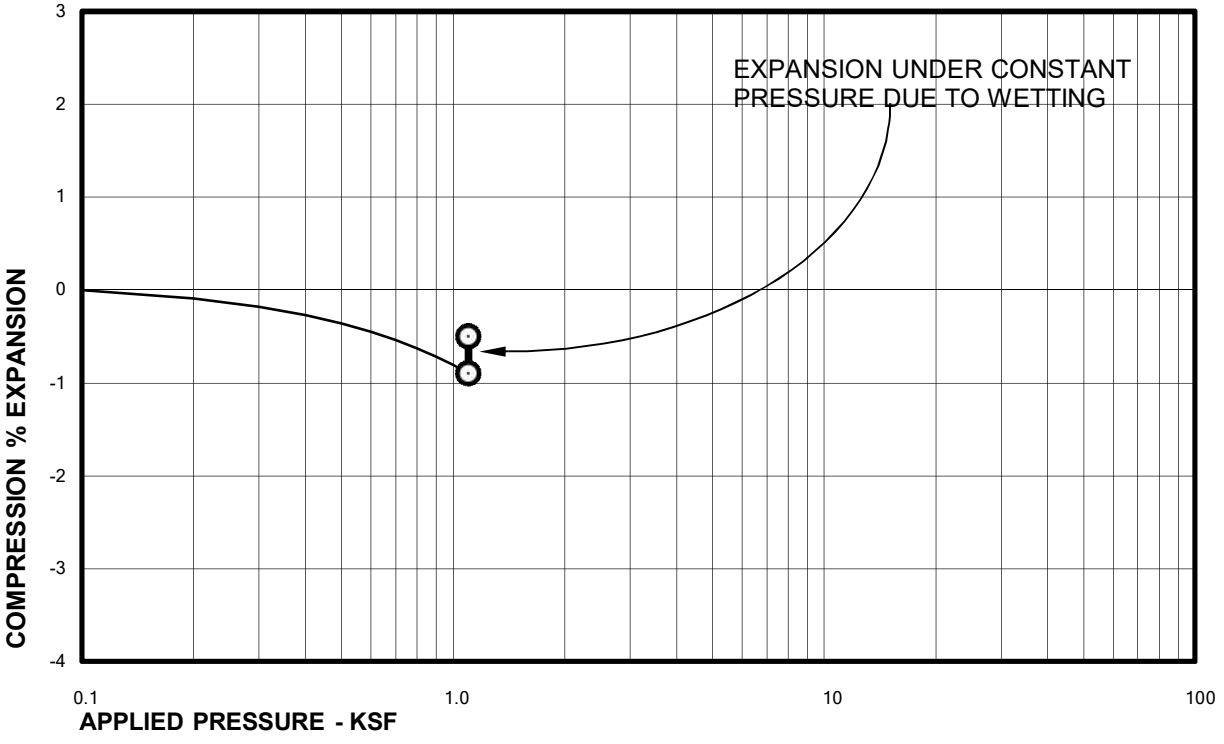
FIG. B-11

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CLAY, SANDY (CL)
From TH-25 AT 4 FEET

DRY UNIT WEIGHT= 101 PCF
MOISTURE CONTENT= 12.1 %



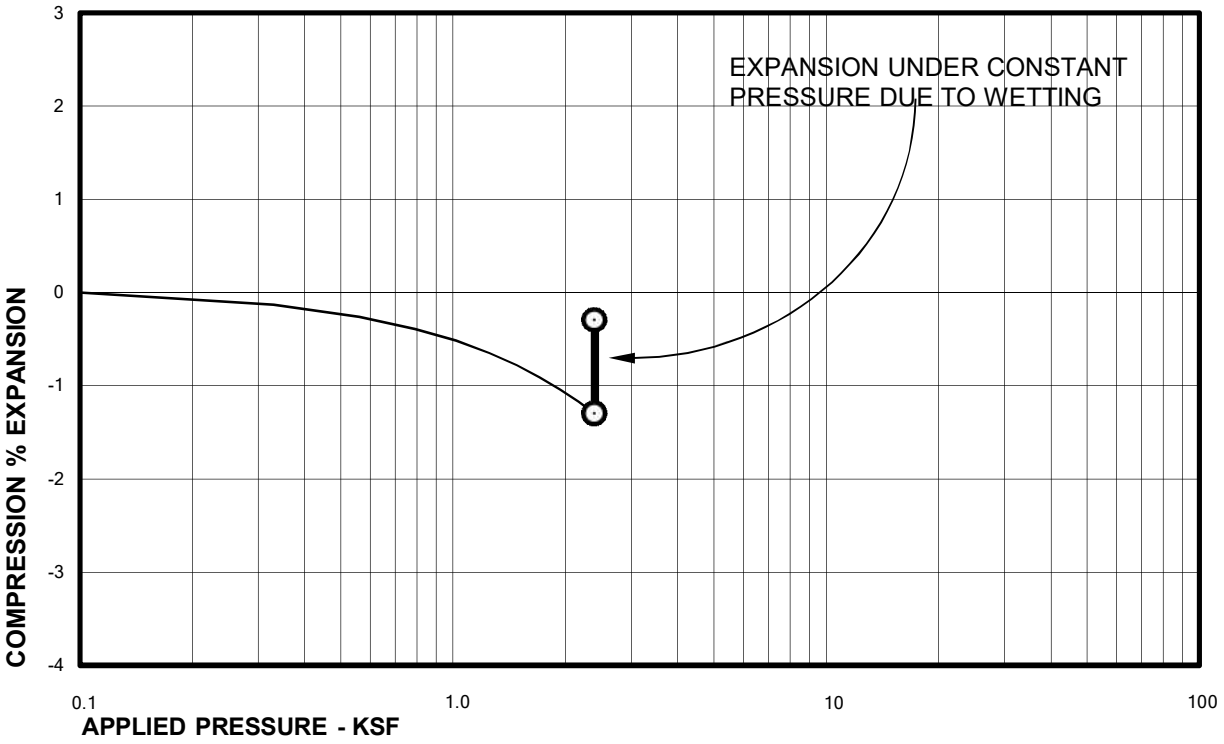
Sample of CLAY, SANDY (CL)
From TH-25 AT 9 FEET

