ADDENDUM #1- April 15, 2026

CITY OF LAFAYETTE

2026 Road Paving Project
Project Number 014-9745

The following changes and additions shall become a part of the plans and specifications for the above project, and shall be bound by the General Provisions, Special Provisions, and all other conditions of the Bid Documents.

1. **No change is made to the time scheduled for submitting bids for this project: Until 2:00 pm, April 23, 2026.**

2. At Special Provisions, Table of content - APPENDICES: It was added Appendix G : Geotechnical Memorandum for Springhill Rd - Lafayette, CA.

3. At Project Plans - Sheet C-16, there is a call out at +/- STA 16+40 that reads "See Grading Detail and Profile on Sheet GD-2". This Callout has been revised on this addendum to read: "See Sheet C-27 for Retaining Wall Plan and Profile and See Sheet C-28 for the Retaining Wall Details".

4. **The contractor is reminded that the acknowledgement of receipt of addenda is required on page P-1 of the Bid document.**

Attachments:

- Appendix G: Geotechnical Memorandum by Haley Aldrich - 2026 City of Lafayette Pavement Project- Springhill Road for the Soldier Pile and Timber Lagging Retaining Wall. (14 Pages)

CITY OF LAFAYETTE

Date: April 15, 2026

_____/s/_____
By: Ana Bernardes, Senior Engineer

APPENDIX G

GEOTECHNICAL MEMORANDUM

BY HALEY ALDRICH

HALEY & ALDRICH, INC.
201 N. Civic Drive
Suite 220
Walnut Creek, CA 94596
925.949.1012

April 13, 2026

File No. 020260313-000

LCC Engineering & Survey, Inc.
930 Estudillo Street,
Martinez, California 94553

Attention: Noel (NJ) Crisolo, PE

Subject: Geotechnical Memorandum
2026 City of Lafayette Pavement Project
Springhill Road,
Lafayette, California

Dear Mr. Crisolo:

As requested, Haley & Aldrich, Inc. (Haley & Aldrich) has prepared this geotechnical memo outlined in our contract with you dated 2 February 2026 related to the replacement of an existing retaining wall, which shows distress along Springhill Road in Lafayette, California. Our scope of work has included the following:

- Reviewing geologic maps of the site area contained in our files;
- Making a site visit to observe the existing conditions and site access for drilling;
- Assuming design parameters based upon our site observations and mapped geology;
- Completion of a geotechnical boring to confirm project assumptions;
- Preparing design calculations for a new steel beam and lagging retaining wall having and exposed height up to 8.0 feet; and
- Preparation of this design memorandum.

SITE DESCRIPTION

For the purposes of the descriptions contained in this memo, Springhill Road trends East West and the site is located between Goyak Drive to the East and Springhill Manor to the West. The proposed retaining wall will replace an existing retaining wall on the south side of the roadway constructed in the late 1990s. The late 1990s retaining wall was generally 2 to 3 feet tall used 8-foot-deep wood posts at 6 feet on center. Based on the plans for the current project, grading improvement will result in a taller wall with deeper pier than the wall being replaced.

The existing and proposed wall support fill on the north side of Springhill Road while another retaining wall on the opposite/south side of the road supports a cut above the road. The plans show the wall above the road to be up to 8 feet tall and have 10 foot deep piers. These piers would have extended 18 feet below the original grade. The downslope wall at the time was founded upon road fill and shown to be a maximum of 3 feet tall on the 1990s plans. Image 1 below is an annotated schematic section based on the 1990s plans.

