April 12, 2022

Evan Wagner
SERAC Capital Partners
5051 Westheimer Road, Suite 1700
Houston, Texas 77056

Re: Preliminary Geotechnical Exploration
Lot 3, Steamboat Village Commercial Center, Replat F
Steamboat Springs, Colorado
Western Slope Geotech Project No. 22-1014

Dear Evan,

Western Slope Geotech, Inc. (WSG) has prepared the preliminary geotechnical exploration report you requested for Lot 3 of the Steamboat Village Commercial Center, Replat F in Steamboat Springs, Colorado. The results of our subsurface exploration and geotechnical engineering evaluations and preliminary recommendations are included in this report.

PURPOSE AND SCOPE OF WORK

The purpose of this exploration and associated reporting is to provide a preliminary geotechnical evaluation of the property for the purposes of potential development of the site for commercial building construction. Preliminary geotechnical design and construction recommendations for potential building foundations and associated site improvements are also included. WSG's scope of work included field exploration, laboratory testing and the preparation of this report summarizing the data obtained and outlining our preliminary geotechnical recommendations. The conclusions and recommendations outlined in this report are based on the results of field and laboratory explorations and WSG's experience with subsurface conditions and similar construction in this area.

PROPOSED DEVELOPMENT AND CONSTRUCTION

Based on client discussions, WSG understands proposed development activities will likely include development of a four-story hotel building (wood frame) with a single level of below grade parking along the east side of the property and access driveways and parking areas. Below-grade finished floor space construction is not anticipated.

Site grading associated with development activities is unknown at this time but assumed to consist of unretained fills up to 5 feet in height.

Building foundation loads associated with light commercial building development are expected to be light to moderate with continuous wall loads less than 3 kips per lineal foot and individual column loads less than 75 kips. If the assumed construction and loading conditions vary substantially from those assumed, WSG should be contacted to reevaluate the recommendations in this report.

SITE DESCRIPTION

The site generally consists of a 4.2-acre parcel of land located between Pine Grove Road and Central Park Drive in Steamboat Springs. The site was vacant and appeared to have previously been graded, although depth and extent were not readily apparent. Site vegetation appeared to consist mainly of grasses and weeds. A small drainageway traverses the property from east to west and was located in the northern one-third of the site.

Site topography appeared variable and generally sloped gently down to the west on the order of 2 to 5 percent.

FIELD EXPLORATION AND SUBSURFACE CONDITIONS

A field exploration program consisting of the drilling and sampling of five (5) exploratory test holes was conducted across the project site to provide information on the subsurface conditions and obtain material samples for laboratory testing. Approximate test hole locations are shown on Figure 1. Graphic test hole logs are presented on Figures 2 and 3 and associated legend and notes are presented on Figure 4.

A layer of topsoil and organics was encountered at the ground surface in all test holes and was estimated to vary from approximately 6 to 18 inches in thickness.

Natural lean clay was encountered beneath the topsoil layer in test holes 1 and 4. The lean clay was sandy, low plastic, very stiff to hard, moist and reddish brown. Samples of the lean clay classified as CL soils in accordance with the Unified Soil Classification System (USCS).

Natural sand was encountered beneath either the topsoil or lean clay in all test holes and extended to the maximum depth explored, 24 feet. The sand was gravelly to sandy gravel,

silty, non-plastic, medium dense to dense, fine to coarse grained with scattered gravel, moist to wet and reddish brown to brown. Samples of the natural sand classified as SM and SM-ML soils in accordance with the USCS.

Swell-consolidation tests conducted on samples of the lean clay and natural sand indicates both materials tested displayed low swell potentials under wetting and constant (1,000 psf) loading conditions. Swell-consolidation test results are presented on Figures 5 through 8 and summarized according to risk category on Table A below. Laboratory test results are also summarized on Table 1.

Table A

Slab Performance Risk Category	Representative Percent Swell (500 psf Surcharge)	Representative Percent Swell (1,000 psf Surcharge)	Lean Clay	Sand
Low	0 to <3	0 to <2	2	2
Moderate	3 to <5	2 to <4	0	0
High	5 to <8	4 to <6	0	0
Very High	>8	>6	0	0

Groundwater was encountered at depths ranging from approximate 11 to 14 feet in test holes 2, 3 and 4 at the time of drilling. Groundwater levels will vary seasonally and over time based on water levels in on-site and nearby drainageways, weather conditions, site development, irrigation practices and other hydrologic conditions. Perched and/or trapped groundwater conditions may also be encountered at times throughout the year. Perched water is commonly encountered in soils overlying less permeable soil layers and/or bedrock.

ANALYSIS AND PRELIMINARY RECOMMENDATIONS

General

Based on our assumptions regarding proposed site development, anticipated construction and subsurface conditions encountered in the test holes, it appears that either natural lean clay or natural sand will be encountered at potential foundation bearing depths. Based on laboratory test results and WSG's experience with similar conditions and materials, we

believe both materials will provide adequate support for lightly loaded commercial building foundations. Based on swell-consolidation testing and WSG's experience with similar materials in this area, both the lean clay and sand materials will also display low swell potentials under loading and wetting conditions and certain design and construction considerations should be implemented to reduce potential differential foundation and slab movement associated with expansive soils.

