



**CITY OF SOUTH PASADENA
PLANNING COMMISSION**

**AGENDA
REGULAR MEETING
TUESDAY, December 10, 2024 AT 6:30 P.M.**

**AMEDEE O. "DICK" RICHARDS JR. COUNCIL CHAMBERS
1424 MISSION STREET, SOUTH PASADENA, CA 91030**

South Pasadena Planning Commission Statement of Civility

As your appointed governing board we will treat each other, members of the public, and city employees with patience, civility and courtesy as a model of the same behavior we wish to reflect in South Pasadena for the conduct of all city business and community participation. The decisions made tonight will be for the benefit of the South Pasadena community and not for personal gain.

NOTICE ON PUBLIC PARTICIPATION & ACCESSIBILITY

The South Pasadena Planning Commission Meeting will be conducted in-person from the Amedee O. "Dick" Richards, Jr. Council Chambers, located at 1424 Mission Street, South Pasadena, CA 91030.

The Meeting will be available:

- In Person – Council Chambers, 1424 Mission Street, South Pasadena
- Via Zoom: <https://us02web.zoom.us/j/83530439651> **Meeting ID: 8353 043 9651**

To maximize public safety while still maintaining transparency and public access, members of the public can observe the meeting via Zoom in the following methods below.

- Go to the Zoom website, <https://Zoom.us/join> and enter the Zoom meeting information; or
- Click on the following unique Zoom meeting link:
<https://us02web.zoom.us/j/83530439651>

CALL TO ORDER: Chair Lisa Padilla

ROLL CALL: Chair Lisa Padilla
Vice-Chair Amitabh Barthakur
Commissioner Jason Claypool
Commissioner Laura Dahl
Commissioner Mark Gallatin

COUNCIL LIAISON: Mayor Pro Tem Jack Donovan

APPROVAL OF AGENDA
Majority vote of the Commission to proceed with Commission business.

DISCLOSURE OF SITE VISITS AND EX-PARTE CONTACTS
Disclosure by Commissioners of site visits and ex-parte contact for items on the agenda.

PUBLIC COMMENT GUIDELINES (Public Comments are limited to 3 minutes)

The Planning Commission welcomes public input. If you would like to comment on an agenda item, members of the public may participate by one of the following options:

Option 1:
Participate in-person at the Council Chambers, 1424 Mission Street, South Pasadena.

Option 2:
Participants will be able to “raise their hand” using the Zoom icon during the meeting, and they will have their microphone un-muted during comment portions of the agenda to speak for up to 3 minutes per item.

Option 3:
Email public comment(s) to PlanningComments@southpasadenaca.gov. Public Comments received in writing will not be read aloud at the meeting, but will be part of the meeting record. Written public comments will be uploaded online for public viewing under Additional Documents. There is no word limit on emailed Public Comment(s). Please make sure to indicate:

- 1) Name (optional), and
- 2) Agenda item you are submitting public comment on, and
- 3) Submit by no later than 12:00 p.m., on the day of the Planning Commission meeting.

NOTE: Pursuant to State law, the Planning Commission may not discuss or take action on issues not on the meeting agenda, except that members of the Planning Commission or staff may briefly respond to statements made or questions posed by persons exercising public testimony rights (Government Code Section 54954.2). Staff may be asked to follow up on such items.

PUBLIC COMMENT

1. Public Comment – General (Non-Agenda Items)

CONSENT CALENDAR ITEMS

2. Minutes from the Regular Meeting of November 12, 2024

PUBLIC HEARING

3. Project No. 2641-HDP/DRX – A request for a Hillside Development Permit (HDP) and Design Review Permit (DRX) for a 234-square-foot first-story addition and a 605-square-foot second-story addition, to an existing 1,990-square-foot single-family dwelling located at 2089 Hanscom Drive (APN: 5308-022-010). The project includes a raised deck, one-car garage, a carport, and a second-story balcony. In accordance with the California Environmental Quality Act (CEQA), a Categorical Exemption under Section 15301, Class 1 (Existing Facilities) will be considered for the project.

Recommendation:

Staff recommends that the Planning Commission adopt a Resolution taking the following actions:

1. Finding the project exempt from California Environmental Quality Act (CEQA) analysis based on State CEQA Guidelines Section 15301, Class 1 – Existing Facilities.
2. Approving Project No. 2641-HPD/DRX, subject to the Draft Conditions of Approval.

4. Project No. 2571-VAR/HDP/DRX/TRP – A request for Design Review and Hillside Development Permits to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant property located on Peterson Avenue (APN: 5308-031-042). The project site is located within the Southwest Monterey Hills area. The application includes three Variance requests: 1) for building height exceeding the maximum height of 28 feet, 2) Downhill building wall

requirements, and 3) Front yard setback requirements. Additionally, the applicant requests a Tree Removal Permit for the proposed removal of two trees. In accordance with the California Environmental Quality Act (CEQA), a Categorical Exemption under Section 15303, Class 3 (New Construction or Conversion of Small Structures) will be considered for the project.

Recommendation:

Staff recommends that the Planning Commission adopt a Resolution taking the following actions:

1. Finding the project exempt from California Environmental Quality Act (CEQA) Guidelines, Section 15303, Class 3 – (New Construction or Conversion of Small Structures) which includes construction and location of limited numbers of new, small facilities or structures, including single-family residence.
2. Approving Project No. 2571-VAR/HDP/DRX/TRP, subject to the Conditions of Approval.

DISCUSSION

5. **Overview of Department 2025 Work Plan and request to schedule special meetings on January 28 and February 25, 2025**

ADMINISTRATION

6. **Comments from City Council Liaison**
7. **Comments from Planning Commissioners**
8. **Comments from Staff**

ADJOURNMENT

9. **Adjourn to the Regular Planning Commission meeting scheduled for January 14, 2024.**

PUBLIC ACCESS TO AGENDA DOCUMENTS AND BROADCASTING OF MEETINGS

Planning Commission meeting agenda packets are available online at the City website: <https://www.southpasadenaca.gov/government/boards-commissions/planning-commission/test-planning-commission-agendas-minutes-copy>

AGENDA NOTIFICATION SUBSCRIPTION

Individuals can be placed on an email notification list to receive forthcoming agendas by emailing CityClerk@southpasadenaca.gov or calling the City Clerk's Division at (626) 403-7230.

ACCOMMODATIONS



The City of South Pasadena wishes to make all of its public meetings accessible to the public. If special assistance is needed to participate in this meeting, please contact the City Clerk's Division at (626) 403-7230. Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities. Notification at least 48 hours prior to the meeting will assist staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting (28 CFR 35.102-35.104 ADA Title II).

I declare under penalty of perjury that I posted this notice of agenda on the bulletin board in the courtyard of City Hall at 1414 Mission Street, South Pasadena, CA 91030, and on the City's website as required by law.

12/5/2024

Date

A handwritten signature in black ink, appearing to read "Robert Flores", written over a horizontal line.

Robert (Dean) Flores, Senior Planner



**CITY OF SOUTH PASADENA
Planning Commission
Meeting Minutes
Tuesday, November 12, 2024, 6:30 PM
Amedee O. "Dick" Richards Jr. Council Chambers
1424 Mission Street, South Pasadena, CA 91030**

CALL TO ORDER:

A Regular Meeting of the South Pasadena Planning Commission was called to order by Chair Padilla on Tuesday, November 12, 2024, at 6:30 p.m. The meeting was held at 1424 Mission Street, South Pasadena, California.

ROLL CALL:

Present: Chair: Lisa Padilla
Vice-Chair: Amitabh Barthakur
Commissioners: Jason Claypool, Laura Dahl, Mark Gallatin

City Council
Liaison: Jack Donovan

City Staff

Present: Roxanne Diaz, City Attorney
Elizabeth Bar-El, Interim Deputy Director
Tatianna Marin, Acting Assistant Planner
Lillian Estrada, Administrative Secretary

APPROVAL OF AGENDA:

Approved, 5-0.

DISCLOSURE OF SITE VISITS AND EX-PARTE CONTACTS:

Commissioner Claypool visited the site at 1020 Mission Street in Item 4. Commissioner Gallatin observed both public hearing locations from the public right-of-way. Chair Padilla visited both sites to be discussed at this public hearing.

PUBLIC COMMENT:

- 1. Public Comment – General (Non-Agenda Items)**
None.

CONSENT CALENDAR ITEM:

2. Minutes from the Regular Meeting of August 13, 2024

Approved, as amended, 5-0.

PUBLIC HEARING:

- 3. Project No. CUP24-0004** – A request for a Conditional Use Permit (CUP) for a Type-21 alcohol license for the sales of beer, wine, and spirits for off-site consumption at an existing retail space (Mission Wines) located at 1114 Mission Street (APN: 5315-009-035); making the determination of exemption under the California Environmental Quality Act (CEQA). Section 15301, Class 1 (Existing Facilities).

Recommendation:

Staff recommends that the Planning Commission adopt a Resolution taking the following actions:

1. Finding the project exempt from California Environmental Quality Act (CEQA) analysis based on State CEQA Guidelines Section 15301, Class 1 - Existing Facilities.
2. Approving Project No. CUP24-0004, subject to the Conditions of Approval.

Commissioner Dahl recused herself from Items 3 and 4 because she owns property within 1,000 feet of each location. She left the Chamber.

Staff Presentation:

Acting Assistant Planner Tatianna Marin gave a PowerPoint presentation.

Questions for Staff:

The Commissioners inquired about the second floor, a Type 42 license, and the existing use.

Applicant Presentation:

Kenneth Sanhueza of Art Rodriguez Associates, and Maria Impala, President, spoke on behalf of Mission Wines, and introduced Chris Meeske and Kyle Eck, the operators of the business. Mr. Meeske gave a history of the business. Ms. Impala spoke about the operation of the store and approved of all the Conditions of Approval, suggesting a minor change to Condition P-15 to allow tastings throughout the store.

Questions for Applicant:

The Commissioners asked several questions regarding the service of the spirits and the spirits to be offered.

Ms. Impala and Mr. Eck addressed the Commission's questions and concerns.

Public Comments:

None.

Commissioner Discussion:

The Commissioners expressed their support for the project.

Decision:

Commissioner Gallatin moved, seconded by Commissioner Claypool, that the Planning Commission adopt a Resolution to approve Conditional Use Permit CUP24-0004 with the recommended amendment to the Conditions of Approval Condition P-15, as follows:

P-15. The consumption of beer and wine for tastings shall be permitted only within the retail space that is consistent with the Applicant's existing Type 42 License and towards the rear of the store as outlined in green in **Figure 1**.

Chair Padilla directed Staff to call the Roll:

Commissioner Claypool	Yes
Commissioner Gallatin	Yes
Vice-Chair Barthakur	Yes
Chair Padilla	Yes

Motion carried, 4-0.

- 4. Project No. CUP24-0005** – A request for a Conditional Use Permit (CUP) for a Type 41 (beer and wine) and Type 20 (off-sale beer and wine) alcohol licenses for a retail deli and bona fide restaurant (Visionarium) located at 1020 Mission Street, Unit H (APN: 5315-014-030), making the determination of exemption under the California Environmental Quality Act (CEQA), Section 15301, Class 1 (Existing Facilities).

Recommendation:

Staff recommends that the Planning Commission adopt a Resolution taking the following actions:

1. Finding the project exempt from California Environmental Quality Act (CEQA) analysis based on State CEQA Guidelines Section 15301, Class 1 – Existing Facilities.
2. Approving Project No. CUP24-0005, subject to the Conditions of Approval.

Commissioner Dahl previously recused herself from this item and left the dais.

Staff Presentation:

Acting Assistant Planner Marin gave a PowerPoint presentation.

M

Questions for Staff:

The Commissioners asked several questions, including about the location of the site in the presentation, a 'late hour' use of the exit for trash removal, and the protocol regarding outdoor dining on private property versus public property.

Applicant Presentation:

Mr. Steven Garcia, Applicant representative, and Mr. Lorenzo Lisi, business owner, introduced themselves and spoke of the concept behind the business. Mr. Garcia gave a PowerPoint presentation.

Questions for Applicant:

The Commissioners engaged in an in-depth discussion about the interior use of the space, dining on private property versus public property, and Condition P-15. Staff suggested revised language to address their concerns and ensure flexibility for the business over time.

Public Comments:

Mr. John Adamson, Property Manager of 1020 Mission Street, spoke in support of the project. In addition, a note in support of this project was submitted.

Applicant Rebuttal:

Mr. Lisi expressed his gratitude.

Commissioner Discussion:

The Commissioners discussed several Conditions of Approval, including Condition P-10, P-15 and P-17. They expressed support for this project.

Commissioner Gallatin addressed the comment received expressing concern about the time it takes from application to public hearing, with a reminder that timing is a function of the submittal of a complete application by the applicant. An item cannot be put on the agenda until it has been deemed complete. In this case, it was approximately 100 days from the submittal in late July to tonight's hearing.

Per Staff, this project was deemed complete on October 3rd and it is now before the Commission by the middle of November.

Decision:

Vice-Chair Barthakur moved, seconded by Chair Padilla, that the Planning Commission adopt a Resolution approving Project No. CUP24-0005 for a Conditional Use Permit (CUP) for a Type 41 (on-sale beer and wine) and Type 20 (off-sale beer and wine) alcohol licenses for a retail deli and bona fide eating place (Visionarium) located at 1020 Mission Street, Unit H (APN: 5315-014-030), making the determination of exemption under the California Environmental Quality Act (CEQA), Section 15301, Class 1 (Existing Facilities), with the recommended changes to the Conditions of Approval, as follows:

P-15: Replace current text and floor plan with:

The consumption of beer and wine shall be permitted only within the restaurant area that includes seating and food service per City-approved plans.

P-17: The store management shall regulate the arrival and departure of all employees and restrict use of the exit for trash removal and unnecessary opening after close of business. Adequate security measures shall be instituted to eliminate any unauthorized access.

Chair Padilla directed Staff to call the Roll:

Commissioner Claypool	Yes
Commissioner Gallatin	Yes
Vice-Chair Barthakur	Yes
Chair Padilla	Yes

Motion carried, 4-0.

ADMINISTRATION

5. Comments from City Council Liaison:

None.

6. Comments from Planning Commissioners:

Vice-Chair Barthakur commented that he is eager to get started on implementing the adopted Housing Element and the various actions that go along with it.

Commissioner Claypool would like to know how soon to expect discussions on implementing the Housing Element. He is looking forward to working with this Commission, the City Council, and Staff.

Chair Padilla commented on the critical importance of the objective design standards being refined as an important tool in the toolkit to guide projects that will no longer come to the Planning Commission.

Commissioner Gallatin gave kudos to Staff for retaining a professional architecture firm to assist in the review of those (formerly discretionary) now ministerial projects from a recommendation he made to the City Council over a year ago. It is going to really help in the application of the objective design guidelines and keep us within the guardrails that the law now prescribes.

6. Comments from Staff:

Interim Deputy Director Bar-El thanked the Commission for a great meeting this evening. She discussed the following: work has been done based on a SCAG Grant to develop objective design standards, but they still need to be incorporated into the Code; on November 20th, Staff is going to Council for approval of an agreement with SCAG for the REAP 2.0 Grant (for objective design standards for the missing middle housing). The contracting process should be completed in January; on December 4th, Staff is going to Council with the In-Lieu Fee for Inclusionary Housing; Measure SP was approved, setting the course for the next part of the analysis of heights to be appropriate with densities as included in the Housing Element, which will include a robust community outreach program; and Staff is doing a study for a rent stabilization ordinance proposal.

Chair Padilla suggested the Commission be provided with an outline schedule of the upcoming activities so that the Commission can fully support Staff.

Commissioner Gallatin asked about the new SCAG Grant for developing objective design guidelines for the missing middle housing program and whether it will be done totally in-house or in conjunction with a consulting firm. Interim Deputy Director Bar-El confirmed the SCAG Grant will fund the hiring of a consultant firm.

ADJOURNMENT:

7. Adjournment to the Regular Planning Commission meeting scheduled on December 10, 2024 at 6:30 pm:

There being no further matters, Chair Padilla adjourned the meeting at 7:56 p.m.

Lisa Padilla, Chair



Planning Commission Agenda Report

DATE: December 10, 2024

FROM: Alison Becker, Acting Community Development Director
Elizabeth Bar-El, Interim Deputy Community Development Director

PREPARED BY: Robert (Dean) Flores, Senior Planner

SUBJECT: **Project No. 2641-HDP/DRX – A request for a Hillside Development Permit (HDP) and Design Review Permit (DRX) for a 234-square-foot first-story addition and a 605-square-foot second-story addition, to an existing 1,990-square-foot single-family dwelling located at 2089 Hanscom Drive (APN: 5308-022-010). The project includes a raised deck, one-car garage, a carport, and a second-story balcony. In accordance with the California Environmental Quality Act (CEQA), a Categorical Exemption under Section 15301, Class 1 (Existing Facilities) will be considered for the project.**

APPLICANT: David Sun and Cathy Yun Hsieh

RECOMMENDATION

Staff recommends that the Planning Commission:

1. Find the project exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301 (Existing Facilities) of the CEQA Guidelines.
2. Adopt a Resolution to approve Project No. 2641-HPD/DRX subject to the draft conditions of approval (**Attachment 1**).

BACKGROUND

Project Timeline

The project was originally brought before the Planning Commission on March 12, 2024, for review and consideration (see **Attachment 7** – March 12, 2024 staff report) and originally included a Variance for a 6'-high front gate within the front yard setback area where the maximum allowed height is 3'. Based on the discussions during the meeting, the Planning Commission recommended that the item be continued for the following reasons:

- Redesign considerations of the exterior of the home, more specifically, the roof of the rear balcony)
- More information/greater justification for the Variance for the proposed 6'-high front gate within the front yard setback area

The applicant has responded by revising the project plans based on the suggestions provided by the Planning Commission. More specifically, the roof of the balcony has been revised to remove the extension of the roof shingles over the balcony and replace it with a trellis-style cover. Additionally, the Variance application has been withdrawn as the applicant is requesting that the front gate be placed farther back into the driveway outside of the 10' front yard setback area.

PROJECT DESCRIPTION

The applicant is requesting approval of a Hillside Development Permit (HDP) and Design Review Permit (DRX) for a 234-square-foot first-story addition and a 605-square-foot second-story addition, to an existing 1,990-square-foot single-family dwelling located at 2089 Hanscom Drive (APN: 5308-022-010). The project includes a raised deck, one-car garage, a carport, and a second-story balcony in the Residential Low Density (RS) zoning district. The proposal also includes a new accessory dwelling unit (ADU) at the rear of the property. However, review of the ADU is not under the purview of the Planning Commission and is only shown on the project plans for reference.

DISCUSSION/ANALYSIS

Redesign of Balcony Roof

As discussed above, the Planning Commission requested changes to the overall design and massing of the roof extending over the proposed rear balcony along the west elevation. In the initial design, the roof was designed to cover the entirety of the proposed balcony via an extension of the roof. However, based on the feedback provided during the Planning Commission meeting on March 12, 2024, the plans were redesigned to replace a portion of the hipped roof with a trellis-style cover. Additionally, the proposed wrought iron railings along the entirety of the porch have been redesigned to feature a glass railing. As shown in **Attachment 2** and in Images 1-4 below, the proposed elevations have been updated to reflect the recommended design changes.

Image 1: West Elevation (03/12/24 Elevations)



Image 2: West Elevation (Revised Elevations)



Image 3: West (Rear) Elevation View From Top (03/12/24 Elevations)



Image 4: West (Rear) Elevation View From Top (Revised Elevations)



Front Yard Gate Variance Withdrawal – New Gate Location

In response to the Planning Commission’s request for additional information or justification of the proposed front gate Variance, the applicant instead withdrew their Variance application, choosing instead to relocate the proposed gate beyond the front yard 10’ setback area. SPMC Section 36.300.050 limits the height of fences/walls/gates to 3’ within the front yard setback area – and up to 6’ in all other areas of the property. The current proposal now complies with the development standard (see Image 6 for proposed location).

Image 5: Previous Proposed Location of Gate (Setback Line in Red)

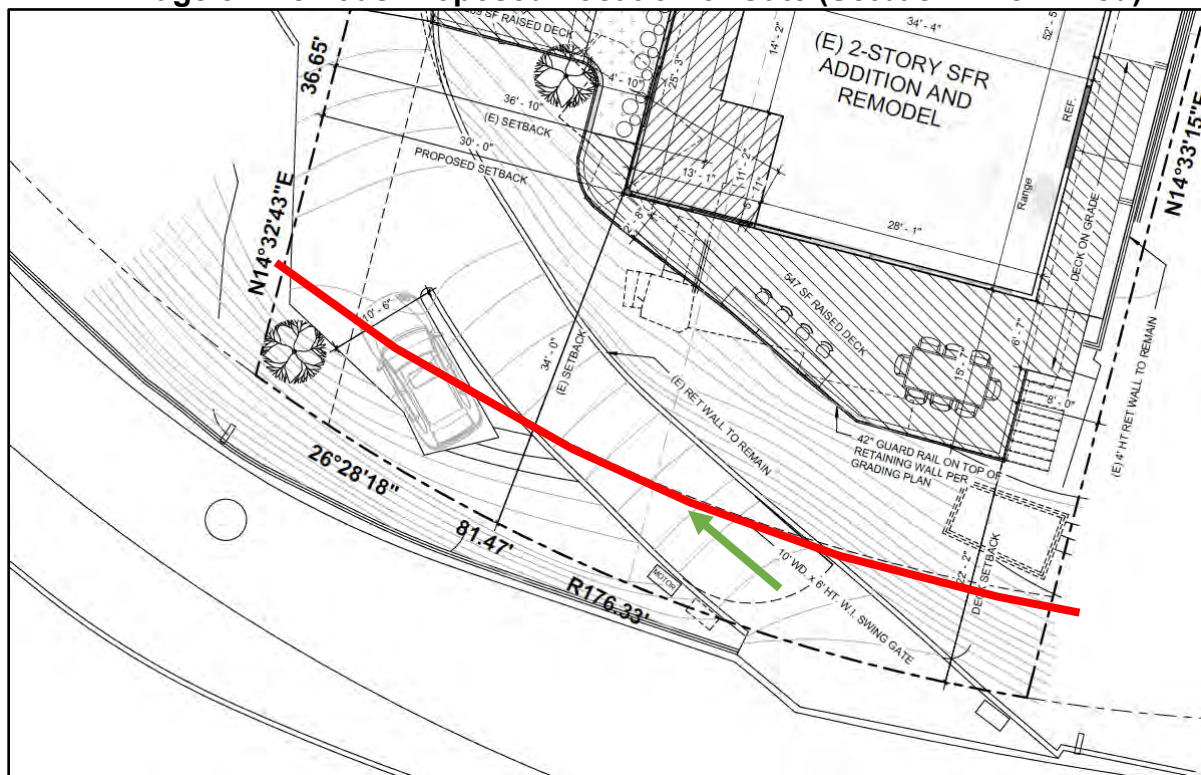
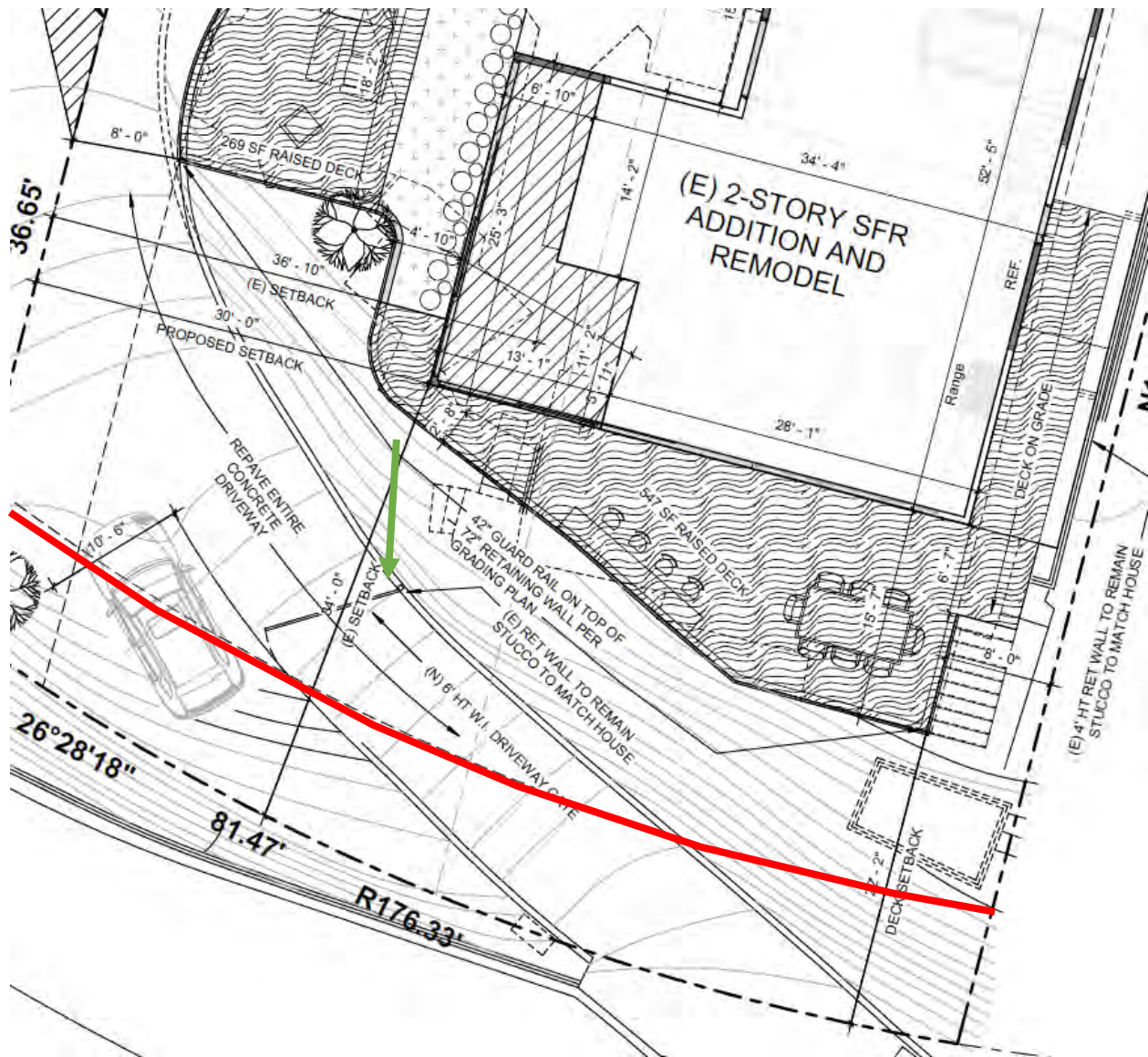


Image 6: Proposed Location of Gate



With that said, it came to staff's attention that a 6'-high gate was already built on the property within the front yard setback area. Because of this, Community Development staff issued a Notice of Violation (NOV) on November 26, 2024 to either remove or relocate the gate from the front setback area (see **Attachment 8**). As a result, a condition of approval has been included to ensure that the applicant obtain compliance with the NOV to relocate the gate behind the front setback line as shown in the proposed architectural plans prior to issuance of a building permit. Lastly, elevations of the gate has been provided as **Attachment 9**.

Zoning Code Compliance

Table 1: Residential Single-Family (RS) District General Development Standards & Development of Small Nonconforming Residential Parcels

Standard	Requirement	Proposed
Lot Coverage	50% (3,880 SF max. allowed)	39.5% (3,088 SF)
Floor Area Ratio (FAR)	35% (2,716 SF max. allowed)	34.99% (2,715 SF)

Hillside Development Permit

Pursuant to SPMC Section 36.340.020, any development on a site with an average slope of 20 percent or greater requires a Hillside Development Permit—the subject site has an average slope of 41.31 percent. The purpose of the Hillside Development Permit is to ensure that developments are designed to preserve the City’s scenic resources, encourage appropriate grading practices, and encourage appropriate design to maintain the hillside in a natural, open character. **Table 2** provides a breakdown of the existing conditions of the proposed project and its compliance with SPMC Section 36.340.050—Hillside Project Development Standards, regulating residential land uses.

Table 2: Hillside Project Development Standards

Standard	Requirement	Existing	Proposed
Front Setback	10 ft.	36’-3”	33’-9”
Side Setback	10% of lot width, min. of 4 ft., max. of 10 ft. Lot Width=81’ Side Setback Requirement=8’	West: 36’-8” East: 8’-9” (existing)	Complies West: 30’ East: 8’-9” (existing)
Building Height	Maximum height for structures with a roof pitch of 3:12 or greater is 28 ft. If a roof pitch is less than 3:12, the maximum height is 24 ft.	25’-6”	Complies, proposed roof pitch is 3:12: 25’-11”
Siting Restrictions	Structures shall not be placed so that they appear silhouetted against the sky when viewed from a public street	Complies	Complies
Placement Below Ridgeline	50 ft. between top of the structure and the top of the ridge or knoll	Complies	Complies
Height of Lowest Floor Level	Vertical distance between the lowest point where foundation meets grade and the	Complies	Complies

Standard	Requirement	Existing	Proposed
	lowest floor line of the structure shall not exceed 6 ft.		
Downhill Building Walls	No single building wall on the downhill side of a house shall exceed 15 ft. in height above grade.	Complies	Complies
Decks	No portion of the walking surface of a deck with visible underpinnings shall exceed a height of six feet above grade. Decks should be integrated into the architecture of the house, not appearing as an “add-on” to the primary building mass	Complies	Complies
Driveways	Driveway shall not have a grade steeper than 5% within 10 ft. of the garage or carport entry. Finished grade of driveways shall not exceed an average of 15%	N/A	N/A (Existing driveway with average of 21%, and is considered legal nonconforming. However, no grading work to the existing driveway)
Natural State	A minimum of 25% of the lot area plus the percentage figure of the average slope must be remediated to its natural state in terms of slope and vegetation.	N/A	N/A (Applies to new development)
Height of New Retaining Walls	Maximum height of six (6) feet	Complies	Complies

General Plan Consistency

The General Plan (2040) land use designation for the subject site is Low-Intensity Neighborhood, which allows for single-family dwellings at up to 5 units per acre. The proposed project, therefore, complies with the following General Plan goals, policies, and/or actions:

Goal 3: Preserve and enhance the distinctive residential neighborhoods; provide housing opportunities for all; reinvest in downtown corridors and neighborhood centers; and ensure that new development contributes its fair share towards the provision of affordable housing, adequate parks, schools, and other public facilities.

Policy P3.4: Conserve South Pasadena’s character and scale, including its traditional urban design form, while creating places of enduring quality that are uniquely fit to their time and place.

The proposed project is consistent with Goal 3 and Policy 3.4 above because the proposal enhances the architectural style of the home and adds to the quality of the neighborhood in a manner that uniquely fits the site. The proposed design will feature exterior stucco, wood siding, new concrete roofing, exposed wood rafters wood columns, wood clad windows and doors, and glass railing along the new balcony.

FINDINGS

Required Hillside Development Permit Findings

In order to approve a Hillside Development Permit, the Planning Commission finds and determines that the proposed project is consistent with all applicable findings for approval of a Hillside Development Permit pursuant to the South Pasadena Municipal Code (SPMC), Section 36.410.065(F), as follows:

1. The proposed use complies with requirements of Division 36.340 (Hillside Protection) and all other applicable provisions of this Zoning Code.

The project uses thoughtful site design which conforms to the hillside development standards and design guidelines. The project is considerate of the character and scale of the existing single-family developments in the vicinity in that the addition and remodel are limited to the existing building pad and will not affect the neighboring properties. As designed and conditioned, the project will comply with the Hillside Protection Ordinance and the RS standards in the SPMC.

2. The proposed use is consistent with the General Plan and any applicable specific plan;

The General Plan (2040) land use designation for the subject site is Low-Intensity Neighborhood, which allows for single-family dwellings at up to 5 units per acre. The proposed project, therefore, complies with the following General Plan goals, policies, and/or actions:

Goal 3: Preserve and enhance the distinctive residential neighborhoods; provide housing opportunities for all; reinvest in downtown corridors and neighborhood centers; and ensure that new development contributes its fair share towards the provision of affordable housing, adequate parks, schools, and other public facilities.

Policy P3.4: Conserve South Pasadena's character and scale, including its traditional urban design form, while creating places of enduring quality that are uniquely fit to their time and place.

The proposed project is consistent with Goal 3 and Policy 3.4 above because the proposal enhances the architectural style of the home and adds to the quality of the neighborhood in a manner that uniquely fits the site. The proposed design will feature exterior stucco, wood siding, new concrete roofing, exposed wood rafters wood columns, wood clad windows and doors, and glass railing along the new balcony.

- 3. The establishment, maintenance, or operation of the use would not, under the circumstances of the particular case, be detrimental to the health, safety, or general welfare of the persons residing or working in the neighborhood of the proposed use;**

The neighborhood is developed with hillside homes with a mix of architectural styles and scale. As required and conditioned, all construction documents, including grading plans and calculations, would be prepared by professional architects or engineers and must be reviewed and approved by the appropriate City departments prior to issuing permits. The proposed use of a single-family residential home will remain unchanged and as designed and conditioned, would not be detrimental to the health and safety or general welfare of persons residing or working in the neighborhood.

- 4. The use, as described and conditionally approved, would not be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the City; and,**

Prior to commencing construction, the project is required to comply with and obtain all applicable building permits, including those necessary for grading, utilities, public works, and fire prevention. Additionally, the applicant shall provide a construction management plan, as required in the Southwest Monterey Hills Construction Plan area, prior to the issuance of building permits.

- 5. The design, location, operating characteristics, and size of the proposed use would be compatible with the existing and future land uses in the vicinity, in terms of aesthetics, character, scale, and view protection.**

The current single-family residential use will remain unchanged, and the addition is consistent with the established residential neighborhood. The proposed addition is set back 33 feet from the front property line, which will result in minimal visual impact from the street view. The scale of the project is appropriate in size when compared to the surrounding neighborhood, and the topography of the land and the configuration of neighboring properties minimizes view impacts. The proposed design complies with the City's Hillside Design Guidelines, the Hillside Protection Ordinance, and the SPMC, including but not limited to building mass, scale, respect of the topography, and applicable development standards.

Required Design Review Findings

In order to approve a Design Review Permit, the Planning Commission must determine that the proposed project is consistent with all applicable findings for approval of a Design Review Permit pursuant to the South Pasadena Municipal Code (SPMC), Section 36.410.040(l), as follows:

1. Is consistent with the General Plan, any adopted design guidelines and any applicable design criteria for specialized areas (e.g., designated historic district or other special districts, plan developments, or specific plans);

The General Plan (2040) land use designation for the subject site is Low-Intensity Neighborhood, which allows for single-family dwellings at up to 5 units per acre. The proposed project, therefore, complies with the following General Plan goals, policies, and/or actions:

Goal 3: Preserve and enhance the distinctive residential neighborhoods; provide housing opportunities for all; reinvest in downtown corridors and neighborhood centers; and ensure that new development contributes its fair share towards the provision of affordable housing, adequate parks, schools, and other public facilities.

Policy P3.4: Conserve South Pasadena's character and scale, including its traditional urban design form, while creating places of enduring quality that are uniquely fit to their time and place.

The proposed project is consistent with Goal 3 and Policy 3.4 above because the proposal enhances the architectural style of the home and adds to the quality of the neighborhood in a manner that uniquely fits the site. The proposed design will feature exterior stucco, wood siding, new concrete roofing, exposed wood rafters wood columns, wood clad windows and doors, and glass railing along the new balcony.

2. Will adequately accommodate the functions and activities proposed for the site, will not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards;

The project involves the remodel of an existing single-family dwelling and additional space for residential living, with indoor and outdoor areas incorporated into the design. The ground-level addition will include an open floor plan with one bedroom and the second-story addition will accommodate two additional bedrooms and two-and-a-half bathrooms. The proposed addition and remodel are consistent with the design standards. Based upon the height and mass of the proposed addition and its location to the rear of the property, the addition will not interfere with the use and enjoyment of neighboring, existing, or future developments. As conditioned, the project's mass, scale, bulk, and temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. A construction management plan will be reviewed and approved by staff during the Building and Public Works permitting processes.

3. Is compatible with the existing character of the surrounding neighborhood and that all reasonable design efforts have been made to maintain the attractive, harmonious, and orderly development contemplated by SPMC Section 36.410.040 and the General Plan; and

The project site is surrounded by multi-story residential buildings of different architectural styles and sizes. As proposed, the project complies with all the development standards for zoning and hillside lots. The proposed addition is compatible with the neighborhood and with a 33-foot building setback from the front property line, it will have minimal street view impacts. The building height, size, and form fits the size of the lot. As proposed, the project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan.

4. Would provide a desirable environment for its occupants and neighbors, and is aesthetically of good composition, materials, and texture that would remain aesthetically appealing with a reasonable level of maintenance and upkeep.