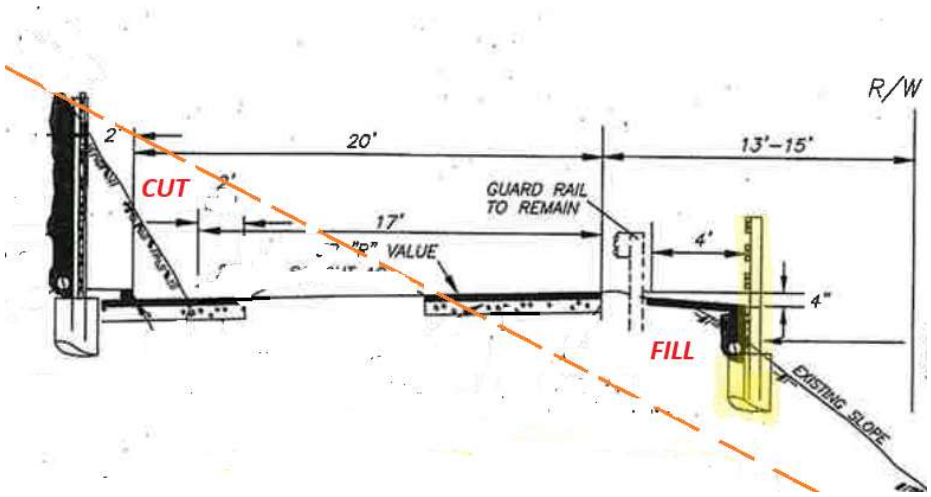

Image 1: Schematic Cross Section, the highlighted wall is to be replaced.

PROPOSED WALLS

Based upon our brief conversations and a review of the 90% Submittal plans dated 20 February 2026, it is our understanding that:

- The existing wood-post and wood-lagging retaining wall, supported by concrete piers, will be removed;
- A steel beam and wood lagging retaining wall is proposed to be constructed to support Springhill Road;
- The retaining wall will support the road above a descending slope that has a maximum slope of (1.3 horizontal:1 vertical);
- The road is located approximately 6.8 feet behind the retaining wall.

SITE SOILS

Surficial soils in the vicinity of the project have been mapped by the United Stated Department of Agriculture's National Resource Conservation Service. The Soil Survey of Contra Costa County (1977 and NRCS website 2026) map the surficial soil at the property as being Los Oso-Los Gatos complex. These

soils form from residuum weathered from sandstone and shale, consistent with the parent materials described for both the Los Osos and Los Gatos soil series.

The USDA soil survey also maps the adjacent upslope area as Los Osos clay loam on 30–50 percent slopes, which similarly develops from the weathering of underlying sandstone and shale bedrock.

Los Osos clay loam is typically classified as a low- to moderate-plasticity clay, and published USDA data indicate a moderate shrink–swell potential associated with its smectitic clay content. While the Soil Survey does not directly provide a Plasticity Index (PI), Los Osos soils commonly exhibit PI values on the order of 15 to 30 percent, consistent with clays derived from weathered sandstone and shale.

GEOLOGY

Regional Setting

The project site is situated within the Coast Ranges geomorphic province. The Coast Ranges Geomorphic province is comprised of a complex sequence of Mesozoic and Cenozoic age sedimentary and volcanic rocks. These materials have been folded and faulted as a result of regional tectonic forces. Consequently, geological relationships are often complex, and individual bedrock units can be tightly folded, faulted, sheared, and overturned.

Bedrock

The generalized bedrock geology of the Walnut Creek Quadrangle has been mapped by several geologist (Graymer 2006, Dibblee 1980, 2005, and Crane 1995). Mapping by these geologists are in general agreement that the site is located near the contact between alluvium and underlying bedrock. Graymer identifies the local bedrock as Miocene-aged sedimentary rock (TMs), while Dibblee refers to the bedrock formation as being a Monterey Formation, consisting of interbedded sandstone and clay shale/siltstone. Crane's geologic map also indicates bedrock, but refers to the bedrock as Hambre Formation.

Landslides

A photo-interpretive landslide map by Nilsen (1975) does not map a landslide at the proposed retaining wall location. The map does show a landside east of the project site on the slope above the roadway.