Groundwater was encountered at depths ranging from 11 to 14 feet below existing site grades at the time of drilling. Additional groundwater depth measurements were not deemed to be accurate due to ongoing surface runoff from snowmelt that occurred shortly after drilling. Although high groundwater levels are unknown at this time, groundwater levels are likely to be influenced by water levels in on-site and nearby drainageways, and seasonal runoff events. Additional evaluations of groundwater levels are recommended if deeper below-grade building construction is anticipated. Foundation water proofing and permanent dewatering systems could be required depending on proposed construction.

Preliminary Foundation and Floor Slab Recommendations

Based on our assumptions regarding proposed construction, WSG believes proposed commercial buildings could be safely supported by continuous spread footing and isolated pad foundations bearing on natural, undisturbed lean clay and sand and designed using allowable soil bearing pressures ranging from 2,000 to 4,000 psf. As a precaution and to resist uplift forces from expansive soils, footings should also be designed to maintain a minimum dead load pressure ranging from 500 to 1,000 psf.

WSG assumes slab-on-grade floor systems would be preferred for lower building levels. Based on the results of the subsurface exploration and laboratory testing, WSG believes slab-on-grade construction can be used, provided the risk of differential slab movement is recognized and the design and construction precautions outlined below are observed including floating slabs, hung partition walls and removal and replacement of expansive materials with non-expansive materials.

Groundwater was encountered at depths varying from approximately 11 to 14 feet below existing site grades during this exploration. Groundwater may be encountered in deeper foundation and utility excavations depending on depth and seasonal runoff conditions. Dewatering systems may be required for lower level, below grade parking areas.

Additional geotechnical exploration to further evaluate soil and groundwater conditions is recommended after preliminary building and site plans become available.

Preliminary Site Grading Recommendations

For the purposes of this report, WSG assumes proposed site development work would include site grading fills up to 4 feet in depth. Driveway and parking areas would likely be developed near or slightly above existing site grades. The on-site lean clay and sand materials should be suitable for use as fills to support pavement structures. However, the materials may require processing and moisture-conditioning prior to use. WSG recommends cuts and fills constructed for site grading should be constructed to a 2(H) to 1(V) or flatter slope configuration. Groundwater is not anticipated to impact site grading activities.

LIMITATIONS

This report was prepared based upon the data obtained from the completed site exploration, laboratory testing, engineering analysis and WSG's experience with similar construction in this area. Test holes advanced for this exploration were widely spaced and variations between those locations is likely. The subsurface conditions encountered during this investigation provide an indication of subsurface conditions at the test hole locations only. Variations in subsurface conditions can occur in relatively short distances away. This report does not reflect any variations which may occur across the site or away from the test hole locations. If variations in the subsurface conditions anticipated become evident, the geotechnical engineer should be notified immediately so that further evaluation can be completed and when warranted, alternative recommendations provided.

The scope of services for this project does not include either specifically or by implication any biological or environmental assessment of the site or identification or prevention of pollutants or hazardous materials or conditions. Other studies should be completed if concerns over the potential of such contamination or pollution exist.

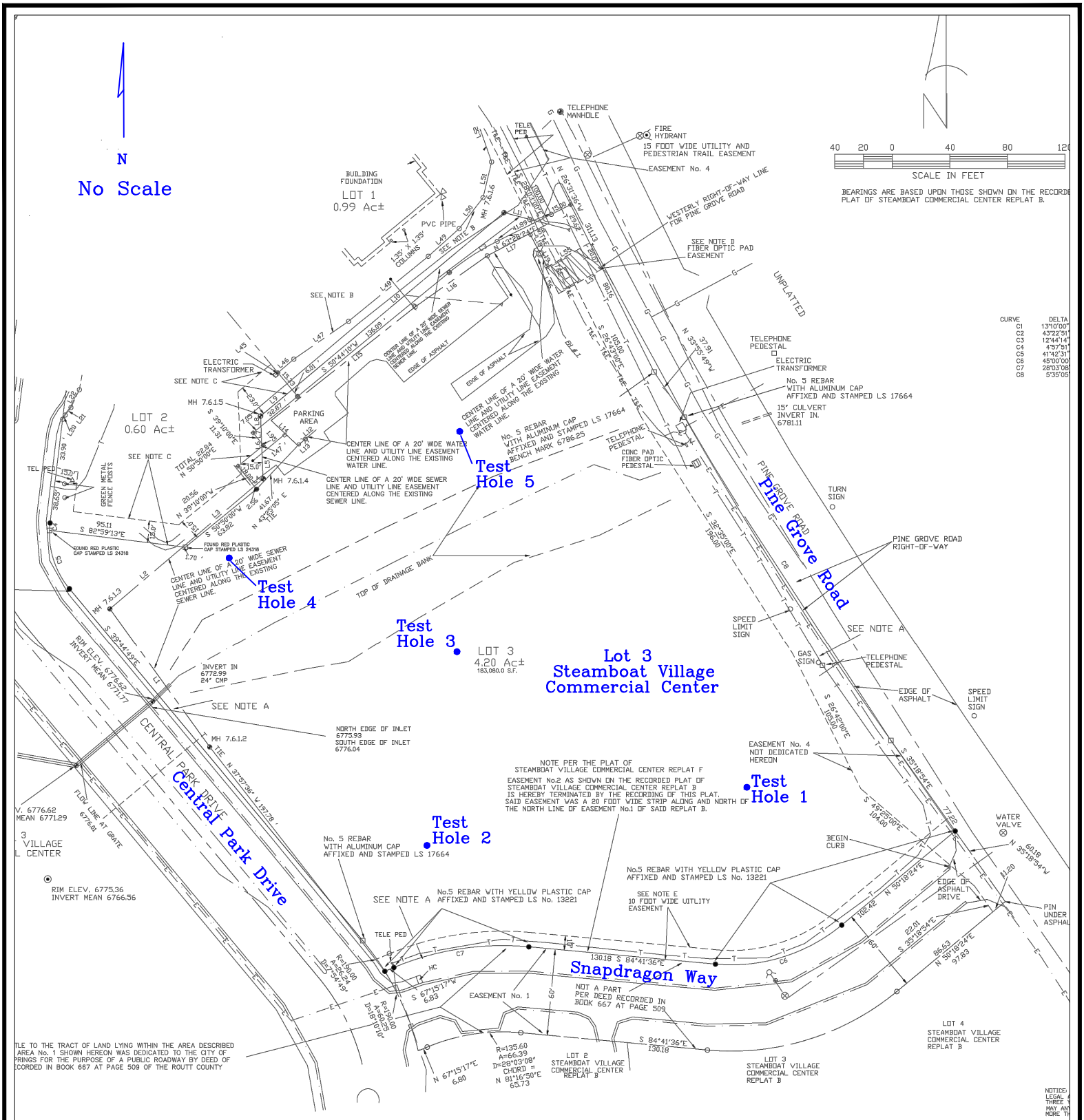
WSG recommends additional geotechnical exploration and testing be conducted to further evaluate the subsurface conditions. In addition, WSG should also be retained to provide testing and observation services during construction to help evaluate compliance with project plans and specifications.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with the generally accepted standard of care for the profession. No warranties express or implied, are made. The conclusions and recommendations contained in this report should not be considered valid if any changes in the nature, design or location of the project as outlined in this report are planned, unless those changes are reviewed, and the conclusions of this report modified and verified in writing by the geotechnical engineer.