The proposed project has been designed with consideration to its future occupants and neighbors. The proposed project uses appropriate materials that complement the eclectic architecture of the surrounding neighborhood. The home features a modern design; large windows at the north, west, and south elevations; minimal windows at the east elevation for added privacy with the adjacent property; the residence will be clad with a combination of smooth stucco, fiber cement siding, and wood siding. The proposed project incorporates a composition of high-quality materials that further assists in allowing for the preservation of a desirable and aesthetically appealing presentation with reasonable maintenance.

ENVIRONMENTAL ANALYSIS

This project qualifies for a categorical exemption from the California Environmental Quality Act (CEQA) analysis based on State CEQA Guidelines Section 15301, Class 1 (Existing Facilities). Class 1 exemption includes the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures involving negligible or no expansion of existing or former use. The project will not have a significant effect on the environment because the project falls under a Class 1 - Existing Facilities exemption as an addition to an existing structure that will not result in an increase of more than 10,000 square feet; the project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan; and is not located in an environmentally sensitive area.

ALTERNATIVES TO CONSIDER

The Design Review Board has the following options available:

1. Approve the project as is or with modified condition(s) added or removed and provide findings; or
2. Continue the project, providing the applicant with clear recommendations to revise the proposal; or
3. Deny the project.

PUBLIC NOTICING

A Public Hearing Notice was published on November 29, 2024, in the South Pasadena Review. Hearing notices were sent to all properties within a 300-foot radius of the subject property and to all properties located within the Southwest Monterey Hills area on November 26, 2024. In addition, the public was made aware that this item was to be considered at a public hearing by virtue of its inclusion on the legally publicly noticed agenda, posting of the same agenda and reports on the City's website.

NEXT STEPS

If the Planning Commission approves the project, a 15-day appeal period will commence in which any person affected by the decision may appeal the decision for a public hearing by the City Council. Should there be no appeals during this 15-day period, the applicant may proceed through the Plan Check Process with the Planning Division to review the construction plans to ensure that all conditions are satisfied prior to submittal with the Building Division.

ATTACHMENTS

1. P.C. Resolution with Exhibit "A" – Conditions of Approval
2. Updated Architectural Plans
3. Site Images
4. Neighborhood Images
5. Materials Brochures
6. Geotechnical Investigation Report
7. March 12, 2024 PC Staff Report
8. Notice of Violation (Dated November 26, 2024)
9. Gate Elevations

ATTACHMENT 1

P.C. Resolution with Exhibit "A" – Conditions of Approval

P.C. RESOLUTION NO. 24 - __

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SOUTH PASADENA APPROVING PROJECT NO. 2461-HDP/DRX FOR A HILLSIDE DEVELOPMENT PERMIT AND DESIGN REVIEW PERMIT FOR A 234-SQUARE-FOOT, FIRST-STORY ADDITION, A 605-SQUARE-FOOT SECOND-STORY ADDITION AT AN EXISTING SINGLE-FAMILY DWELLING LOCATED AT 2089 HANSCOM DRIVE (APN: 5308-022-010); AND FINDING THE PROJECT EXEMPT UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

WHEREAS, on October 16, 2021, David Sun and Yun Hsieh (the “applicant”) submitted applications for a Hillside Development Permit (HDP) and Design Review Permit (DRX) to add a 234-square-foot first-story addition and a 605-square-foot second-story addition to an existing 1,990-square-foot, two-story, single-family dwelling located at 2089 Hanscom Drive (APN: 5308-022-010). The project also includes requests for the addition of an 816-square-foot deck, a 961-square-foot second-story balcony, a Variance (VAR) for a fence located within the front yard setback to exceed three feet in height with the highest portion of the fence being six feet in height (the above-referenced applications and requests are referred to herein as the “project” or “proposed project”); and

WHEREAS, the subject property is zoned Residential Single-Family (RS) and has a General Plan land use designation of Low Density Residential; and

WHEREAS, the proposed project is categorically exempt from the California Environmental Quality Act (CEQA), per CEQA Guidelines Section 15301, Class 1 - Existing Facilities. The project will not have a significant effect on the environment because the project falls under a Class 1 - Existing Facilities exemption as an addition to an existing structure that will not result in an increase of more than 10,000 square feet; the project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan; and is not located in an environmentally sensitive area; and

WHEREAS, the South Pasadena Planning Commission held a duly noticed public hearing on March 12, 2024, at which time it considered the staff report, oral report, the testimony, and the written evidence submitted by and on behalf of the applicant and by members of the public concerning Project No. 2461-HDP/DRX/VAR, and continued the item to address certain issues including the exterior design of the home and the proposed Variance; and

WHEREAS, on October 22, 2024, the applicant resubmitted the project which featured a redesign of the exterior of the home based on the feedback provided by the Planning Commission during the public hearing, and also withdrew their Variance application for the proposed 6'-high fence located within the front yard setback whereby it is proposed to be located behind the front yard setback area; and

WHEREAS, the South Pasadena Planning Commission held a duly noticed public hearing on December 10, 2024, at which time it considered the staff report, oral report, the testimony, and the written evidence submitted by and on behalf of the applicant and by members of the public concerning Project No. 2461-HDP/DRX.

NOW, THEREFORE, THE PLANNING COMMISSION OF THE CITY OF SOUTH PASADENA DOES HEREBY FIND, DETERMINE, AND RESOLVE AS FOLLOWS:

SECTION 1: ACKNOWLEDGEMENTS

The foregoing recitals are true and correct and are incorporated and made an operative part of this resolution.

SECTION 2: ENVIRONMENTAL REVIEW FINDINGS

The Planning Commission has determined that the proposed project is Categorically Exempt from the provisions of the California Environmental Quality Act (CEQA), under CEQA Guidelines Section 15301, Class 1 - Existing Facilities. Class 1 exemption includes the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures involving negligible or no expansion of existing or former use. The project will not have a significant effect on the environment because the project falls under a Class 1 - Existing Facilities exemption as an addition to an existing structure that will not result in an increase of more than 10,000 square feet; the project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan; and is not located in an environmentally sensitive area.

SECTION 3: HILLSIDE DEVELOPMENT PERMIT FINDINGS

Based upon the entire record made available at the December 10, 2024 public hearing, including the public hearing, the staff report, the oral presentation, and related documents submitted to the Planning Commission prior to and at the public hearing, the Planning Commission finds and determines that the proposed project is consistent with all applicable findings for approval of a Hillside Development Permit pursuant to the South Pasadena Municipal Code (SPMC), Section 36.410.065(F), as follows:

- 1. The proposed use complies with requirements of Division 36.340 (Hillside Protection) and all other applicable provisions of this Zoning Code.**

The project uses thoughtful site design which conforms to the hillside development standards and design guidelines. The project is considerate of the character and scale of the existing single-family developments in the vicinity in that the addition and remodel are limited to the existing building pad and will not affect the neighboring properties. As designed and conditioned, the project will comply with the Hillside

Protection Ordinance and the RS standards in the SPMC.

2. The proposed use is consistent with the General Plan and any applicable specific plan;

The General Plan (2040) land use designation for the subject site is Low-Intensity Neighborhood, which allows for single-family dwellings at up to 5 units per acre. The proposed project, therefore, complies with the following General Plan goals, policies, and/or actions:

Goal 3: Preserve and enhance the distinctive residential neighborhoods; provide housing opportunities for all; reinvest in downtown corridors and neighborhood centers; and ensure that new development contributes its fair share towards the provision of affordable housing, adequate parks, schools, and other public facilities.

Policy P3.4: Conserve South Pasadena's character and scale, including its traditional urban design form, while creating places of enduring quality that are uniquely fit to their time and place.

The proposed project is consistent with Goal 3 and Policy 3.4 above because the proposal enhances the architectural style of the home and adds to the quality of the neighborhood in a manner that uniquely fits the site. The proposed design will feature exterior stucco, wood siding, new concrete roofing, exposed wood rafters wood columns, wood clad windows and doors, and glass railing along the new balcony.

3. The establishment, maintenance, or operation of the use would not, under the circumstances of the particular case, be detrimental to the health, safety, or general welfare of the persons residing or working in the neighborhood of the proposed use;

The neighborhood is developed with hillside homes with a mix of architectural styles and scale. As required and conditioned, all construction documents, including grading plans and calculations, would be prepared by professional architects or engineers and must be reviewed and approved by the appropriate City departments prior to issuing permits. The proposed use of a single-family residential home will remain unchanged and as designed and conditioned, would not be detrimental to the health and safety or general welfare of persons residing or working in the neighborhood.

4. The use, as described and conditionally approved, would not be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the City; and,

Prior to commencing construction, the project is required to comply with and obtain all applicable building permits, including those necessary for grading, utilities, public works, and fire prevention. Additionally, the applicant shall provide a construction

management plan, as required in the Southwest Monterey Hills Construction Plan area, prior to the issuance of building permits.

5. The design, location, operating characteristics, and size of the proposed use would be compatible with the existing and future land uses in the vicinity, in terms of aesthetics, character, scale, and view protection.

The current single-family residential use will remain unchanged, and the addition is consistent with the established residential neighborhood. The proposed addition is set back 33 feet from the front property line, which will result in minimal visual impact from the street view. The scale of the project is appropriate in size when compared to the surrounding neighborhood, and the topography of the land and the configuration of neighboring properties minimizes view impacts. The proposed design complies with the City's Hillside Design Guidelines, the Hillside Protection Ordinance, and the SPMC, including but not limited to building mass, scale, respect of the topography, and applicable development standards.

SECTION 4: DESIGN REVIEW FINDINGS

Based upon the entire record made available at the December 10, 2024 public hearing, including the public hearing, the staff report, the oral presentation, and related documents submitted to the Planning Commission prior to and at the public hearing, the Planning Commission finds and determines that the proposed project is consistent with all applicable findings for approval of a Design Review Permit pursuant to the South Pasadena Municipal Code (SPMC), Section 36.410.040(I), as follows:

1. The project is consistent with the General Plan, any adopted design guidelines and any applicable design criteria for specialized areas (e.g., designated historic district or other special districts, plan developments, or specific plans);

The General Plan (2040) land use designation for the subject site is Low-Intensity Neighborhood, which allows for single-family dwellings at up to 5 units per acre. The proposed project, therefore, complies with the following General Plan goals, policies, and/or actions:

Goal 3: Preserve and enhance the distinctive residential neighborhoods; provide housing opportunities for all; reinvest in downtown corridors and neighborhood centers; and ensure that new development contributes its fair share towards the provision of affordable housing, adequate parks, schools, and other public facilities.

Policy P3.4: Conserve South Pasadena's character and scale, including its traditional urban design form, while creating places of enduring quality that are uniquely fit to their time and place.

The proposed project is consistent with Goal 3 and Policy 3.4 above because the proposal enhances the architectural style of the home and adds to the quality of the neighborhood in a manner that uniquely fits the site. The proposed design will feature

exterior stucco, wood siding, new concrete roofing, exposed wood rafters wood columns, wood clad windows and doors, and glass railing along the new balcony.

- 2. The project will adequately accommodate the functions and activities proposed for the site, will not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards;**

The project involves the remodel of an existing single-family dwelling and additional space for residential living, with indoor and outdoor areas incorporated into the design. The ground-level addition will include an open floor plan with one bedroom and the second-story addition will accommodate two additional bedrooms and two-and-a-half bathrooms. The proposed addition and remodel are consistent with the design standards. Based upon the height and mass of the proposed addition and its location to the rear of the property, the addition will not interfere with the use and enjoyment of neighboring, existing, or future developments. As conditioned, the project's mass, scale, bulk, and temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. A construction management plan will be reviewed and approved by staff during the Building and Public Works permitting processes.

- 3. The project is compatible with the existing character of the surrounding neighborhood and that all reasonable design efforts have been made to maintain the attractive, harmonious, and orderly development contemplated by SPMC Section 36.410.040 and the General Plan; and**

The project site is surrounded by multi-story residential buildings of different architectural styles and sizes. As proposed, the project complies with all the development standards for zoning and hillside lots. The proposed addition is compatible with the neighborhood and with a 33-foot building setback from the front property line, it will have minimal street view impacts. The building height, size, and form fits the size of the lot. As proposed, the project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan.

- 4. Would provide a desirable environment for its occupants and neighbors, and is aesthetically of good composition, materials, and texture that would remain aesthetically appealing with a reasonable level of maintenance and upkeep.**

The proposed project has been designed with consideration to its future occupants and neighbors. The proposed project uses appropriate materials that complement the eclectic architecture of the surrounding neighborhood. The home features a modern design; large windows at the north, west, and south elevations; minimal windows at the east elevation for added privacy with the adjacent property; the residence will be clad with a combination of smooth stucco, fiber cement siding, and wood siding. The proposed project incorporates a composition of high-quality materials that further assists in allowing for the preservation of a desirable and aesthetically appealing presentation with reasonable maintenance.

SECTION 5: RECORD OF PROCEEDING

The documents and other materials that constitute the record of the proceedings upon which the Planning Commission's decision is based, which include, but are not limited to, the staff reports, as well as all materials that support the staff reports for the proposed project, are located in the Community Development Department of the City of South Pasadena at 1414 Mission Street, South Pasadena, CA 91030. The custodian of these documents is the City Clerk of the City of South Pasadena.

SECTION 6: DETERMINATION

Based upon the findings outlined in Sections 2-4 above and provided during the public hearing, the Planning Commission of the City of South Pasadena hereby approves Project No. 2461-HDP/DRX and the applications for a Hillside Development Permit and Design Review Permit for the addition to an existing single-family dwelling for a property located at 2089 Hanscom Drive, subject to the Conditions of Approval that are attached hereto as "Exhibit A".

SECTION 7: APPEAL

Any interested person may appeal this decision or any portion of this decision to the City Council. Pursuant to the South Pasadena Municipal Code, any such appeal must be filed with the City, in writing, and with appropriate appeal fee, no later than fifteen (15) days, following the date of the Planning Commission's final action.

SECTION 8: CERTIFICATION OF THE RESOLUTION

The Secretary shall certify that the foregoing Resolution was adopted by the Planning Commission of the City of South Pasadena at a duly noticed regular meeting held on the 10th day of December, 2024.

PASSED, APPROVED, AND ADOPTED this 10th day of December, 2024 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Lisa Padilla, Chair

ATTEST:

Mark Gallatin, Secretary to the Planning Commission

EXHIBIT "A"
CONDITIONS OF APPROVAL
PROJECT NO. 2461-HDP/DRX
2089 Hanscom Drive (APN: 5308-022-010)

The following approvals are granted as described below and as shown on the development plans submitted to and approved by the Planning Commission on December 10, 2024:

1. **Hillside Development Permit (HDP)** for the proposed 839-square-foot addition (234-square-foot first-story and 605-square-foot second-story), a total of 816 square feet for two proposed raised decks, a 961-square-foot second-story balcony, a proposed retaining wall on a site with an average slope of 20 percent or greater; and
2. **Design Review Permit (DRX)** for the review of the design aspects of the proposed development

Note: As a convenience to the applicant, the development requirements from applicable Departments/Agencies are listed herein. These requirements list what the applicant will be required to comply with in order to receive a Building Permit, a Certificate of Occupancy, or other Department-issued entitlement.

PLANNING DIVISION:

- P1. Approval by the Planning Commission does not constitute a building permit or authorization to begin any construction. An appropriate permit issued by the South Pasadena Building Division must be obtained prior to construction, enlargement, relocation, conversion or demolition of any building or structure on any of the properties involved with the project.
- P2. This Design Review and Hillside Development Permit, and all rights hereunder shall terminate within twelve (12) months of the effective date of the Design Review and Hillside Development Permit unless otherwise conditioned and/or unless action is taken to secure Building Permits and maintain active Building Permits with the Building Division beginning with the submittal of the plans for Plan Check review.
- P3. All other requirements of any law, ordinance, or regulation of the State of California, City of South Pasadena, and any other government entity shall be complied with.
- P4. Compliance with and execution of all conditions listed herein shall be necessary prior to obtaining any occupancy inspection clearance and/or prior to obtaining any occupancy clearance.
- P5. Any changes to the proposed project shall be submitted for review and approval to the Planning Division.
- P6. The applicant and each successor in interest to the property which is the subject of this project approval, shall defend, indemnify and hold harmless the City of South Pasadena and its agents, officers and employees from any claim, action or proceeding against the City or its agents,

officers or employees to attack, set aside, void or annul any approval of the City, City Council or Planning Commission concerning this approval. In the event of any claim or lawsuit, the applicant and/or successor shall submit a deposit in such amount as the City reasonably determines necessary to protect the City from exposure to fees, costs or liability with respect to such claim or lawsuit.

- P7. The construction site and the surrounding area shall be kept free of all loose materials resembling trash and debris in excess of that material used for immediate construction purposes. Such excess may include, but is not limited to: the accumulation of debris, garbage, lumber, scrap metal, concrete, asphalt, piles of earth, salvage materials, abandoned or discarded furniture, appliances or other household fixtures.
- P8. The applicant shall sign the Southwest Monterey Hills Construction Regulations Affidavit prior to submitting a Building Permit Application with the Building Division.
- P9. The hours of construction shall be limited to the following: 8:00 am and 7:00 pm Monday through Friday, 9:00 am and 7:00 pm Saturday, and construction on Sundays limited to 10:00 am to 6:00 pm.
- P10. The unpermitted 6'-high gate that was built within the front yard setback area shall be relocated behind the front yard setback area, consistent with the proposed plans. This shall be done prior to issuance of a building permit.
- P11. During construction, the clearing, grading, earth moving, or excavation operations that cause excessive fugitive dust emissions shall be controlled by regular water or other dust preventive measures using the following procedures:
 - a. All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice daily with complete coverage, preferable in the late morning and after work is done for the day;
 - b. All material transported on-site or off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust;
 - c. The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust; and
 - d. Visible dust beyond the property line emanating from the project shall be prevented to the maximum extent feasible.
- P12. The applicant shall submit final landscape and irrigation plans showing compliance with state law and the City's Water Efficient Landscape Ordinance (SMPC Section 35.50), for approval by the Community Development Director. The final landscape plans shall provide, but not limited, to the following:
 - a. Screening of all above ground equipment from public view.
 - b. Incorporating Tree Removal Permit (TRP) conditions, as recommended by the Department of Public Works.
 - c. Using California Native plants.
- P13. The construction plan shall show that all lighting on the site will be directed downward and shielded to prevent off-lighting on adjacent properties.
- P14. A construction sign with contact information for the contractor shall be clearly posted on-site

during construction.

- P15. Any proposed revision to the approved plans shall require review and approval by the Community Development Department prior to construction. The Community Development Department may refer the proposed revision to the Planning Commission or Planning Commission Chair for approval.

BUILDING DIVISION:

- B1. The second sheet of building plans is to list all conditions of approval and to include a copy of the Planning Decision letter. This information shall be incorporated into the plans prior to the first submittal for plan check.
- B2. Plans prepared in compliance with the code in effect shall be submitted to Building Division for review prior to permit issuance.
- B3. Prior to the application of a building or grading permit, a preliminary Geotechnical report that specifically identifies and proposes mitigation measures for any soils or geological problems that may affect site stability or structural integrity shall be approved by the Building Official or his/her designee. The applicant shall reimburse the City for all costs incurred to have the project soils report evaluated by an independent, third-party, peer-level soils and /or geological engineer. Approval letter of the geotechnical report review shall be copied and pasted on the first sheet of building and grading plans.
- B4. School Developmental Fees shall be paid to the School District prior to the issuance of the building permit.
- B5. Fees shall be paid to the County of Los Angeles Sanitation District prior to issuance of the building permit.
- B6. Park Impact Fee to be paid at the time of permit issuance.
- B7. Per Chapter 16A of the City of South Pasadena Municipal Code, Growth fee to be paid at the time of permit issuance.
- B8. Plans shall be prepared under the supervision of an architect licensed in the State of California or a civil or structural engineer registered in the State of California. Each sheet of the plans and the cover sheet of the calculations is to be stamped and signed by the person preparing the plans. 5353 and 6730 of the State Business and Professions Code.
- B9. In accordance with paragraph 5538(b) of the California Business and Professions Code, plans are to be prepared and stamped by a licensed architect.
- B10. Structural calculations prepared under the direction of an architect, civil engineer or structural engineer shall be provided.
- B11. A geotechnical and soils investigation report is required, the duties of the soils engineer of record, as indicated on the first sheet of the approved plans, shall include the following:

- a. Observation of cleared areas and benches prepared to receive fill;
 - b. Observation of the removal of all unsuitable soils and other materials;
 - c. The approval of soils to be used as fill material;
 - d. Inspection of compaction and placement of fill;
 - e. The testing of compacted fills; and
 - f. The inspection of review of drainage devices.
- B12. The geotechnical and soils engineer shall review and approve the project grading and foundation plans to show compliance that their recommendations have been properly implemented.
- B13. The owner shall retain the soils engineer preparing the Preliminary Soils and/or Geotechnical Investigation accepted by the City for observation of all grading, site preparation, and compaction testing. Observation and testing shall not be performed by another soils and/or geotechnical engineer unless the subsequent soils and/or geotechnical engineer submits and has accepted by Building Division, a new Preliminary Soils and/or Geotechnical Investigation.
- B14. A grading and drainage plan shall be approved prior to issuance of the building permit. The grading and drainage plan shall indicate how all storm drainage including contributory drainage from adjacent lots is carried to the public way or drainage structure approved to receive storm water.
- B15. Stormwater Planning Program LID Plan Checklist (MS4-1 Form) completed by Engineer of Record shall be copied on the first sheet of Grading Plans. The form can be found at the following link:
- <https://www.dropbox.com/s/5p4yf08beipzyot/SP%20MS4-1%20LID%20Determination%20Form.pdf?dl=0>
- B16. Foundation inspection will not be made until the excavation has been surveyed and the setbacks determined to be in accordance with the approved plans by a land surveyor licensed by the State of California. THIS NOTE IS TO BE PLACED ON THE FOUNDATION PLAN IN A PROMINENT LOCATION.
- B17. Project shall comply with the CalGreen Residential mandatory requirements.
- B18. No form work or other construction materials will be permitted to encroach into adjacent property without written approval of the affected property owner.
- B19. Separate plan review and permit is required for each detached retaining wall.

- B20. Fire-resistance rating requirements for exterior walls and Maximum area of exterior wall openings and degree of open protection based on fire separation distance 0 feet to 3 feet, dwellings and accessory buildings with automatic residential fire sprinkler protection shall comply with Table R302.1(2). Roof eave projection of less than 2 feet of fire separation distance is not permitted. Whereas roof eave projection of fire separation distance between 2 and 3 feet is required to be fire-resistance rated.
- B21. Prior to the issuance of building permit, a written consent shall be obtained from the current easement holder(s) for any proposed development encroaching into existing easement(s).
- B22. When required by Fire Department, all fire sprinkler hangers must be designed, and their location approved by an engineer or an architect. Calculations must be provided indicating that the hangers are designed to carry the tributary weight of the water filled pipe plus a 250-pound point load. A plan indicating this information must be stamped by the engineer or the architect and submitted for approval prior to issuance of the building permit. A separate permit is required for Fire Sprinklers.
- B23. Existing single-family dwelling and accessory structures shall comply with redevelopment requirements per City's Low Impact Development (LID) Ordinance when such projects create, add, or replace ten thousand square feet of impervious surface area, or involve two thousand five hundred square feet or more in disturbed area where any portion of the disturbed area includes either or both an existing earth (native or otherwise) surface or a man-made surface (whether impervious or not) with an existing slope that is equal to or greater than twenty-five percent when calculated in accordance with the methods prescribed by the current Zoning Code.
- B24. Openings in the exterior wall of the garage addition with less than 3 feet of fire separation distance is not permitted per Section R301.2 of the residential code.
- B25. Demolition permit is required for any existing buildings, including accessory structures, which are to be demolished.
- B26. Building permits shall not be issued until the final map has been prepared to the satisfaction of the Building Official.

PUBLIC WORKS DEPARTMENT:

- PW1. The applicant shall pay all applicable City and LA County fees, including Public Works Department plan review fee and permit fees per the current adopted Master Fee Schedule which can be found on the City's website. This includes all costs incurred by the City and the Public Works Department for the use of professional services or consultants in the review, investigation, and/or plan check of the public improvement plans. The applicant shall provide receipts of all applicable fees paid prior to submitting plans for review.
- PW2. The applicant shall obtain City approval for any modifications or revisions to the approval of this project. Deviations not identified on the plans may not be approved by the City, potentially resulting in the need for the project to be redesigned.

- PW3. The applicant shall identify all on-site existing City easements. Any conflict with and/or presence of existing easements must be addressed. The applicant shall provide a Title Report, with effective date within the last 60 days. The applicant shall show all easements (if any) per the Title Report to the satisfaction of the Public Works Department.
- PW4. The applicant shall pay all applicable City and LA County fees, including Public Works Department plan review fee and permit fees per the current adopted Master Fee Schedule which can be found on the City's website. Additional plan check fees shall apply beyond two reviews. This includes all costs incurred by the City and the Public Works Department for the use of professional services or consultants in the review, investigation, and/or plan check of the public improvement plans. The applicant shall provide receipts of all applicable fees paid prior to submitting plans for review.
- PW5. If applicable, the applicant shall obtain an encroachment permit from the Public Works Department for any work proposed within the public right-of-way.
- PW6. Hanscom Drive shall be photographed and video recorded before the start of construction and after construction for assessing the damage caused to the street by construction related traffic. The applicant will be responsible to restore the road to its original condition. These video recordings and photographs shall be submitted to the City before the start of the project and immediately upon completion of the project.
- PW7. All sheets shall be stamped, if necessary, and signed by the appropriate persons in responsible control of plans, specifications, and instruments of service per Business and Professions Code Section 5536.2.
- PW8. The applicant shall provide a covenant for unconditional and indefinite maintenance of any private improvements within the public right-of-way. This covenant shall be reviewed and approved by the Public Works Department and the City Attorney and a fully executed covenant, in recordable form, shall be provided to the City prior to obtaining a permit.
- PW9. The applicant shall be responsible for posting a project sign at the entrance to the project site displaying the City's construction hours per SPMC Section 19A.13. The project sign shall be 24" x 36" and made of durable weather-resistant material. The applicant shall provide a 24-hour emergency contact number for the designated contact who will be responsible for maintaining the public right-of-way during the all stages of construction until the project is complete.
- PW10. The applicant shall obtain an encroachment permit from the Public Works Department for any work proposed within the public right-of-way.
- PW11. The applicant shall provide a Construction Management Plan to the Public Works Department for review and approval prior to issuance of permits. The Construction Management Plan shall include, but not be limited to, types of proposed construction activities, an on-site staging plan, haul route, construction schedule, and shall indicate a contractor parking location. All vehicles including workers' vehicles shall not be parked on the streets or public right-of-way. An offsite parking with a shuttle service should be provided if necessary.

- PW12. The applicant shall provide a construction schedule for each stage of any major activities (i.e. demolition, grading, material delivery, etc.) and the timing of special access if necessary, as it relates to site staging, traffic, and access. If there are any changes to the construction schedule, the applicant shall submit a revised schedule to the Public Works Department.
- PW13. Any construction activity that may require roadway closures will require a traffic control plan prepared by a CA licensed civil or traffic engineer or a C-31 licensed contractor to be submitted for review. Safe pedestrian access, including ADA and bicycle, must be maintained at all times. At least 48 hours advance notice shall be given to all impacted businesses and residents for street and lane closures. All street closures will require an encroachment permit from the Public Works Department. Street closures are only allowed within the time limits specified in SPMC Chapter 19A. Approved street closures require Portable Changeable Message Signs (PCMS) to be placed in advance of the project site.
- PW14. The applicant shall obtain oversize/overload permits from the Public Works Department for any oversized equipment used during the stages of construction, including, but not limited to: demolition; clearing and grubbing; grading; material disposal; drilling for piles and/or caissons; trenching for footings; excavation for retaining walls; core sampling of soils; etc.
- PW15. The applicant shall post temporary "No Parking " signs along the entire perimeter of the property prior to the start of any construction. The temporary "No Parking" signs shall be covered at the end of each working day and uncovered at the start of the following working day prior to any construction activity.
- PW16. Prior to issuance of a grading permit, the applicant shall provide an erosion control plan for dust control techniques to be implemented during project construction which shall include, but not be limited to, use of appropriate BMPs, plans for daily watering of the construction site, limitations on construction hours, and adherence to standard construction practices such as watering of inactive and perimeter areas.
- PW17. The applicant shall provide a detailed drainage plan signed and stamped by a CA licensed civil engineer. Cross lot drainage is not permitted. Provide a copy of the approved plan from the Building & Safety Department.
- PW18. Temporary bins (low boy), if used, shall be "roll off" style to be provided by Athens Services. Athens Services has an exclusive agreement with the City for the provision of trash removal services: only Athens dumpsters can be used. Any dumpsters placed on the roadway shall require a protective barrier underneath (such as plywood) to protect the pavement. The applicant shall obtain a dumpster permit from the Public Works Department.
- PW19. No overnight storage of materials or equipment within the public right-of-way shall be permitted.
- PW20. The applicant shall show all existing and proposed trees, including size and species, and indicate their disposition. If any trees are to be removed, the applicant shall apply for a tree removal permit with the Public Works Department per City Ordinance No. 2328 amending Section 34.10 of SPMC. See SPMC Section 34.12 for the required information and process

for the trees that are proposed to be removed and/or impacted during construction. Replacement trees shall be planted per SPMC Section 34.12-5. If existing trees are to remain on the site, the applicant shall note on the plans "no trees to be removed" and provide methods of protecting existing trees during construction.

- PW21. The applicant shall show the existing grade, location, and dimensions of all existing and proposed conditions within the public-right-of-way including, but not limited to: curb and gutter, sidewalk, driveway, traffic striping, signage, utilities, storm drain facilities, trees, and other features.
- PW22. The applicant shall replace all broken, damaged, or out-of-grade curb and gutter, sidewalk, and driveway and repaint all curb markings along the perimeter of the property to the satisfaction of the City Engineer. In addition, existing sidewalk and driveway approaches that are below current City standards shall be replaced regardless of when or how such condition originally occurred per SPMC Section 31.54. All improvements within the public right-of-way shall conform to the current Standard Specifications for Public Works Construction (SSPWC) and Standard Plans for Public Works Construction (SPPWC).
- PW23. If applicable, the applicant shall remove and replace the existing driveway approach with/install a new driveway approach conforming to the current Standard Plans for Public Works Construction (SPPWC) Std Plan 110-2, Type B. Concrete shall be class 520-C-2500 and shall conform to the current Standard Specifications for Public Works Construction (SSPWC). The applicant shall verify the width with the Planning Department and the actual limits of concrete removal with the Public Works Department depending on the condition of the existing concrete pavement adjacent to the property.
- PW24. The applicant shall provide a 24-hour emergency contact number for the applicant and contact information of all utility agencies involved/impacted/potentially impacted by this project on the title sheet of the plans.
- PW25. The applicant shall show all utility poles adjacent to the properties and note to protect-in-place.
- PW26. The applicant shall show the location of all existing utilities (i.e. sewer lateral and water utility service lines) on adjacent street(s), as well as location and size of all existing or proposed utility service lines serving the property. Show all utility points of connection (POC).

FIRE DEPARTMENT:

- FD1. Required Code References: Current South Pasadena Municipal Code (SPMC); 2022 California Fire Code (CFC); 2022 California Building Code and NFPA standards.
- FD2. Fire Sprinklers are required. Submit plans to City for approval.
- FD3. Fire sprinklers shall not be able to shut off unless the domestic line to the property is shut off. There shall be no other means to turn off water to the sprinkler system. Ensure this sprinkler system is installed by an approved C-16 licensed contractor. Provide a set of drawing of the sprinkler system to the Fire Department prior to beginning of work.

- FD4. Water Supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with Health and Safety Code.
- FD5. Required water supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.
- FD6. Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method or Appendix B.
- FD7. Water Supply Test. The fire code official shall be notified prior to the water supply test. Water supply tests shall be witnessed by the fire code official or approved documentation of the test shall be provided to the fire code official prior to final approval of the water supply system.
- FD8. Additions and Alterations. All existing buildings and structures, regardless of the type of construction, type of occupancy or area, shall be provided with an automatic sprinkler system conforming to Section 903.3 and this code upon the occurrence of any of the following conditions:
- Within any twelve (12) calendar month period of time, combination of any addition and alteration to any existing building or structure where the valuation of the proposed work exceeds fifty percent (50%) of the valuation of the entire building or structure, as determined by the Building Official, and where such addition and alteration creates or alters a fire area large enough that if the existing building or structure were being built new today, an automatic sprinkler system would be required by this code;
- An automatic sprinkler system shall be installed throughout any existing Group R Occupancy building when the floor area of the Alteration or Combination of an Addition and Alteration, within any twelve (12) calendar months, is 50% or more of area and or valuation of the existing structure and where the scope of the work exposes building framing and facilitates sprinkler installation and is such that the Fire Code Official determines that the complexity of installing a sprinkler system would be similar as in a new building.
- FD9. Address Identification. New and existing buildings shall have *approved* address numbers, building numbers or *approved* building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm). Address numbers shall be maintain.
- FD10. Notwithstanding anything else in this code, or any other code incorporated, herein, by reference any new roof shall be of Class "A" roof material.
- FD11. Groups R-2, R-2.1, R-3, R-3.1, and R-4. Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-2.1, R-3, R-3.1 and R-4 regardless of occupant load at all of the following locations:
- On the Ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms;
 - In each room used for sleeping purposes.
 - In each story within a dwelling unit, including basements but not including crawl spaces

and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

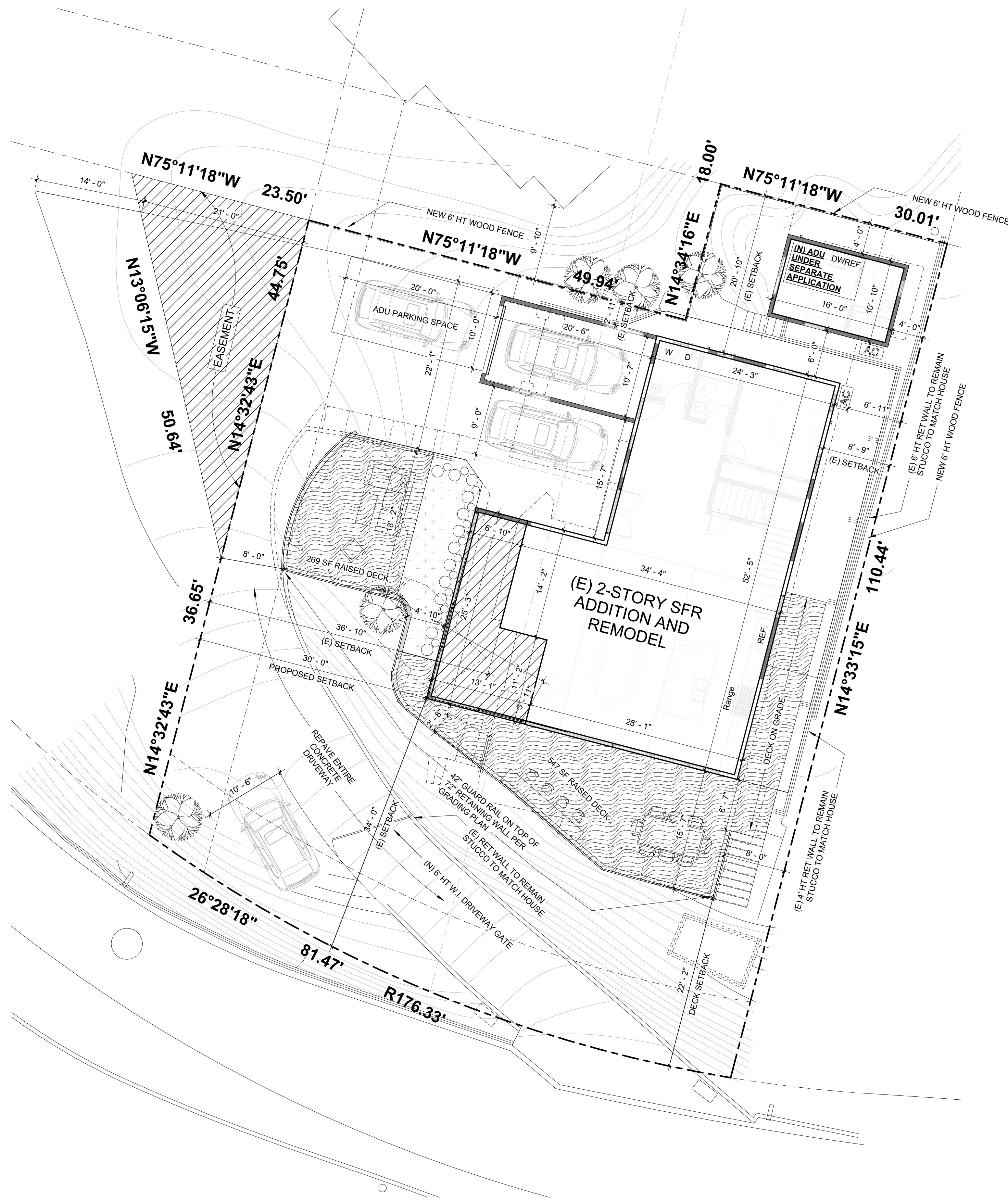
- FD12. Interconnection. Where more than one smoke alarm is require to be install within an individual dwelling unit or sleeping unit in Group R-1, R-2, R-3, R-3.1, or R-4, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.
- FD13. Buildings under construction shall meet the condition of “Chapter 33 Fire Safety During Construction and Demolition” of the 2022 California Fire Code. Structures under construction, alteration or demolition, shall be provided with no less than one 2A10BC fire extinguisher as follows:
- a. At each stairway on all floor levels where combustibles materials have accumulated.
 - b. In every storage and construction shed.
 - c. Where special hazards exist included but not limited to, storage and use of combustible and flammable liquids.
- FD14. A set of plans must remain on the job site at all times. Appointments for inspectors should be made at least two days in advance of required inspection by calling the Fire Department at (626) 403-7304.
- FD15. For water meter related questions, please contact Public Works (626) 403 7240 or the Water Department at (626) 460 6393.
- FD16. The City of South Pasadena Fire Department reserves the right to change or otherwise modify requirements based upon receiving additional project information or other unforeseen circumstances.