SUBSURFACE INVESTINGATION

A subsurface investigation has been completed to characterize the soil and bedrock conditions relevant to the planned retaining wall. Geotechnical exploration consisting of one vertical boring located behind the existing retaining wall to be replaced. The geotechnical boring was drilled by Bay Area Soil Drilling on 10 April 2026. Surface conditions at the boring location consisted of a gravel path located between an existing retaining wall and metal beam guard rail (MBGR) between the walkway and Springhill Road. The light weight portable drill rig (see Image 2) used 4-inch-diameter solid flight augers that were advanced

to a depth of 13.9 feet. Upon completion, the boring was backfilled with a bentonite clay grout in accordance with Contra Costa County Environmental Health Department requirements.

Image 2: View of Minuteman portable drill located between the guardrail and retaining wall railing.

The materials encountered in the borings were logged in the field by a project geologist from CE&G. The soils were visually classified in the field and office according to the Unified Soil Classification System (USCS) in general accordance with ASTM D2487 and D2488. During the drilling operations, soil samples were obtained using either a California Modified (CM) Sampler with a 3.0-inch outer diameter with a 2.5-inch inner diameter, or a Standard Penetration Test (SPT) Split Spoon Sampler with a 2.0-inch outer diameter and 1.375-inch inner diameter. The samplers were driven 18 inches with a 140-pound hammer dropping 30 inches. The number of blows required to drive the SPT or CM sampler 6 inches was recorded for each sample. Soil samples obtained from the borings were packaged and sealed in the field to reduce the potential for moisture loss and disturbance. The samples were taken to CE&G's Concord laboratory for possible laboratory testing and storage.

Boring B-1 encountered approximately 10 feet of artificial fill described as a lean clay (CL) containing fine sand, gravel, and siltstone rock fragments. The material was easily identifiable as fill due to the random variability of the materials comprising the fill. Underlying the fill was a roughly 1 foot thick layer of uniform brown Lean clay with sandstone fragments. The field geologist identified the material as a colluvium/residual material. Sandstone bedrock was encountered at a depth of 11 feet.

Groundwater was not encountered in boring B-1 at the time of excavation. The approximate location of the boring and a boring log with detailed descriptions of the materials encountered is included in Appendix A.

GEOTECHNICAL CONSIDERATIONS

Based upon both our site observation, plans from LCC, and historic plans for the existing improvements, the proposed retaining wall support fill underlying a walkway and the East bound lane of Springhill Road. Based on the boring completed, the wall being replaced appears to have been founded in soil overlying bedrock. The replacement wall will need to have a deeper embedment to extend into competent material.

Based upon our understanding of the project and site conditions, the following considerations should be addressed in design of the proposed walls:

1. Earth pressure from backfill soil for both static and seismic loading, and from vehicle surcharges acting on the retaining wall;
2. The steep terrain will reduce passive earth pressure resisting wall loads;
3. The location of existing foundation elements along the new wall alignment.
4. The replacement wall will need to have deeper embedment to extend into competent bedrock material.
5. The potential build up of hydrostatic pressure behind the retaining wall.

RECOMMENDATIONS

The following design recommendations are intended to address the geotechnical considerations for the retaining wall design and construction.

Wall Design Parameters

Design of the steel beam and wood lagging retaining wall shall be based upon the following:

- The walls should be designed using an active equivalent fluid pressure of 50 psf/ft;
- For walls greater than 6 feet tall, the design should also check a static + seismic case using an active equivalent fluid pressure of 64 psf/ft. This value was determined based on a peak ground acceleration of 0.62g associated with an earthquake having a 10% chance of exceedance in 50 years
- The wall design should also assume a 250 psf vertical load to account for vehicular surcharge. The surcharge can be modeled as a 100 psf horizontal load or using the vertical load using a Boussinesq pressure distribution;