WSG appreciates the opportunity to be of service to you on this project. If you have any questions concerning the enclosed information or if we can be of further service to you in any way, please do not hesitate to contact us.

Very Truly Yours,
Western Slope Geotech, Inc.

Harold Schlicht, P.E.
Principal Engineer



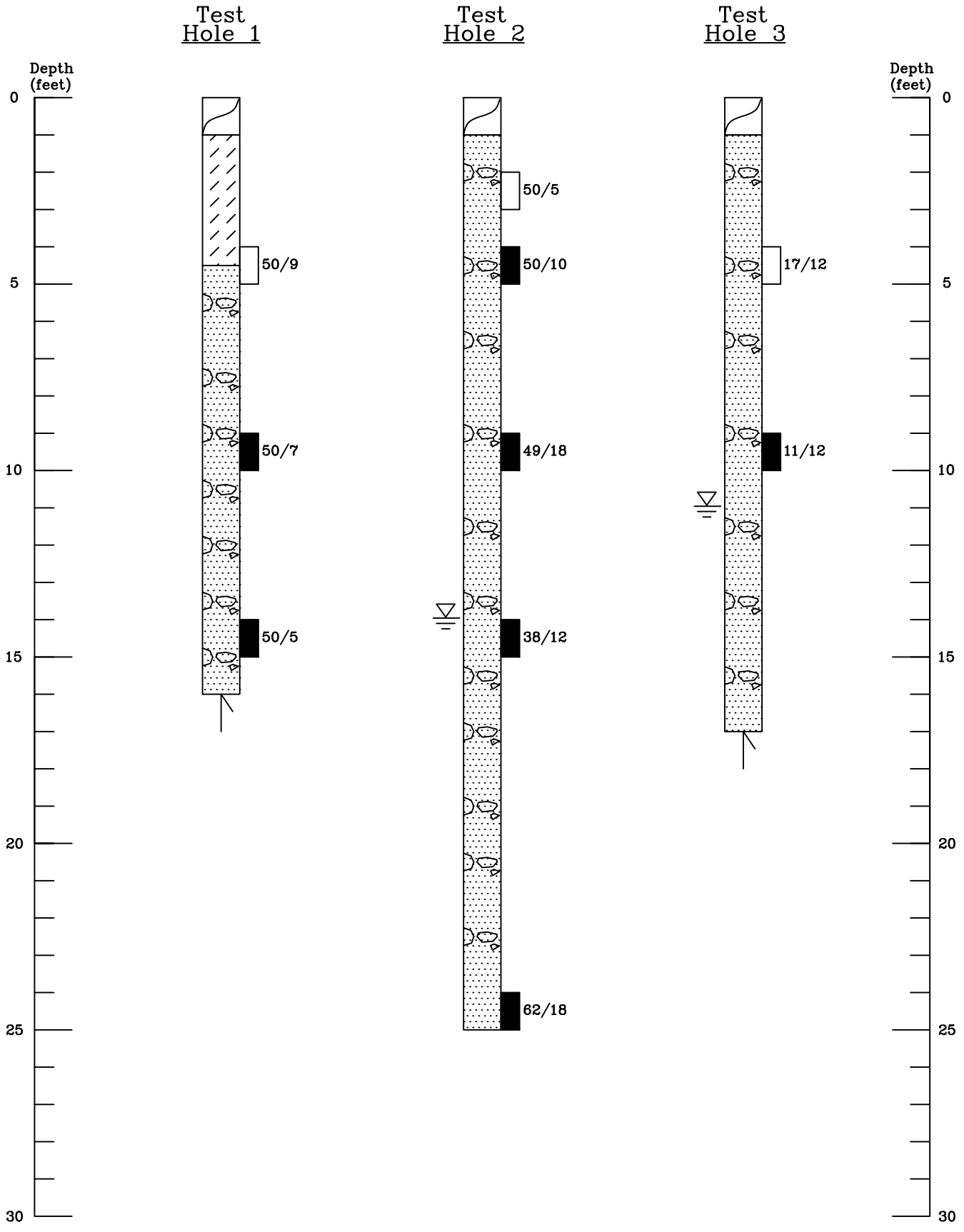
SITE PLAN/LOCATION OF TEST HOLES

Project Name: Central Park Commercial

Location: Lot 3, Steamboat Village Commercial Center

WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO

Project No.: 22-1014	Drawn/Checked:HS
Date: 3/31/22	Figure No.: 1