ATTACHMENT 2

Updated Architectural Plans

SINGLE FAMILY RESIDENCE

2089 HANSCOM DR., SOUTH PASADENA, CA 91030



PROJECT DATA

APPLICANT/OWNER

OWNER: PARADACE.COM DEVELOPMENT
 ADDRESS: 2089 HANSCOM DR., SOUTH PASADENA, CA 91030
 APPLICANT: ERIC C. TSANG
 ADDRESS: 440 E. HUNTINGTON DR., SUITE 356, ARCADIA, CA 91006
 TEL: 909.569.3737
 EMAIL: MAIL@ERIC-DESIGN.COM

PROJECT DESCRIPTION

PROJECT NAME: HANSCOM RESIDENCE
 PROJECT ADDRESS: 2089 HANSCOM DR., SOUTH PASADENA, CA 91030
 APN: 5308-022-010
 JOB DESCRIPTION: REMODEL AND ADDITION TO (E) SFR
 ZONING: RS
 NUMBER OF STORY: 2
 OCCUPANCY GROUP: R-3/U
 CONSTRUCTION TYPE: V-B
 DEMOLITION: CARPORT & ACCESSORY STRUCTURE

PROJECT DATA

LOT SIZE: 7,760 SF
 EXISTING:
 1ST FLOOR LIVING AREA: 1,458 SF
 2ND FLOOR LIVING AREA: 532 SF
 CARPORT: 284 SF
 ACCESSORY STRUCTURE: 126 SF
 RAISED DECK: 816 SF
 TOTAL LIVING AREA: 1,990 SF
 TOTAL LOT COVERAGE: 2,708 SF
 TOTAL FLOOR AREA: 1,990 SF

PROPOSED TO BE DEMOLISHED:

2ND FLOOR LIVING AREA: 114 SF
 ACCESSORY STRUCTURE: 126 SF
 CARPORT: 284 SF

PROPOSED REQUEST:

1ST FLOOR LIVING AREA ADDITION: 234 SF
 2ND FLOOR LIVING AREA ADDITION: 605 SF
 GARAGE: 254 SF
 CARPORT: 130 SF
 ADU: 172 SF
 LOT COVERAGE: 3,088 SF / 7,760 SF = 39.8%
 TOTAL FLOOR AREA: 2,715 SF / 7,760 SF = 35%
 ALLOWABLE FAR: 7,760 * .35 = 2,716 SF MAX

SLOPE ANALYSIS CALC:

ALLOWABLE AREA (A): 7,741.26 SF (0.178 ACRE)
 CONTOUR INTERVAL (I): 1 FOOT
 SUMMATION OF LENGTH OF ALL CONTOURS (L): 3,211.13 FT
 ALLOWABLE AREA (A): 7741.26 SF (0.178 ACRE)
 CONTOUR INTERVAL (I): 1 FOOT
 SUMMATION OF LENGTH OF ALL CONTOURS (L): 3211.13 FEET
 AVERAGE SLOPE: 0.00229(I X L) / A 0.00229(I X L) / A 0.00229(1 X 3211.13) / 0.178 = 41.31%

PROJECT NARRATIVE:

PROPOSED DEVELOPMENT ON 2089 HANSCOM DR IS TO REMODEL AND EXPAND THE EXISTING 2-STORY SINGLE FAMILY HOUSE. THE TOTAL ADDITION TO THE EXISTING HOUSE ARE 725 SF AND THE ENTIRE EXISTING 1990 SF EXISTING FLOOR AREA ARE PROPOSED FOR REMODELING. SETBACK OF ANY NEW ADDITION WILL FOLLOW THE EXISTING SETBACK OF THE BUILDING AS SHOWN ON A TOPOGRAPHIC SURVEY MAP.

EXISTING GARAGE WILL REMAIN IN PLACE AND A NEW CARPORT PARKING SPACE IS PROPOSED NEXT TO IT TO PROVIDE TOTAL OF 2 OFF-STREET PARKING SPACE FOR THIS DEVELOPMENT. DRIVEWAY WILL REMAIN IN PLACE AND GUEST PARKING WILL ALSO REMAIN IN PLACE.

THE COMPLETED PROJECT WILL CONSIST OF THE FOLLOWING AMENITIES: 3 BEDROOMS, 3 BATHROOMS, LAUNDRY ROOM, OFFICE, LIVING ROOM, DINING ROOM, KITCHEN, AND LOFT. WRAP AROUND BALCONY IS ALSO PROPOSED ON THE 2ND FLOOR ALONG THE SOUTH AND WEST.

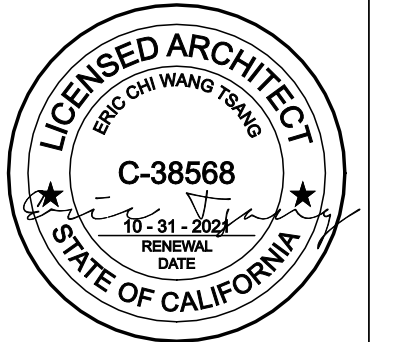
EXISTING 126 SF ACCESSORY STRUCTURE WILL BE RELOCATED AND EXPANDED INTO 172 SF ADU, WITH 4 FOOT SETBACK FROM SIDE AND REAR, AND 6 FOOT SEPARATION FROM MAIN HOUSE.

LANDSCAPE AND HARDSCAPE LAYOUT PROPOSED WITH MINIMAL MODIFICATION TO FOLLOW THE EXISTING CONTOUR AND RETAINING WALL LOCATION. ALL EXISTING MATURE TREES WILL BE PRESERVED AND REMAIN IN PLACE AND SHALL BE PROTECTED DURING CONSTRUCTION.

NO EXISTING TREE ARE PROPOSED TO BE REMOVED

Eric
Tsang
Architects

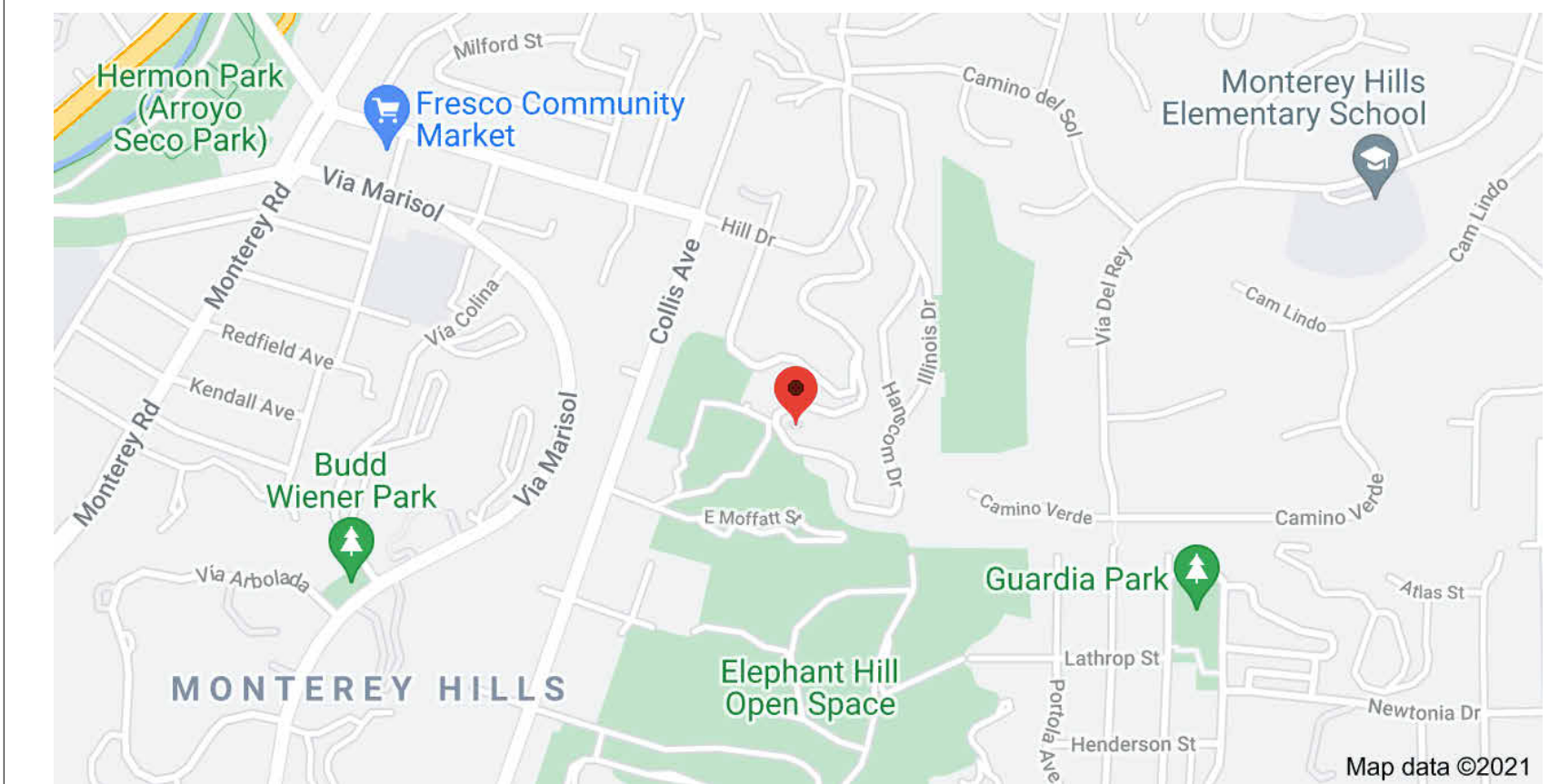
ERIC CHI WANG TSANG, AIA
 440 E. HUNTINGTON DR., # 356,
 ARCADIA, CA 91006
 909.569.3737
 MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

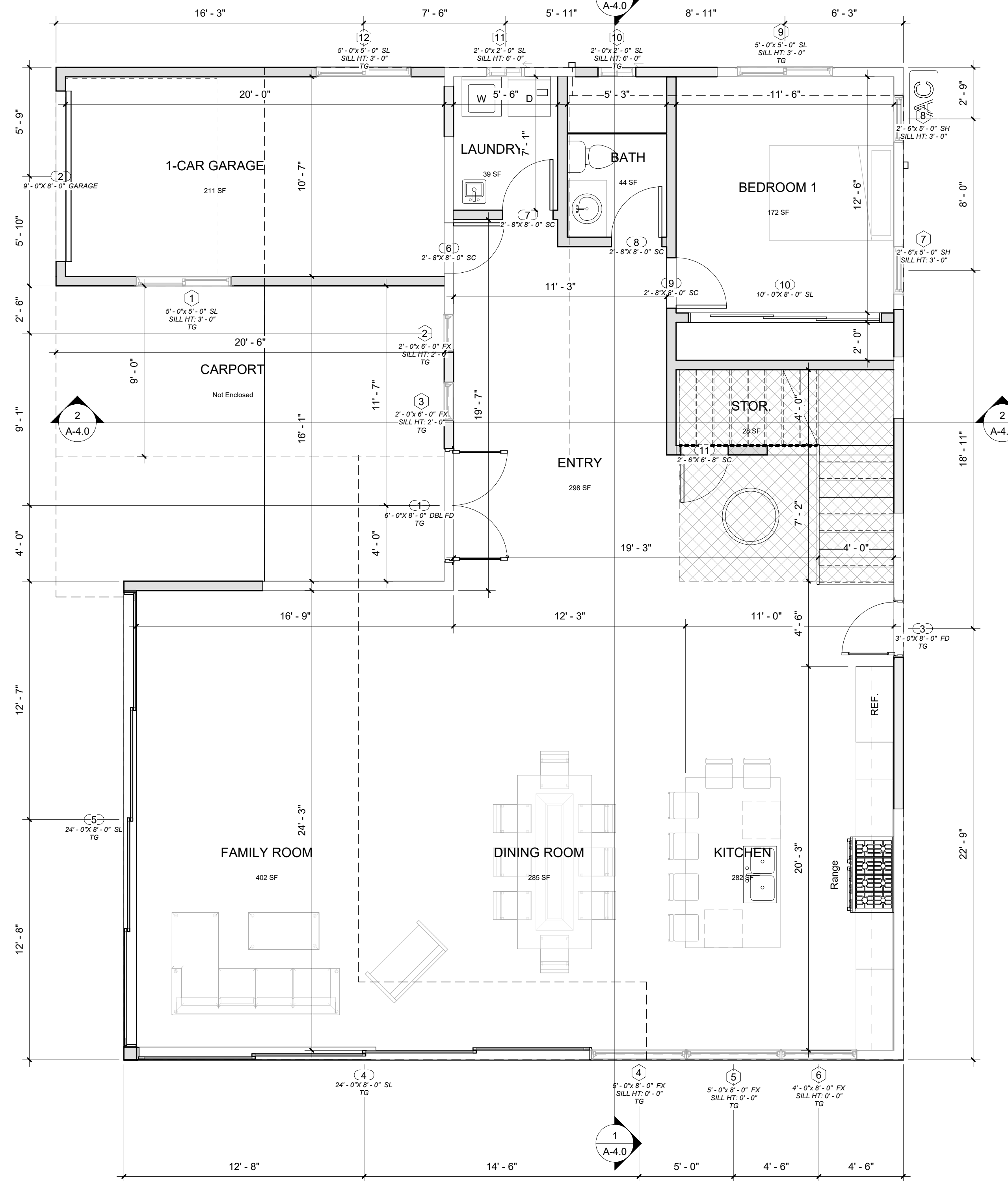
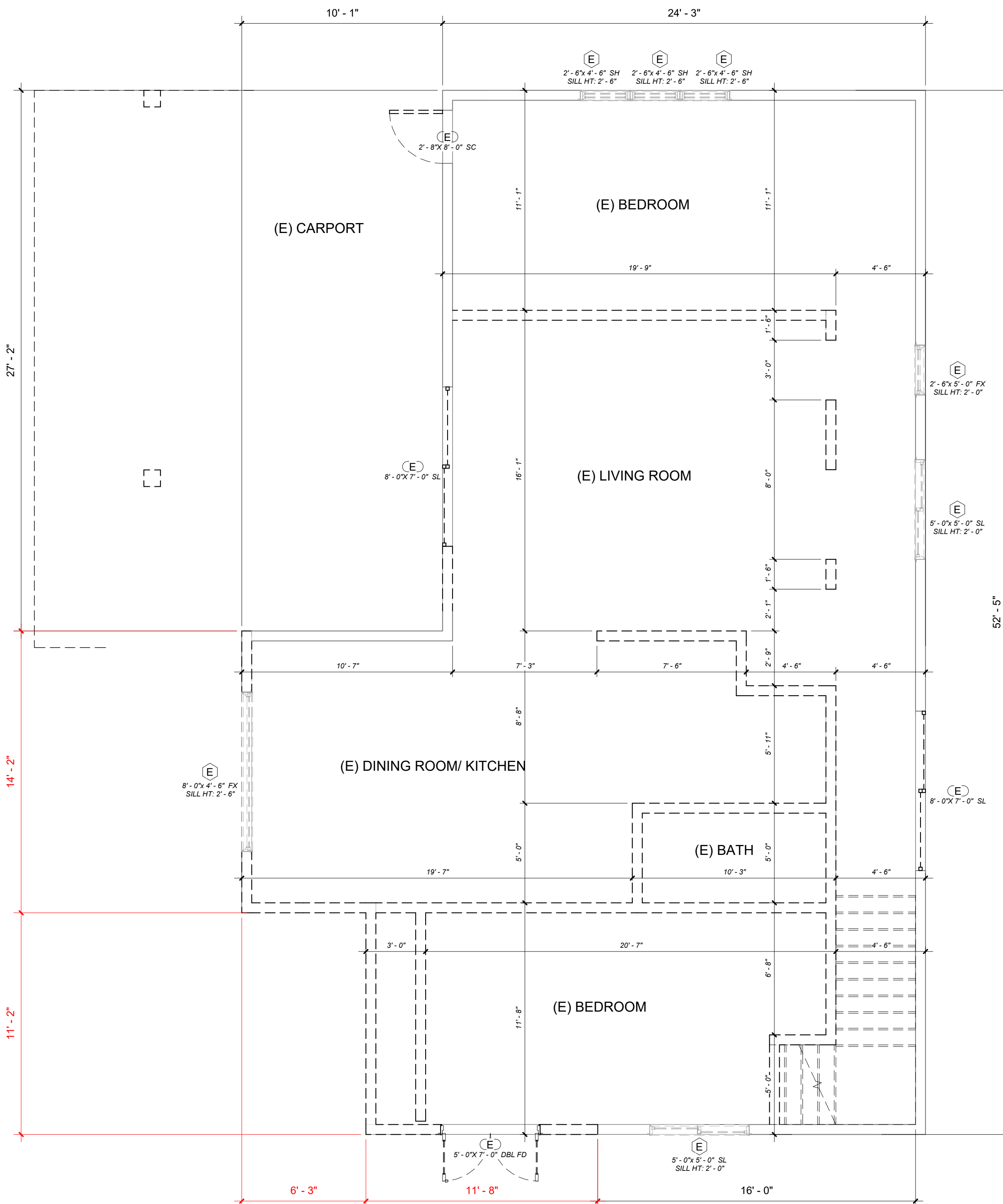
VICINITY MAP



1 PROPOSED SITE PLAN
1/8" = 1'-0"

SITE PLAN

SHEET NO.
A-1.0



WINDOW SCHEDULE					
#	WINDOW TYPE	WD.	HT.	SILL HT.	NOTES
1	SLIDING1	5'-0"	5'-0"	3'-0"	TG
2	FIXED1	2'-0"	6'-0"	2'-0"	TG
3	FIXED1	2'-0"	6'-0"	2'-0"	TG
4	FIXED1	5'-0"	8'-0"	0'-0"	TG
5	FIXED1	5'-0"	8'-0"	0'-0"	TG
6	FIXED1	4'-0"	8'-0"	0'-0"	TG
7	SINGLE HUNG	2'-6"	5'-0"	3'-0"	TG
8	SINGLE HUNG	2'-6"	5'-0"	3'-0"	TG
9	SLIDING1	5'-0"	5'-0"	3'-0"	TG
10	SLIDING1	2'-0"	2'-0"	6'-0"	TG
11	SLIDING1	2'-0"	2'-0"	6'-0"	TG
12	SLIDING1	5'-0"	5'-0"	3'-0"	TG
13	FIXED1	5'-0"	4'-6"	3'-0"	TG
14	FIXED1	5'-0"	4'-6"	3'-0"	TG
15	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
16	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
17	FIXED1	5'-0"	4'-6"	3'-0"	TG
18	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
19	SLIDING1	2'-0"	2'-0"	5'-6"	TG
20	FIXED1	5'-0"	5'-0"	2'-6"	TG
21	SLIDING1	2'-0"	2'-0"	5'-6"	TG
22	SLIDING1	2'-0"	2'-0"	5'-6"	TG
23	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
24	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG

DOOR SCHEDULE					
#	DOOR TYPE	WD.	HT.	NOTES	
1	DOUBLE FRENCH	6'-0"	8'-0"	TG	
2	2-PANEL GARAGE2	9'-0"	8'-0"	TG	
3	FRENCH (SINGL)	3'-0"	8'-0"	TG	
4	STACK SLIDING	24'-0"	8'-0"	TG	
5	STACK SLIDING	24'-0"	8'-0"	TG	
6	SINGLE FLUSH	2'-8"	8'-0"	TG	
7	SINGLE FLUSH	2'-8"	8'-0"	TG	
8	SINGLE FLUSH	2'-8"	8'-0"	TG	
9	SINGLE FLUSH	2'-8"	8'-0"	TG	
10	SLIDING 3 PANEL	10'-0"	8'-0"	TG	
11	SINGLE FLUSH	2'-6"	6'-8"	TG	
13	FRENCH (SINGL)	3'-0"	7'-6"	TG	
14	CORNER SLIDING	14'-0"	7'-6"	TG	CORNER
16	SINGLE FLUSH	2'-8"	8'-0"	TG	
17	SINGLE FLUSH	2'-8"	8'-0"	TG	
18	SINGLE FLUSH	2'-8"	8'-0"	TG	
19	SLIDING-2 PANEL	8'-0"	8'-0"	TG	
20	SLIDING 3 PANEL	9'-0"	8'-0"	TG	
21	SINGLE FLUSH	2'-8"	8'-0"	TG	
22	SINGLE FLUSH	2'-8"	8'-0"	TG	
23	SINGLE FLUSH	2'-8"	8'-0"	TG	
24	SINGLE FLUSH	2'-8"	8'-0"	TG	
25	SLIDING-2 PANEL	9'-3"	7'-6"	TG	

ABBREVIATIONS FOR WINDOWS & DOORS

AW AWNING
 CLST CLOSET
 CS CASEMENT
 DA DOUBLE ACTING DOOR
 DBL DOUBLE
 FD FRENCH DOOR
 HFRD HALF ROUND
 OBSC OBSURED
 SC SOLID CORE
 SH SINGLE HUNG
 SL SLIDER
 TG TEMPERED GLASS
 TRPL TRIPLE

Eric Tsang Architects
 ERIC CHI WANG TSANG, AIA
 440 E HUNTINGTON DR., # 356
 ARCADIA, CA 91006
 909.569.3737
 MAIL@ERIC-DESIGN.COM



PROJECT OWNER:
PARADACE.COM

HANSCOM RESIDENCE
 2089 HANSCOM DR.
 SOUTH PASADENA, CA 91030

1 EXISTING 1ST FLOOR PLAN
1/4" = 1'-0"

2 PROPOSED 1ST FLOOR PLAN
1/4" = 1'-0"

REMAIN:	DEMOLISHED:
27' -2"	11' -8"
10' -1"	6' -3"
24' -3"	11' -2"
52' -5"	14' -2"
16' -0"	
129' -11"	43' -3"

EXISTING EXTERIOR WALL & FOUNDATION CALCULATION

(E) EXTERIOR WALL & FOUNDATION:	173'-2"
(E) TO REMAIN:	129'-11"
(E) TO BE DEMOLISHED:	43'-3"
(E) TO REMAIN (%):	75 %
(E) TO BE DEMOLISHED (%):	25 %

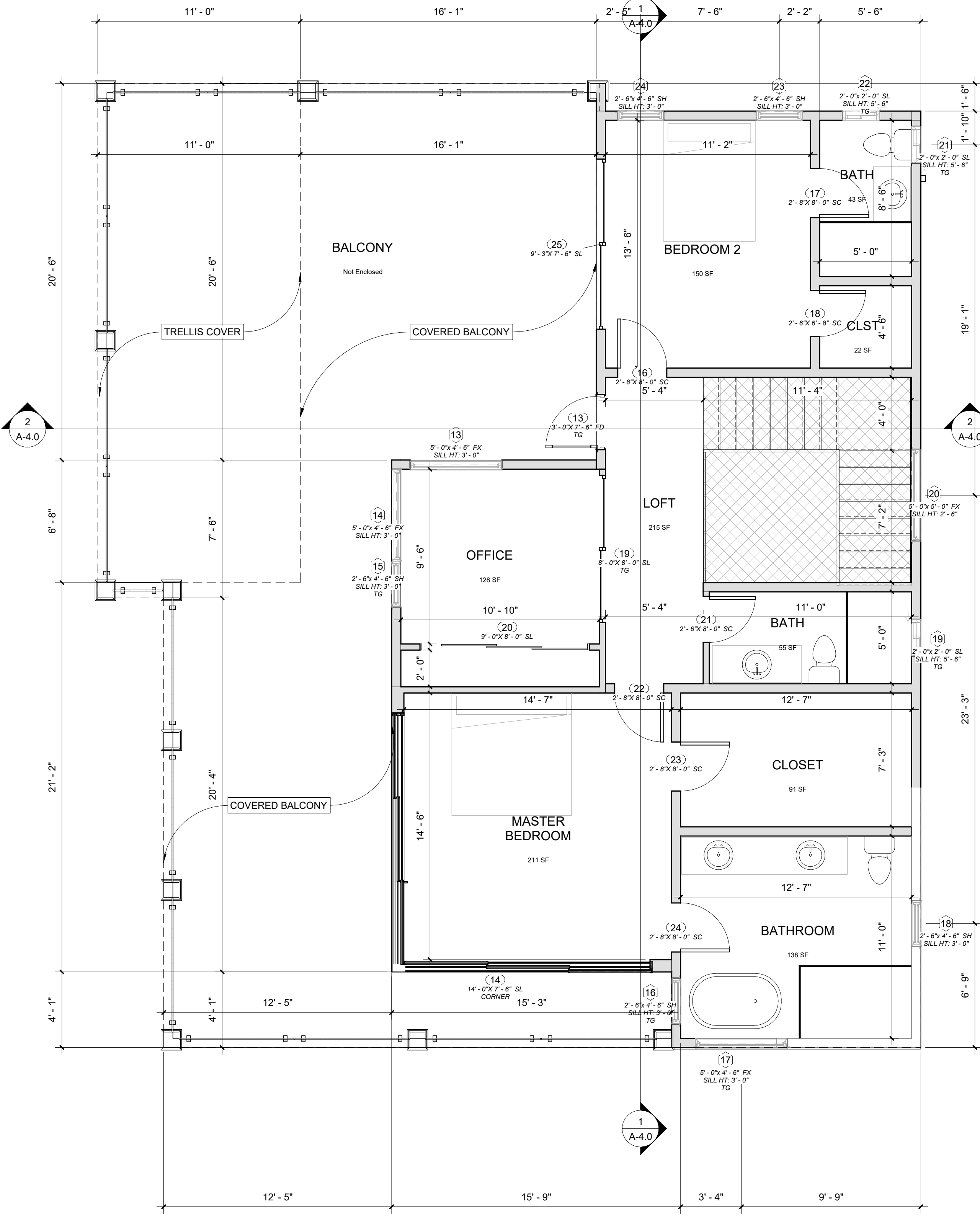
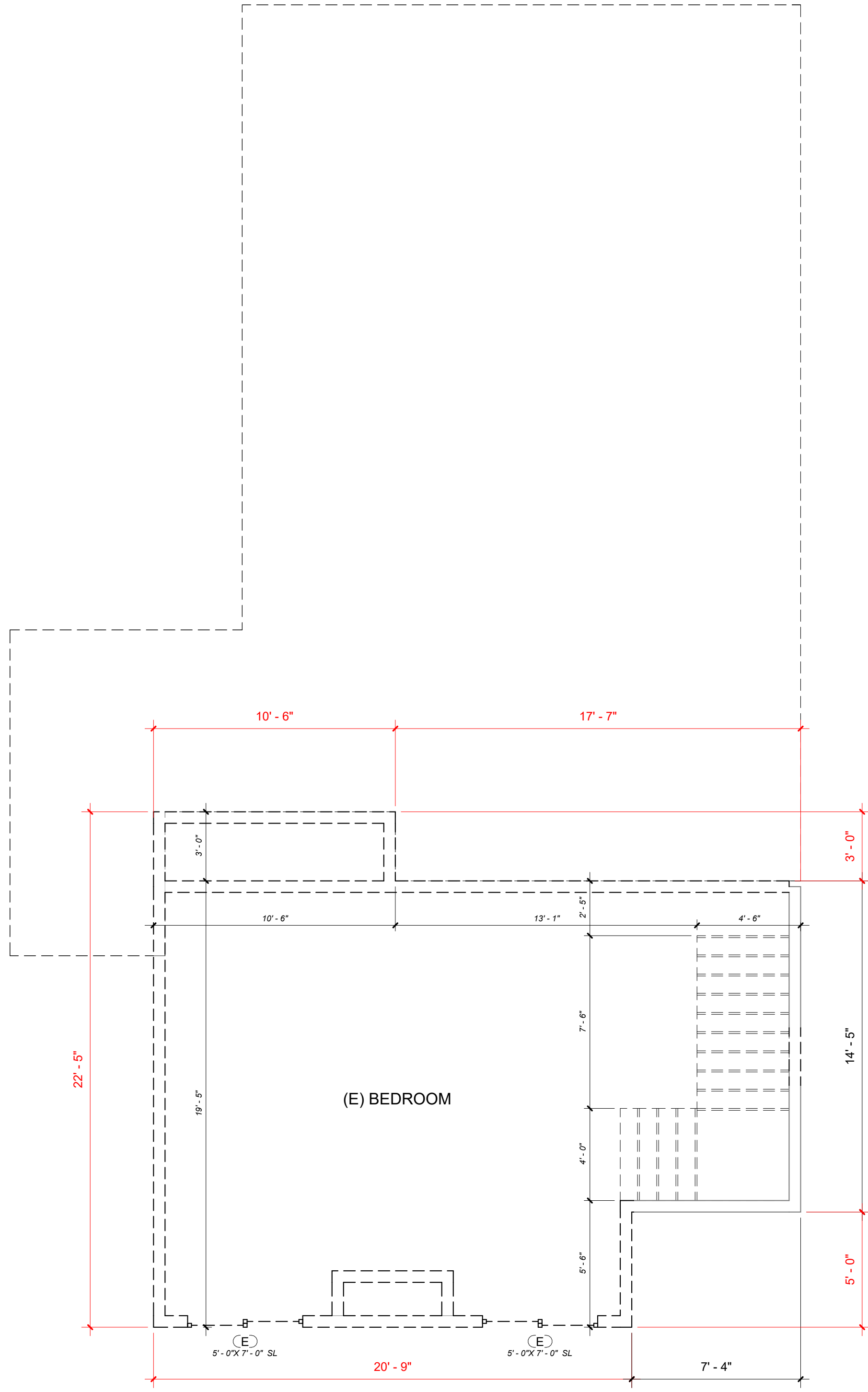
WALL LEGEND

- (E) WALL TO REMAIN
- (N) WALL
- (E) WALL TO BE DEMOLISHED

IN CASE THE NORTH BLOCK WALL HAS CRACKS AFTER REMOVING THE WINDOWS, CONTRACTOR SHALL REPLACE THE ENTIRE WALL WITH NEW WOOD FRAMING

1ST FLOOR PLAN

SHEET NO.
A-2.0



WINDOW SCHEDULE					
#	WINDOW TYPE	WD.	HT.	SILL HT.	NOTES
1	SLIDING1	5'-0"	5'-0"	3'-0"	TG
2	FIXED1	2'-0"	6'-0"	2'-0"	TG
3	FIXED1	2'-0"	6'-0"	2'-0"	TG
4	FIXED1	5'-0"	8'-0"	0'-0"	TG
5	FIXED1	5'-0"	8'-0"	0'-0"	TG
6	FIXED1	4'-0"	8'-0"	0'-0"	TG
7	SINGLE HUNG	2'-6"	5'-0"	3'-0"	
8	SINGLE HUNG	2'-6"	5'-0"	3'-0"	
9	SLIDING1	5'-0"	5'-0"	3'-0"	TG
10	SLIDING1	2'-0"	2'-0"	6'-0"	TG
11	SLIDING1	2'-0"	2'-0"	6'-0"	TG
12	SLIDING1	5'-0"	5'-0"	3'-0"	TG
13	FIXED1	5'-0"	4'-6"	3'-0"	
14	FIXED1	5'-0"	4'-6"	3'-0"	
15	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
16	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
17	FIXED1	5'-0"	4'-6"	3'-0"	
18	SINGLE HUNG	2'-6"	4'-6"	3'-0"	TG
19	SLIDING1	2'-0"	2'-0"	5'-6"	TG
20	FIXED1	5'-0"	5'-0"	2'-6"	
21	SLIDING1	2'-0"	2'-0"	5'-6"	TG
22	SLIDING1	2'-0"	2'-0"	5'-6"	TG
23	SINGLE HUNG	2'-6"	4'-6"	3'-0"	
24	SINGLE HUNG	2'-6"	4'-6"	3'-0"	

DOOR SCHEDULE					
#	DOOR TYPE	WD.	HT.	NOTES	
1	DOUBLE FRENCH	6'-0"	8'-0"	TG	
2	2-PANEL GARAGE2	9'-0"	8'-0"		
3	FRENCH (SINGL)	3'-0"	8'-0"	TG	
4	STACK SLIDING	24'-0"	8'-0"	TG	
5	STACK SLIDING	24'-0"	8'-0"	TG	
6	SINGLE FLUSH	2'-8"	8'-0"		
7	SINGLE FLUSH	2'-8"	8'-0"		
8	SINGLE FLUSH	2'-8"	8'-0"		
9	SINGLE FLUSH	2'-8"	8'-0"		
10	SLIDING 3 PANEL	10'-0"	8'-0"		
11	SINGLE FLUSH	2'-6"	6'-8"		
13	FRENCH (SINGL)	3'-0"	7'-6"	TG	
14	CORNER SLIDING	14'-0"	7'-6"		CORNER
16	SINGLE FLUSH	2'-8"	8'-0"		
17	SINGLE FLUSH	2'-8"	8'-0"		
18	SINGLE FLUSH	2'-8"	8'-0"		
19	SLIDING-2 PANEL	8'-0"	8'-0"	TG	
20	SLIDING 3 PANEL	9'-0"	8'-0"		
21	SINGLE FLUSH	2'-6"	8'-0"		
22	SINGLE FLUSH	2'-8"	8'-0"		
23	SINGLE FLUSH	2'-8"	8'-0"		
24	SINGLE FLUSH	2'-8"	8'-0"		
25	SLIDING-2 PANEL	9'-3"	7'-6"		

ABBREVIATIONS FOR WINDOWS & DOORS

- AW AWNING
- CLST CLOSET
- CS CASEMENT
- DA DOUBLE ACTING DOOR
- DBL DOUBLE
- FD FRENCH DOOR
- HFRD HALF ROUND
- OBSC OBSCURED
- SC SOLID CORE
- SH SINGLE HUNG
- SL SLIDER
- TG TEMPERED GLASS
- TRPL TRIPLE

Eric Tsang Architects
 ERIC CHI WANG TSANG, AIA
 440 E. HUNTINGTON DR., # 356,
 ARCADIA, CA 91006
 909.569.3737
 MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

CORNER

HANSCOM RESIDENCE
 2089 HANSCOM DR.
 SOUTH PASADENA, CA 91030

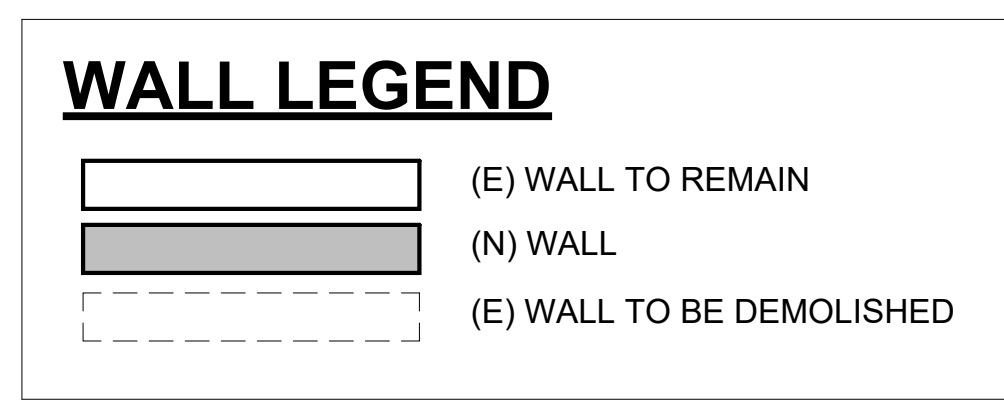
1 EXISTING 2ND FLOOR PLAN
 1/4" = 1'-0"

2 PROPOSED 2ND FLOOR PLAN
 1/4" = 1'-0"

REMAIN:	DEMOLISHED:
27' -2"	11' -8"
10' -1"	6' -3"
24' -3"	11' -2"
52' -5"	14' -2"
16' -0"	
129' -11"	43' -3"

EXISTING EXTERIOR WALL & FOUNDATION CALCULATION

(E) EXTERIOR WALL & FOUNDATION:	173'-2"
(E) TO REMAIN:	129'-11"
(E) TO BE DEMOLISHED:	43'-3"
(E) TO REMAIN (%):	75 %
(E) TO BE DEMOLISHED (%):	25 %