- Metal beam guard rails should be offset a minimum of 5 feet from the retaining wall to be independent of the retaining wall.
- It is assumed that a railing will be constructed above the retaining wall. The wall design should at a minimum assume a railing load of 20-plf at 42 inches to account for a railing load. Once a railing design is provided, the loading condition should be verified or supplemental analyses to confirm applicability.
- Overturning and sliding should be resisted by passive earth pressure acting on 2 pile diameters. The analyses should ignore the top 12inches of soil and reduce passive earth pressure by 50% until the horizontal distance from the pile to the slope face is a minimum of 10 feet. At that time, a full passive earth pressure of 300 psf/ft can be used. (The passive earth pressure is based on an assumption of encountering weathered bedrock.)
- Retaining walls shall include a 12-inch minimum thickness drain which can consist of crushed rock encapsulated in filter fabric or Caltrans Class 2 permeable material behind the retaining wall. The drain should be terminated 24 inches below finished grade at the top of the wall. This is to avoid surface water flowing into the wall drain.

Other Recommendations

- Use of a pile spacing of 6 feet on center. This is the pile spacing used previously and will allow the new steel beams to be installed between existing piles. This will limit the removal of the existing wall foundation to the upper portions that conflict with the placement of wood lagging.
- Lagging boards shall be 6 inch x 12 inch Pressure Treated Douglas Fir (PTDF) No. 2. The lowest lagging board shall be embedded 2 to 3 feet below grade to reduce the potential for undermining and raveling of backfill. Lagging boards shall be shimmed using non-biodegradable shims to provide a ½ gap between lagging boards.
- We recommend letting water weep out between lagging boards rather than installation of a subdrain unless there is a specific location desired for outlet of the wall drain. Allowing the water to weep along the wall reduces the potential for concentrated discharge on to the steep slope.
- Consideration could be given to using crushed rock and filter fabric for wall backfill to reduce the need to over excavate to allow use of compaction equipment. If crushed rock is used, we suggest 3 to 5 passes of a medium sized vibraplate compacter. Crushed rock backfill will also expedite construction on the narrow roadway.

CALCULATIONS

Calculations for the retaining wall using the recommended parameters have been completed using ShoringSuite developed by Civiltech Software.

The results of our analyses are summarized in Table 1 and on a typical section for the wall attached as Figure 1.

Table 1: Summary of Retaining Wall Design Calculation

Exposed Wall Height	**Pile Diameter**	**Embedment Depth**	**Pile Size (f_y=50 ksi)**	**Pile Spacing (center-center)**
5.6 feet	24 inches	17.5 feet	W8x35	6 feet
8.0 feet	24 inches	20.5 feet	W16x40, W14x43, or W12x50	6 feet

Pile Construction

The contractor should be prepared to encounter bedrock within the pile excavations. Based on Boring 1 and review of the 1990s plans, the maximum embedment depth into bedrock for the new wall is anticipated to be similar to the upslope wall constructed in the 1990s.

It is anticipated that the piles will be excavated with conventional drilling equipment. It is possible that some holes along portions of the repair may encounter harder materials including well-cemented sandstone or siltstone/claystone. More cemented materials may require rock teeth or Coring methods, if encountered. It is also possible to encounter caving or belling of the pile holes within fill or completely weathered rock. In the event of significant caving, utilization of casing or the application of controlled low strength material to stabilize the pile hole excavations prior to the placement of steel and concrete may be required.

Groundwater was not encountered during the subsurface drilling operation. However, groundwater may be encountered during the pile excavation operation. Groundwater, if encountered, should be pumped from the excavations prior to placement of concrete or should be displaced by concrete tremied from the bottom of the excavation. The contractor should be prepared to drill and place the steel and concrete for the piles on the same day, should adverse groundwater condition be encountered during construction. Under no circumstances shall water be allowed to remain in a drilled hole overnight. Should this occur, it will be necessary for the contractor to enlarge the hole to a wider diameter and/or a greater depth to the satisfaction of the engineer or geologist from our office observing the drilling operation.