DRY UNIT WEIGHT= 110 PCF
MOISTURE CONTENT= 14.4 %

Swell Consolidation Test Results

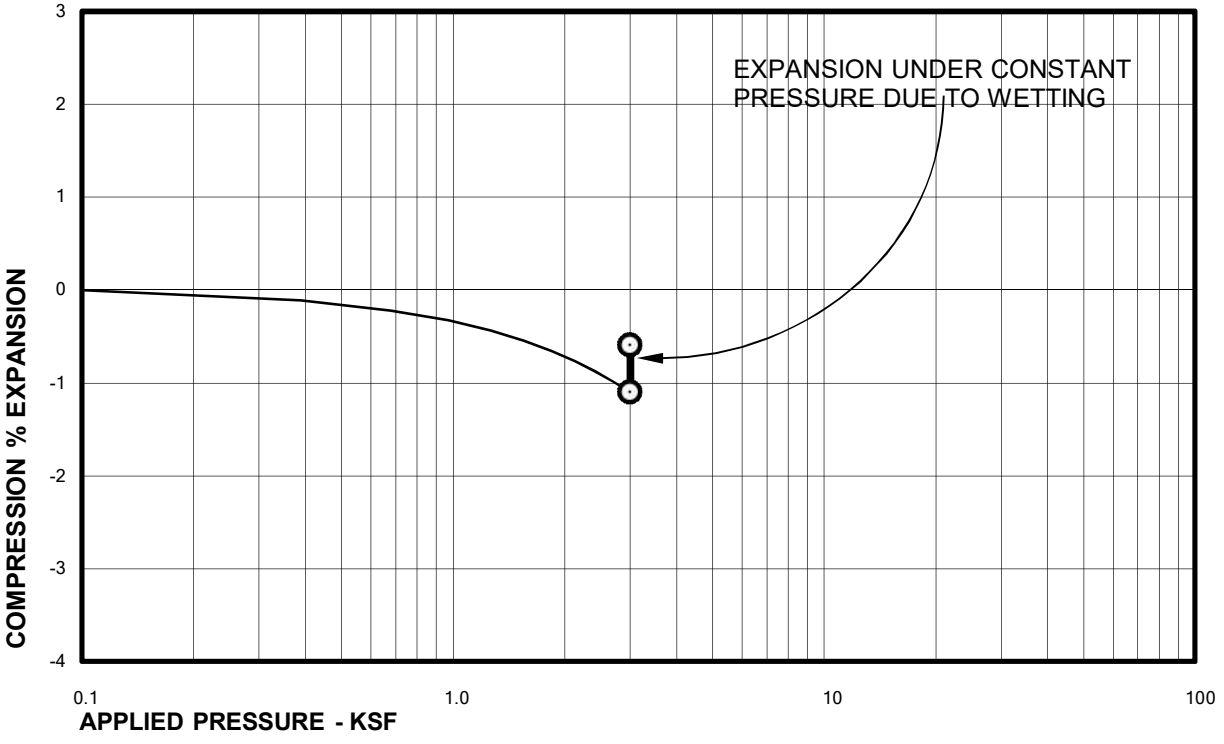
FIG. B-12

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of INTERBEDDED CLAYSTONE/SANDSTONE
From TH-25 AT 19 FEET

DRY UNIT WEIGHT= 122 PCF
MOISTURE CONTENT= 10.4 %



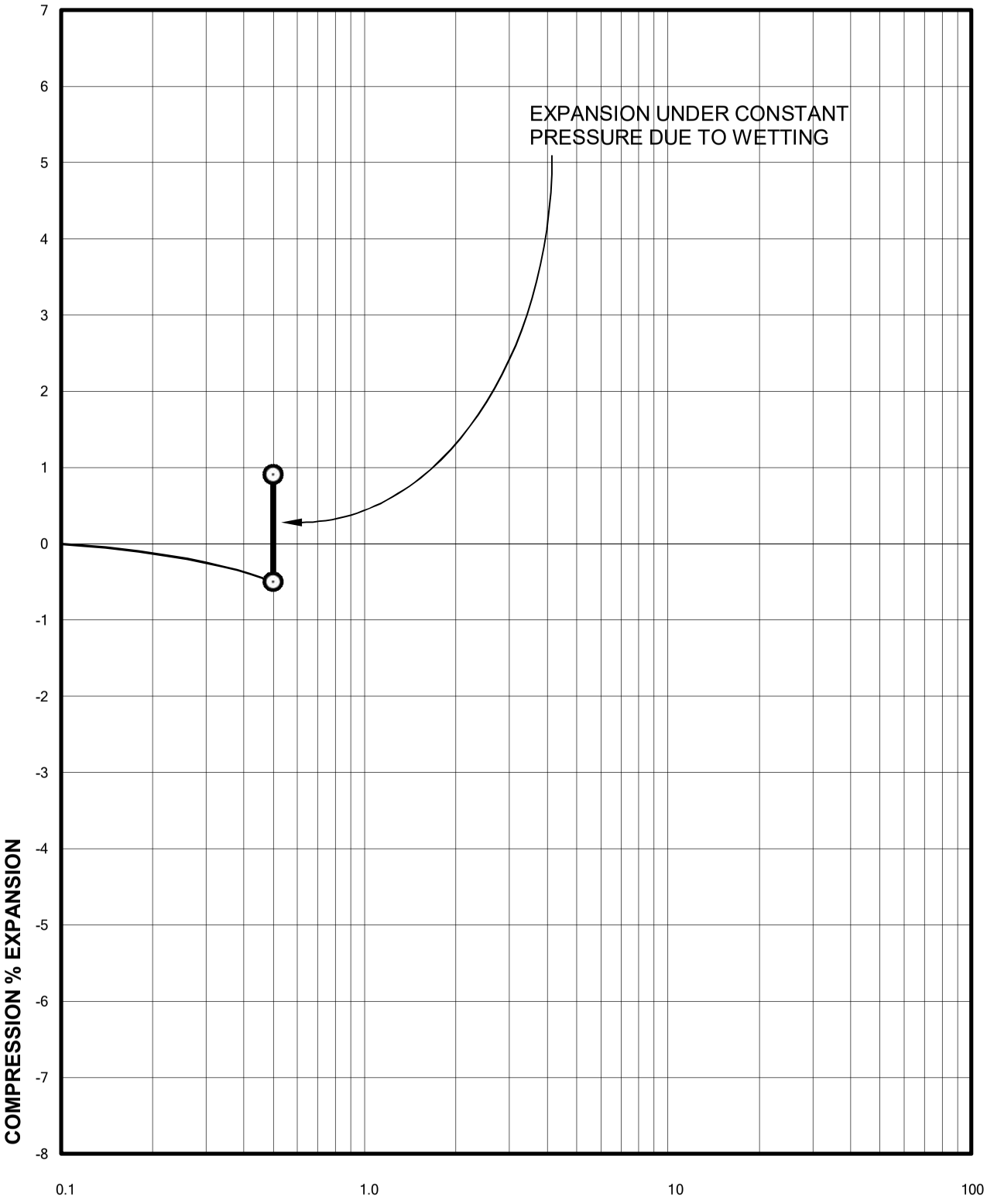
Sample of CLAYSTONE
From TH-25 AT 24 FEET