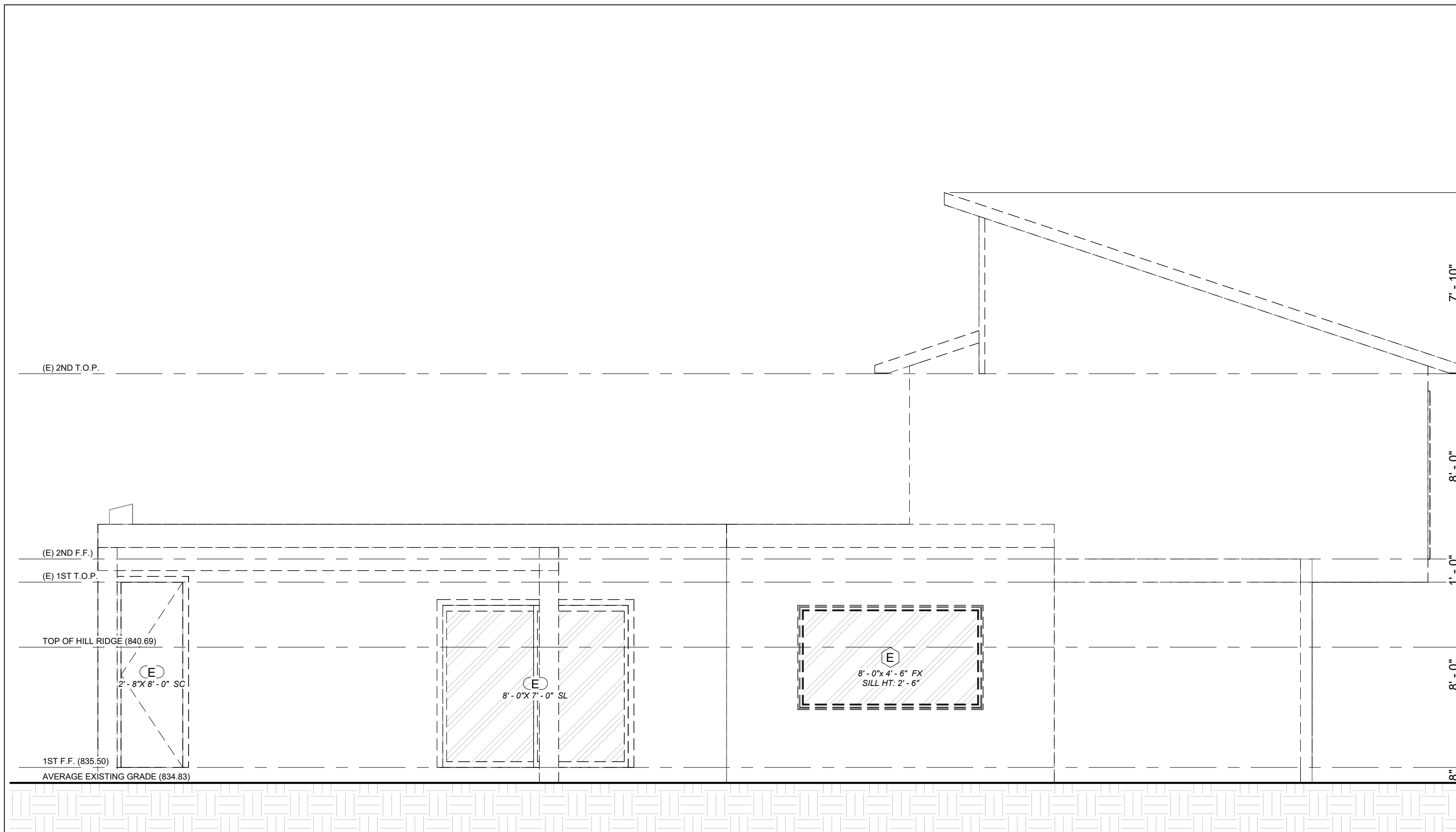


IN CASE THE NORTH BLOCK WALL HAS CRACKS AFTER REMOVING THE WINDOWS, CONTRACTOR SHALL REPLACE THE ENTIRE WALL WITH NEW WOOD FRAMING

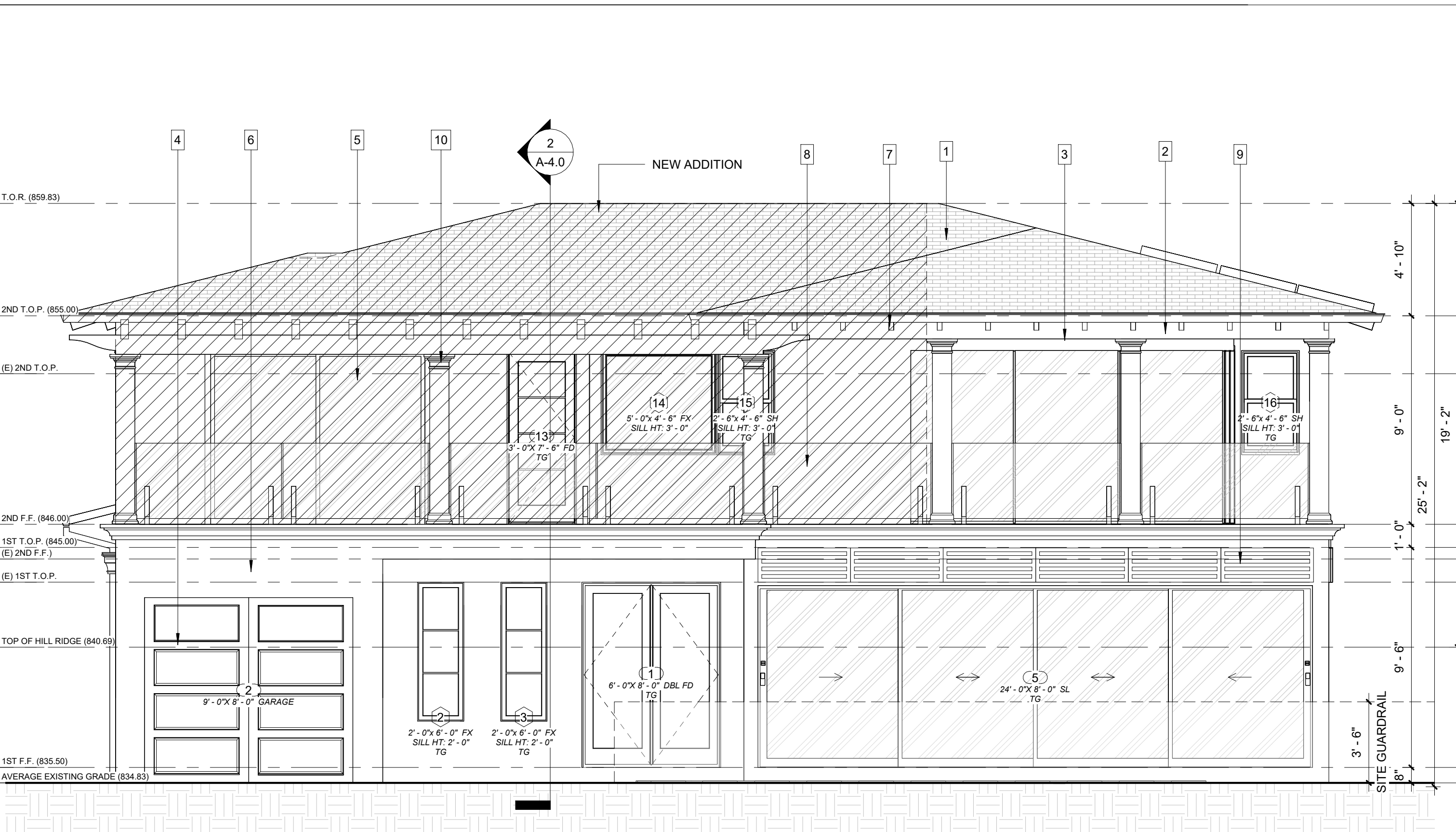
2ND FLOOR PLAN

SHEET NO.
A-2.1

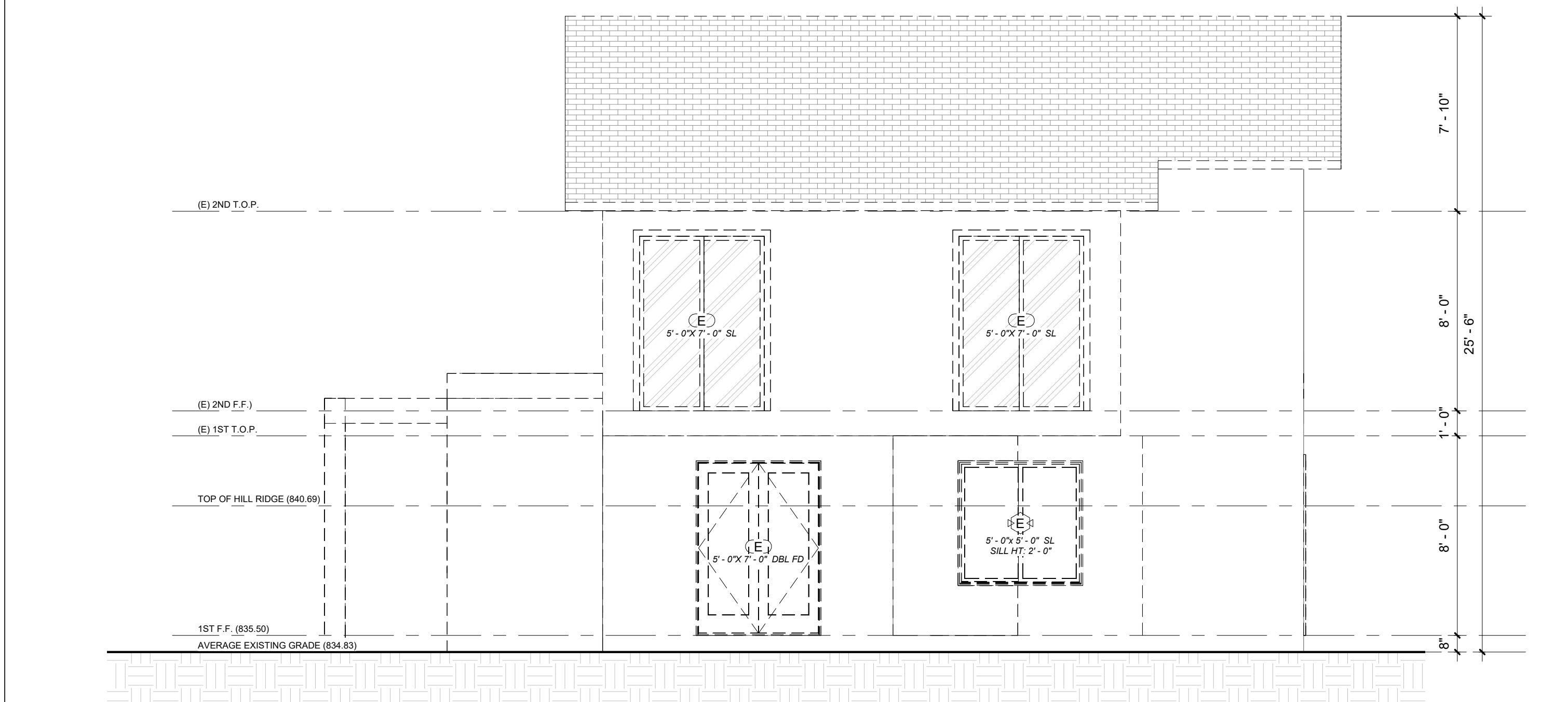
10/22/2024 9:15:36 AM



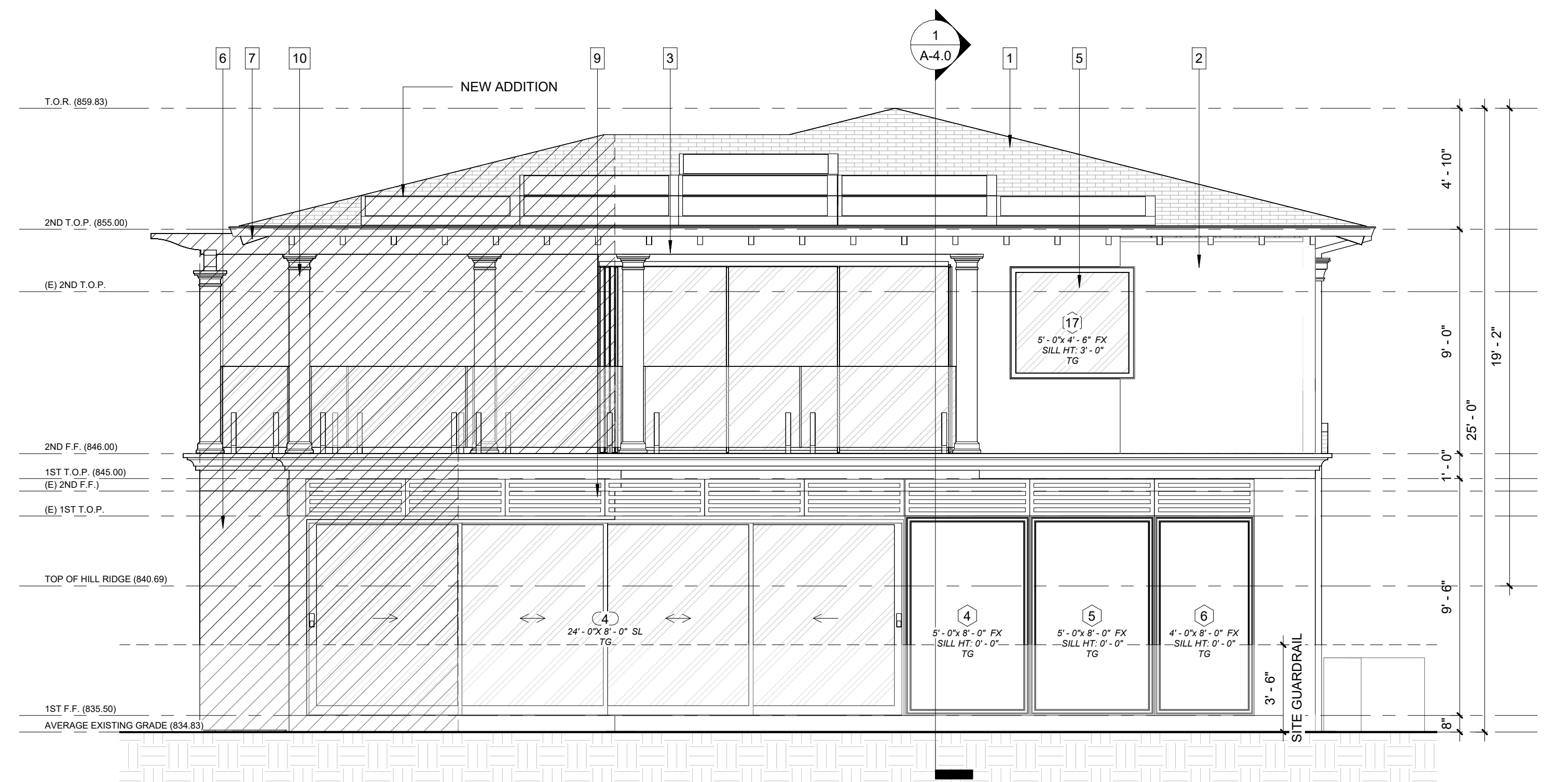
1 EXISTING WEST ELEVATION
1/4" = 1'-0"



2 PROPOSED WEST ELEVATION
1/4" = 1'-0"



3 EXISTING SOUTH ELEVATION
1/4" = 1'-0"

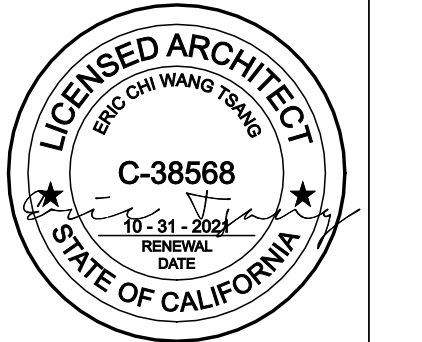


4 PROPOSED SOUTH ELEVATION
1/4" = 1'-0"

- | | | |
|---|--|--|
| 1 CONCRETE ROOFING:
EAGLE ROOFING
BEL-AIR 4697 SLATE RANGE | 5 WOODCLAD DOORS & WINDOWS:
LINCOLN RECESSED SDL
SANTA FE | 9 DECORATIVE LOUVER VENT:
CUSTOM LUMBER WORK
STAINED CEDAR |
| 2 EXTERIOR WALL STUCCO:
OMEGA STUCCO
242 MIST SMOOTH FINISH | 6 GLASS RAILING:
JAMES HARDIE LAP SIDING
SMOOTH ARTIC WHITE | 10 WOOD COLUMN:
EXTIRA PANEL
DUNN EDWARDS SWISS COFFEE |
| 3 WOOD SIDING:
RESAWN TIMBER
ABODO TEAK 6" | 7 EXPOSED RAFTER:
WOOD BY LUMBERYARD
SEMI TRANSPARENT STAINED TEAK | |
| 4 GARAGE DOOR -
C.H.I. OVERLAY DOOR
FULLVIEW ALUMINIUM BRONZE | 8 METAL RAILING:
VERTICAL 1/2" SQ STEEL BAR
BLACK 4" GAP | |

Eric
Tsang
Architects

ERIC CHI WANG TSANG, AIA
440 E. HUNTINGTON DR., # 256,
ARCADIA, CA 91006
909.569.3737
MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

HANSCOM RESIDENCE

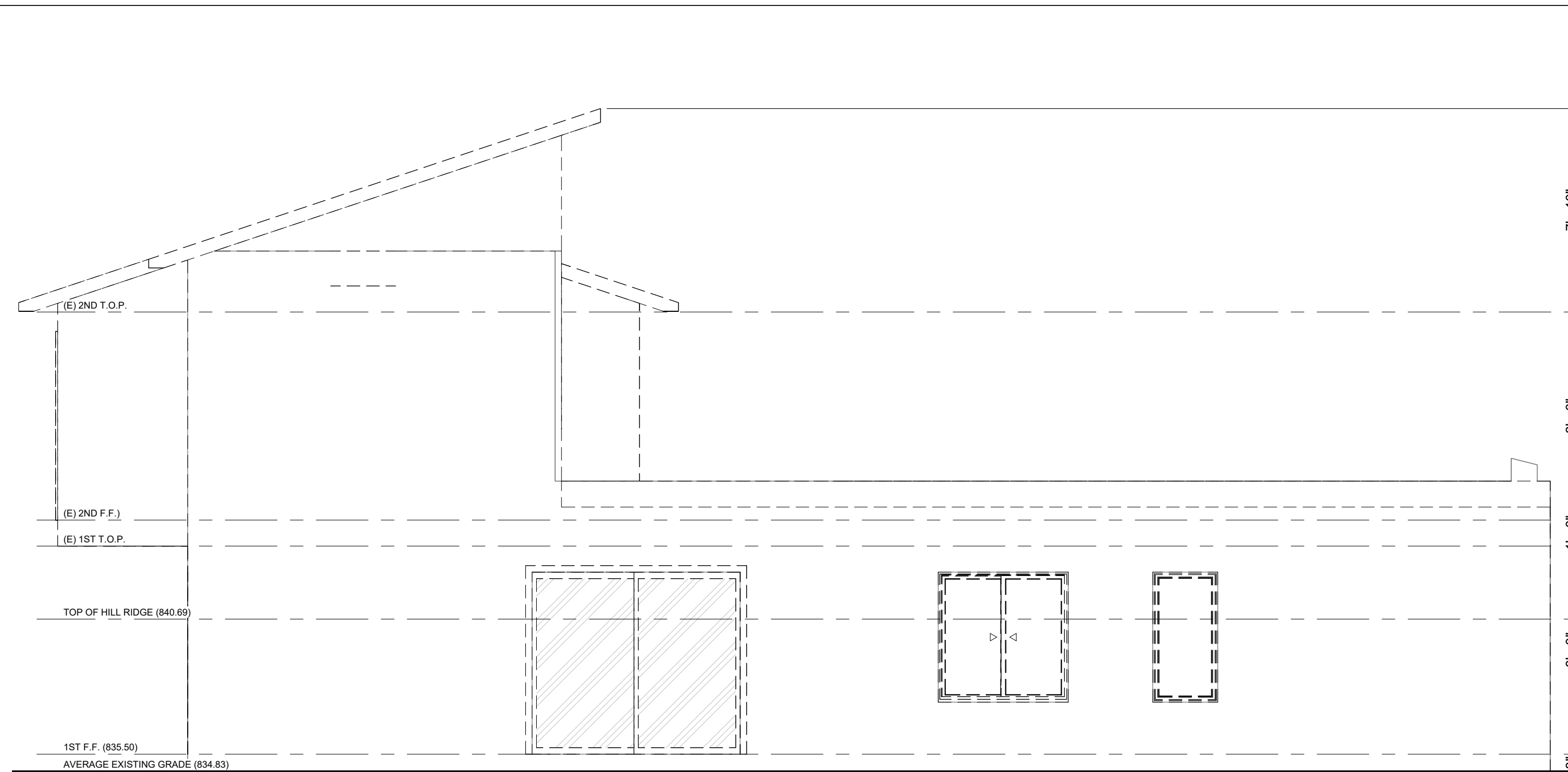
2089 HANSCOM DR.
SOUTH PASADENA, CA 91030

ELEVATION

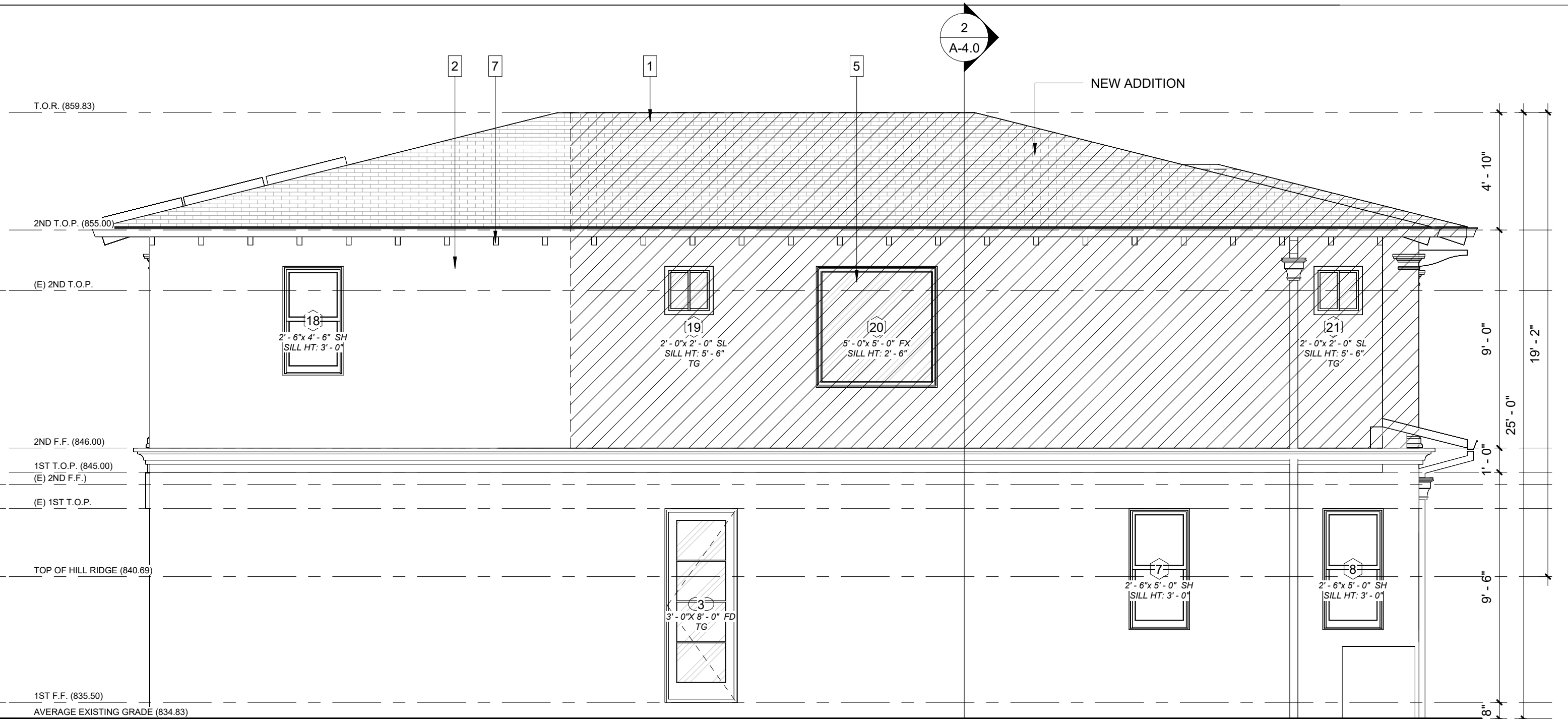
SHEET NO.

A-3.0

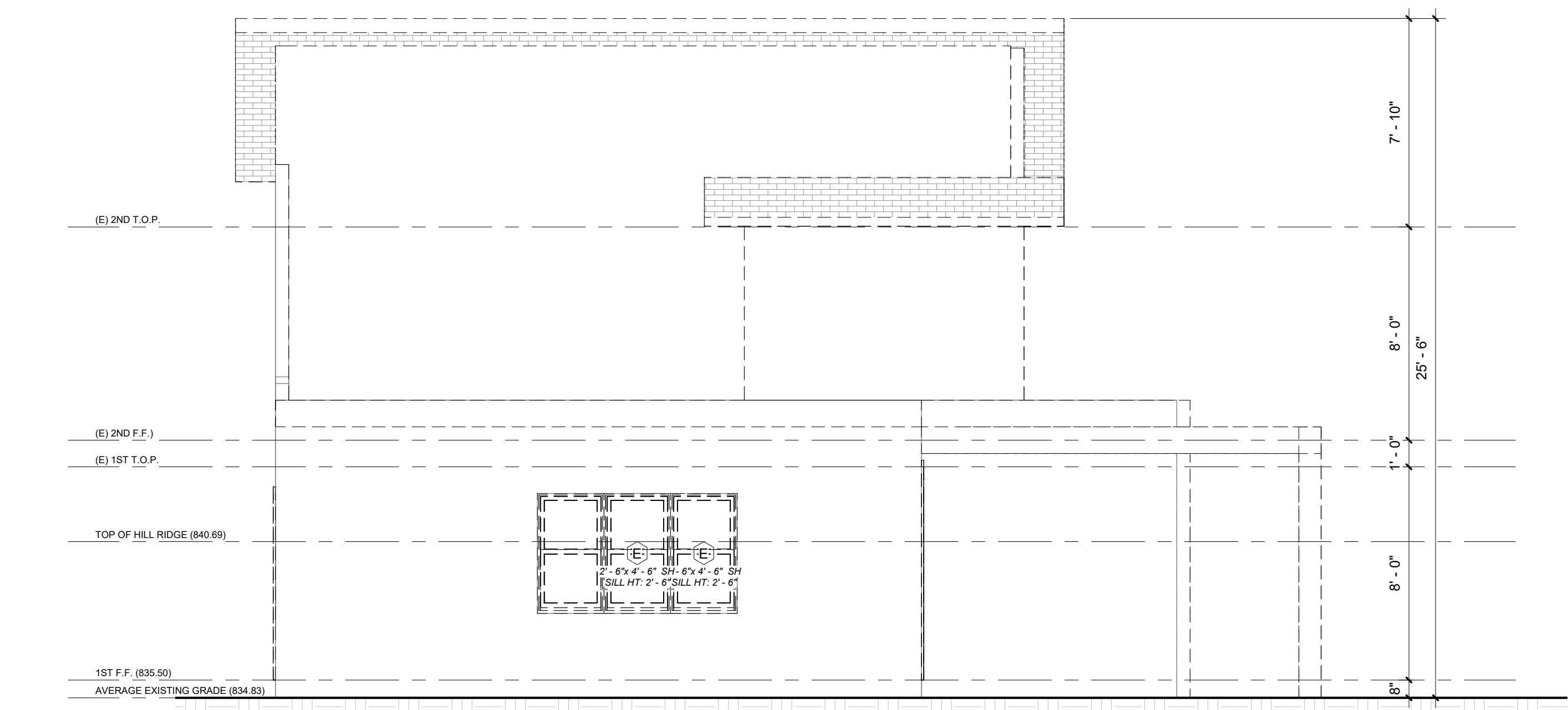
10/22/2024 9:15:42 AM



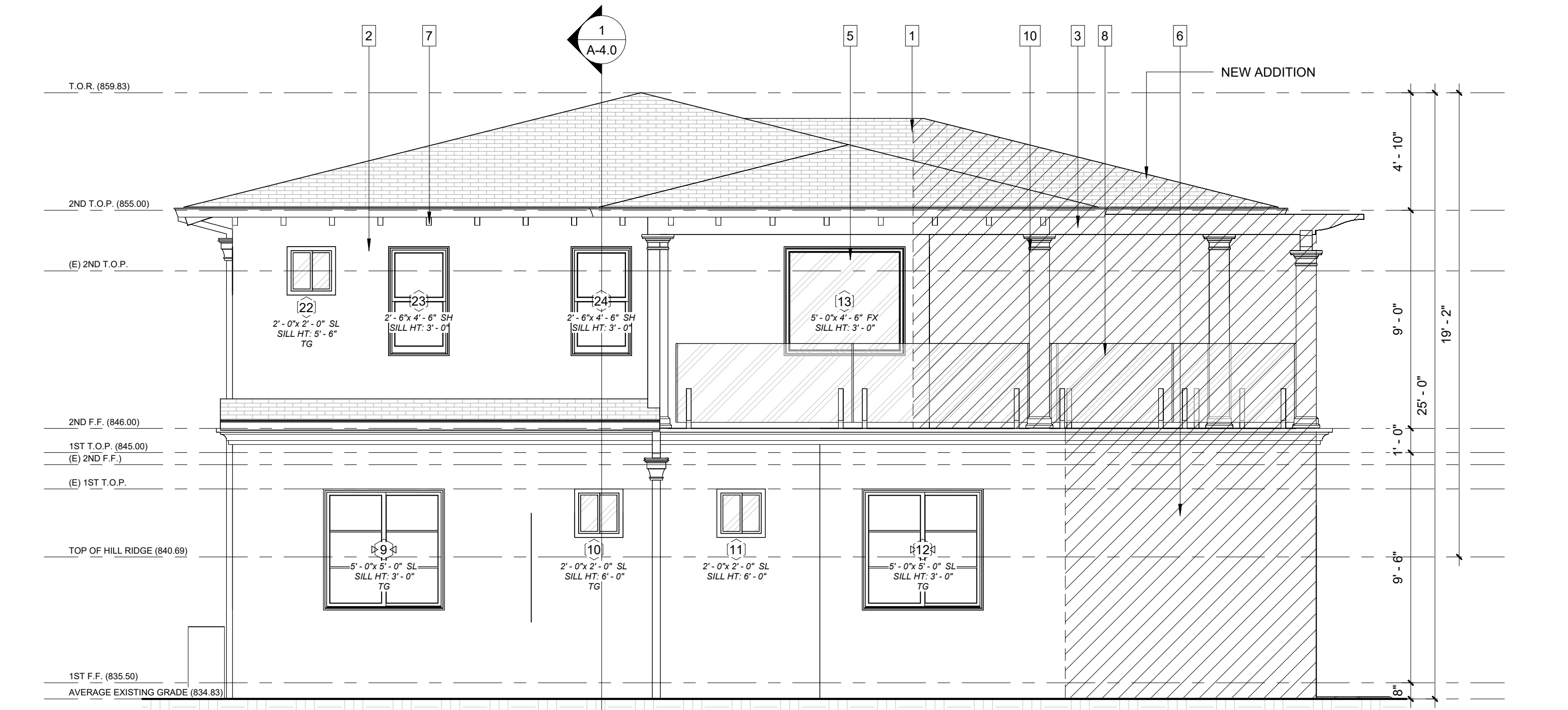
1 EXISTING EAST ELEVATION
1/4" = 1'-0"



2 PROPOSED EAST ELEVATION
1/4" = 1'-0"



3 EXISTING NORTH ELEVATION
1/4" = 1'-0"

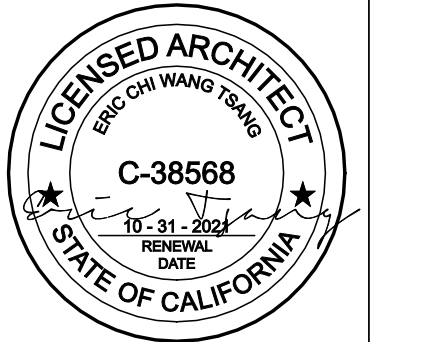


4 PROPOSED NORTH ELEVATION
1/4" = 1'-0"

- 1 CONCRETE ROOFING:
EAGLE ROOFING
BEL-AIR 4697 SLATE RANGE
- 2 EXTERIOR WALL STUCCO:
OMEGA STUCCO
242 MIST SMOOTH FINISH
- 3 WOOD SIDING:
RESAWN TIMBER
ABODO TEAK 6"
- 4 GARAGE DOOR -
C.H.I. OVERLAY DOOR
FULLVIEW ALUMINIUM BRONZE
- 5 WOODCLAD DOORS & WINDOWS:
LINCOLN RECESSED SDL
SANTA FE
- 6 GLASS RAILING:
JAMES HARDIE LAP SIDING
SMOOTH ARTIC WHITE
- 7 EXPOSED RAFTER:
WOOD BY LUMBERYARD
SEMI TRANSPARENT STAINED TEAK
- 8 METAL RAILING:
VERTICAL 1/2" SQ STEEL BAR
BLACK 4" GAP
- 9 DECORATIVE LOUVER VENT:
CUSTOM LUMBER WORK
STAINED CEDAR
- 10 WOOD COLUMN:
EXTIRA PANEL
DUNN EDWARDS SWISS COFFEE

Eric
Tsang
Architects

ERIC CHI WANG TSANG, AIA
440 E. HUNTINGTON DR., # 254,
ARCADIA, CA 91006
909.569.3737
MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

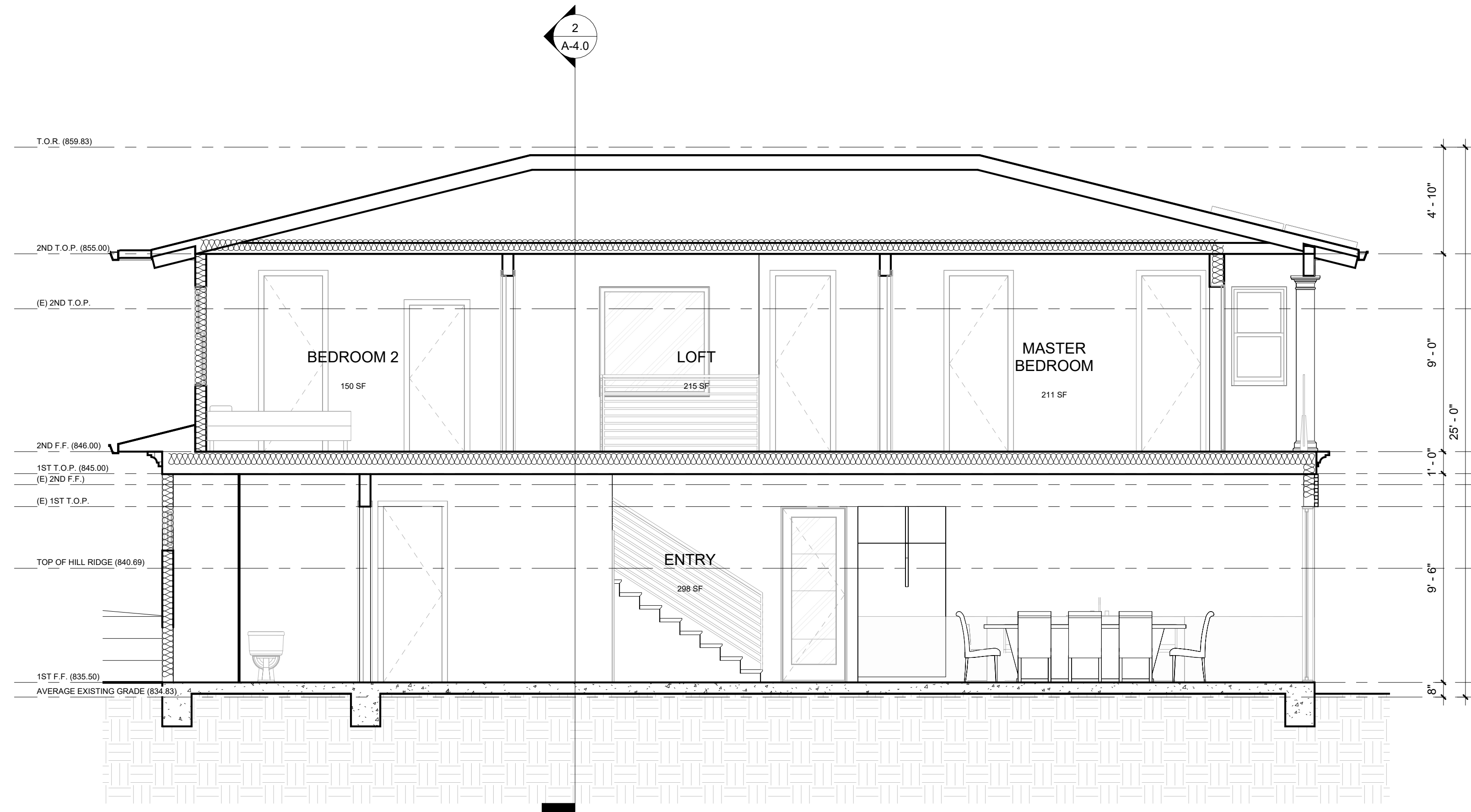
HANSCOM RESIDENCE

2089 HANSCOM DR.
SOUTH PASADENA, CA 91030

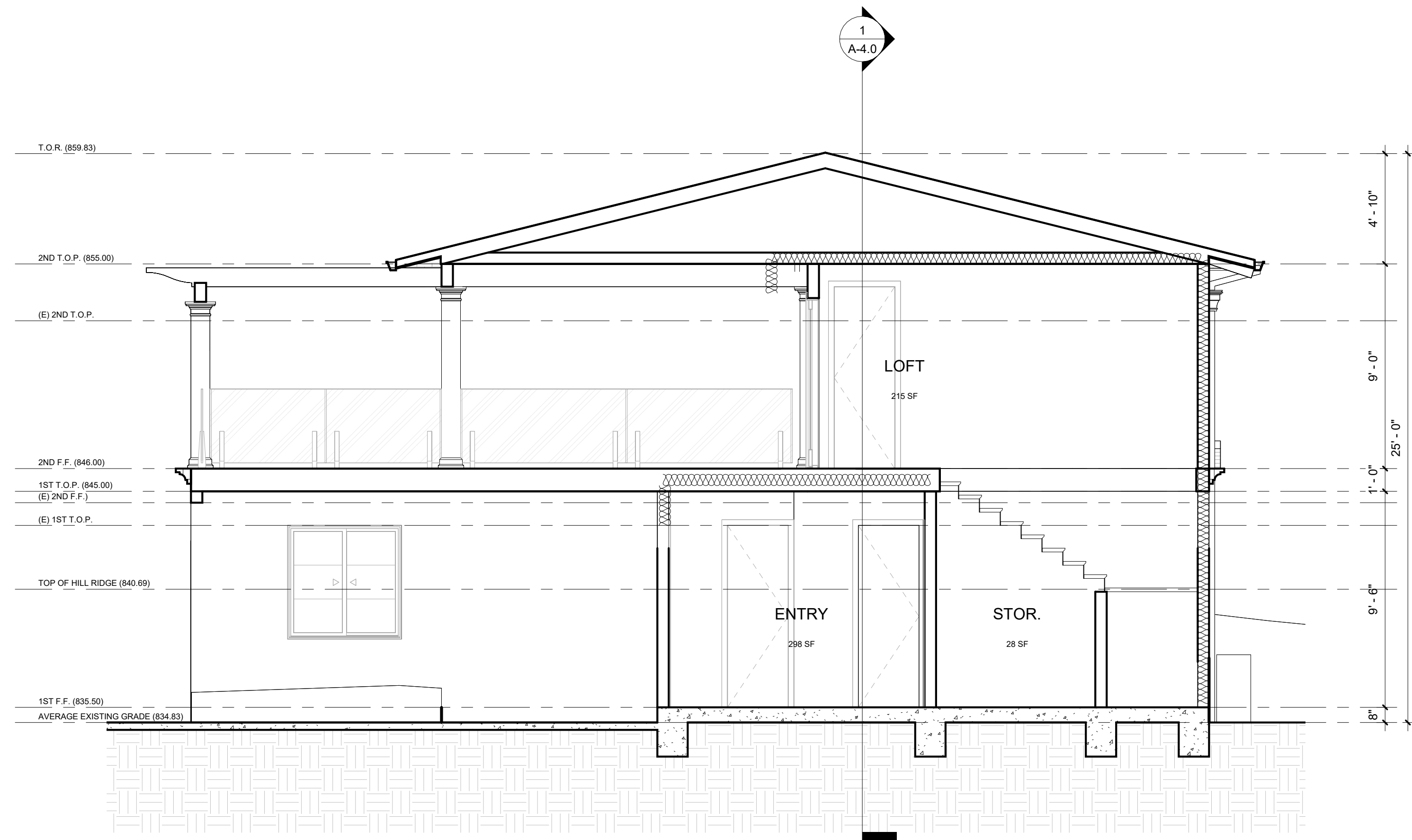
ELEVATION

SHEET NO.