The bottoms of pile holes should be dry and free of loose cuttings and debris prior to installation of the steel beams and concrete. This shall be done to the satisfaction of the engineer or geologist from Haley & Aldrich who observes the drilling operations. The concrete should be placed carefully in the piles so that mushrooming at the top of the pile does not occur and the concrete does not have a free fall drop in excess of 4 feet.

CLOSURE

Our work has been completed in accordance with generally accepted civil and geotechnical engineering practices and procedures. It is recommended that Haley & Aldrich be provided an opportunity to observe construction of the wall to determine if the conditions encountered during construction are consistent with our assumptions and design analyses.

Sincerely,

HALEY & ALDRICH, INC.

Mark W. Myers, P.E., G.E
Principal

Josielyn Bustamante, E.I.T
Civil Project Engineer

REFERENCES

Agusti, G. C., Sitar, N. Seismic Pressures on Retaining Structures in Cohesive Soils. Report No. UCB GT-13-02, Department of Civil and Environmental Engineering, University of California, Berkeley. Prepared for the California Department of Transportation (Caltrans), Contract No. 65A0367, and NSF-NEES-CR Grant No. CMMI-0936376.

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California Department of Conservation Division of Mines and Geology, 1998, Maps of Known Active Faults Near-Source Zones in California and Adjacent Portions of Nevada, International Conference of Building Officials, Map Scale 1.2 inches = 5 km.

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Dibblee, T. W. Jr., 1980, Preliminary geologic map of the Walnut Creek quadrangle Contra Costa County, California: U.S. Geological Survey Open File Report 80-351, map scale 1:24,000.

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Nilsen, T. H., 1975, Preliminary photointerpretation map of landslide and other surficial deposits of the Walnut Creek 7.5' quadrangle Contra Costa County, California: U.S. Geological Survey Open File Map 75-277-55, map scale 1:24,000.

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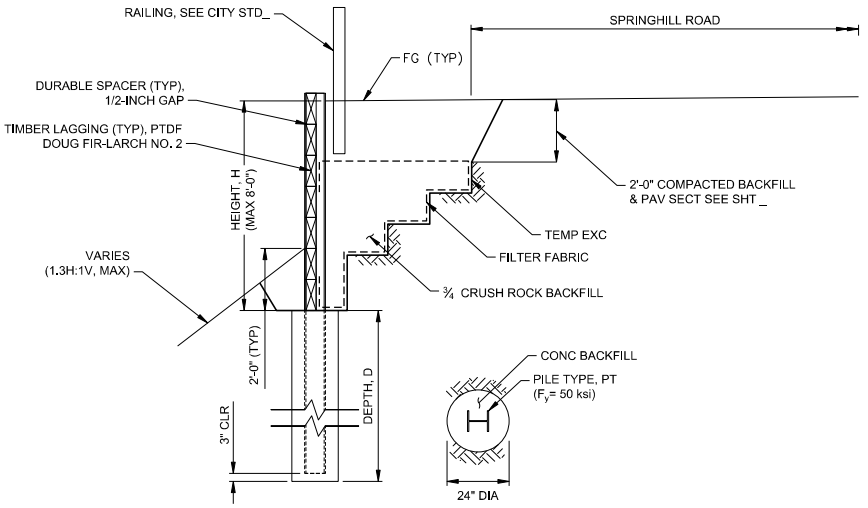


1 TYPICAL DETAIL
SCALE: 1"=2'

WALL SCHEDULE		
HEIGHT, H	PILE DEPTH, D	PILE TYPE, PT
5.67 FEET	17.5 FEET	W 8X35
8.0 FEET	20.5 FEET	W 16X40

0 2 4 6 8
SCALE IN FEET

HALEY & ALDRICH, INC.
201 N. Civic Drive, Suite 220
Walnut Creek, CA 94596-3880
Tel: 925.949.1012
www.haleyaldrich.com