LOGS OF EXPLORATORY TEST HOLES

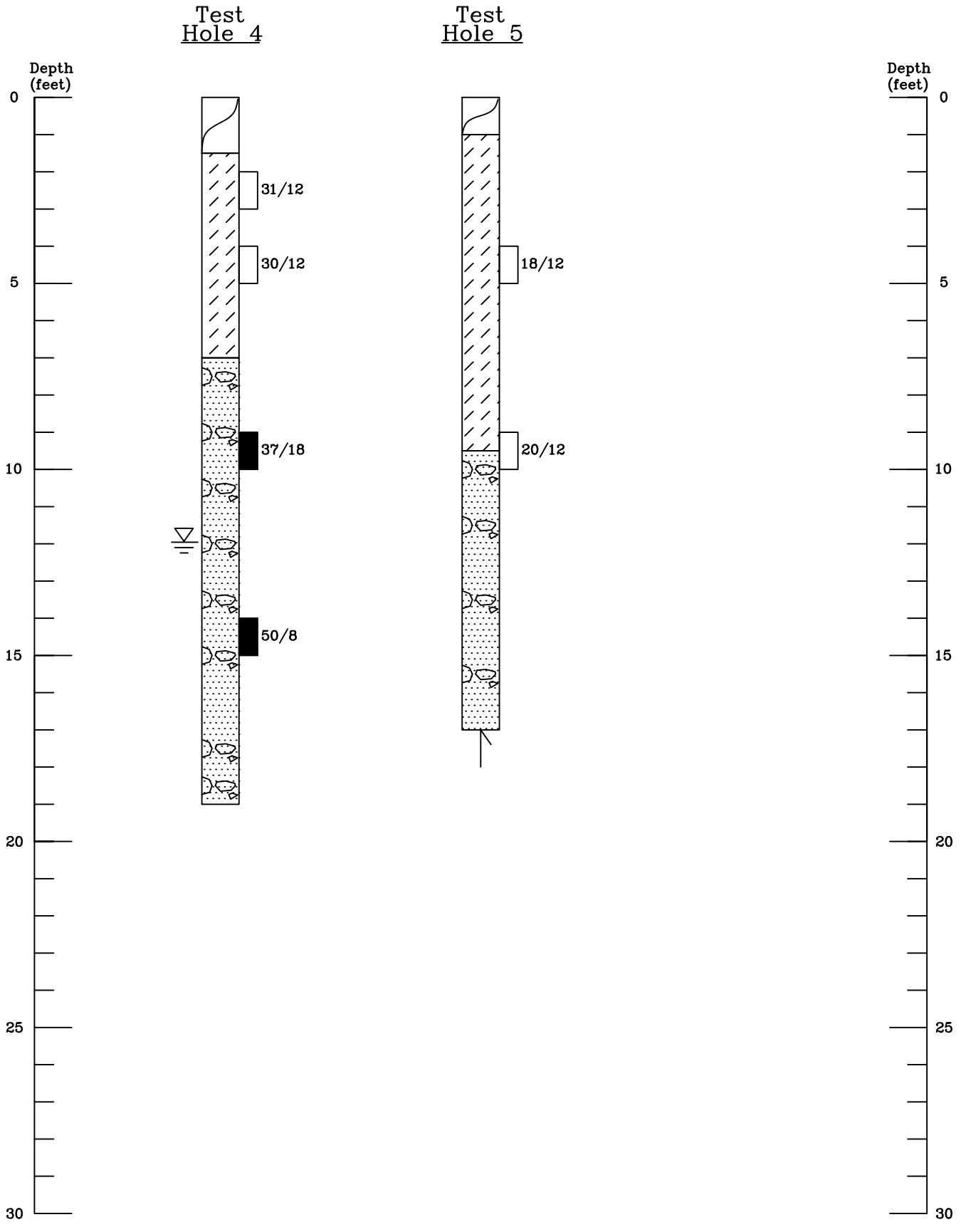
Project Name: Central Park Commercial Property

Location: Lot 3, Steamboat Village Commercial Center

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

Project No.: 22-1014 | Drawn/Checked:HS/HS

Date: 3/31/22 | Figure No. 2



LOGS OF EXPLORATORY TEST HOLES

Project Name: Central Park Commercial Property

Location: Lot 3, Steamboat Village Commercial Center

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

Project No.: 22-1014	Drawn/Checked:HS/HS
Date: 3/31/22	Figure No. 3

Legend

TOPSOIL & ORGANICS.