A-3.1



1 CROSS SECTION
1/4" = 1'-0"



2 LONGITUDINAL SECTION
1/4" = 1'-0"

Eric Tsang Architects

ERIC CHI WANG TSANG, AIA
440 E. HUNTINGTON DR., # 254,
ARCADIA, CA 91006
909.569.3737
MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

HANSCOM RESIDENCE

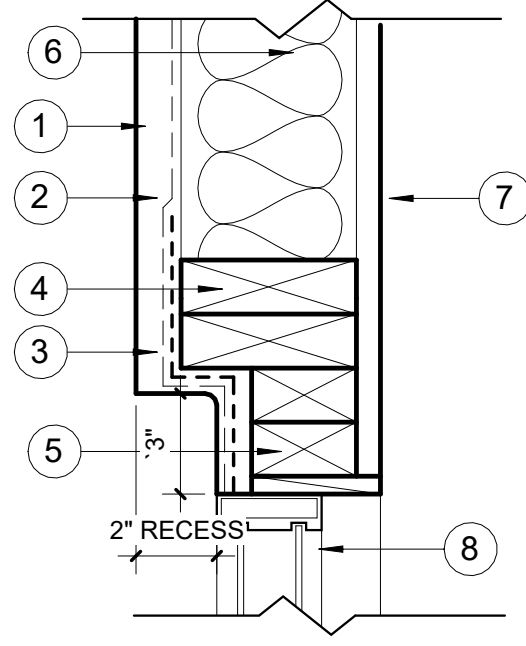
2089 HANSCOM DR.
SOUTH PASADENA, CA 91030

SECTION

SHEET NO.

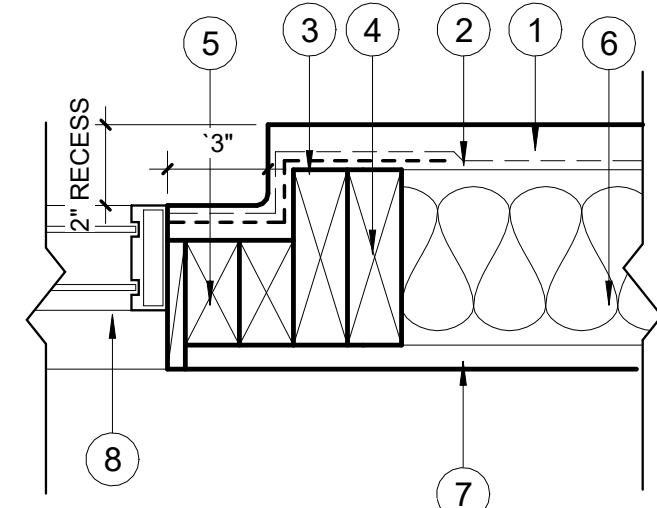
A-4.0

1. EXTERIOR FINISH PER ELEVATIONS
2. 2 LAYERS GRADE 'D' PAPER
3. 12" WIDE 'MOISTOP' FLASHING PAPER
4. FRAMING PER STR PLAN
5. 2X FURRING
6. INSULATION PER T-24
7. INTERIOR FINISH
8. WINDOW PER WINDOW SCHEDULE



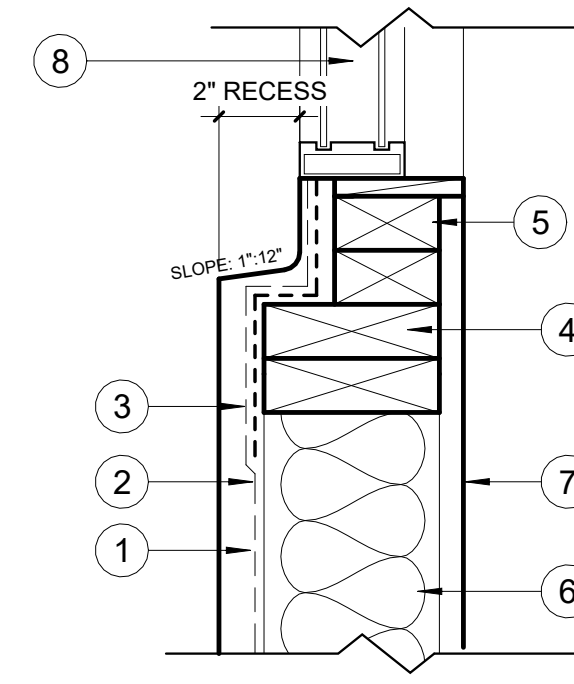
2 RECESS WINDOW HEAD DETAIL
N.T.S.

1. EXTERIOR FINISH PER ELEVATIONS
2. 2 LAYERS GRADE 'D' PAPER
3. 12" WIDE 'MOISTOP' FLASHING PAPER
4. FRAMING PER STR PLAN
5. 2-2X4 FURRING
6. INSULATION PER T-24
7. INTERIOR FINISH
8. WINDOW PER WINDOW SCHEDULE

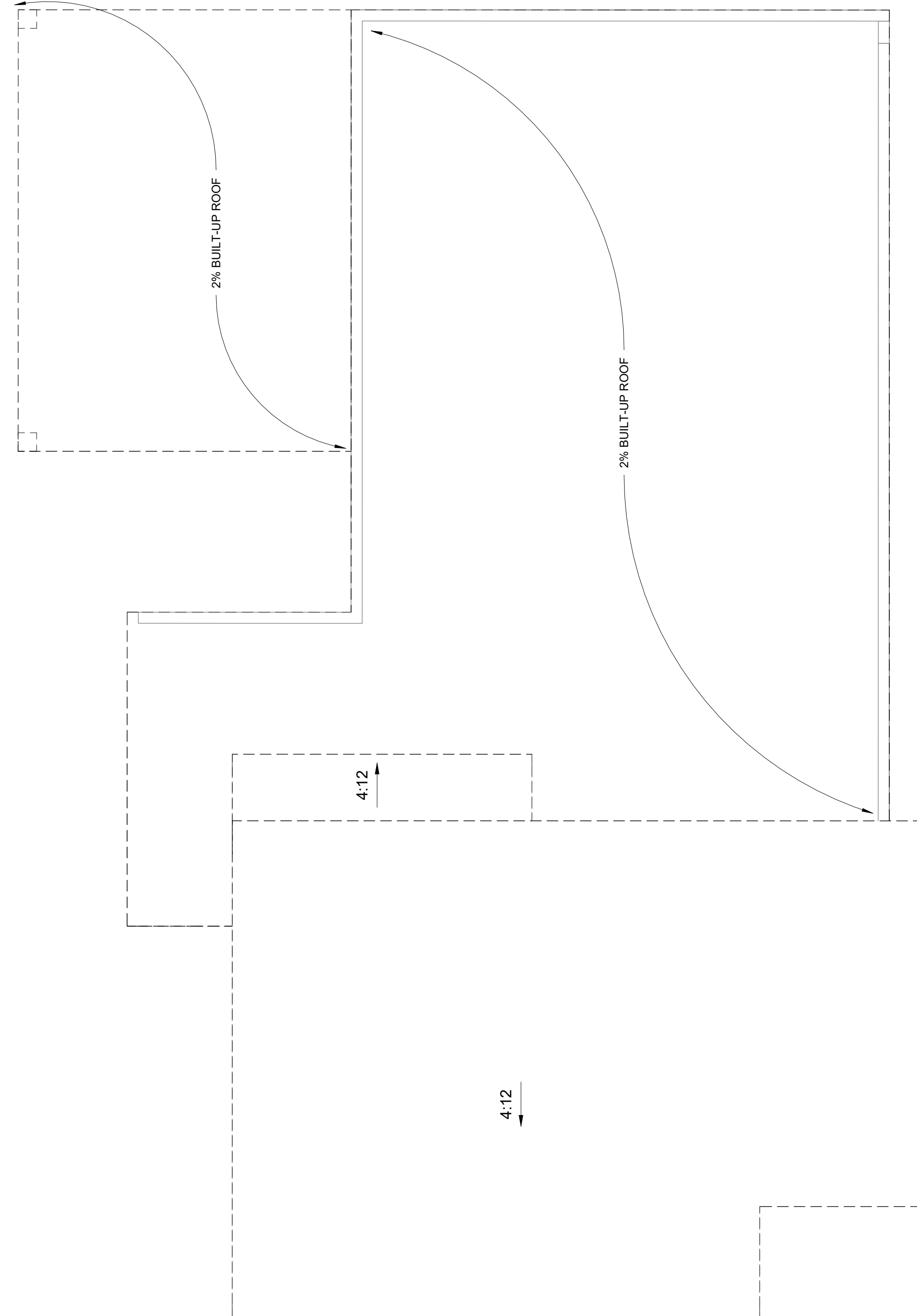


3 RECESS WINDOW JAMB DETAIL
N.T.S.

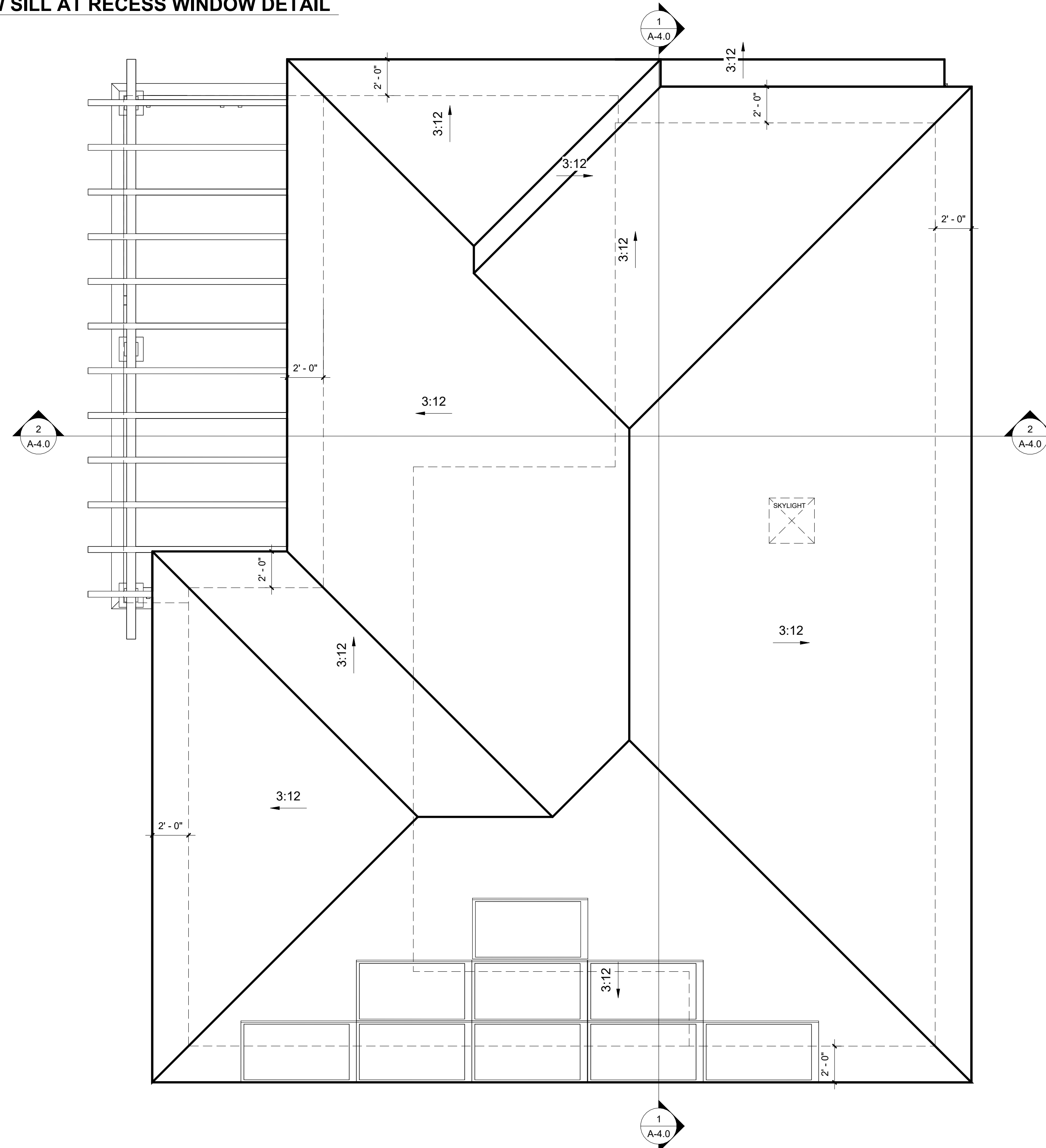
1. EXTERIOR FINISH PER ELEVATIONS
2. 2 LAYERS GRADE 'D' PAPER
3. 12" WIDE 'MOISTOP' FLASHING PAPER
4. FRAMING PER STR PLAN
5. 2X FURRING
6. INSULATION PER T-24
7. INTERIOR FINISH
8. WINDOW PER WINDOW SCHEDULE



4 WINDOW SILL AT RECESS WINDOW DETAIL
N.T.S.



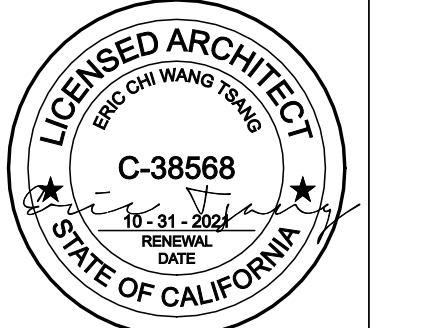
5 EXISTING ROOF PLAN
1/4" = 1'-0"



1 PROPOSED ROOF PLAN
1/4" = 1'-0"

Eric Tsang Architects

ERIC CHI WANG TSANG, AIA
440 E. HUNTINGTON DR., # 256,
ARCADIA, CA 91006
909.569.3737
MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

HANSCOM RESIDENCE

2089 HANSCOM DR.
SOUTH PASADENA, CA 91030

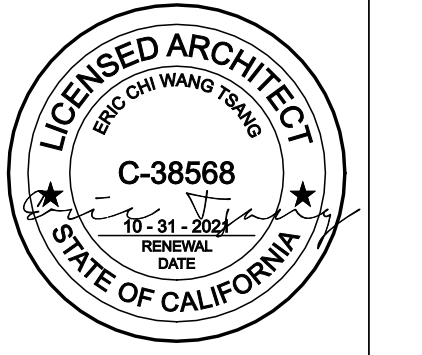
ROOF PLAN AND
TYPICAL DETAILS

SHEET NO.
A-5.0



Eric Tsang Architects

ERIC CHI WANG TSANG, AIA
 440 E. HUNTINGTON DR., # 256,
 ARCADIA, CA 91006
 909.569.3737
 MAIL@ERIC-DESIGN.COM



No.	DESCRIPTION	DATE

PROJECT OWNER:
PARADACE.COM

MATERIAL SELECTION

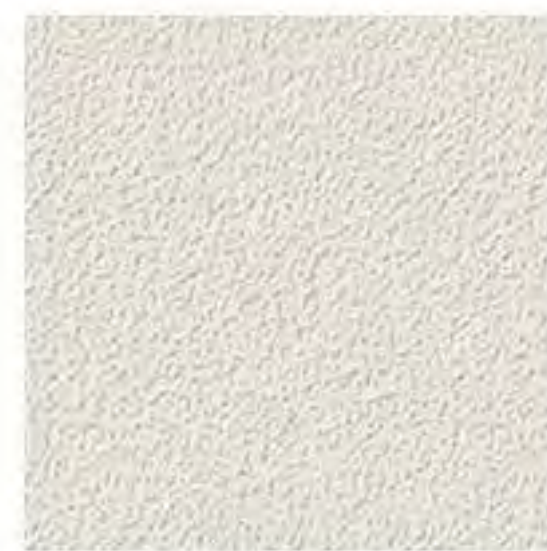
1 CONCRETE ROOFING

EAGLE ROOFING
 BEL-AIR
 4697 SLATE RANGE



2 EXTERIOR WALL STUCCO

OMEGA STUCCO
 242 MIST
 SMOOTH FINISH



242 MIST ◆ | BASE 2

3 WOOD SIDING

RESAWN TIMBER
 ABODO TEAK 6"



4 GARAGE DOOR

C.H.I. OVERLAY DOOR
 FULLVIEW ALUMINIUM BRONZE



5 WOOD CLAD DOOR & WINDOW

LINCOLN RECESSED SDL
 SANTA FE



6 GLASS RAILING

FRAMLESS BASE SHOE
 1/2" GLASS PANEL



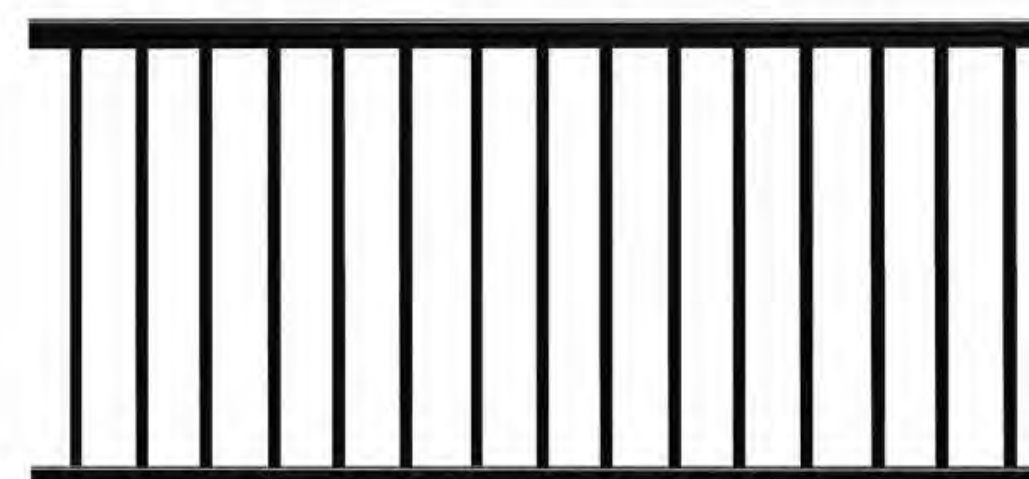
7 EXPOSED RAFTER

WOOD BY LUMBERYARD
 SEMI TRANSPARENT STAINED TEAK



8 METAL RAILING

VERTICAL 1/2" SQ STEEL BAR
 BLACK 4" GAP



9 DECORATIVE LOUVER VENT

CUSTOM LUMBER WORK
 STAINED CEDAR



10 WOOD COLUMN

EXTIRA PANEL
 DUNN EDWARDS SWISS COFFEE



HANSCOM RESIDENCE

2089 HANSCOM DR.
 SOUTH PASADENA, CA 91030

MATERIAL SELECTION

SHEET NO.

A-6.0

10/22/2024 9:15:49 AM



L.I.U. Landscape Inc.
 9422 East Las Tunas Drive
 Temple City, CA 91780
 License # LA1043216
 www.liulandscape.com
 626-888-9915

Project:

David Sun
 2089 Hanscom Dr.
 South Pasadena, CA 91030

LANDSCAPE PLAN

GENERAL NOTES:
 1)SEE ARCH DWGS FOR BUILDING PLANS AND DETAILS TYP.

SCHEDULE OF ON-SITE MEETINGS:
 CONTRACTOR TO PROVIDE LIU LANDSCAPE INC. AND/OR CLIENT REPRESENTATIVE WITH MIN. 72 HOUR NOTICE (BY EMAIL OR PHONE CALL) WHEN SCHEDULING ON-SITE MEETINGS WITH LIU LANDSCAPE INC. AND/OR CLIENT REPRESENTATIVE FOR THE FOLLOWING ON-SITE MEETINGS. CONTRACTOR TO OVERLAY MEETINGS TO THE BEST OF HIS/HER ABILITY.

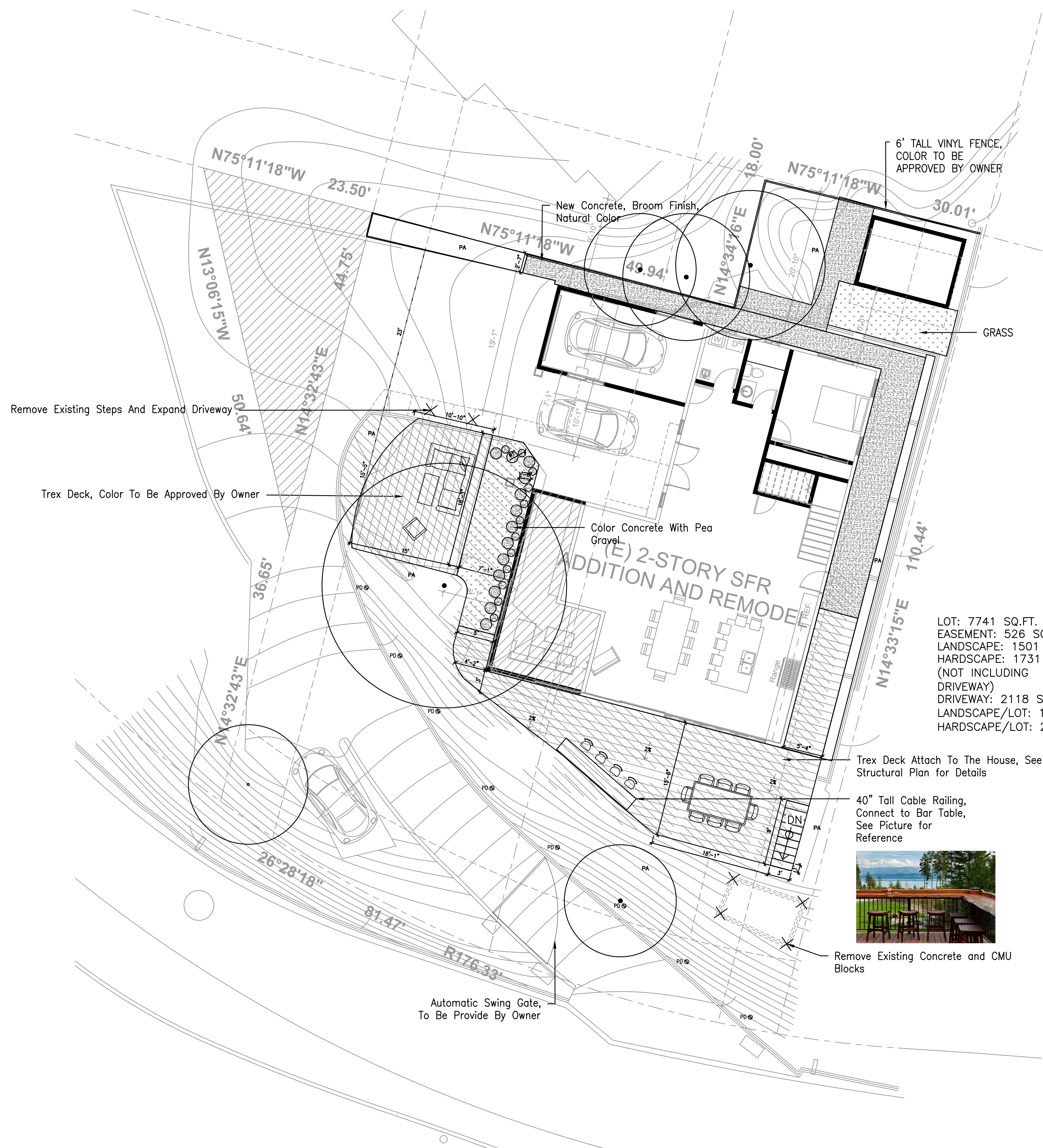
GENERAL:
 A. FINAL SITE REVIEW - 5 DAYS

GRADING AND DRAINAGE PHASE:
 A. AFTER COMPLETION OF ROUGH GRADING FOR SWALE AREAS AND LOW MOUNDING AREAS.
 B. ONCE FINAL GRADING HAS BEEN COMPLETED.

HARDSCAPE PHASE:
 A. ONCE HARDSCAPE HAS BEEN MARKED OUT BEFORE FORMS ARE PLACED.
 B. ONCE HARDSCAPE FORMS ARE IN-PLACE, BEFORE CONCRETE IS POURED.
 C. AFTER CONCRETE HAS BEEN POURED.
 D. ONCE BOULDERS HAVE BEEN MARKED OUT.
 E. PLACEMENT OF BOULDERS.
 F. AFTER INSTALLATION OF BOULDERS.

IRRIGATION PHASE:
 A. BALL VALVE AND P.O.C., WYE STRAINER, PRESSURE REGULATOR, FLOW METER, CONTROL VALVE, LOCATIONS - 72 HOURS.
 B. MAINLINE PRESSURE TEST - 72 HOURS
 C. LATERAL LINE AND DRIP LINE INSTALLATION - 72 HOURS
 D. DRIPPER EMISSION TEST - 72 HOURS

PLANTING PHASE:
 A. ONCE PLANTS HAVE BEEN SET OUT PER PLAN - 72 HOURS
 B. ONCE ALL PLANTS HAVE BEEN INSTALLED AND BEFORE MULCH LAYER HAS BEEN APPLIED - 72 HOURS.



LOT: 7741 SQ.FT.
 EASEMENT: 526 SQ.FT.
 LANDSCAPE: 1501 SQ.FT.
 HARDSCAPE: 1731 SQ.FT.
 (NOT INCLUDING DRIVEWAY)
 DRIVEWAY: 2118 SQ.FT.
 LANDSCAPE/LOT: 19%
 HARDSCAPE/LOT: 22%



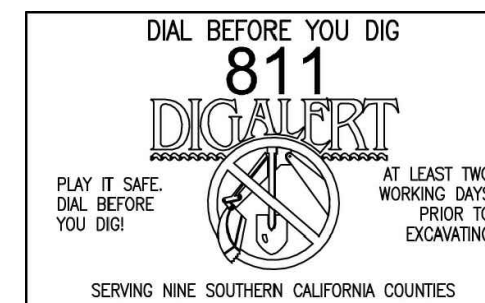
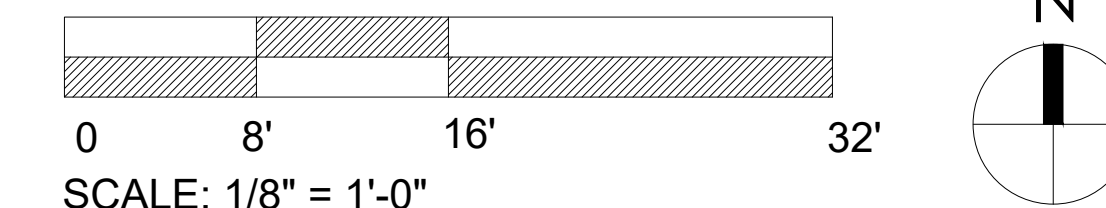
Revisions:

Submittal Date:

August 18, 2021

Sheet Number:

L1.0



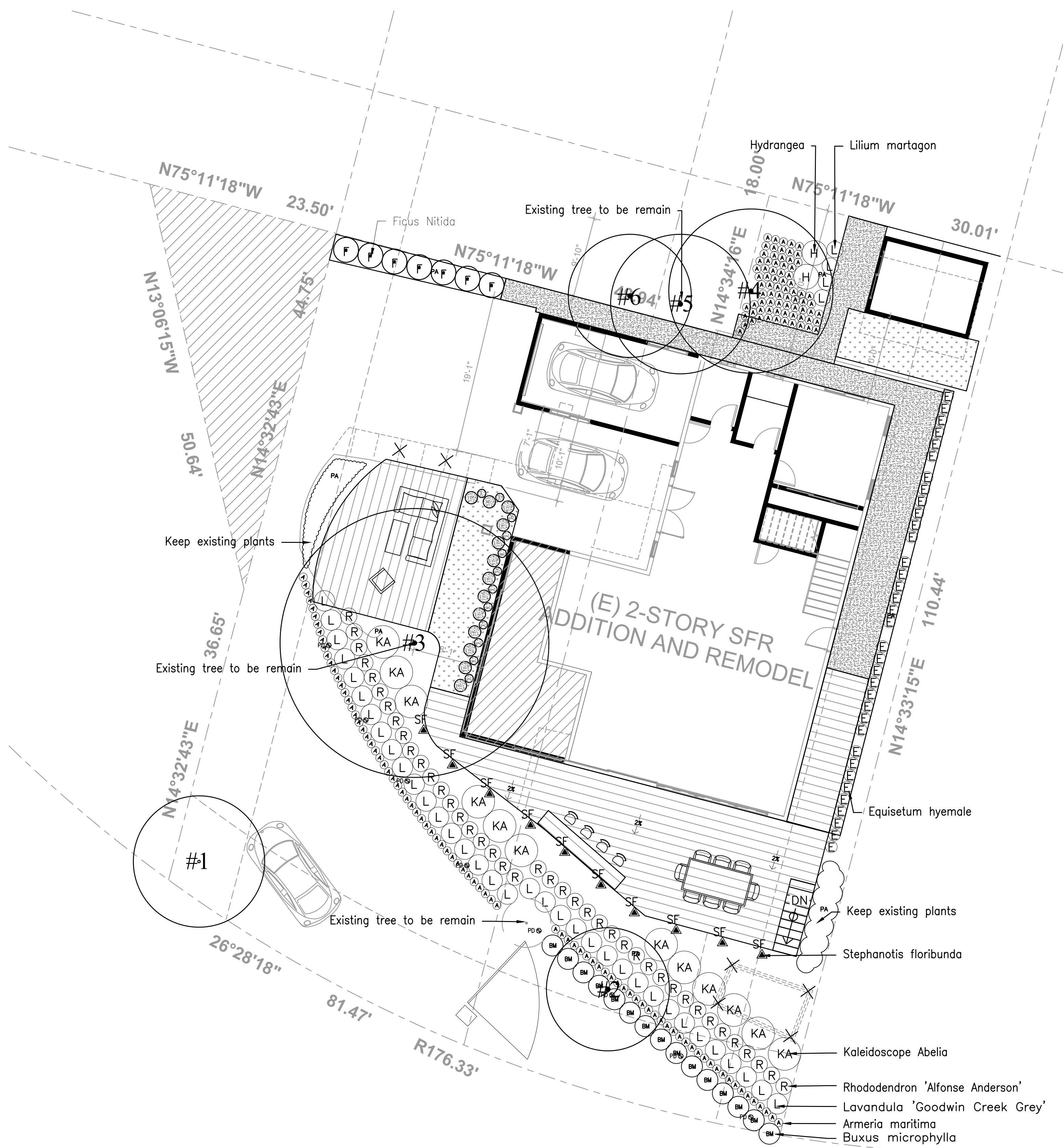


L.I.U. Landscape Inc.
 9422 East Las Tunas Drive
 Temple City, CA 91780
 License # LA1043216
 www.liulandscape.com
 626-888-9915

Project:

David Sun
 2089 Hanscom Dr.
 South Pasadena, CA 91030

LANDSCAPE PLAN



HEDGE

Scientific Name	Common Name	Size	Qty
F Ficus Nitida	Ficus 'Indian Laurel'	24 Box	7

VINE

Scientific Name	Common Name	Size	Qty
SF Stephanotis floribunda	Madagascar Jasmine	24 Box	10

SHRUB

Scientific Name	Common Name	Size	Qty
BM Buxus microphylla	Japanese Boxwood	5 G	15
KA Abelia x grandiflora 'Kaleidoscope'	Kaleidoscope Abelia	1 G	12
R Rhododendron 'Alfonse Anderson'	Azalea 'Alphonse Anderson'	5 G	41
L Lavandula 'Goodwin Creek Grey'	Lavender 'Goodwin Creek Gray'	1 G	35
A Armeria maritima	Sea Thrift	5 G	112
H Hydrangea	Let's Dance Blue Jangles Hydrangea	5 G	2
LI Lilium martagon	Martagon Hybrids, Turkscap Lilies	5 G	4
E Equisetum hyemale	scouringrush horsetail	5 G	35

EXISTING TREE

Tree #	Common name	Botanical name	Diameter at 4.5 feet in inches	Height (in feet)	Spread (in feet)	Health condition rating	Protection status	REMOVE or Preserve	Comments
1	California pepper	Schinus molle	1+6+6+8	20	16	Good	Yes	Preserve	Minor dead wood
2	California black walnut	Juglans californica	5+6+7	18	15	Fair	Yes	Preserve	Trunk growing through wall
3	Chinese elm	Ulmus parviflora	6+8+11	60	33	Fair	Yes	Preserve	Unbalanced canopy
4	Toyon	Ulmus parviflora	2+2+2+2+2+3+3+3+3+3+5+4	18	20	Good	Yes	Preserve	
5	Toyon	Heteromeles arbutifolia	2+2+2+2+3+2	15	17	Good	Yes	Preserve	
6	Chinese elm	Ulmus parviflora	2+2+3+3	15	15	Fair	No	Preserve	Composed of stump sprouts