DRY UNIT WEIGHT= 115 PCF
MOISTURE CONTENT= 16.5 %

Swell Consolidation Test Results

FIG. B-13

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



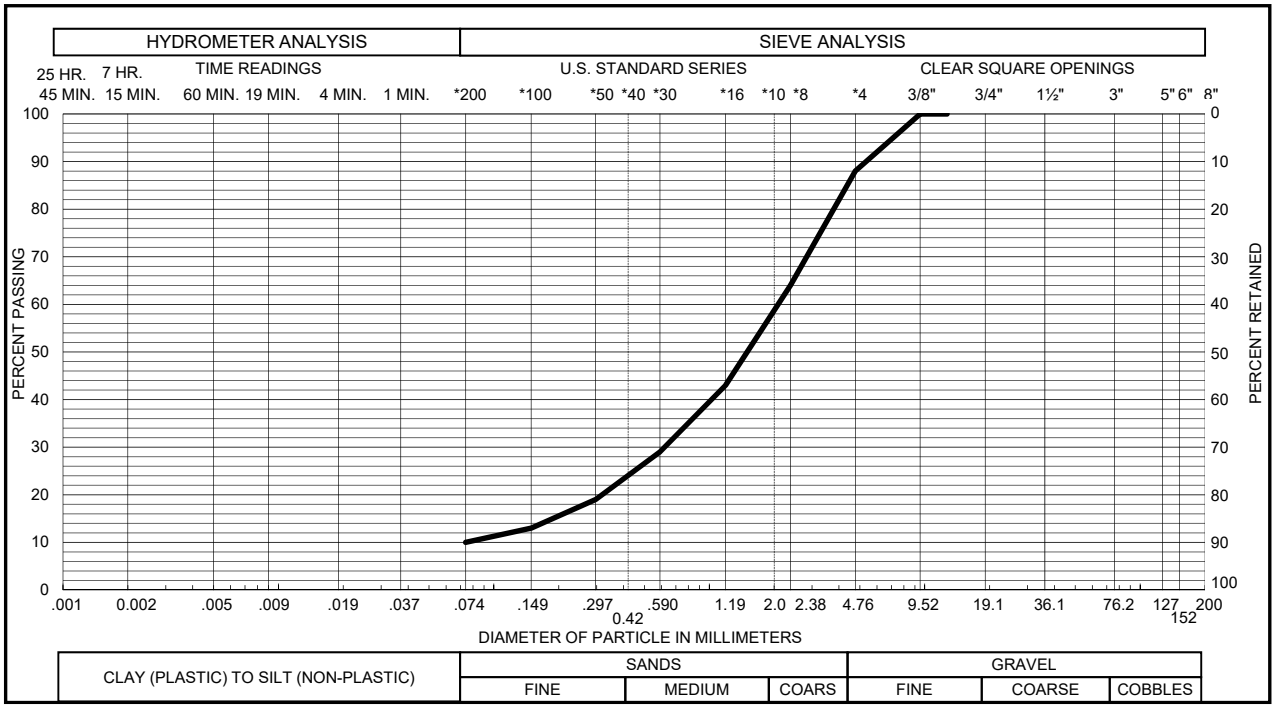
Sample of CLAY, SANDY (CL)
From TH-26 AT 4 FEET