LEAN CLAY: Sandy, low plastic, very stiff to hard, moist and reddish brown.

SAND: Gravelly to sandy gravel, silty, non–plastic, medium dense to dense, fine to coarse grained with scattered cobble, moist to wet and reddish brown to brown.

Drive Sample – California barrel sampler.

Drive Sample – Standard split spoon sampler.

28/12 Drive sample blow count. Indicates 28 blows from a 140–pound hammer falling 30–inches was required to drive the sampler 12 inches.

Indicates depth to groundwater at the time of drilling.

Notes

1) Test holes were drilled on 3/21/22 with a track mounted CME 45 drill rig using 4–inch diameter augers.

2) Test hole locations were determined by taping from existing property features shown on the site plan provided.

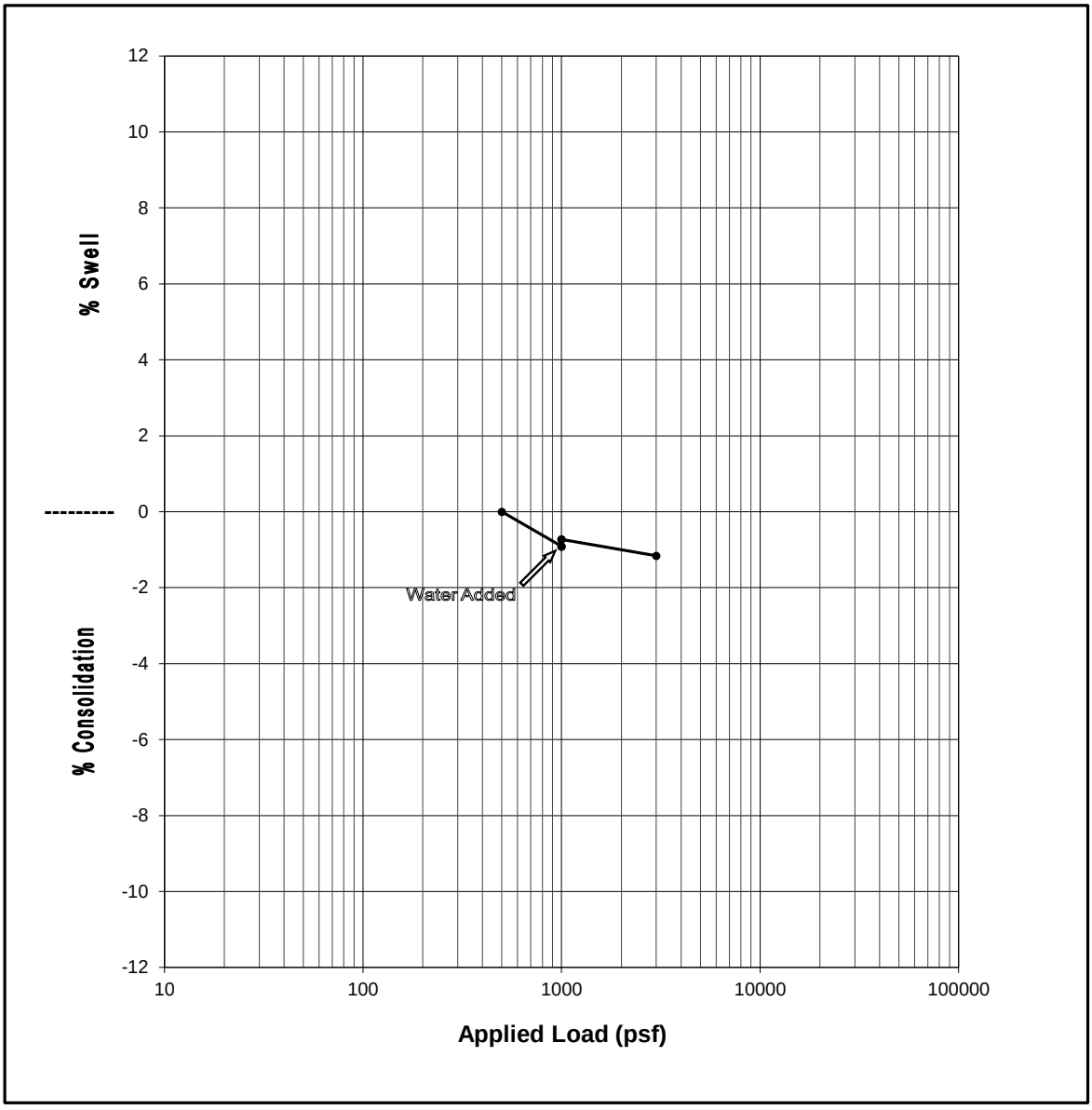
3) Test hole elevations were not determined and test hole logs are drawn to the depth explored.

4) Lines between materials types indicated on the test hole logs are approximate and transitions may be gradual.