Revisions:

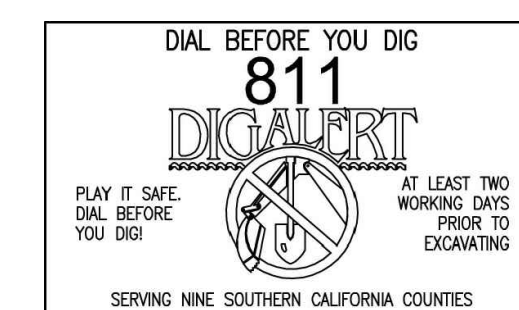
--
 --
 --
 --

Submittal Date:

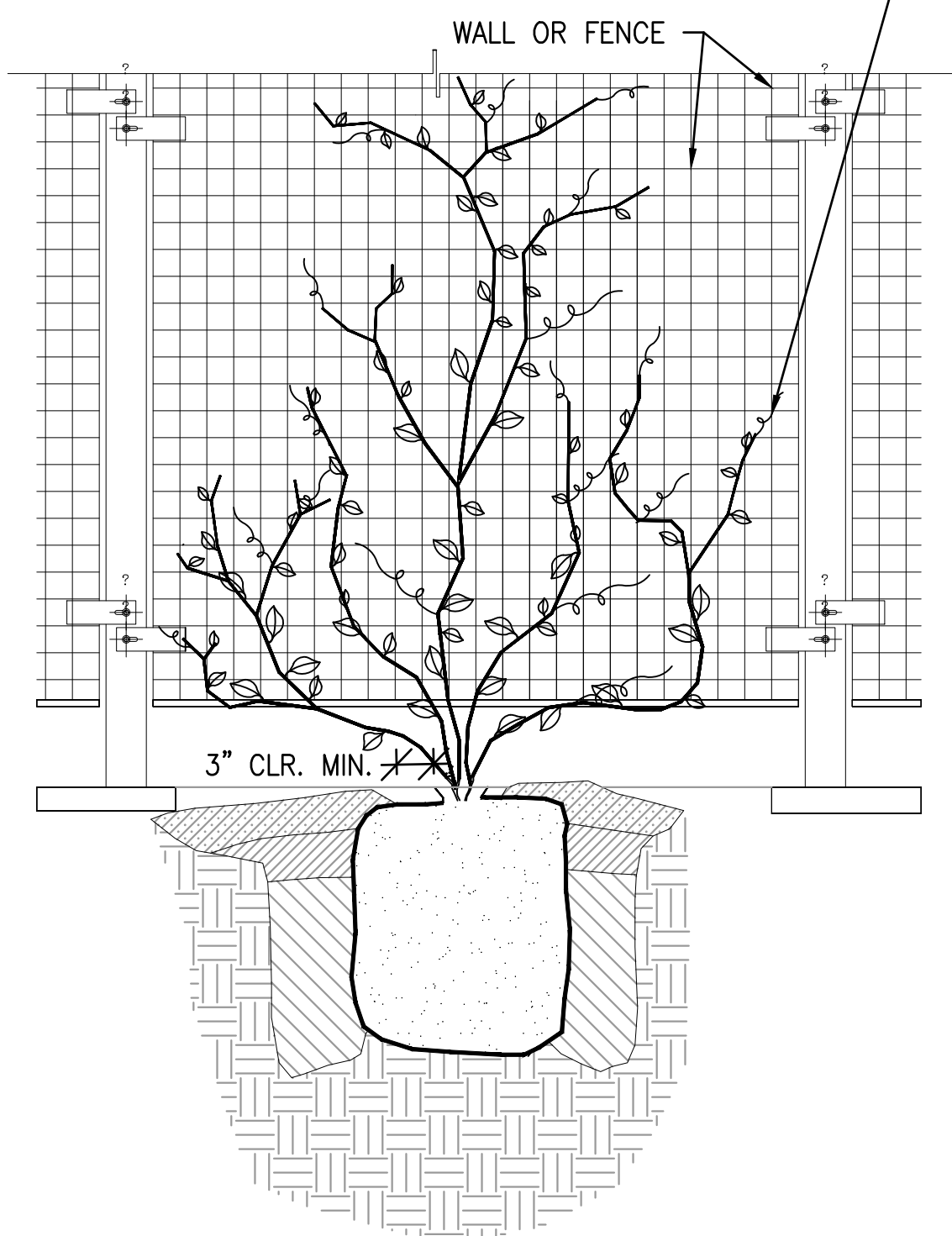
August 18, 2021

Sheet Number:

L3.1



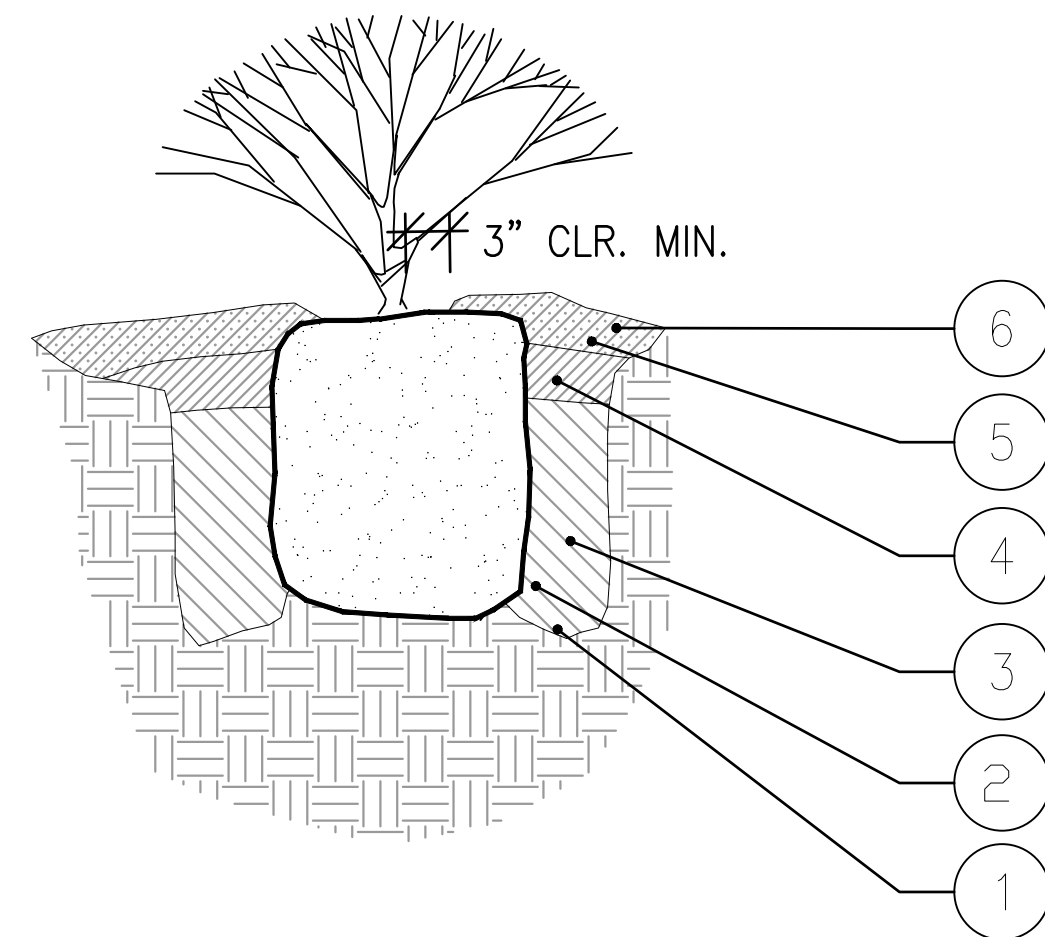
WEAVE VINE BRANCHES INTO SCREEN O.C. OF TRELLIS, STARTING AT BOTTOM. TIE LARGER BRANCHES LOOSELY TO SCREEN, IF NECESSARY W/ BIO-DEGRADABLE TIES.



- NOTE:**
1. REMOVE ANY TEMPORARY TRELLIS DEVICE
 2. PLANT SIMILAR TO SHRUB PLANTING DETAIL SHEET L.40 DETAIL 5.

1 VINE PLANTING

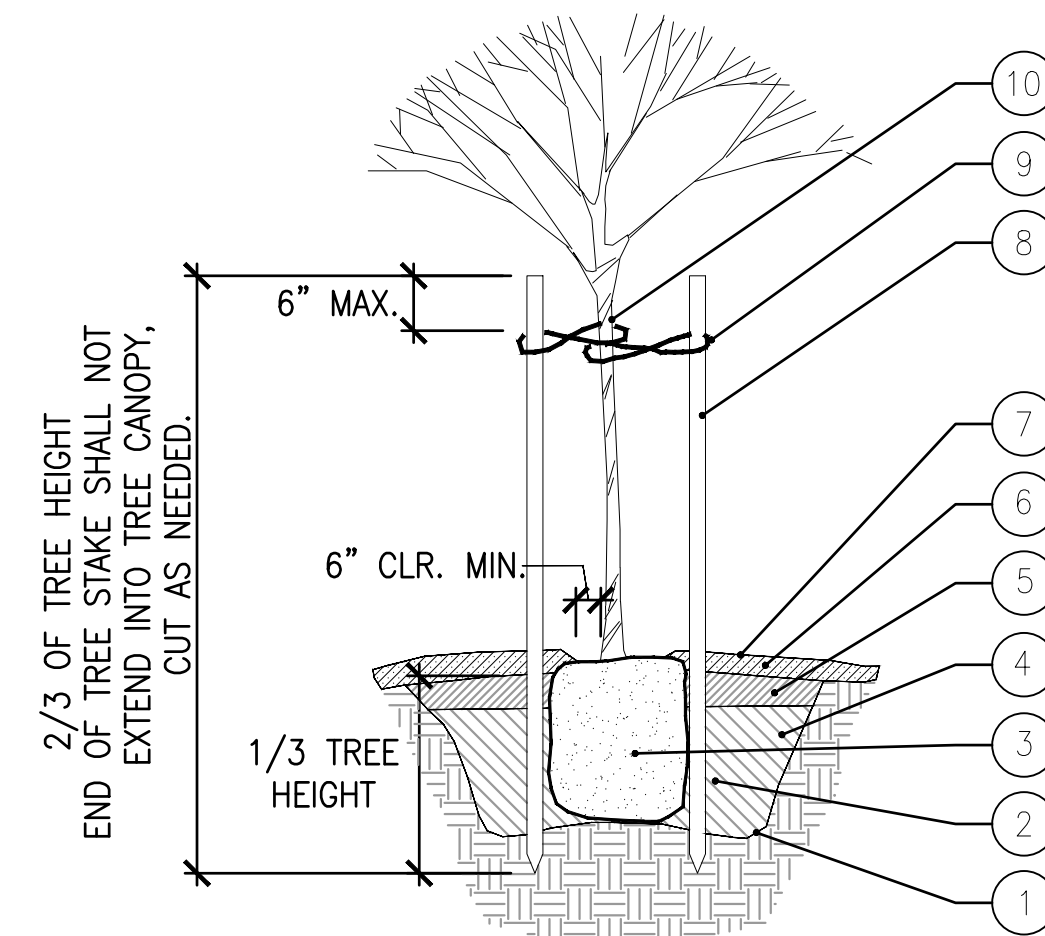
SCALE: 3/4"=1'



- SHRUB PLANTING NOTES:**
1. EXCAVATE PLANTING PIT MIN. TWICE AS WIDE AS ROOT BALL AND 1/2" LESS IN DEPTH THAN THE SOIL CONTAINER. SOIL AT BOTTOM OF PIT SHOULD BE FIRM AND SLIGHTLY MOUNDED. SCARIFY EDGES OF PIT.
 - 1.1. AFTER EXCAVATION OF PIT. FILL HOLE WITH WATER AND ENSURE THAT IT DRAINS WITHIN ONE HOUR. IF WATER DOES NOT DRAIN USE AUGER TO BREAK THROUGH HARDPAN. FILL HOLE 1-2 MORE TIMES IF SOIL IS DRY. IF HOLE DOES NOT DRAIN NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
 - 1.2. DRENCH PLANT ROOTBALL BY DUNKING INTO WATER (OR MYCORRHIZAL DRENCH IF LIQUID PRODUCT IS USED) PRIOR TO PLACING IN HOLE, FOR CONTAINER SIZES LESS THAN 15 GAL. FOR 15 GAL, DRENCH IN CONTAINER.
 2. ADD MYCORRHIZAL FUNGI DIRECTLY TO PLANT ROOTS PER PRODUCT LABEL. (TRI-C MYCO REVIVAL PLUS) SET PLANT ROOT BALL IN HOLE PLUMB AND CENTERED WITH COLLAR 1" HIGHER THAN FINISHED GRADE. USE 10% COMPOST AND 90% NATIVE SOIL TO BACKFILL HOLE TO 2/3 OF ROOTBALL, MOISTENING AND TAMPING ALL AROUND.
 3. FILL REMAINING PORTION OF PIT TO THE TOP OF ROOTBALL WITH MORE BACKFILL MIX. ENSURE PLANT COLLAR IS STILL 1" HIGHER THAN GRADE. PROVIDE POSITIVE DRAINAGE AWAY FROM ROOTBALL.
 4. APPLY 3-4" SHREDDED BARK MULCH (ORGANIC, WEED AND DISEASE FREE) TOP DRESSING AROUND ENTIRE ROOTBALL AREA, STAYING 3" AWAY FROM COLLAR OF PLANT.
 5. AFTER PLANTING, WATER THOROUGHLY ALLOWING MULCH TO SETTLE AND WATER TO SOAK IN. REPEAT THOROUGH WATERING.

2 SHRUB PLANTING

SCALE: 3/4"=1'



- TREE PLANTING NOTES:**
1. EXCAVATE PLANTING PIT MIN. TWICE AS WIDE AS ROOT BALL AND 1/2" LESS IN DEPTH THAN THE SOIL CONTAINER. SOIL AT BOTTOM OF PIT SHOULD BE FIRM AND SLIGHTLY MOUNDED. SCARIFY EDGES OF PIT.
 - 1.1. AFTER EXCAVATION OF PIT. FILL HOLE WITH WATER AND ENSURE THAT IT DRAINS WITHIN ONE HOUR. IF WATER DOES NOT DRAIN USE AUGER TO BREAK THROUGH HARDPAN. FILL HOLE 1-2 MORE TIMES IF SOIL IS DRY. IF HOLE DOES NOT DRAIN NOTIFY G3LA/WBMD IMMEDIATELY.
 - 1.2. ADD MYCORRHIZAL FUNGI DIRECTLY TO PLANT ROOTS PER PRODUCT LABEL
 2. SET PLANT ROOT BALL IN HOLE PLUMB AND CENTERED WITH COLLAR 1" HIGHER THAN FINISHED GRADE.
 3. USE 10% COMPOST AND 90% NATIVE SOIL TO BACKFILL HOLE TO 2/3 OF ROOTBALL, MOISTENING AND TAMPING ALL AROUND.
 4. FILL REMAINING PORTION OF PIT TO THE TOP OF ROOTBALL WITH MORE BACKFILL MIX. ENSURE PLANT COLLAR IS STILL 1" HIGHER THAN GRADE. PROVIDE POSITIVE DRAINAGE AWAY FROM ROOTBALL.
 5. APPLY 3-4" SHREDDED BARK MULCH (ORGANIC, WEED AND DISEASE FREE) TOP DRESSING AROUND ENTIRE ROOTBALL AREA, STAYING 6" AWAY FROM TREE COLLAR.
 6. AFTER PLANTING, WATER THOROUGHLY ALLOWING MULCH TO SETTLE AND WATER TO SOAK IN. REPEAT THOROUGH WATERING.
 7. 2" DIAMETER UNTREATED LODGE POLE PINE TREE STAKE, 2 PER TREE, STAKES SHALL EXTEND A MIN. OF 2' INTO UNDISTURBED SOIL, NEXT TO ROOTBALL.
 8. TREE STRAP - USE VIT CLINCH TREE TIES, OR APPROVED EQUIVALENT, LENGTH AS REQUIRED, 2 PER TREE, NAILED OR SCREWED TO STAKE. FASTEN TO ALLOW FOR 3"-6" TREE MOVEMENT IN WIND.
 9. TREE TIES SHALL BE PLACED 2"-3" ABOVE THE WIND LOAD POINT.
- NOTES FOR STANDARD 24" BOX AND LARGER TREES**
10. REMOVE NURSERY STAKES
 11. MAINTAIN A SINGLE LEADER FOR STANDARD TREES. DISCUSS INSTALL PRUNING WITH LANDSCAPE ARCHITECT. PRUNE ANY DEAD WOOD WITH FLUSH CUTS, USE CLEAN PRUNERS, CLEAN OUT SMALL STEMS AND SUCKERS BELOW LOWEST BRANCHES.
 12. REMOVE PLANT TAGS AND KEEP IN SINGLE PLACE FOR LANDSCAPE ARCHITECT.
 13. TREE IN CONTAINER OR LARGER SHALL RECEIVE TWO STAKES PER THIS DETAIL UNLESS OTHERWISE APPROVED BY LANDSCAPE ARCHITECT.

3 TREE PLANTING AND STAKING

SCALE: 1/2"=1'

COMPOST SPECIFICATION:

COMPOST SHALL BE PRODUCED BY A COMPOST FACILITY FULLY LICENSED BY THE STATE OF CALIFORNIA WHICH DOCUMENTS THE PATHOGEN REDUCTION PROCESS. COMPOST IS TO BE WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, PH RANGE OF 5.5 TO 8; MOISTURE CONTENT 35 TO 55 PERCENT BY WEIGHT; 100 PERCENT PASSING THROUGH 3/8" SLEEVE; SOLUBLE SALT CONTENT OF 5 TO 10 DECISIEMENS/M; AND NOT EXCEEDING 0.5 PERCENT INERT CONTAMINANTS AND FREE OF SUBSTANCE TOXIC TO PLANTINGS.

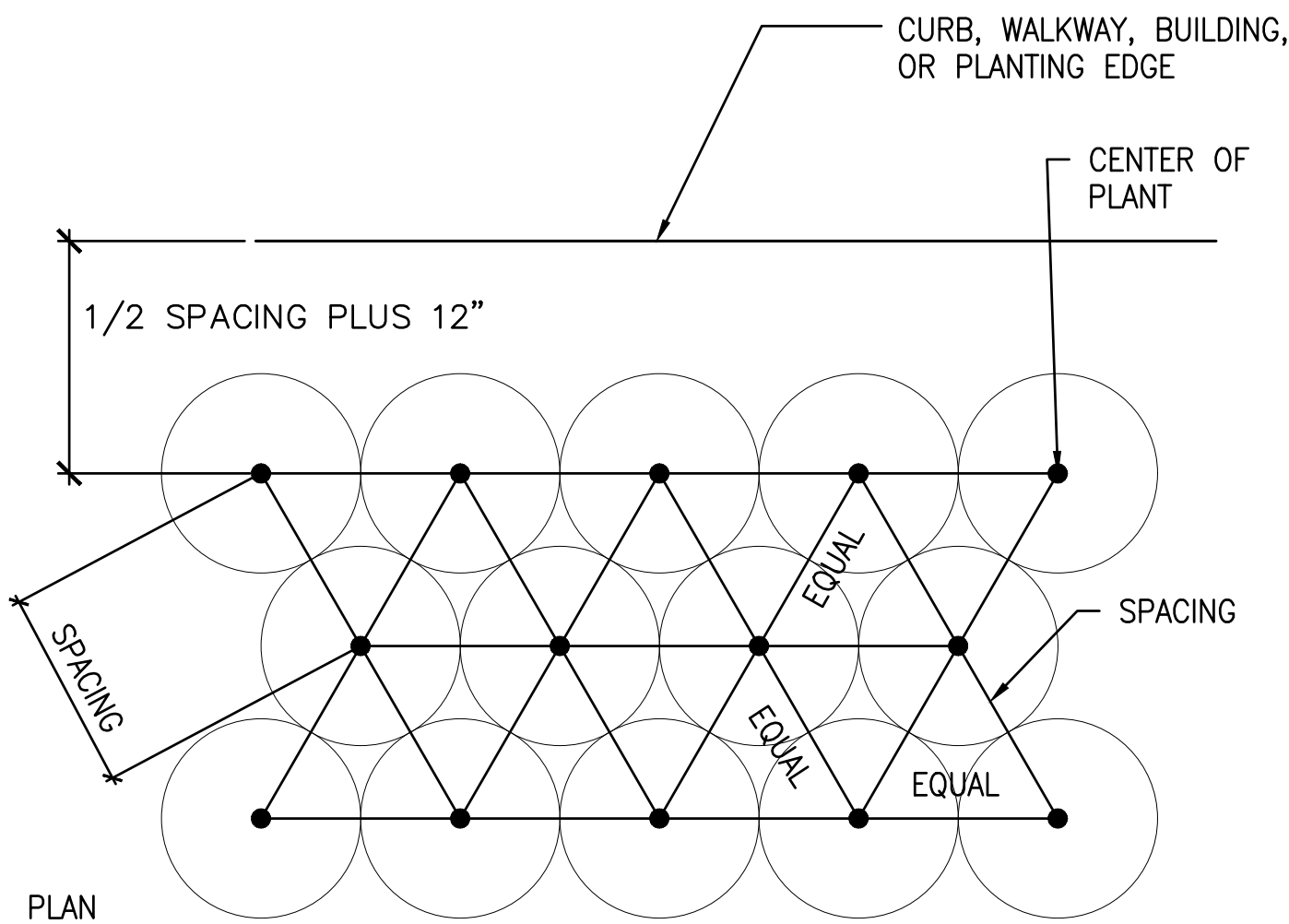
A) ORGANIC MATTER CONTENT: 50 TO 60 PERCENT OF DRY WEIGHT

B) FEEDSTOCK: AGRICULTURAL, FOOD, OR INDUSTRIAL RESIDUALS; YARD TRIMMINGS; OR SOURCE-SEPARATED OR COMPOSTABLE MIXED SOLID WASTE. SLUDGE OR SEWAGE WASTE COMPOSTS ARE NOT ACCEPTABLE.

C) AMEND SOIL WITH AGRI SERVICE OR COMPARABLE HUMIC COMPOST SOIL AMENDMENT, SIX CUBIC YARDS PER 1,000 SQUARE FEET TO A DEPTH OF 5" TO 8" OF SOIL.

PLANTING NOTES:

1. SOIL PREPARATION:
 - A. CLEAR SITE OF ALL VEGETATION, INCLUDING LARGE ROOT SYSTEMS FROM PLANTS REMOVED.
 - B. ROTOTILL TOGETHER 90% SITE SOIL AND 10% COMPOST TO A DEPTH OF 8".
 - C. REMOVE ALL VEGETATION REMNANTS, CLOUDS OF 2" DIAMETER OR LARGER, STONES, SMALLER ROOTS, AND OTHER DELETERIOUS MATERIAL.
 - D. IF SOIL IS OVERLY COMPACTED (OVER 150 PSL OR 85% PROCTOR), TILL COMPACTED AREA BY HAND TO A DEPTH OF 6-8". IF SOIL IS COMPACTED BELOW 8" DEPTH, BREAK UP COMPACTION WITH AN AUGER.
 - E. WHEN PLANTING PER DETAIL, BACKFILL WITH 90% SITE SOIL AND 10% COMPOST.
 - F. ALL LANDSCAPE AREAS ARE TO RECEIVE AN EVEN APPLICATION OF SOIL HUMATE WITH AN APPLICATION RATE PER PRODUCT SPECIFICATIONS DEPENDING ON TYPE USED. THE HUMATE AMENDMENT IS TO BE INCORPORATED UNIFORMLY ONTO TOP OF SOIL. THESE ARE ACCEPTABLE SOIL AMENDMENT PRODUCTS OR EQUIVALENT;
 - 1.1. GRANULAR PRODUCT PREMIUM HUMATE FROM TRI-C. APPLICATION RATE IS 50 LBS PER 1,000 S.F. FOLLOW DIRECTION ON PRODUCT LABEL.
 - 1.2. LIQUID PRODUCT SPRAY APPLICATION "TERAVITA LC-10 PLUS 7", (WWW.SIMPLICI-TEA.COM). FOLLOW DIRECTIONS ON PRODUCT LABEL.
 - 1.3. "SOLU-PLKS" FROM EARTHFORT (WWW.EARTHFORT.COM). LIQUID APPLICATION= 1 GALLON/ACRE OR 7 OZ FOR 2,375 S.F. FOLLOW DIRECTIONS ON PRODUCT LABEL.
2. PLANTING DEPTH: ALL PLANTS ARE TO BE PLANTED SO THAT AFTER SETTLING, THE CROWN OF THE PLANT IS EVEN WITH FINISH GRADE AND ALL ROOTS ARE FULLY COVERED WITH SOIL.
3. NO WATERING BASINS: DO NOT INSTALL WATERING BASINS AROUND PLANTS.
4. MULCH SPECIFICATION: INSTALL A 3"-4" DEEP LAYER OF WOOD BARK AND LEAF MIXTURE MULCH ON TOP OF IRRIGATION TUBING. WOOD CHIPS OR ARTIFICIALLY COLORED MULCH SHALL NOT BE USED. KEEP ALL MULCH 4" AWAY FROM CROWN OF PLANTS.
5. COMPOST TEA: APPLICATION OF BREWED COMPOST TEA IS HIGHLY RECOMMENDED. PLEASE CONTACT COMPOST TEANA AT 310.367.6485.
6. MAINTENANCE: SIZES OF PLANTS AND TREES ARE SHOWN ON PLAN AT 75% OF MATURE SIZE. THE GARDENER WILL NEED TO ENSURE THAT ALL PLANTS AND TREES RECEIVE REGULAR MAINTENANCE I.E. PRUNING, THINNING, AND DIVIDING, AND MULCH RENEWAL TO MAINTAIN LONGEVITY, HEALTH, AND AESTHETIC INTENT OF THE PLANTING. CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING PLANT HEALTH AND WATERING SCHEDULING THROUGH WARRANTY. GARDENER RESPONSIBLE FOR DAY-TO-DAY MAINTENANCE.
7. QUANTITIES: CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT QUANTITIES. QUANTITIES IN PLANTING PLAN SUPERCEDES QUANTITY IN PLANTING LEGEND.
8. PLANTING PATTERN: PLANT ALL GROUND COVERS IN A TRIANGULAR PATTERN FOR MOST EFFICIENT COVERAGE.
9. SUBSTITUTIONS: IF CERTAIN PLANTS ON PLANT LIST ARE NOT AVAILABLE AT THE TIME OF PLANTING, CONTACT L.I.U. LANDSCAPE INC. TO DETERMINE IF A SUITABLE SUBSTITUTION COULD BE MADE.
10. ON SITE POSITIONING: L.I.U. LANDSCAPE INC. RESERVES THE RIGHT TO ADJUST PLANT MATERIAL ON SITE. PLANTS TO BE PLACED AND POSITIONED ON SITE PER PLAN BY LANDSCAPE CONTRACTOR. FINAL PLANT LAYOUT SHALL BE APPROVED BY L.I.U. LANDSCAPE INC. PRIOR TO PLANTING.
11. GUARANTEE: ALL PLANT MATERIAL PURCHASED BY LANDSCAPE CONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF 3 MONTHS. GUARANTEE PERIOD COMMENCES FROM THE TIME OF FINAL INSPECTION AND ACCEPTANCE BY THE OWNER. PLANTS USED FOR REPLACEMENT OF DEAD PLANTS SHALL BE THE SAME KIND AND SIZE AS ORIGINALLY PLANTED, UNLESS OTHERWISE DIRECTED BY L.I.U. LANDSCAPE INC. REPLACEMENT PLANTS ARE TO BE PLANTED FOLLOWING THE ORIGINAL PLANS AND SPECIFICATIONS.
12. MEADOW AREA: SPACE PLUGS EVENLY THROUGHOUT, SEE LEGEND FOR SPACING (IN A TRIANGULAR PATTERN). USE 2" OR SMALLER PLUGS. SPREAD WILDFLOWER SEED BETWEEN GRASS PLUGS AFTER ALL PLANTING IS COMPLETE. SPREAD SEED PER NURSERY RECOMMENDATIONS. CONTACT S&S SEEDS FOR SEED RATE & TO PURCHASE SEEDS: WWW.SSSEEDS.COM, (805) 684-0436, EMAIL: INFO@SSSEEDS.COM, ADDRESS: PO BOX 1275, CARPINTERIA, CA.



NOTE: SEE PLANT LEGEND FOR SPACING (WIDTH) FOR EACH PLANT SPECIES.

4 PLANT SPACING

SCALE: 3/4"=1'



L.I.U. Landscape Inc.
 9422 East Las Tunas Drive
 Temple City, CA 91780
 License # LA1043216
 www.liulandscape.com
 626-888-9915

Project:

David Sun
 2089 Hanscom Dr.
 South Pasadena, CA 91030

PLANTING DETAILS

Revisions:

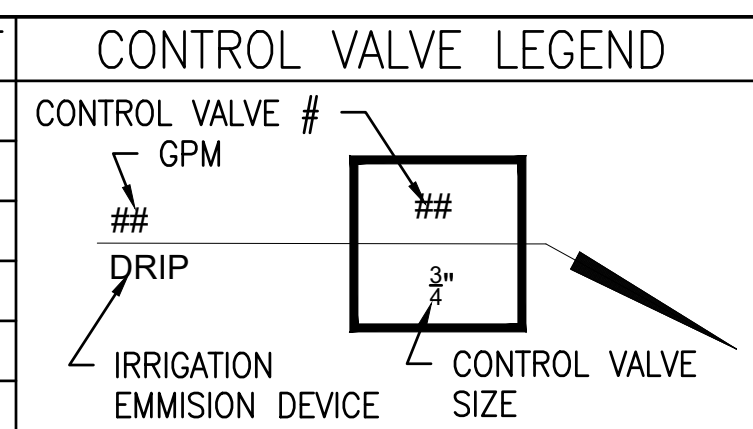
Submittal Date:

August 18, 2021

Sheet Number:

L4.0

PLANT SIZE	EMITTER QTY	EMITTER FLOW RATE	TOTAL GPH
24" BOX	4	0.50 GPH (BLUE)	2
15 GALLON	3	0.50 GPH (BLUE)	1.50
5 GALLON	2	0.50 GPH (BLUE)	1.00
1 GALLON	1	0.50 GPH (BLUE)	0.50

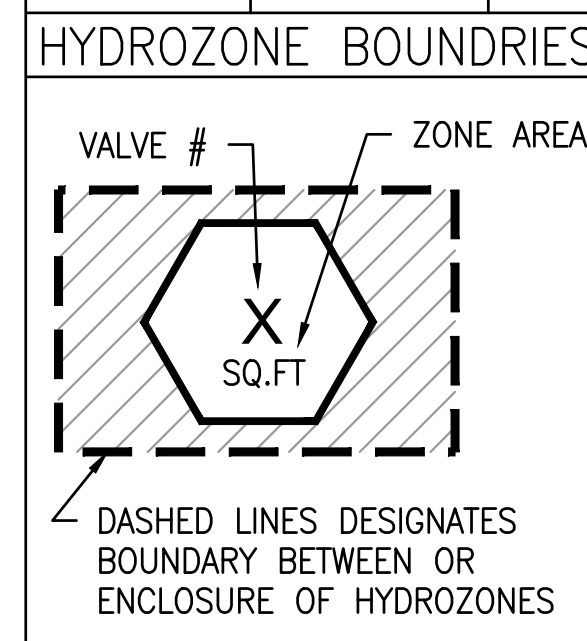


HYDROZONE DESCRIPTION AND LEGEND					
CONTROL VALVE # (HYDROZONE ZONE)	LANDSCAPE AREA (SQ.FT)	W.U.C.O.L.S. PLANT WATER USE RATING	PLANT SIZE	HYDROZONE DESCRIPTION	HYDROZONE EXPOSURE
1	944	LOW/MED	1G,5G	SHRUBS	P SHADE
2	164	MED	SOD	GRASS	P SHADE
3	215	MED	1G,5G,15G	SHRUBS, HEDGE	P SHADE
4	101	MED	SOD	GRASS	P SHADE
5	77	LOW	1G,5G,15G	SHRUBS	SHADE

GENERAL IRRIGATION NOTES

CONTRACTOR SHALL BE LICENSED; IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO READ, UNDERSTAND, AND ADHERE TO PROJECT NOTES AND SPECIFICATION, PERTAINING TO ALL PLANS, INCLUDING THE FOLLOWING GENERAL AND SITE SPECIFIC NOTES.

- THIS DESIGN IS DIAGRAMMATIC. ALL VALVES, ETC., SHOW WITHIN PAVED AREAS FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN THE PLANTING AREAS WHERE POSSIBLE, AVOID ANY CONFLICTS BETWEEN THE IRRIGATION SYSTEM AND EXISTING STRUCTURES, UTILITIES AND PLANTING.
- ALL MAINLINE PIPING UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES, MAIN LINE SLEEVE, CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING, OR SIZE AS INDICATED ON PLANS.
- ALL EXTERIOR LOW VOLTAGE WIRE CONNECTIONS SHALL BE FULLY ENCLOSED USING WATERPROOF CONNECTORS.
- EXTEND ALL SLEEVES A MINIMUM OF SIX (6) INCHES BEYOND PAVING EDGES.
- PROVIDE A MINIMUM OF 18" COVER OVER ALL PRESSURE MAINLINE PIPE AND 12" MINIMUM COVER OVER ALL NON-PRESSURE LATERAL LINES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING VALVE WIRING THROUGH SLEEVING WHEN NECESSARY.
- ALL LATERAL LINE PIPING UNDER PAVING SHALL BE PVC SCHEDULE 40 PIPE AND SHALL BE INSTALLED PRIOR TO PAVING.
- EXERCISE EXTREME CARE WHEN EXCAVATING FOR IRRIGATION SYSTEM DUE TO EXISTING UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UNDERGROUND UTILITIES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH AND ALL OTHER TRADES ON SITE.



GENERAL DRIP NOTES

- ONLINE DRIP RECOMMENDED FOR SHRUB AND TREE PLANTING. EMITTER QUANTITY PER LEGEND ABOVE.
- INLINE DRIP PIPE RECOMMENDED FOR GROUND COVER AND PLUG PLANTING (ie, SWALES & PARKWAY).