DRY UNIT WEIGHT= 105 PCF
MOISTURE CONTENT= 14.7 %

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

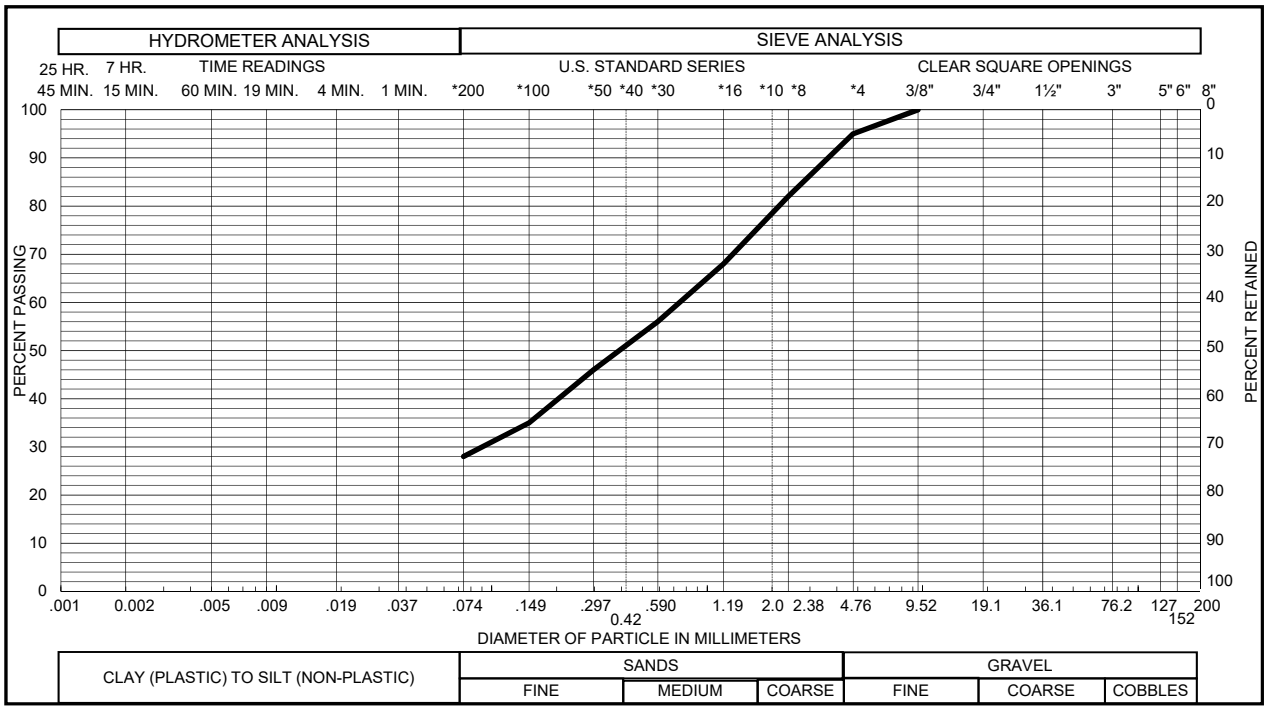
Swell Consolidation Test Results

FIG. B-14



Sample of CEMENTED SANDSTONE
From TH - 18 AT 14 FEET

GRAVEL 12 % SAND 78 %
SILT & CLAY 10 % LIQUID LIMIT
PLASTICITY INDEX

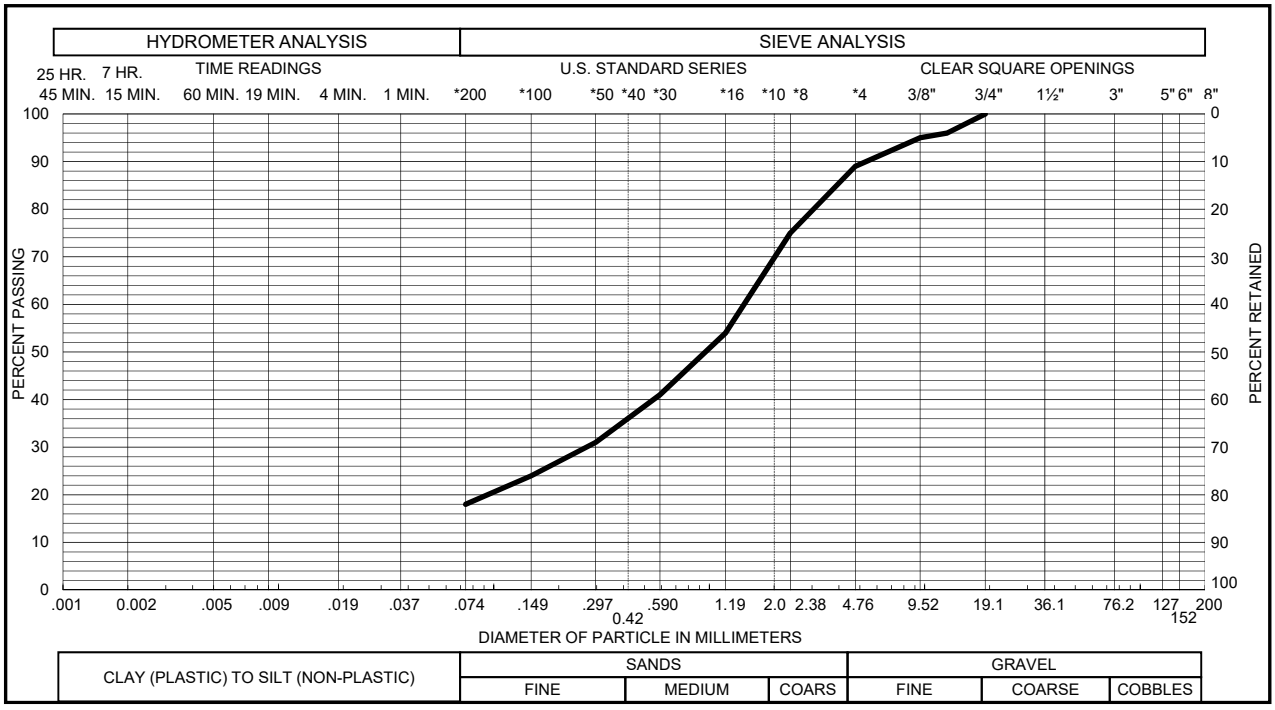


Sample of CEMENTED SANDSTONE
From TH - 22 AT 19 FEET

GRAVEL 5 % SAND 67 %
SILT & CLAY 28 % LIQUID LIMIT
PLASTICITY INDEX

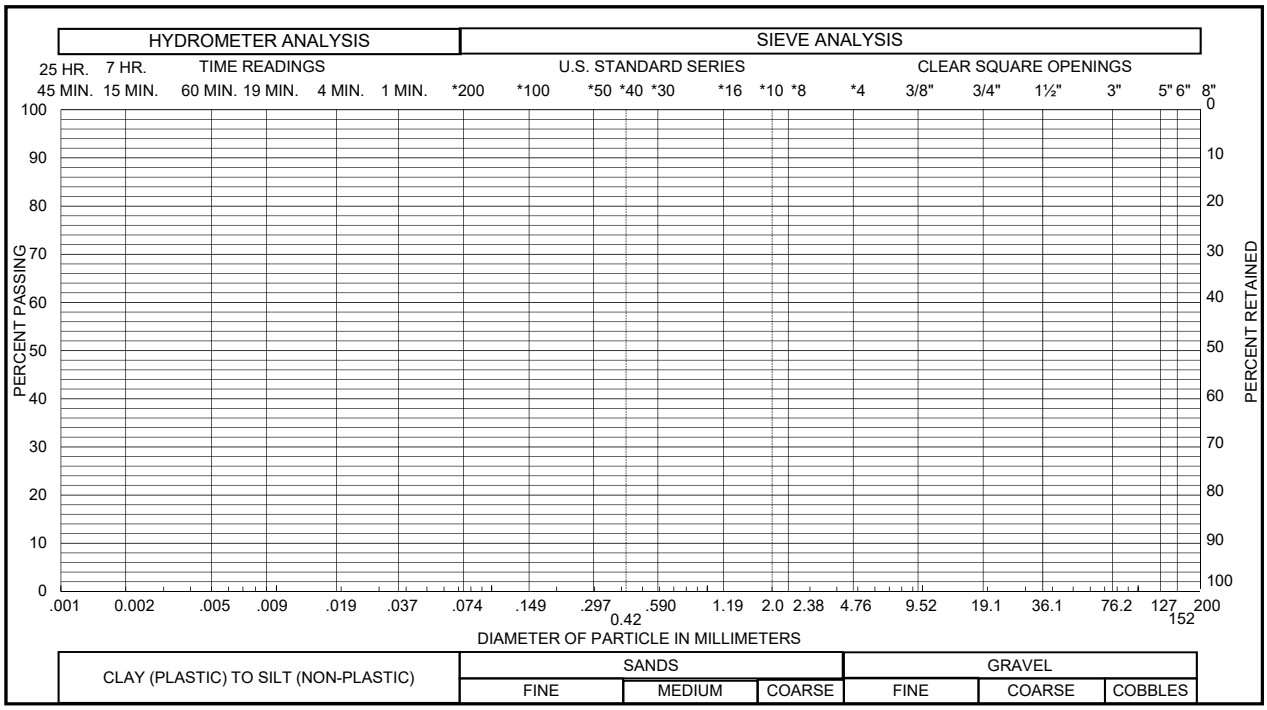
Gradation Test Results FIG. B-15

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1



Sample of CEMENTED SANDSTONE
From TH - 24 AT 19 FEET

GRAVEL 11 % SAND 71 %
SILT & CLAY 18 % LIQUID LIMIT
PLASTICITY INDEX



Sample of
From

GRAVEL % SAND %
SILT & CLAY % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results FIG. B-16

CASTLE PINES SUMMIT, LLC
CASTLE PINES VILLAGE PRELIMINARY PLANS NO. 41 AND 44
CTL|T PROJECT NO. DN48,342.001-115-R1

TABLE B - I

SUMMARY OF LABORATORY TEST RESULTS

BORING	DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL TEST DATA			ATTERBERG LIMITS		PASSING NO. 200 SIEVE (%)	SOIL TYPE
				SWELL (%)	COMPRESSION (%)	APPLIED PRESSURE (psf)	LIQUID LIMIT	PLASTICITY INDEX		
TH-1	4	14.5	114						41	SANDSTONE
TH-1	19	13.0	97	6.5		2,400				CLAYSTONE
TH-2	14	10.4	110		1.1	1,800			52	CLAYSTONE
TH-3	9	10.0	119						20	CEMENTED SANDSTONE
TH-3	14	10.4	121	0.9		1,800				CLAYSTONE
TH-3	19	16.4	114	1.2		2,400				CLAYSTONE
TH-4	4	16.6	105	1.0		500				CLAY, SANDY (CL)
TH-5	9	18.0	114	2.6		1,100			72	CLAYSTONE
TH-8	24	14.2	116						31	CLAYSTONE/SANDSTONE
TH-9	9	16.7	115	2.1		1,100				CLAYSTONE/SANDSTONE
TH-9	19	16.5	116	1.1		2,400				CLAYSTONE
TH-10	4	29.1	88	0.1		500				CLAY, SANDY (CL)
TH-10	14	18.8	110	1.4		1,800				CLAYSTONE
TH-11	4	16.2	102	0.3		500	42	22	75	CLAY, SANDY (CL)
TH-11	9	14.8	118	1.0		1,100				CLAYSTONE
TH-11	14	11.3	121						26	SANDSTONE
TH-12	4	23.5	89		0.2	500				CLAY, SANDY (CL)
TH-14	4	14.8	107	5.2		500				CLAY, SANDY (CL)
TH-15	4	8.3	112	0.4		500				CLAY, SANDY (CL)
TH-16	9	18.4							73	CLAYSTONE/SANDSTONE
TH-17	4	10.5	113						52	CLAYSTONE/SANDSTONE
TH-18	14	3.0							10	CEMENTED SANDSTONE
TH-18	19	8.1	80						24	CEMENTED SANDSTONE
TH-19	4	10.9	118	6.9		500	48	32	67	CLAY, SANDY (CL)
TH-19	9	11.9							39	SAND, CLAYEY (SC)
TH-21	4	12.3	117						50	CLAY, SANDY (CL)
TH-22	19	10.5							28	CEMENTED SANDSTONE
TH-23	4	11.1	111	0.0		500				CLAY, SANDY (CL)
TH-23	14	20.7	107	1.4		1,800				CLAYSTONE
TH-24	19	15.0							18	CEMENTED SANDSTONE
TH-24	24	11.3	119						32	CEMENTED SANDSTONE
TH-25	4	12.1	101	2.5		500				CLAY, SANDY (CL)
TH-25	9	14.4	110	0.4		1,100				CLAY, SANDY (CL)
TH-25	19	10.4	122	1.0		2,400				CLAYSTONE/SANDSTONE
TH-25	24	16.5	115	0.5		3,000				CLAYSTONE
TH-26	4	14.7	105	1.4		500				CLAY, SANDY (CL)

APPENDIX C

GUIDELINE SITE GRADING SPECIFICATIONS

Caste Pines Village Preliminary Plans No. 41 and 44
Castle Pines, Colorado

GUIDELINE SITE GRADING SPECIFICATIONS

Castle Pines Village Preliminary Plans No. 41 and 44
Castle Pines, Colorado

1. DESCRIPTION

This item shall consist of the excavation, transportation, placement and compaction of materials from locations indicated on the plans, or staked by the Engineer, as necessary to achieve preliminary street and overlot elevations. These specifications shall also apply to compaction of excess cut materials that may be placed outside of the subdivision and/or filing boundaries.