Project No.:	0215128-000
Scale:	SHOWN
Date:	20-MAR-2026
Drawn By:	JB
Designed By:	JB
Checked By:	MM
Approved By:	MM
Stamp:	

Rev.	Description	By	Date

CITY OF LAFAYETTE
PROJECT NO. 014-9745

2026 ROAD PAVING PROJECT

FIGURE 1

Sheet: 1 of 1

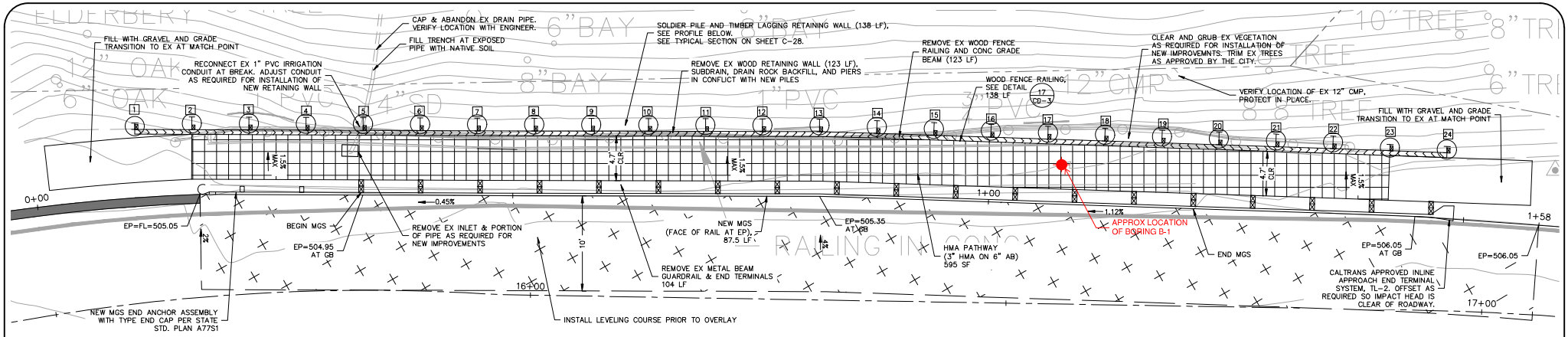
Appendix A – Boring Log

BORING NUMBER B-01

CLIENT LCC Engineering & Surveying, Inc.
PROJECT NAME 2026 City of Lafayette Pavement Project
PROJECT NUMBER 0215128-000
PROJECT LOCATION Springhill Road, Lafayette
DATE STARTED 4/10/2026 **COMPLETED** 4/10/2026
GROUND ELEVATION 502 ft **DATUM** WGS84 **HOLE SIZE** 4 in.
DRILLING CONTRACTOR Bay Area Soil Drilling
COORDINATES: **LATITUDE** 37.914196 **LONGITUDE** -122.112482
DRILLING RIG/METHOD Minuteman/4-in. Solid Flight Auger
GROUNDWATER AT TIME OF DRILLING ---
LOGGED BY R. Briseno **CHECKED BY** M. Myers
GROUNDWATER AT END OF DRILLING ---
HAMMER TYPE 140 lb hammer with 30 in. cathead
GROUNDWATER AFTER DRILLING ---