LEGEND & NOTES

Project Name: Central Park Commercial Property	WESTERN SLOPE GEOTECH STEAMBOAT SPRINGS COLORADO	
Location: Lot 3, Steamboat Village Commercial Center	Project No.: 22–1014	Drawn/Checked:HS/HS
	Date: 3/31/22	Figure No. 4

SWELL/CONSOLIDATION TEST SUMMARY

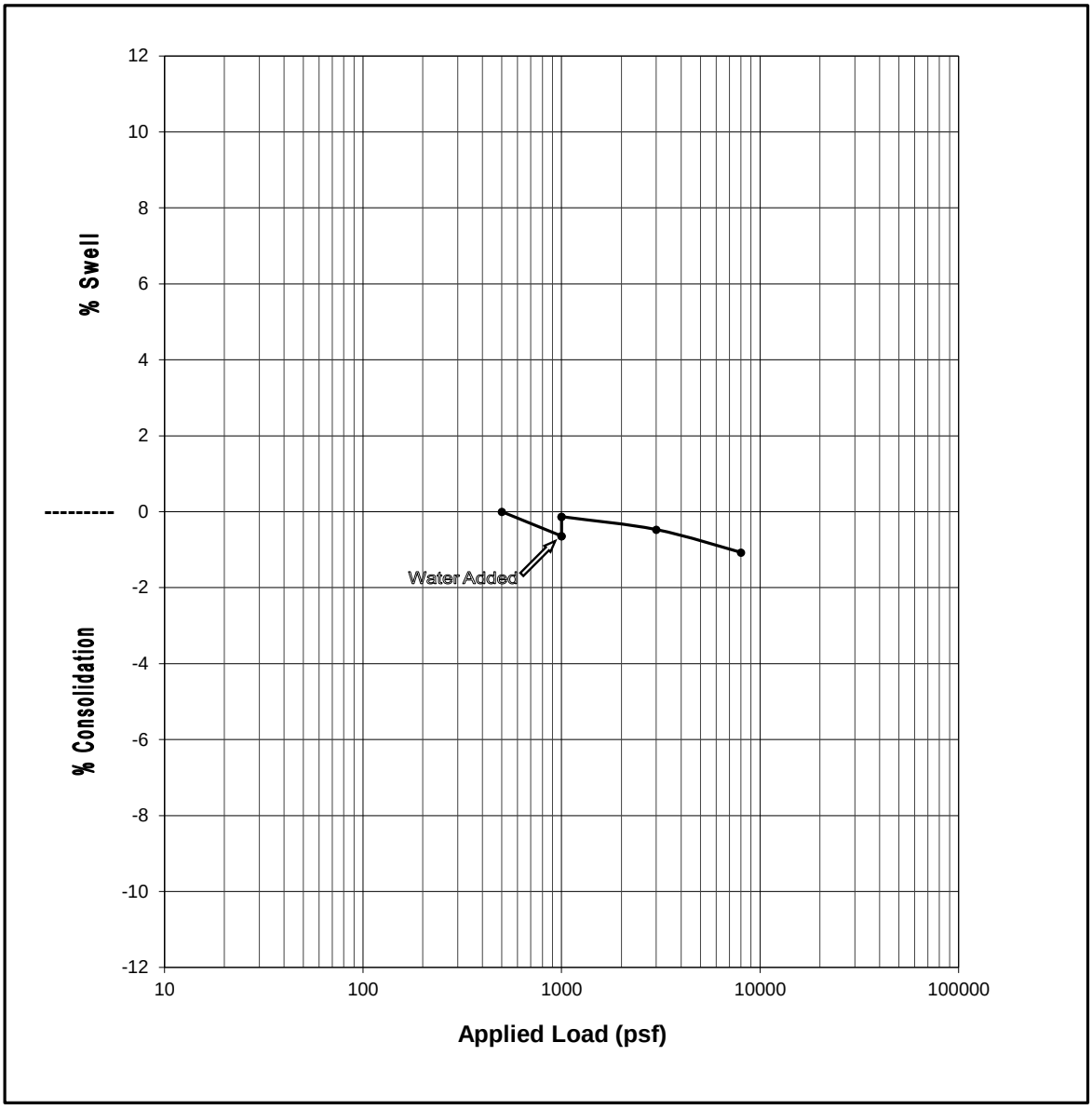


Sample ID: TH-2 @ 2'			
Sample Description: Silty Sand (SM)			
Initial Moisture	5.3%	Liquid Limit	NV
Final Moisture	13.1%	Plasticity Index	NP
% Swell @ 1000 psf	0.2%	% Passing #200	15.7%
Swell Pressure	1,800 psf	Dry Density	123.9 pcf

Project Name: Central Park Commercial Property	Project No.: 22-1014
Location: Lot 3, Steamboat Village Commercial Center	Date: 4/1/22
Drawn/Checked: HS/HS	Figure No. : 5