2. GENERAL

The Soils Representative shall be the Owner's representative. The Soils Representative shall approve fill materials, method of placement, moisture contents and percent compaction, and shall give written approval of the completed fill.

3. CLEARING JOB SITE

The Contractor shall remove all vegetation, trees, brush and rubbish before excavation or fill placement begins. The Contractor shall dispose of the cleared material to provide the Owner with a clean, neat appearing job site. Cleared material shall not be placed in areas to receive fill or where the material will support structures of any kind.

4. SCARIFYING AREA TO BE FILLED

Topsoil and vegetable matter shall be substantially removed from the ground surface upon which fill is to be placed. The surface shall then be plowed or scarified to a depth of 8 inches, moisture treated to above optimum moisture content, and compacted until the surface is free from ruts, hummocks or other uneven features, which would prevent uniform compaction by the equipment to be used.

5. COMPACTING AREA TO BE FILLED

After the foundation for the fill has been cleared and scarified, it shall be disked or bladed until it is free from large clods to a depth of 8 to 12 inches, brought to the proper moisture content (between optimum and 3 percent above optimum for clay and within 2 percent of optimum for sand) and compacted to at least 95 percent of maximum density as determined in accordance with ASTM D 698. The foundation materials shall be worked, stabilized, or removed and replaced if necessary in accordance with the soils representative’s recommendations in preparation for fill.

6. FILL MATERIALS

Fill soils shall be substantially free from vegetable matter or other deleterious substances, and shall not contain rocks having a diameter greater than six (6) inches and claystone pieces larger than three (3) inches. Fill materials shall be obtained from cut areas shown on the plans or staked in the field by the Engineer.

On-site materials classifying as CL, CH, SC, SM, SW, SP, GP, GC and GM are acceptable. Concrete, asphalt, organic matter and other deleterious materials or debris shall not be used as fill.

7. MOISTURE CONTENT

For fill material classifying as CH, CL or SC, the fill shall be moisture treated to between optimum and 3 percent above optimum moisture content. Soils classifying as SM, SW, SP, GP, GC and GM shall be moisture treated to within 2 percent of optimum moisture content as determined from Proctor compaction tests. Sufficient laboratory compaction tests shall be made to determine the optimum moisture content for the various soils encountered in borrow areas.

The Contractor may be required to add moisture to the excavation materials in the borrow area if, in the opinion of the Soils Representative, it is not possible to obtain uniform moisture content by adding water on the fill surface. The Contractor may be required to rake or disc the fill soils to provide uniform moisture content through the soils.

The application of water to embankment materials shall be made with any type of watering equipment approved by the Soils Representative, which will give the desired results. Water jets from the spreader shall not be directed at the embankment with such force that fill materials are washed out.

Should too much water be added to any part of the fill, such that the material is too wet to permit the desired compaction from being obtained, rolling and all work on that section of the fill shall be delayed until the material has been allowed to dry to the required moisture content. The Contractor will be permitted to rework wet material in an approved manner to hasten its drying.

8. COMPACTION OF FILL AREAS

Selected fill material shall be placed and mixed in evenly spread layers. After each fill layer has been placed, it shall be uniformly compacted to not less than the specified percentage of maximum density. Fill shall be compacted to at least 95 percent of the maximum density as determined in accordance with ASTM D 698. At the option of the Soils Representative, soils classifying as SW, GP, GC, or GM may be compacted to 95 percent of maximum density as determined in accordance with ASTM D 1557 or 70 percent relative density for cohesionless sand soils. Fill materials shall be placed such that the thickness of loose materials does not exceed 8 inches and the compacted lift thickness does not exceed 6 inches.

Compaction as specified above shall be obtained by the use of sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other equipment approved for soils classifying as CL, CH, or SC. Granular fill shall be compacted using vibratory equipment or other approved equipment. Compaction shall be accomplished while the fill material is at the specified moisture content. Compaction of each layer shall be continuous over the entire area. Compaction equipment shall make sufficient passes to ensure that the required density is obtained.

9. COMPACTION OF SLOPES

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction operations shall be continued until slopes are stable, but not too dense for planting, and there is not an appreciable amount of loose soils on the slopes. Compaction of slopes may be done progressively in increments of three to five feet (3' to 5') in height or after the fill is brought to its total height. Permanent fill slopes shall not exceed 3:1 (horizontal to vertical).

10. PLACEMENT OF FILL ON NATURAL SLOPES

Where natural slopes are steeper than 20 percent in grade and the placement of fill is required, cut benches shall be provided at the rate of one bench for each 5 feet in height (minimum of two benches). Benches shall be at least 10 feet in width. Larger bench widths may be required by the Engineer. Fill shall be placed on completed benches as outlined within this specification.

11. DENSITY TESTS

Field density tests shall be made by the Soils Representative at locations and depths of his choosing. Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches. Density tests shall be taken in compacted material below the disturbed surface. When density tests indicate that the density or moisture content of any layer of fill or portion thereof is below that required, the particular layer or portion shall be reworked until the required density or moisture content has been achieved.

12. SEASONAL LIMITS

No fill material shall be placed, spread or rolled while it is frozen, thawing, or during unfavorable weather conditions. When work is interrupted by heavy precipitation, fill operations shall not be resumed until the Soils Representative indicates that the moisture content and density of previously placed materials are as specified.

13. NOTICE REGARDING START OF GRADING

The Contractor shall submit notification to the Soils Representative and Owner advising them of the start of grading operations at least three (3) days in advance of the starting date. Notification shall also be submitted at least 3 days in advance of any resumption dates when grading operations have been stopped for any reason other than adverse weather conditions.

14. REPORTING OF FIELD DENSITY TESTS

Density tests made by the Soils Representative, as specified under "Density Tests" above, shall be submitted progressively to the Owner. Dry density, moisture content, and percentage compaction shall be reported for each test taken.

15. DECLARATION REGARDING COMPLETED FILL

The Soils Engineer shall provide a written declaration stating that the site was filled with acceptable materials, and was placed in general accordance with the specifications.

CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT PRELIMINARY PLAN

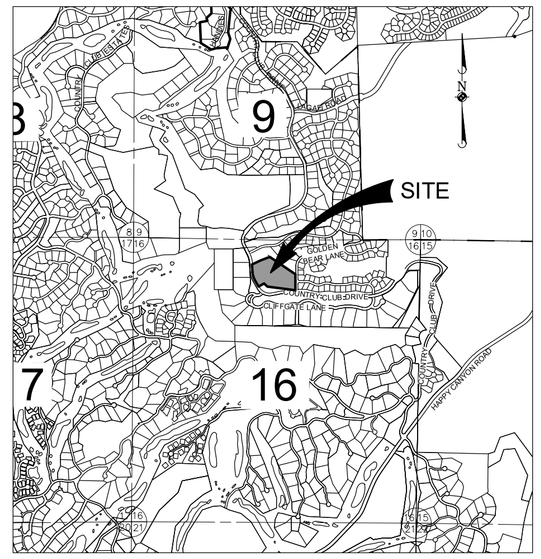
IN PLANNING AREA R-20
LOCATED IN THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 16,
TOWNSHIP 7 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
COUNTY OF DOUGLAS, STATE OF COLORADO
SUBDIVISION OF 7.9466 ACRES, 17 RESIDENTIAL LOTS, 1 TRACT
SB2023-033

LEGAL DESCRIPTION:

LOT 623-A OF CASTLE PINES VILLAGE FILING NO. 14-A, 1ST AMENDMENT, RECORDED AT RECEPTION NO. 2021015240, IN THE OFFICE OF THE DOUGLAS COUNTY CLERK AND RECORDER;

SAID PARCEL OF LAND LOCATED WITHIN THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 7 SOUTH, RANGE 67 WEST OF THE SIXTH PRINCIPAL MERIDIAN, IN THE COUNTY OF DOUGLAS, STATE OF COLORADO.