STATIC WATER PRESSURE

- EXISTING STATIC WATER PRESSURE IS 136-170 PSI. THIS IS BASED ON A CALCULATION FROM THE CITY OF LOS ANGELES. CONTRACTOR SHALL VERIFY EXISTING STATIC WATER PRESSURE ONSITE
- SET STATIC WATER PRESSURE AT NEW REGULATOR FOR IRRIGATION SYSTEM @ 150 PSI
- EXISTING WATER METER IS 1"

W.U.C.O.L.S. PLANTS WATER NEEDS RATINGS: MED=MEDIUM, L = LOW, M/L = MEDIUM LOW, L/VL = LOW TO VERY LOW

IRRIGATION EQUIPMENT LEGEND

SYMBOL	DESCRIPTION	SHEET & DETAIL CALL-OUT
	IRRIGATION SYSTEM CONTROLLER: WEATHERMATIC SL1600 SMARTLINE 8 ZONE MODULAR	SEE 1/L7.0
	WEATHER MONITOR: WEATHERMATIC SLW1	SEE 2/L7.0
	1" RP BACKFLOW PREVENTOR W/STRAINER AND PRESSURE REGULATOR FEBCO MODEL 825 YA, ANGLE PATTERN REDUCED PRESSURE ASSEMBLY WITH MODULAR RELIEF VALVE AND CHECK VALVE INTERNAL COMPONENTS: INTEGRAL FLANGED UNION CONNECTIONS AND BALL VALVE	SEE 3/L7.0
	1" BALL VALVE: CONTRACTOR TO SUPPLY AND INSTALL NIBCO, PVC Tru-Bloc TRUE UNION, MODEL 'D' BALL VALVE WITH DUEL THREADED UNIONS OR APPROVED EQUIVALENT. • INSTALL USING NDS PRO-SERIES 14"x19" CORRUGATED VALVE BOX, WITH OVERLAPPING BOLT DOWN LID, SAND COLOR BOX AND COVER PART #314BCB-SAND OR APPROVED EQUIVALENT.	SEE 4/L7.0
	3/4" QUICK COUPLING VALVE ASSEMBLY: RAINBIRD MODEL # 33DLRC, WITH LOCKING COVER	SEE 5/L7.0
	LOW FLOW REMOTE CONTROL VALVES W/PRESSURE REGULATOR & RBY FILTER ASSEMBLY: CONTRACTOR TO SUPPLY AND INSTALL, NEW RAINBIRD CONTROL ZONE KITS WITH PLASTIC GLOBE VALVE AND COMBINED PRESSURE REGULATOR AND FILTER, OR APPROVED EQUIVALENT AS FOLLOWS: • AT CONTROL VALVE 'A1'-USE RAINBIRD MODEL XCZ-100-PRF 1" CONTROL ZONE KITS WITH PLASTIC GLOBE VALVE COMBINED PRESSURE REGULATOR AND FILTER • INSTALL NEW CONTROL VALVES IN NDS PRO-SERIES 14"x19" CORRUGATED VALVE BOX, OR APPROVED EQUIVALENT, WITH OVERLAPPING BOLT DOWN LID, SAND COLOR, BOX AND COVER PART # 314BCB-SAND, OR APPROVED EQUIVALENT.	SEE 6/L7.0
	IRRIGATION MAIN LINE: CONTRACTOR TO SUPPLY AND INSTALL 1" SCH 40 PVC PIPE AND ALL REQUIRED FITTINGS AND MATERIAL, FROM NEW 1" POINT OF CONNECTION AND BALL VALVE. IRRIGATION CONTRACTOR TO CONFIRM LOCATION OF POINT OF CONNECTION WITH CITY REPRESENTATIVE, SEE SITE SPECIFIC NOTES.	SEE 7/L7.0
	UNDERGROUND SLEEVES: 4" DIAMETER SCHEDULE 40 PVC TYP., UNLESS OTHERWISE NOTED. EXTEND 6" BEYOND EDGE OF ALL PAVING AREA	SEE 7/L7.0
	IRRIGATION LATERAL SCHEDULE: 3/4" PVC PLASTIC PIPE AND ALL REQUIRED FITTINGS & MATERIALS FROM DRIP REMOTE CONTROL VALVES	SEE 2/L7.1
	POC IN-LINE DRIP PIPE: SOLID DIAMOND DENOTES CONNECTION TO INLINE DRIP PIPE AT GRADE POLYLINE POC: SOLID CIRCLE DENOTES CONNECTION BETWEEN SCHEDULE 40 PVC LATERAL STUB UP AND DRIP POLY LINE	--
	BLANK POLY LINE: NETAFIM TECHLINE RW 17MM BLANK POLYETHYLENE, IRRIGATION TUBING (BROWN WITH PURPLE STRIPE) UV RESISTANT OR APPROVED EQUAL. SEE PLAN & NOTES FOR LOCATIONS. POINT SOURCE, ONLINE DRIP EMITTERS: NETAFIM COLOR CODED SPECS SERIES SELF PIERCING EMITTERS W/INTERNAL CHECK VALVE, ANTI-SIPHON, PRESSURE COMPENSATING AND SELF CLEANING. SEE EMITTER FLOW RATE & COUNT LEGEND, THIS SHEET > 0.5 GPH EMITTERS MODEL # SPCV-05, BLUE ON GRADE IN-LINE DRIP IRRIGATION PIPE: NETAFIM TECH LINE CV 17MM BROWN UV RESISTANT POLYETHYLENE DRIPLINE MODEL #TLCV-4-12 WITH 0.4 GPH FLOW. 12" O.C. INSTALL PER DRIP DETAILS, DRIPLINE ROW SPACING 16" O.C.	SEE 8/L7.0 & 1/L7.1
	12" POP-UP TATTAL-TAIL ASSEMBLY: (TWO PER IRRIGATION CIRCUIT), CONTRACTOR TO SUPPLY AND INSTALL, RAINBIRD 1812 12" POP-UP BODY WITH RAINBIRD PA-80 ADAPTER, 1/2" SCH 40 PVC THREADED CAP, RAINBIRD SA-12-5050 SWING JOINT ASSEMBLY, FITTING WITH 1/2" FPT OUTLET, OR APPROVED EQUIVALENT, SEE DETAIL. PLACE VISIBLE LOCATIONS PER L.I.U. LANDSCAPE INC. REPRESENTATIVES APPROVAL. INSTALL PER MFG. NOTE AND SPECIFICATION.	SEE 3/L7.1
	MANUAL LINE FLUSH VALVE: CONTRACTOR TO SUPPLY AND INSTALL, NETAFIM MANUAL SHUT OFF VALVE MODEL# TL5OV, OR APPROVED EQUIVALENT. MOUNTED AT END OF POLYETHYLENE (BLANK) IRRIGATION TUBING RUN. SEE PLAN FOR REFERENCE LOCATIONS, FINAL LOCATION TO BE DETERMINED ON SITE DURING INSTALLATION OF IRRIGATION SYSTEM. INSTALL USING NDS PRO SERIES, 10" DIAMETER X 12"H ROUND SAND COLORED VAVLE BOX WITH LID, PART #111 BC SAND, OR APPROVED EQUIVALENT.	SEE 4/L7.1

9. DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTION, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF L.I.U. LANDSCAPE INC.. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

10. ALL THREADED PIPE CONNECTIONS MADE TO SLIP-JOINT PVC PIPE SHALL BE MADE WITH A PVC THREADED COUPLING. ALL THREADED ADAPTERS AND COUPLINGS ARE TO BE 'DURA' DEEP SOCKET TYPE.

11. ALL VALVES SHALL BE LOCATED IN GROUND COVER AREAS WHENEVER POSSIBLE. REMOTE CONTROL VALVES SHALL BE INSTALLED IN BELOW GRADE BOXES. USE BROWN COLORED BOXES UNLESS OTHERWISE SPECIFIED.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE FINAL CONNECTION OF CONTROL WIRES BETWEEN EXISTING WIRES AND NEW CONTROL VALVES.

13. CONTRACTOR SHALL PROVIDE SEPARATE SLEEVE FOR PRESSURIZED MAINLINE AND LATERALS ROUTED UNDER EXISTING WALKWAYS AS NEEDED.

14. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR INSTALLATION AND COORDINATION OF THE IRRIGATION SYSTEM TO INSURE A COMPLETE SYSTEM.

15. COVER ALL DRIP LINES WITH MINIMUM 3" THICK LAYER OF APPROVED BARK MULCH

16. PRESSURE REGULATION DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.

17. MANUAL SHUT-OFF VALVES SHALL BE REQUIRED, AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION OF THE WATER SUPPLY, TO MINIMIZE WATER LOSS IN CASE OF AN EMERGENCY OR ROUTINE REPAIR.

18. CHECK VALVES OR ANTI-DRAIN VALVES AREA REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR.

ADDITIONAL NOTES:

- A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.
- AT THE TIME OF FINAL INSPECTION, THE PERMIT APPLICANT MUST PROVIDE THE OWNER OF THE PROPERTY WITH A CERTIFICATE OF COMPLETION, CERTIFICATE OF INSTALLATION, AND A IRRIGATION SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE.
- AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION.

RECOMMENDED WATERING SCHEDULE

WATER DURING INTIAL PLANTING PERIOD:
SHRUB AND GROUNDCOVERS SYSTEMS: 30 MINUTES 1X PER DAY FOR FIRST 10 DAYS

SPRING WATERING DURING PLANT ESTABLISHMENT
TREE, SHRUB AND GROUNDCOVER SYSTEMS: 30 - 35 MINUTES 2X PER WEEK

SUMMER WATERING AFTER PLANT ESTABLISHMENT
TREE, SHRUB AND GROUNDCOVER SYSTEMS: 45 MINUTES 1X PER WEEK (FOR NATIVE OR DROUGHT TOLERANT PLANTS)

FALL WATERING AFTER PLANT ESTABLISHMENT
TREE, SHRUB AND GROUNDCOVER SYSTEMS: 35-45 MINUTES 2X PER WEEK (FOR NATIVE OR DROUGHT TOLERANT PLANTS)

WINTER WATERING AFTER PLANT ESTABLISHMENT
TREE, SHRUB AND GROUNDCOVER SYSTEMS: 40 MINUTES 1X PER WEEK
(SUPPLEMENTAL WATER ONLY REQUIRED IN DROUGHT CONDITIONS)

NOTE:
1. WATERING SCHEDULE IS PROVIDED AS A GENERAL GUIDELINE. TIME AND DAYS PER WEEK SHALL BE ADJUSTED BASED ON WEATHER CONDITIONS, PLANT TYPE, SOIL, ETC.
2. ESTABLISHMENT IS TYPICALLY FIRST 3-6 MONTHS
3. I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE.

L.I.U. Landscape Inc.
9422 East Las Tunas Drive
Temple City, CA 91780
License # LA1043216
www.liulandscape.com
626-888-9915

Project:

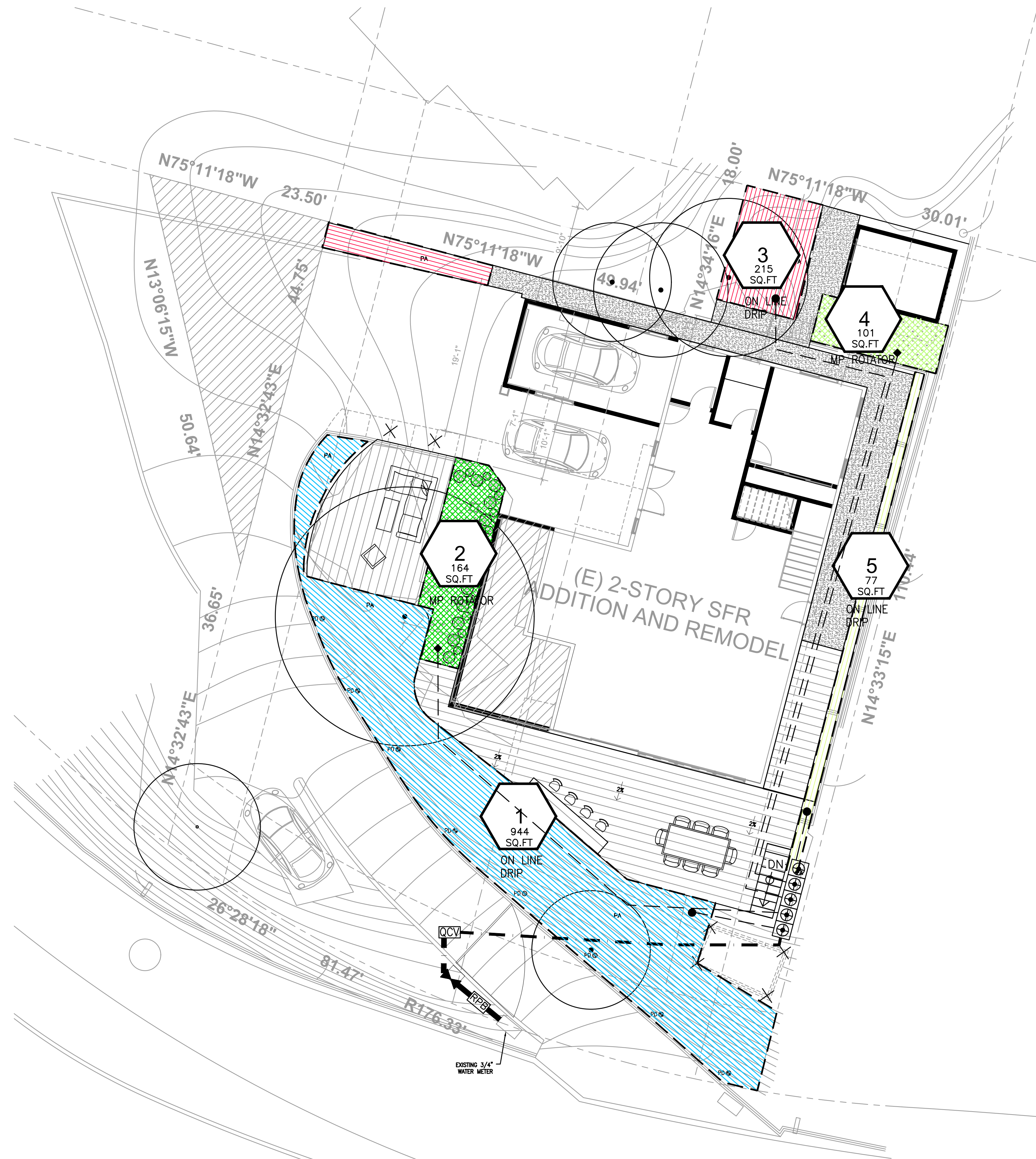
David Sun
2089 Hanscom Dr.
South Pasadena, CA 91030

IRRIGATION LEGEND

Revisions:
--
--
--
--

Submittal Date:
August 18, 2021

Sheet Number:
L5.0



L.I.U. Landscape Inc.
 9422 East Las Tunas Drive
 Temple City, CA 91780
 License # LA1043216
 www.liulandscape.com
 626-888-9915

Project:

David Sun
 2089 Hanscom Dr.
 South Pasadena, CA 91030

IRRIGATION HYDROZONE PLAN

Revisions:

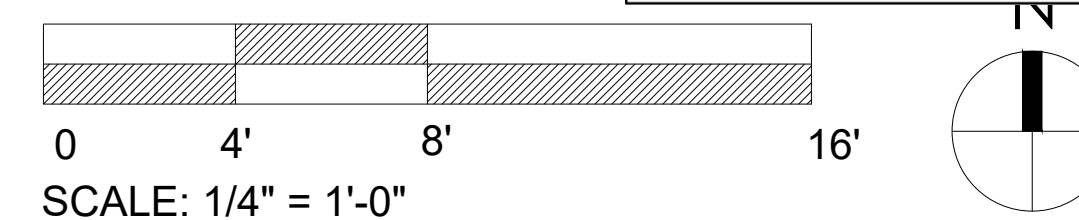
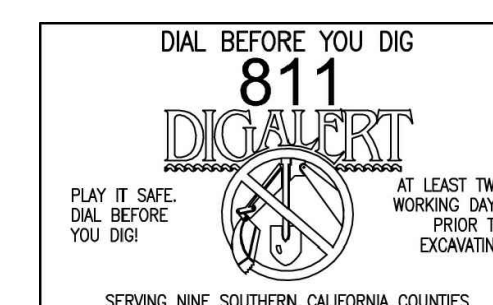
-
-
-
-

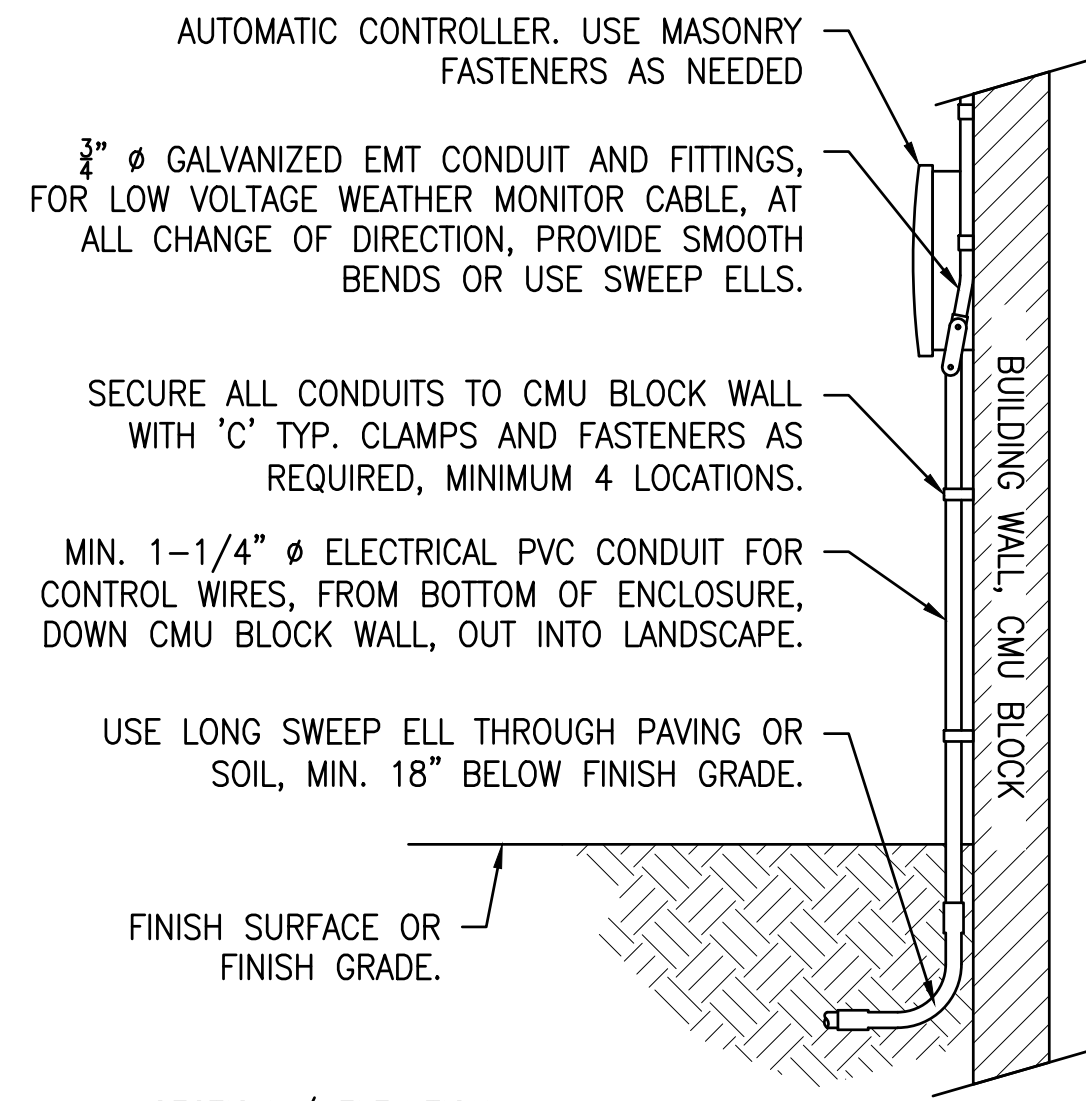
Submittal Date:

August 18, 2021

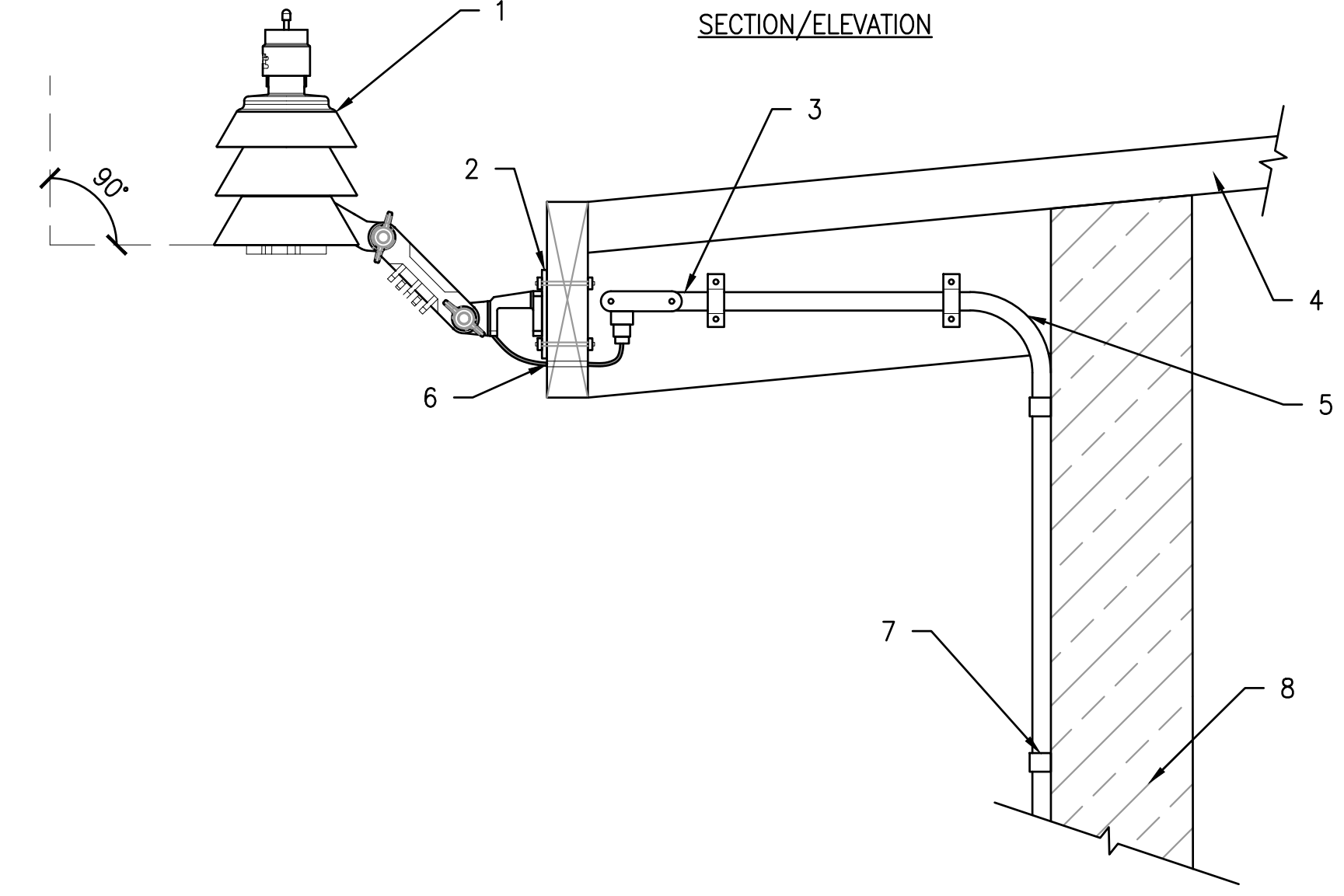
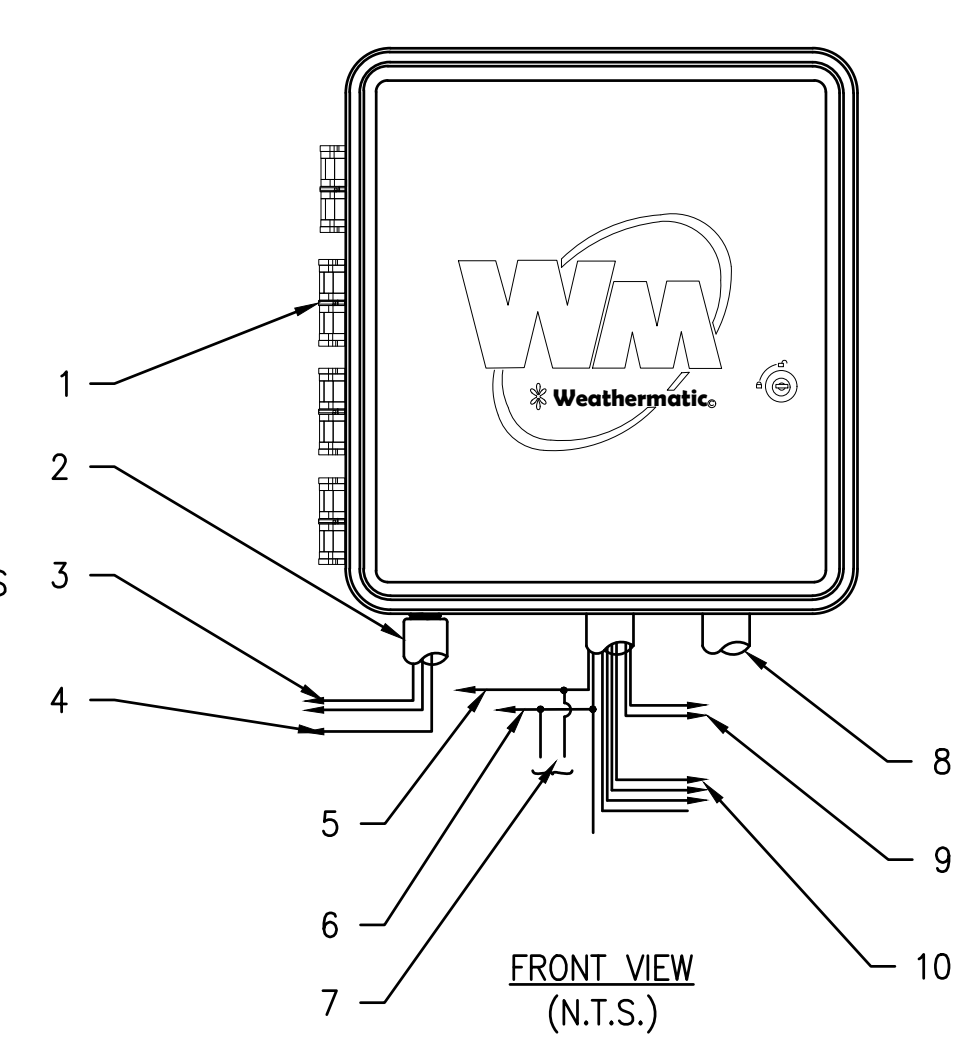
Sheet Number:

L6.0





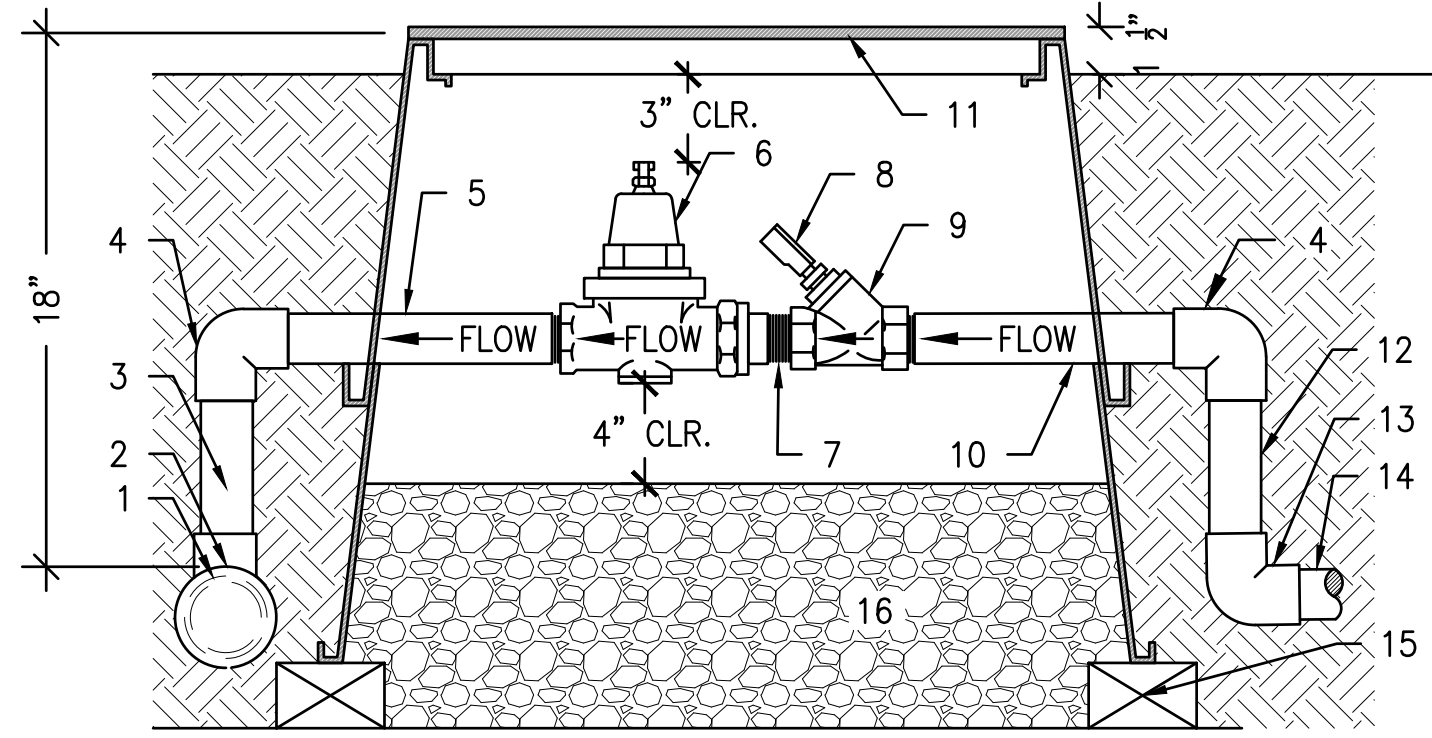
1. WALL MOUNT CONTROLLER
2. CONDUIT 115 A.C.
3. POWER SUPPLY WIRES
4. GROUND WIRE
5. MASTER VALVE WIRE (OPTIONAL)
6. COMMON NEUTRAL WIRE
7. PUMP CIRCUIT WIRES (OPTIONS)
8. CONDUIT 24V A.C.
9. RAIN STAT WIRES (OPTIONAL)
10. VALVE CONTROL WIRES—ONE PER VALVE



1. NEW WEATHER MONITOR, SEE IRRIGATION LEGENDS AND NOTES FOR MODEL AND MFG.
2. MOUNT WEATHER MONITOR ON BUILDING EAVE AS SHOWN, WITH BRACKET PROVIDED BY MFG. PER DETAILS, NOTES AND MFG. DIRECTIONS. SET MONITOR PLUMB AND LEVEL.
3. 'L' TYPE CONDUIT OUTLET BODY WITH WEATHER TIGHT RUBBER COMPRESSION FITTING AT END OF 3/4" Ø GALVANIZED EMT CONDUIT WITH FITTINGS REQUIRED.
4. BUILDING ROOF.
5. AT ALL CHANGE OF DIRECTIONS IN CONDUIT, PROVIDE SMOOTH BEND OR USE SWEEP ELLS, SIZE TO MATCH.
6. DRILL CLEARANCE HOLE THROUGH WOOD EAVE TO EASILY FEED CABLE FROM WEATHER MONITOR TO NEW CONDUIT.
7. SECURE ALL CONDUITS TO SIDE OF WOOD ROOF RAFTER AND CMU BUILDING WALL WITH TYP. CLAMPS AND FASTENERS AS REQUIRED, CLAMPS, MIN. 4 LOCATIONS.
8. BUILDING WALL, CMU BLOCK.

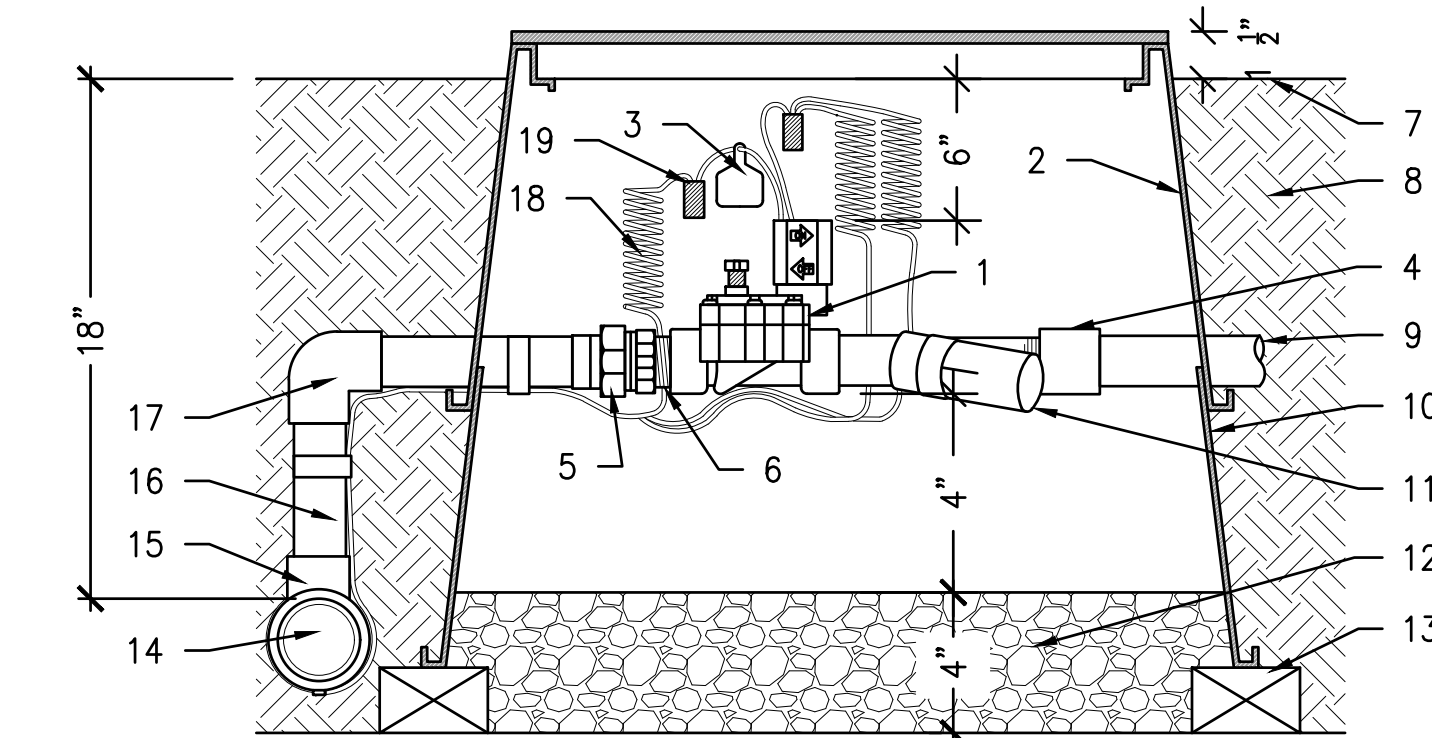
1 IRRIGATION SYSTEM CONTROLLER
SCALE: 1/2" = 1'

2 WEATHER MONITOR ON BUILDING EVE
SCALE: 1" = 1'



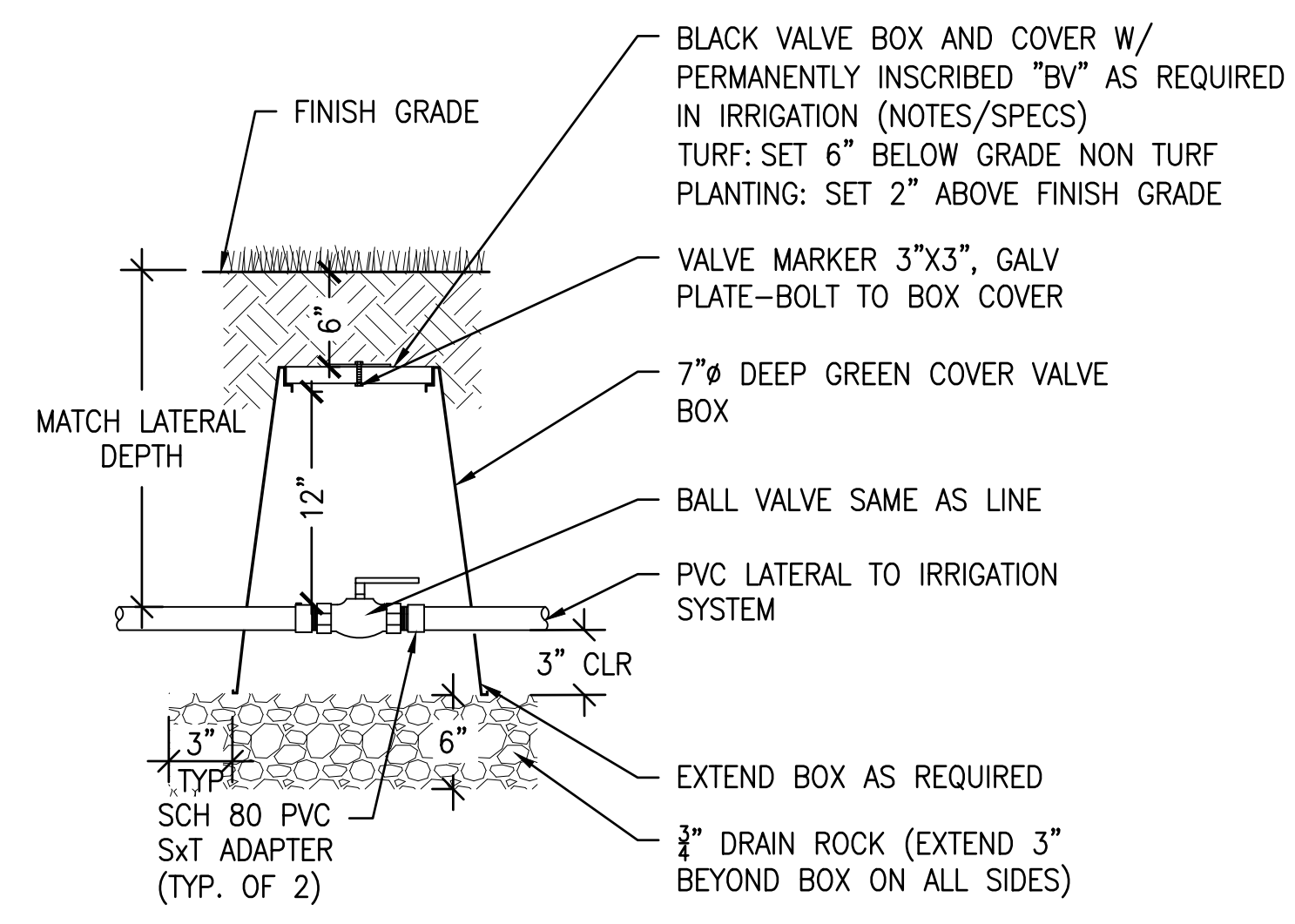
1. SCH 40 PVC LATERAL LINE, SIZE PER PLAN.
2. SCH 80 PVC SLIP X SLIP TEE OR ELL, (WITH REDUCER IF NEEDED), SIZE PER PLAN.
3. SCH 80 PVC SLIP X SLIP NIPPLE, SIZE AND LENGTH AS NEEDED (2 REQUIRED)
4. SCH 80 PVC SLIP X SLIP ELL, SIZE PER PLAN (2 REQUIRED).
5. SCH 80 PVC SLIP X THREAD NIPPLE, SIZE AND LENGTH AS NEEDED (2 REQUIRED).
6. PRESSURE REGULATOR—MFG. AND SIZE PER IRRIG. LEGEND.
7. THREADED BASS NIPPLE, SIZE AND LENGTH AS REQUIRED.
8. PRESSURE GAUGE, MFG. AND MODEL, SEE IRRIG. LEGEND, SET DIAL FACING UP.
9. BRASS WYE STRAINER, MFG., SIZE AND SCREEN IRRIG. LEGEND.
10. SCH 80 PVC SLIP X THREAD NIPPLE, SIZE AND LENGTH REQUIRED.
11. RECTANGULAR PLASTIC VALVE BOX. SIZE AND COLOR PER IRR. LEGEND, HEAT "PR" ON LID IN 2" HIGH BLOCK LETTERS.
12. SCH 80 PVC SLIP X SLIP NIPPLE, SIZE, LENGTH AS REQUIRED.
13. SCH 80 PVC SLIP X SLIP ELL, SIZE PER PLAN.
14. SUPPLY LINE OR FROM EX. P.O.C. — SEE NOTES ON PLAN.
15. BRICK SUPPORTS (1 OF 4).
16. 4" THICK BASE OF 3/4" WASHED GRAVEL.