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

SWELL/CONSOLIDATION TEST SUMMARY

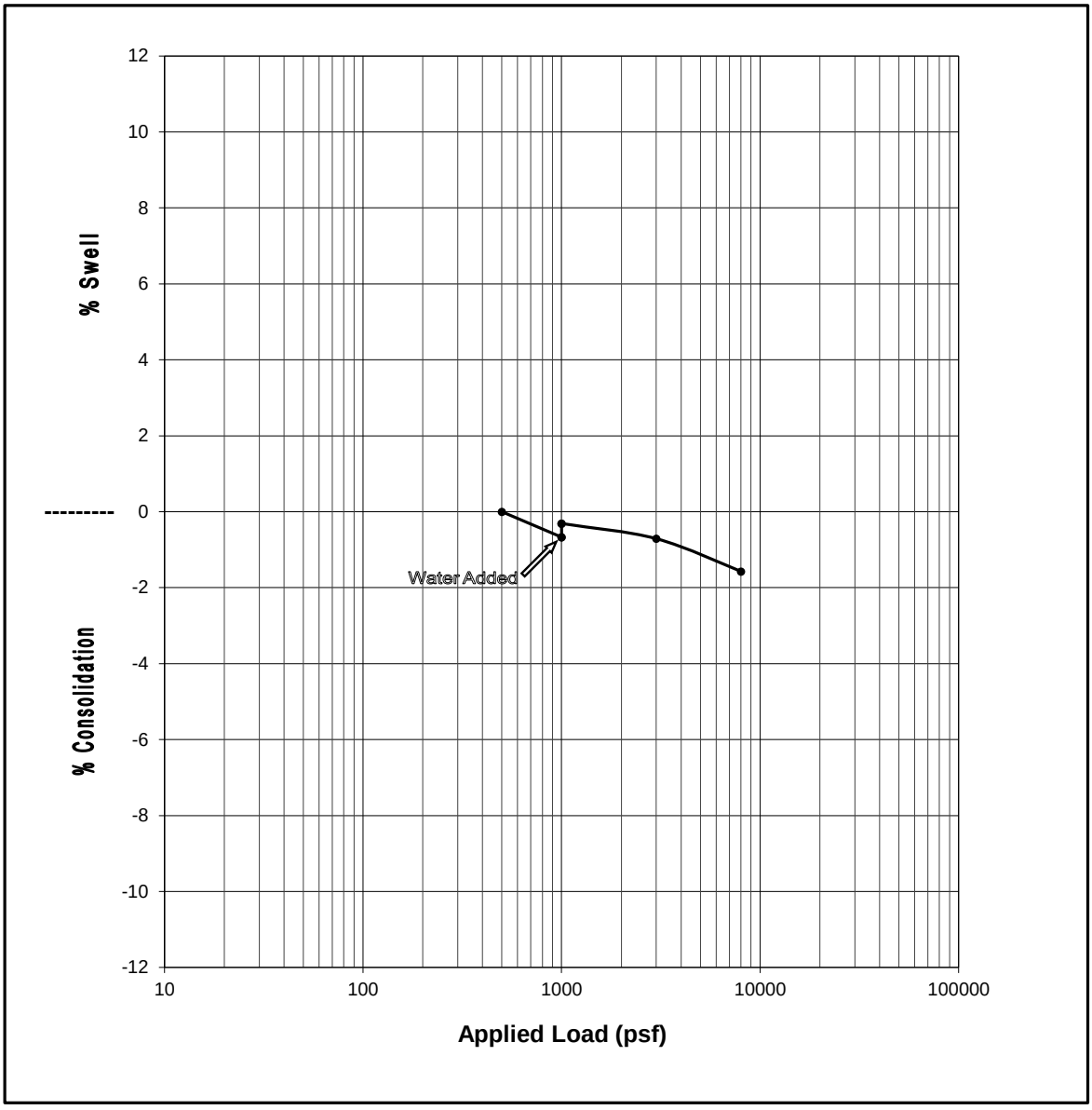


Sample ID: TH-3 @ 4'			
Sample Description: Gravelly, Silty Sand (SM)			
Initial Moisture	9.0%	Liquid Limit	NV
Final Moisture	16.6%	Plasticity Index	NP
% Swell @ 1000 psf	0.5%	% Passing #200	23.7%
Swell Pressure	4,000 psf	Dry Density	122.6 pcf

Project Name: Central Park Commercial Property	Project No.: 22-1014
Location: Lot 3, Steamboat Village Commercial Center	Date: 4/1/22
Drawn/Checked: HS/HS	Figure No. : 6