CONTAINING 346,155 SQUARE FEET OR 7.9466 ACRES



VICINITY MAP

(SCALE: 1" = 2000')

SHEET INDEX	
SHEET NO.	SHEET TITLE
1	COVER SHEET
2	OVERALL PLAN

LAND USE SUMMARY TABLE

LOTS	ACREAGE	% OF GROSS LAND	OWNERSHIP	MAINTENANCE
LOTS 1-17	7.07	88.99%	OWNER	OWNER
PRIVATE ROADWAYS				
TRINITY PEAK POINT	0.79	9.96%	CPHA [1]	CPMD [2]
TRACTS				
TRACT A (UTILITIES, DRAINAGE, LANDSCAPING, AND OPEN SPACE PURPOSES)	0.08	1.05%	CPHA	CPHA
TOTAL	7.95	100.00%		

*CPHA IS THE ABBREVIATION FOR THE CASTLE PINES HOMES ASSOCIATION.
**CPMD IS THE ABBREVIATION FOR THE CASTLE PINES METROPOLITAN DISTRICT.

GENERAL NOTES:

1. ACCORDING TO COLORADO LAW, C.R.S. 13-80-105, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVERED SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.

2. BASIS OF BEARINGS: THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 16 BEARS SOUTH 89°47'58" EAST, PER CASTLE PINES VILLAGE FILING NO. 44-A, RECORDED FEBRUARY 5, 2021 AT RECEPTION NO. 2021015248, WITH THE NORTHEAST CORNER OF SAID SECTION 16 MONUMENTED BY A 3.25 INCH ALUMINUM CAP, STAMPED LS 12046 AND THE NORTH QUARTER CORNER OF SAID SECTION 16 MONUMENTED BY A 3.25 INCH ALUMINUM CAP, STAMPED PLS 23521, 1993.

3. TRACT A, AS SHOWN HEREON, WILL BE DEDICATED TO THE CASTLE PINES HOMES ASSOCIATION, THEIR SUCCESSORS AND ASSIGNS AND IS ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE CASTLE PINES HOMES ASSOCIATION FOR WATER, DRAINAGE, LANDSCAPING, AND OPEN SPACE PURPOSES.

4. A BLANKET WATER, DRAINAGE, AND ACCESS EASEMENT ACROSS TRACT A WILL BE GRANTED TO CASTLE PINES METROPOLITAN DISTRICT, THEIR SUCCESSORS AND ASSIGNS AND IS ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE CASTLE PINES METROPOLITAN DISTRICT FOR THE PURPOSES OF ACCESSING, MAINTAINING, CONSTRUCTING, RECONSTRUCTING, REMOVING AND REPAIR OF WATER LINE AND DRAINAGE AND STORMWATER MANAGEMENT IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO MANHOLES, INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, RIPRAP, AND RELATED APPURTENANCES THERETO, LYING WITHIN TRACT A.

5. A SECONDARY DRAINAGE EASEMENT ACROSS TRACT A AND THE DRAINAGE EASEMENTS AS SHOWN HEREON WILL BE GRANTED TO DOUGLAS COUNTY FOR THE PURPOSES OF ACCESSING, MAINTAINING AND REPAIRING STORM WATER MANAGEMENT IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, RIPRAP, DETENTION BASINS, FOREBAYS, MICRO-POOLS AND WATER QUALITY FACILITIES (COLLECTIVELY, THE "FACILITIES") IN THE EVENT THE CASTLE PINES METROPOLITAN DISTRICT, ITS SUCCESSORS, AND ASSIGNS ("SYSTEM OWNER") FAILS TO SATISFACTORILY MAINTAIN OR REPAIR SAID FACILITIES. A BLANKET ACCESS EASEMENT OVER CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT (THE "SUBDIVISION") IS ALSO HEREBY GRANTED TO DOUGLAS COUNTY, BUT ONLY FOR THE PURPOSE OF ACCESSING THE FACILITIES IN THE EVENT THAT THE DRAINAGE EASEMENTS DO NOT PROVIDE ADEQUATE ACCESS. THE MAINTENANCE AND REPAIR OF THE FACILITIES LOCATED WITHIN THE SUBDIVISION, AS SHOWN ON THE CONSTRUCTION PLANS ACCEPTED BY DOUGLAS COUNTY OR ON THE PLAT FOR THE SUBDIVISION, SHALL BE THE RESPONSIBILITY OF THE SYSTEM OWNER. IN THE EVENT SUCH MAINTENANCE AND REPAIRS ARE NOT PERFORMED BY THE SYSTEM OWNER TO THE SATISFACTION OF DOUGLAS COUNTY, THEN DOUGLAS COUNTY SHALL HAVE THE RIGHT, BUT NOT THE OBLIGATION, TO ENTER SAID SUBDIVISION, AFTER TEN (10) DAYS PRIOR WRITTEN NOTICE TO THE SYSTEM OWNER, UNLESS THERE IS AN EMERGENCY, IN WHICH CASE DOUGLAS COUNTY SHALL GIVE NOTICE AS SOON AS PRACTICABLE, TO PERFORM ALL NECESSARY WORK, THE COST OF WHICH SHALL BE PAID BY THE SYSTEM OWNER UPON BILLING. IN THE EVENT THE SYSTEM OWNER FAILS TO REIMBURSE DOUGLAS COUNTY WITHIN THIRTY (30) DAYS AFTER SUBMISSION OF THE BILL FOR THE COSTS INCURRED, DOUGLAS COUNTY WILL HAVE THE RIGHT TO ENFORCE SUCH OBLIGATION BY APPROPRIATE LEGAL ACTION. IT IS THE SYSTEM OWNER'S RESPONSIBILITY TO CONSTRUCT, MAINTAIN, AND REPAIR THE FACILITIES IN A MANNER CONSISTENT WITH ALL APPLICABLE PLANS APPROVED OR ACCEPTED BY DOUGLAS COUNTY.

6. PRIOR TO ISSUANCE OF ANY BUILDING PERMITS WITHIN CASTLE PINES VILLAGE, FILING NO. 14-A, 2ND AMENDMENT, LOT SPECIFIC DATA REGARDING SOILS, GEOLOGY AND CONSTRUCTION MUST BE OBTAINED AND REVIEWED BY A QUALIFIED GEOTECHNICAL ENGINEER. SUCH DATA SHALL BE PRESENTED TO THE DOUGLAS COUNTY BUILDING DEPARTMENT FOR REVIEW. AS A RESULT OF THIS DATA, FOUNDATION MODIFICATIONS, SUBSURFACE DRAINAGE SYSTEMS, AND/OR OTHER BUILDING DESIGN/CONSTRUCTION MODIFICATIONS MAY BE REQUIRED.