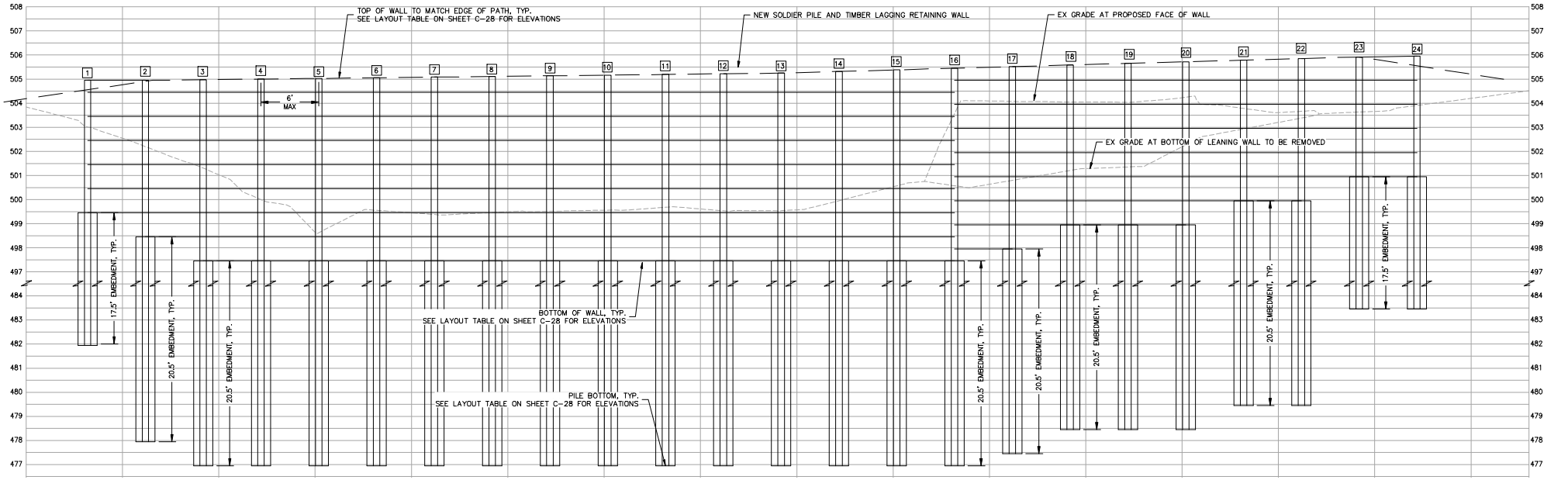
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE	BLOW COUNTS (FIELD VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT (%)	ATTERBERG LIMITS: PLASTIC LIMIT (%)	ATTERBERG LIMITS: PLASTICITY INDEX (%)	FINES CONTENT (%)
0.0		Lean CLAY (CL): brown, moist, stiff, fine sand, subangular gravel up to 1 in., siltstone rock fragments, iron stains (ARTIFICIAL FILL)	CM	8-9-7-6							
2.5			CM	6-6-8-10							
5.0		Bad sample recovery throughout Fill	CM	11-8-10							
			SPT	4-5-6							
7.5			CM	15-16-21							
			SPT	4-4-6							
10.0		Lean CLAY (CL): brown, moist, hard, sandstone rock fragments (COLLUVIUM)	CM	22-33-52							
		SANDSTONE: yellowish brown, moist, soft/friable, fine sand (BEDROCK)	SPT	23-28-50/4"							
12.5		Drilling refusal at 13 ft.	SPT	41-50/5"							

Bottom of borehole at 13.9 ft. Borehole backfilled with neat cement grout.



SPRINGHILL RD RETAINING WALL – PLAN

SCALE: 1"=5'



SPRINGHILL RD RETAINING WALL – PROFILE

SCALE: 1"=5' H, 1"=2' V

DATE	MARK	REVISION	INIT.

Designed by:	NBC
Drawn by:	RLM / JG
Checked by:	MMV
Reviewed by:	CMP
Date:	MARCH 2026

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REGISTERED PROFESSIONAL ENGINEER — JOEL B. CRISCO — C 86,603 — CIVIL — STATE OF CALIFORNIA

DATE: 03/25/26

CITY OF LAFAYETTE
PROJECT NO. 014-9745

2026 ROAD PAVING PROJECT

CONTRA COSTA COUNTY CALIFORNIA

SPRINGHILL RD RETAINING WALL
PLAN & PROFILE

SCALE: AS SHOWN

SHEET C-27, 31 of 37