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

SWELL/CONSOLIDATION TEST SUMMARY

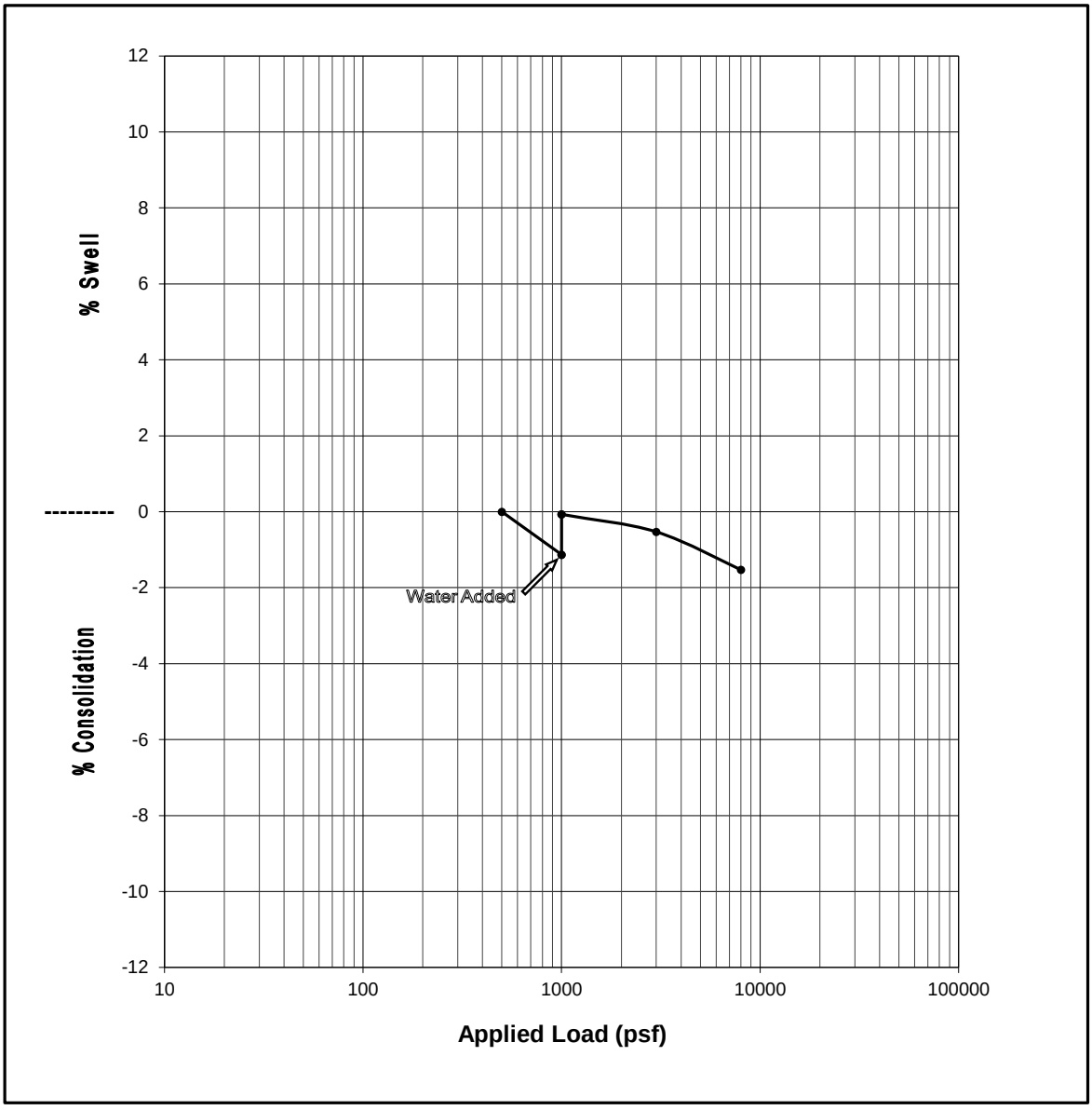


Sample ID: TH-4 @ 4'			
Sample Description: Sandy Lean Clay (CL)			
Initial Moisture	14.7%	Liquid Limit	28
Final Moisture	13.0%	Plasticity Index	12
% Swell @ 1000 psf	0.4%	% Passing #200	69.4%
Swell Pressure	3,000 psf	Dry Density	121.5 pcf

Project Name: Central Park Commercial Property	Project No.: 22-1014
Location: Lot 3, Steamboat Village Commercial Center	Date: 4/1/22
Drawn/Checked: HS/HS	Figure No. : 7

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

SWELL/CONSOLIDATION TEST SUMMARY



Sample ID: TH-5 @ 9'			
Sample Description: Very Sandy Lean Clay (CL)			
Initial Moisture	20.9%	Liquid Limit	31
Final Moisture	23.2%	Plasticity Index	11
% Swell @ 1000 psf	1.1%	% Passing #200	63.7%
Swell Pressure	5,300 psf	Dry Density	107.1 pcf

Project Name: Central Park Commercial Property	Project No.: 22-1014
Location: Lot 3, Steamboat Village Commercial Center	Date: 4/1/22
Drawn/Checked: HS/HS	Figure No. : 8

WESTERN SLOPE GEOTECH
STEAMBOAT SPRINGS COLORADO

Table 1
Summary of Laboratory Test Results

WESTERN SLOPE GEOTECH — STEAMBOAT SPRINGS COLORADO

Project No.: 22-1014

Test Hole/ Pit	Depth (ft)	Natural Moisture Content (%)	Dry Density (pcf)	Grain Size Analysis			Atterberg Limits		Swell Test Data		Soil or Bedrock Type	USCS Classification	AASHTO Classification
				Gravel (%)	Sand (%)	Silt/ Clay (%)	LL (%)	PI (%)	Swell(+) Consol.(-)	Swell Pressure (psf)			
TH-1	4	9.7	–	8	64	28	NV	NP			Silty, Gravelly Sand	SM	
TH-2	2	5.3	123.9	3	81	16	NV	NP	+0.2	1800	Silty Sand	SM	
TH-2	9	14.0	–	8	49	43	NV	NP			Gravelly Sand & Silt	SM-ML	
TH-3	4	9.0	122.6	23	53	24	NV	NP	+0.5	4000	Gravelly, Silty Sand	SM	
TH-3	9	6.8	–	25	61	14	NV	NP			Gravelly, Silty Sand	SM	
TH-4	4	14.7	121.5	3	28	69	28	12	+0.4	3000	Sandy Lean Clay	CL	
TH-5	4	18.6	105.1	14	11	75	29	11			Sandy, Gravelly Lean Clay	CL	
TH-5	9	20.9	107.1	0	36	64	31	11	+1.1	5300	Very Sandy Lean Clay	CL	