7. AT THE TIME OF CONSTRUCTION, ESPECIALLY DURING EXCAVATION AND GRADING, THE OWNER, ITS SUCCESSORS, OR ASSIGNS SHALL EXERCISE REASONABLE CARE IN OBSERVANCE FOR THE PRESENCE OF HISTORIC, PALEONTOLOGICAL OR OTHER CULTURAL RESOURCES AND SHALL IMMEDIATELY NOTIFY DOUGLAS COUNTY IN THE EVENT OF SUCH DISCOVERY.

8. A BURROWING OWL STUDY IN ACCORDANCE WITH ESTABLISHED PRACTICES SHALL BE CONDUCTED PRIOR TO ANY CONSTRUCTION ACTIVITIES OCCURRING BETWEEN MARCH 15 AND OCTOBER 31 IN ANY AREA CONTAINING A PRAIRIE DOG COLONY.

9. THE ENTIRE PROPERTY IS LOCATED WITHIN ZONE X AND LIES OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS INDICATED ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 08035C0160G, PANEL 160F OF 495, EFFECTIVE DATE SEPTEMBER 4, 2020.

10. ALL DISTANCES ARE GROUND DISTANCES IN U.S. SURVEY FEET.

11. ALL DIMENSIONS SHOWN HEREON ARE RECORD AND MEASURED UNLESS OTHERWISE NOTED.

12. FIDELITY NATIONAL TITLE INSURANCE COMPANY ORDER NUMBER: ABC70802230, DATED APRIL 10, 2023, WAS RELIED UPON FOR RECORD INFORMATION REGARDING RIGHTS-OF WAYS, EASEMENTS AND ENCUMBRANCES.

13. NON-EXCLUSIVE UTILITY EASEMENTS (UE) LOCATED AS SHOWN ARE HEREBY GRANTED FOR THE INSTALLATION, MAINTENANCE, AND OPERATION OF UTILITIES: INCLUDING BUT NOT LIMITED TO STREET LIGHTS, ELECTRIC LINES, GAS LINES, CABLE TELEVISION LINES, FIBER OPTIC LINES, AND TELEPHONE LINES, AS WELL AS PERPETUAL RIGHT FOR INGRESS AND EGRESS FOR INSTALLATION, MAINTENANCE, AND REPLACEMENT OF SUCH LINES.

14. UTILITY EASEMENTS AS SHOWN HEREON WILL NOT BE ALLOWED TO BE ENCROACHED UPON BY BUILDINGS, ORNAMENTAL COLUMNS, WINDOW WELLS, COUNTERFORTS, PATIOS, DECKS, ACCESSORY STRUCTURES, MONUMENTS, RETAINING WALLS AND THEIR COMPONENTS.

15. THE HOMES TO BE CONSTRUCTED IN THIS SUBDIVISION WILL BE DEVELOPED IN ACCORDANCE WITH THE ALTERNATIVE DEVELOPMENT STANDARDS PER SECTION IV, LAND USE PLANNING AREAS, RESIDENTIAL, SUB-SECTION E OF THE CASTLE PINES VILLAGE DEVELOPMENT GUIDE AS RECORDED AT BOOK 600, PAGE 1 AND LATER AMENDED AT BOOK 619, PAGE 9.

16. THE PURPOSE OF THE 10' LANDSCAPE EASEMENT SHOW HEREON AT THE REAR OF LOTS 8, 9, 10, AND 11 IS FOR A LANDSCAPE BUFFER BETWEEN COUNTRY CLUB DRIVE AND SINGLE FAMILY LOTS. THE 10' LANDSCAPE EASEMENT IS INTENDED TO PROVIDE A DEDICATED AREA FOR LANDSCAPE SCREENING. CASTLE PINES VILLAGE DESIGN REVIEW COMMITTEE (DRC) WILL REVIEW LANDSCAPE SCREENING PROVIDED FOR THESE LOTS AS PART OF THE BUILDING REVIEW PROCESS.

OWNER:
CASTLE PINES SUMMIT, LLC
9360 TEDDY LANE, SUITE 201
LONE TREE, CO 80124
303-790-9555

COVER SHEET

DRAWN BY	REVISIONS	DATE
MKW	DISTRICT AND COUNTY COMMENTS	04/10/24
MKW	REVIEW COMMENTS	02/15/24

Manhard CONSULTING
7600 East Orchard Road, Suite 150-N, Greenwood Village, CO 80111 ph:303.708.0500 manhard.com
Civil Engineering • Surveying • Water Resource Management • Construction Management

CASTLE PINES VILLAGE FILING NO. 14A, 2ND AMENDMENT
DOUGLAS COUNTY, COLORADO
COVER SHEET

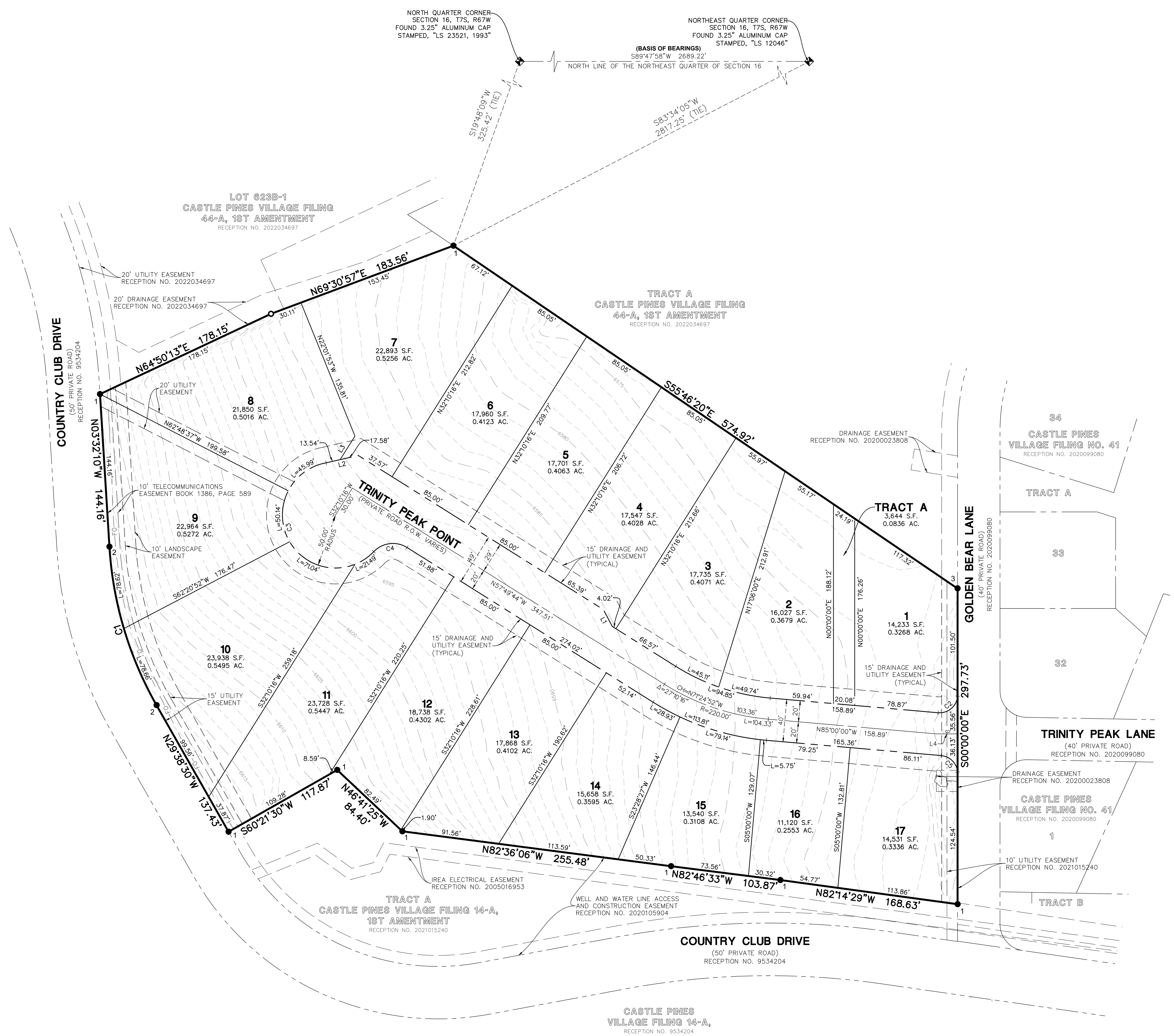
PROJ. MGR.: MAG
PROJ. ASSOC.: SLJ
DRAWN BY: MKW
DATE: 07/26/23
SCALE: N/A

SHEET 1 OF 2
CPS.CRC003

CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT PRELIMINARY PLAN

IN PLANNING AREA R-20
LOCATED IN THE NORTHEAST 1/4 AND THE NORTHWEST 1/4 OF SECTION 16,
TOWNSHIP 7 SOUTH, RANGE 67 WEST OF THE 6TH P.M.
COUNTY OF DOUGLAS, STATE OF COLORADO
SUBDIVISION OF 7.9466 ACRES, 17 RESIDENTIAL LOTS, 1 TRACT
SB2023-033

GRAPHIC SCALE
0 50 75 100 150
(IN FEET)
1 inch = 50 ft.
U.S. SURVEY FEET



NORTH QUARTER CORNER SECTION 16, T7S, R67W FOUND 3.25" ALUMINUM CAP STAMPED, "LS 23521, 1993"
NORTHEAST QUARTER CORNER SECTION 16, T7S, R67W FOUND 3.25" ALUMINUM CAP STAMPED, "LS 12046"
(BASIS OF BEARINGS) S89°47'58"W 2689.22'
NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 16
S19°48'09"W 325.42' (TIE)
S83°34'05"W 2817.25' (TIE)
LOT 623B-1 CASTLE PINES VILLAGE FILING 44-A, 1ST AMENDMENT RECEPTION NO. 2022034697
TRACT A CASTLE PINES VILLAGE FILING 44-A, 1ST AMENDMENT RECEPTION NO. 2022034697
COUNTRY CLUB DRIVE (50' PRIVATE ROAD) RECEPTION NO. 9534204
TRINITY PEAK POINT (PRIVATE ROAD R.O.W. VARIES)
GOLDEN BEAR LANE (40' PRIVATE ROAD) RECEPTION NO. 2020099080
TRINITY PEAK LANE (40' PRIVATE ROAD) RECEPTION NO. 2020099080
TRACT A 3,644 S.F. 0.0836 AC.
CASTLE PINES VILLAGE FILING NO. 41 RECEPTION NO. 2020099080
TRACT A CASTLE PINES VILLAGE FILING 14-A, 1ST AMENDMENT RECEPTION NO. 2021015240
CASTLE PINES VILLAGE FILING 14-A, RECEPTION NO. 9534204
N69°30'57"E 183.56'
N64°50'13"E 178.15'
N03°32'10"W 144.16'
S55°46'20"E 574.92'
S00°00'00"E 297.73'
N29°38'30"W 137.43'
S60°21'30"W 117.87'
N46°41'25"W 84.40'
N82°36'06"W 255.48'
N82°46'33"W 103.87'
N82°14'29"W 168.63'
1 14,233 S.F. 0.3268 AC.
2 16,027 S.F. 0.3679 AC.
3 17,735 S.F. 0.4071 AC.
4 17,547 S.F. 0.4028 AC.
5 17,701 S.F. 0.4063 AC.
6 17,960 S.F. 0.4123 AC.
7 22,893 S.F. 0.5256 AC.
8 21,850 S.F. 0.5016 AC.
9 22,964 S.F. 0.5272 AC.
10 23,938 S.F. 0.5495 AC.
11 23,728 S.F. 0.5447 AC.
12 18,738 S.F. 0.4302 AC.
13 17,868 S.F. 0.4102 AC.
14 15,658 S.F. 0.3595 AC.
15 13,540 S.F. 0.3108 AC.
16 11,120 S.F. 0.2553 AC.
17 14,531 S.F. 0.3336 AC.
20' UTILITY EASEMENT RECEPTION NO. 2022034697
20' DRAINAGE EASEMENT RECEPTION NO. 2022034697
10' TELECOMMUNICATIONS EASEMENT BOOK 1386, PAGE 589
10' LANDSCAPE EASEMENT
15' UTILITY EASEMENT
15' DRAINAGE AND UTILITY EASEMENT (TYPICAL)
DRAINAGE EASEMENT RECEPTION NO. 20200023808
10' UTILITY EASEMENT RECEPTION NO. 2021015240
IREA ELECTRICAL EASEMENT RECEPTION NO. 2005016953
WELL AND WATER LINE ACCESS AND CONSTRUCTION EASEMENT RECEPTION NO. 2020105904

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	26°07'09"	345.00'	157.27'	S16°31'10"E	155.92'
C2	90°37'55"	17.00'	26.89'	S49°41'02"W	24.17'
C3	216°10'52"	50.00'	188.65'	S28°12'04"E	95.06'
C4	78°27'47"	25.00'	34.24'	N82°56'23"E	31.62'
C5	80°37'55"	17.00'	23.92'	S44°41'02"E	22.00'

LINE TABLE		
LINE	BEARING	LENGTH
L1	N27°49'44"W	18.00'
L2	S77°10'16"W	31.12'
L3	N32°10'16"E	26.23'
L4	N90°00'00"W	20.18'

LEGEND

- = SUBDIVISION BOUNDARY LINE
- = LOT LINE
- = SECTION LINE
- = RIGHT-OF-WAY LINE
- = STREET CENTERLINE
- = EASEMENT LINE, AS NOTED
- = EASEMENT LINE, DEDICATED PER THIS PLAT
- XX = LOT NUMBER
- = FOUND SECTION CORNER AS NOTED
- 1 = FOUND NO. 5 REBAR WITH 1.25" BLUE PLASTIC CAP STAMPED, "PLS 38605 DEA INC"
- 2 = FOUND NO. 5 REBAR WITH 1.25" YELLOW PLASTIC CAP STAMPED, "PLS 37929"
- 3 = FOUND NO. 5 REBAR WITH 1.25" YELLOW PLASTIC CAP STAMPED, "MANHARD PLS 38445"
- = SET 18" LONG NO. 5 REBAR WITH 1.25" YELLOW PLASTIC CAP STAMPED, "MANHARD PLS 38567" FLUSH WITH GROUND

OVERALL PLAN

CASTLE PINES VILLAGE FILING NO. 14-A, 2ND AMENDMENT
DOUGLAS COUNTY, COLORADO
OVERALL PLAN

DATE	REVISIONS	DRAWN BY
04/10/24	DISTRICT AND COUNTY COMMENTS	MKW
02/15/24	REVIEW COMMENTS	MKW

Manhard CONSULTING
7600 East Orchard Road, Suite 150-N, Greenwood Village, CO 80111 ph:303.708.0500 manhard.com
Civil Engineering | Surveying & Geospatial Services | GIS
Water Resource Management | Construction Management

PROJ. MGR.: MAG
PROJ. ASSOC.: SLJ
DRAWN BY: MKW
DATE: 07/26/23
SCALE: 1"=50'

SHEET 2 OF 2
CPS.CRC003