3 PRESSURE REGULATOR WYE STRAINER ASSEMBLY
SCALE: 1 1/2" = 1'



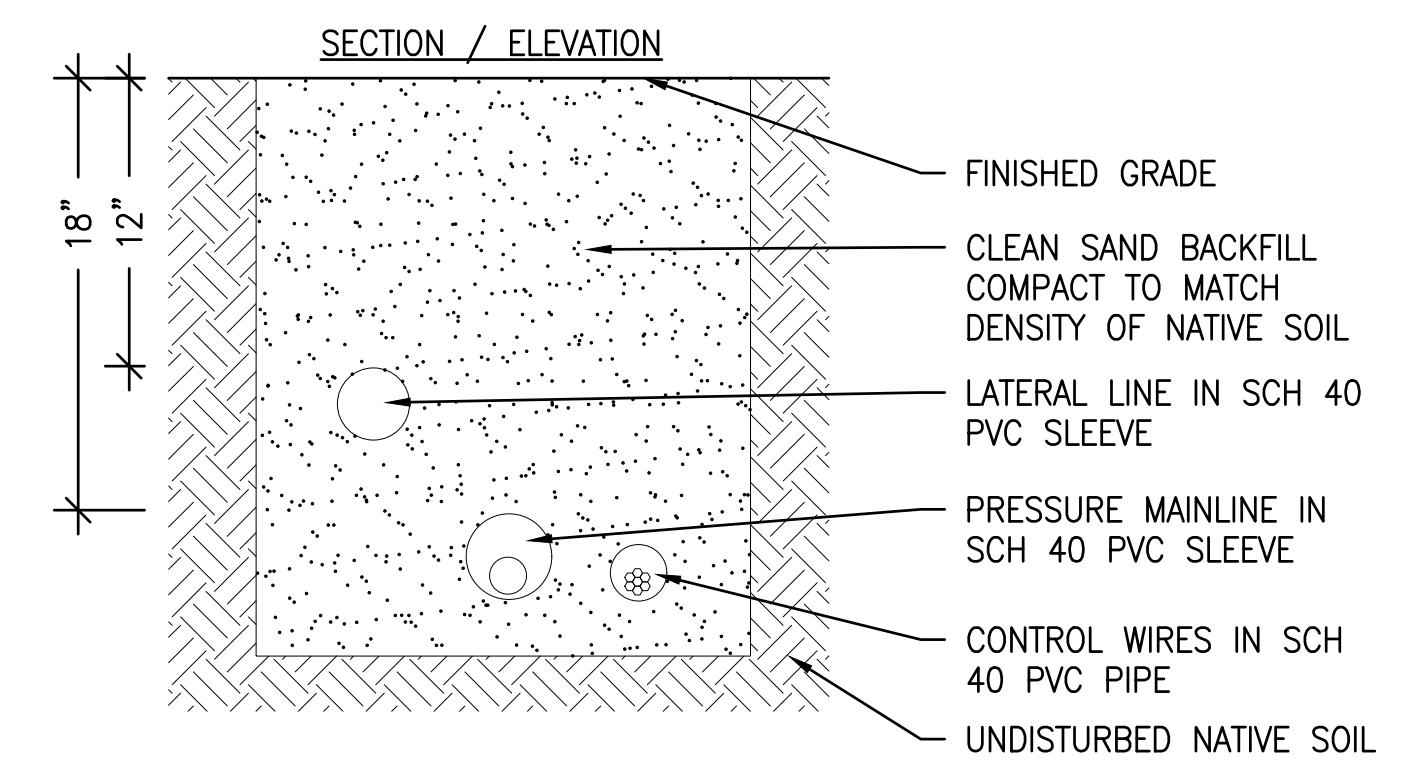
1. REMOTE CONTROL VALVE PER LEGEND.
2. RECTANGULAR PLASTIC VALVE BOX SIZE AND COLOR PER IRRIG. LEGEND, HEAT BRAND. STATION NUMBER AND "DZ" ON LID IN 2" HIGH BLOCK LETTERS.
3. (2) I.D. TAGS REQUIRED, 1) PURPLE 'RECYCLED/RECLAIMED WATER TAG AND SECOND TAG. WITH PRINTED STATION NUMBER, SEE SPECIFICATIONS.
4. SCH 40 PVC MALE ADAPTER.
5. SCH 80 PVC UNION (LINE SIZE).
6. SCH 80 PVC CLOSE NIPPLE.
7. FINISH GRADE.
8. NATIVE SOIL.
9. PVC PIPING TO SYSTEM (CONNECT AND ADAPT AS NECESSARY).
10. RECTANGULAR PLASTIC VALVE BOX USED AS EXTENSION (NDS #318B OR APPROVED EQUAL).
11. COMBINED PRESSURE REGULATOR AND Y-FILTER PER LEGEND.
12. FILL BASE OF BOX WITH PEA GRAVEL.
13. COMMON BRICK SUPPORTS (4 REQUIRED).
14. MAINLINE PIPING PER IRRIGATION LEGEND (PLAN SIZE). 14.1. SCH 40 PVC MAINLINE FITTING (OUTLET TO BE VALVE SIZE).
15. SCH 80 PVC ELL (VALVE SIZE).
16. SCH 80 PVC PIPING (VALVE SIZE) LENGTH AS REQUIRED.
17. SCH 80 PVC ELL (VALVE SIZE).
18. #14 UF CONTROL WIRE WITH 30" LENGTH COILED, TAPE TO PIPES PER DET. 'H', RUN TO CONTROLLER (COLOR CODED).
19. WATERPROOF WIRE CONNECTOR (2 REQUIRED).

4 DRIP ZONE CONTROL VALVE
SCALE: 1 1/2" = 1'



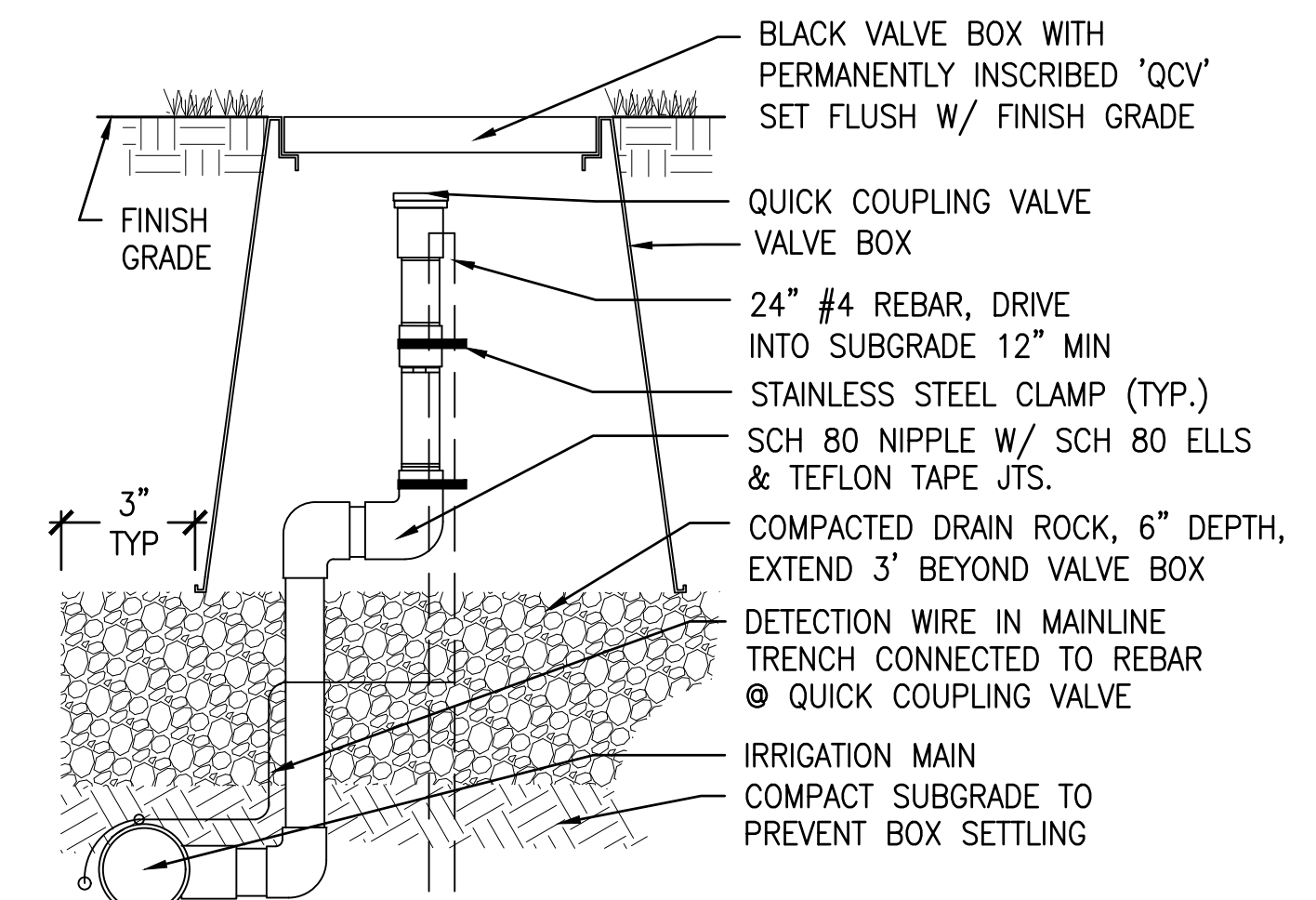
1. BLACK VALVE BOX AND COVER W/ PERMANENTLY INSCRIBED "BV" AS REQUIRED IN IRRIGATION (NOTES/SPECS) TURF: SET 6" BELOW GRADE NON TURF PLANTING: SET 2" ABOVE FINISH GRADE
2. VALVE MARKER 3"x3", GALV PLATE—BOLT TO BOX COVER
3. 7"Ø DEEP GREEN COVER VALVE BOX
4. BALL VALVE SAME AS LINE
5. PVC LATERAL TO IRRIGATION SYSTEM
6. EXTEND BOX AS REQUIRED
7. 3/4" DRAIN ROCK (EXTEND 3" BEYOND BOX ON ALL SIDES)

4 BALL VALVE
SCALE: 1 1/2" = 1'



1. SIZE ALL SLEEVES PER THE IRRIGATION PLANS. EXTENDED SLEEVES 6" MINIMUM BEYOND EDGE OF HARDSCAPE (AT EACH END) INTO THE PLANTING AREAS.
2. *SLEEVING UNDER ALL VEHICULAR ACCESS WAYS TO HAVE 36" MINIMUM COVER FROM TOP OF SLEEVE TO BOTTOM OF AGGREGATE BASE.

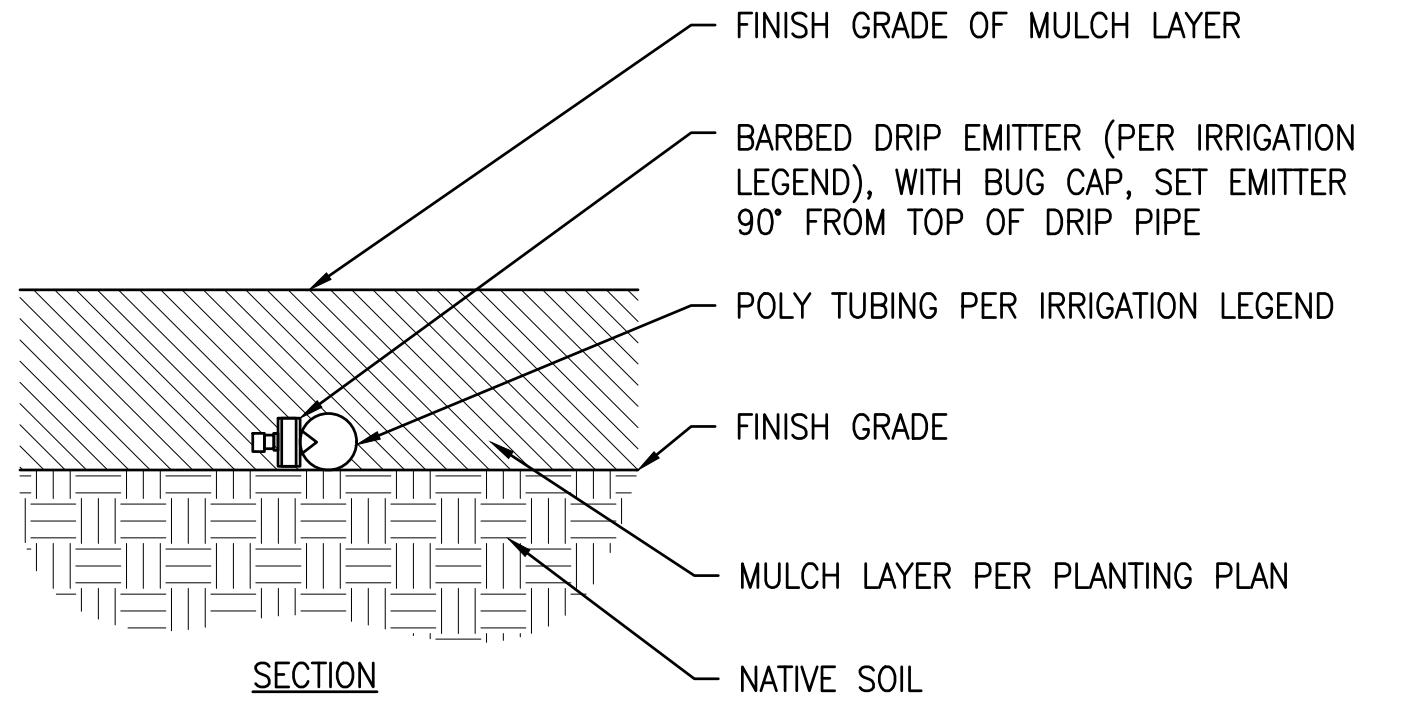
7 UNDERGROUND SLEEVING
SCALE: 1 1/2" = 1'



1. BLACK VALVE BOX WITH PERMANENTLY INSCRIBED "QCV" SET FLUSH W/ FINISH GRADE
2. QUICK COUPLING VALVE VALVE BOX
3. 24" #4 REBAR, DRIVE INTO SUBGRADE 12" MIN
4. STAINLESS STEEL CLAMP (TYP.)
5. SCH 80 NIPPLE W/ SCH 80 ELLS & TEFLON TAPE JTS.
6. COMPACTED DRAIN ROCK, 6" DEPTH, EXTEND 3" BEYOND VALVE BOX
7. DETECTION WIRE IN MAINLINE TRENCH CONNECTED TO REBAR @ QUICK COUPLING VALVE
8. IRRIGATION MAIN
9. COMPACT SUBGRADE TO PREVENT BOX SETTLING

- NOTES:
1. INSTALL TO PREVENT SETTLING.
 2. CENTER QCV IN BOX.
 3. POSITION QCV TO ALLOW CONVENIENT, ACCESSIBLE ACCESS TO QCV KEY & HOSE SWIVEL.

5 QUICK COUPLER VALVE
SCALE: 3" = 1'



- INSERT DRIP EMITTER DIRECTLY INTO POLY TUBING. LOCATE EMITTERS JUST INSIDE THE EDGE OF ROOT BALL UNLESS INSTRUCTED OTHERWISE BY THE L.I.U. LANDSCAPE INC. REPRESENTATIVE. REFER TO PLANTING PLAN FOR DEPTH OF MULCH. WHEN ON A SLOPE, INSTALL ON UP-HILL SIDE OF PLANT WHERE DEVICE IS USED ON AN INDIVIDUAL PLANT BASIS.
- NOTES:
1. ON-LINE POINT SOURCE DRIPPER, SEE IRRIGATION PLAN

8 DRIP EMITTER ON POLY TUBING
SCALE: 3/4" = 1'



L.I.U. Landscape Inc.
9422 East Las Tunas Drive
Tempe City, CA 91780
License # LA1043216
www.liulandscape.com
626-888-9915

Project:
David Sun
2089 Hanscom Dr.
South Pasadena, CA 91030

IRRIGATION DETAILS

Revisions:

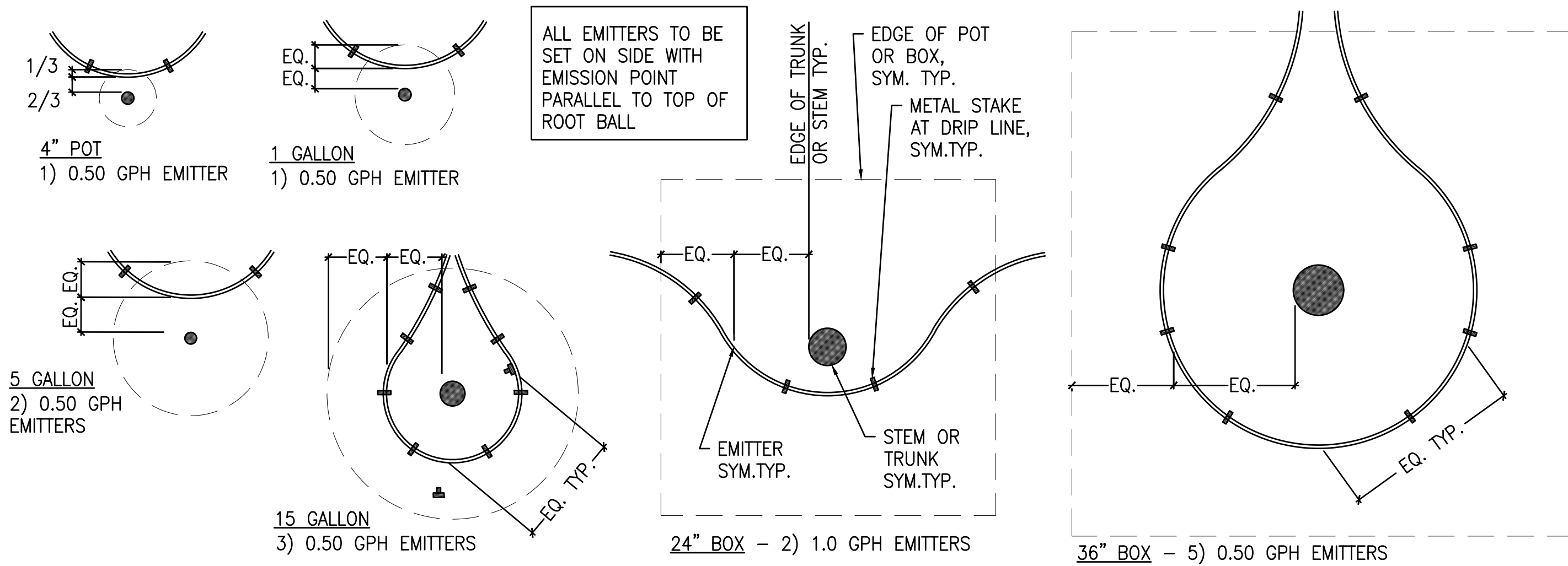
—
—
—
—

Submittal Date:

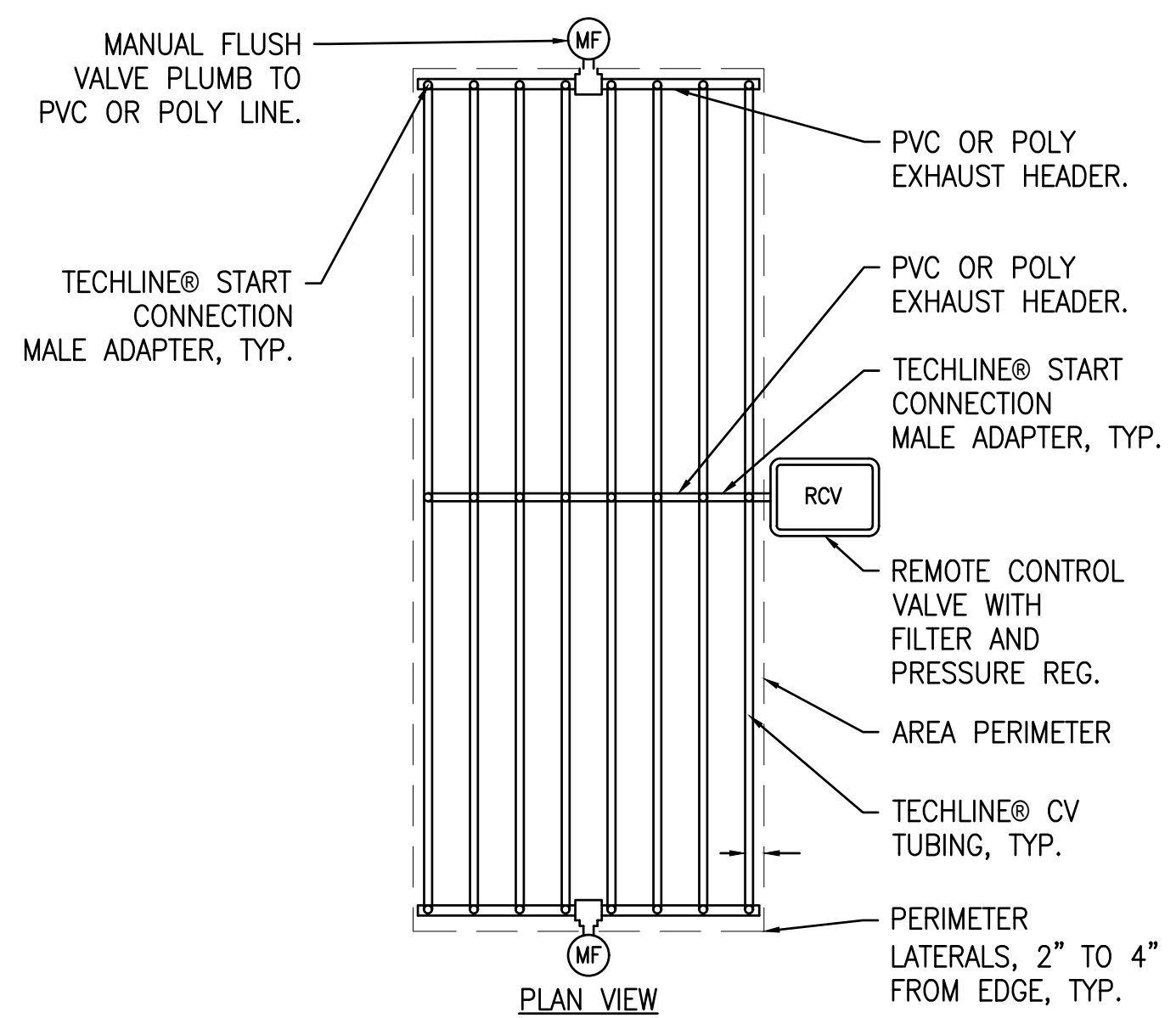
August 18, 2021

Sheet Number:

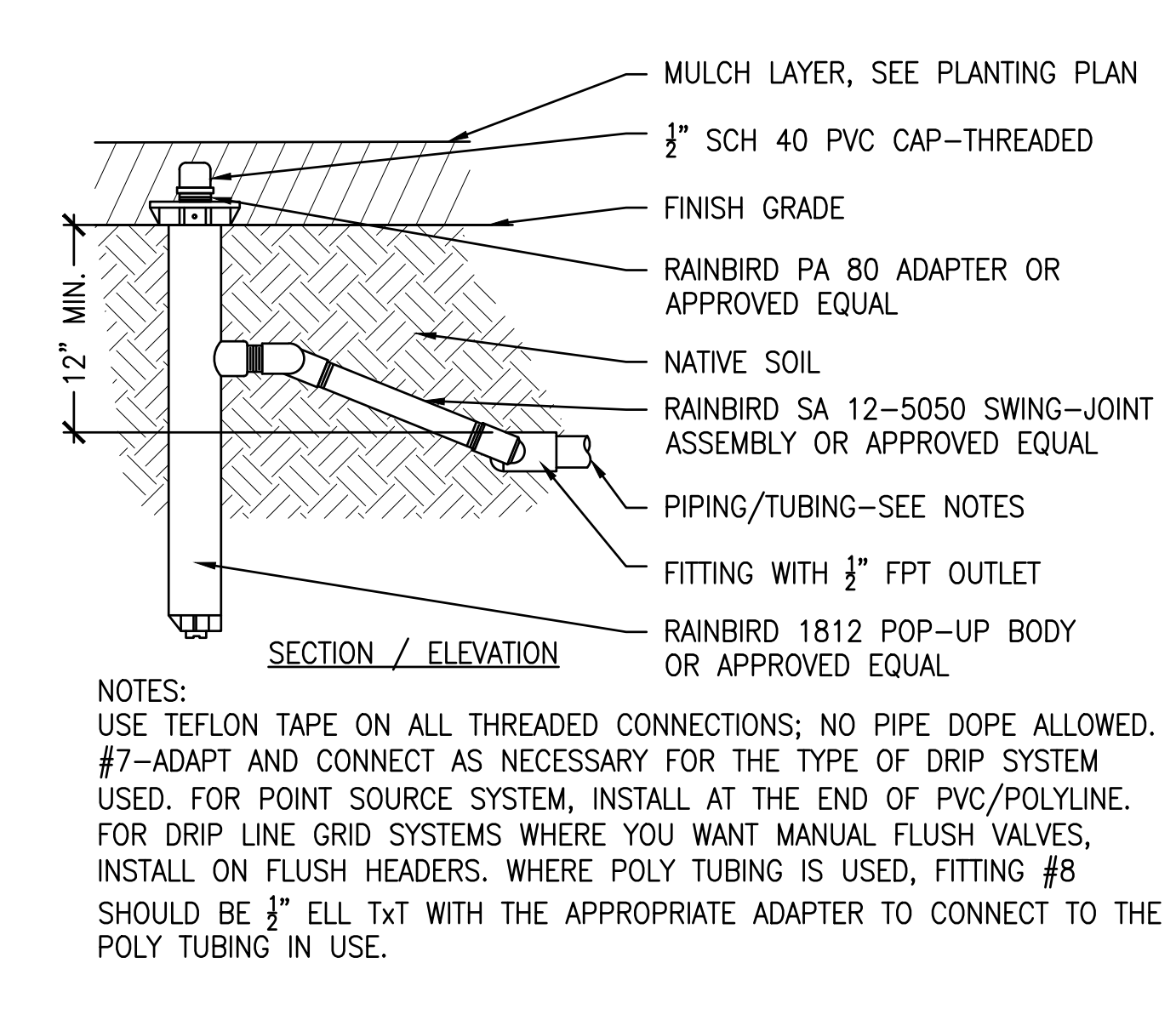
L7.0



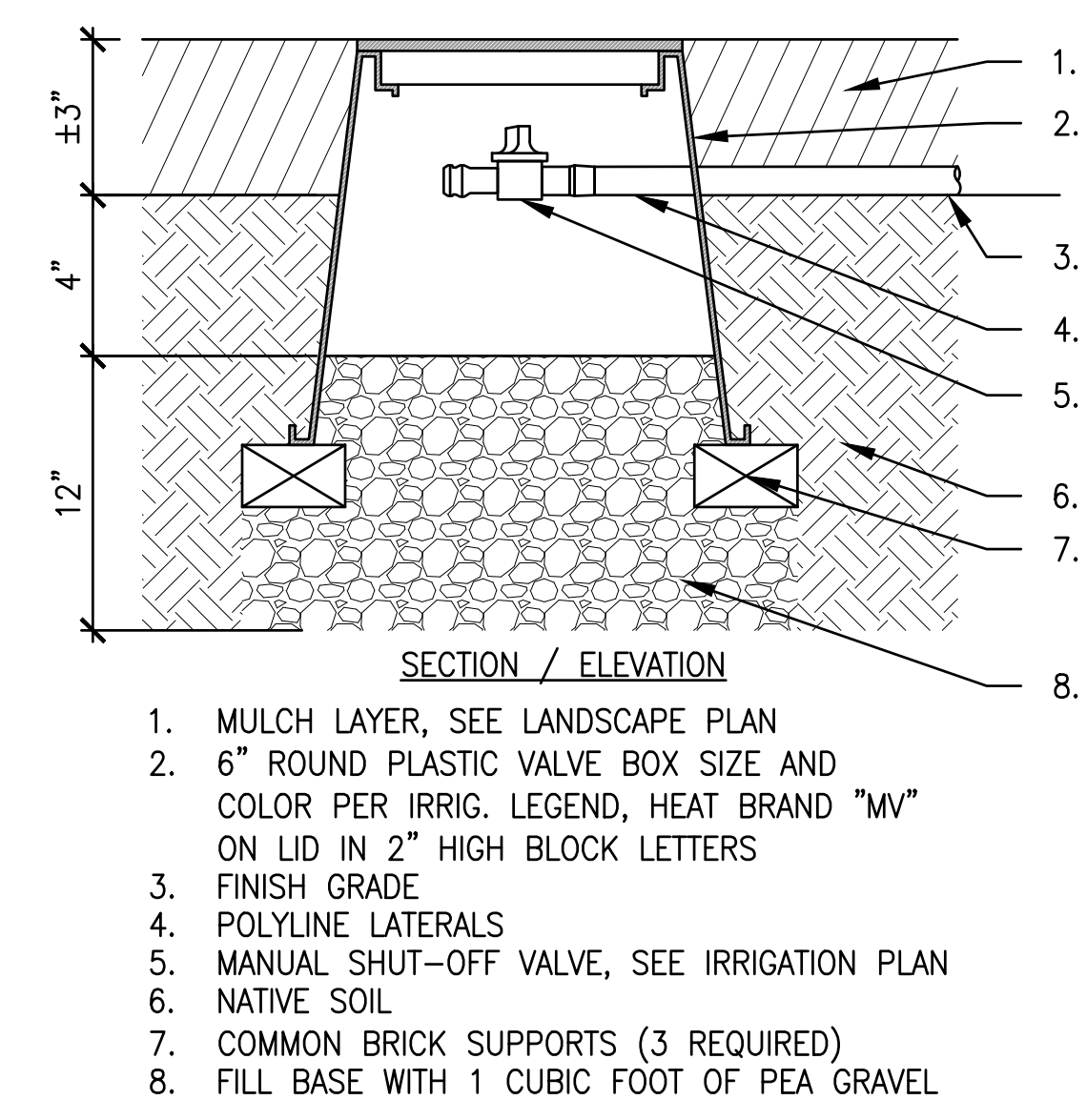
1 ONLINE DRIP EMITTER LAYOUT
SCALE: 3/4" = 1'



2 INLINE DRIP CENTER FEED
SCALE: 3/4" = 1'



3 POP-UP TATTLETALE ASSEMBLY
SCALE: 1" = 1'



4 MANUAL FLUSH VALVE
SCALE: 1 1/2" = 1'


L.I.U. Landscape Inc.
 9422 East Las Tunas Drive
 Temple City, CA 91780
 License # LA1043216
 www.liulandscape.com
 626-888-9915

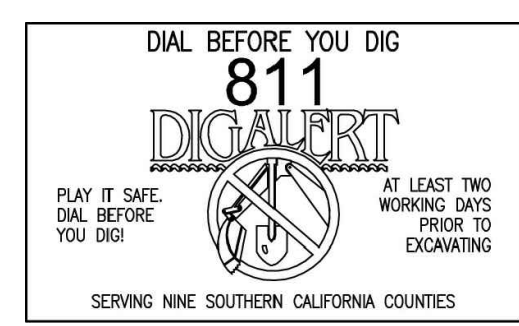
Project:
David Sun
 2089 Hanscom Dr.
 South Pasadena, CA 91030

IRRIGATION DETAILS

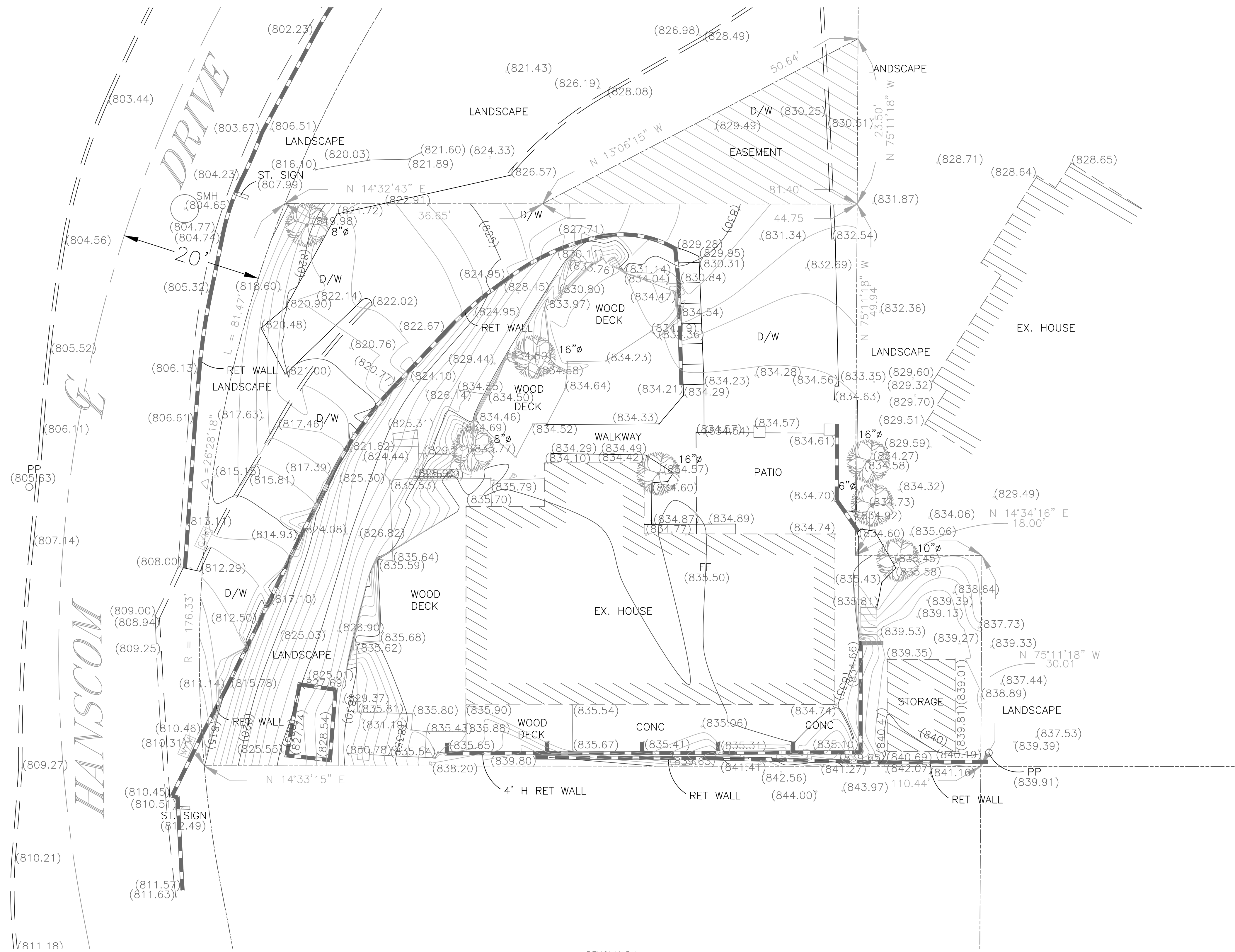
Revisions:
 --
 --
 --
 --

Submittal Date:
 August 18, 2021

Sheet Number:
 L7.1



SLOPE DENSITY ANALYSIS



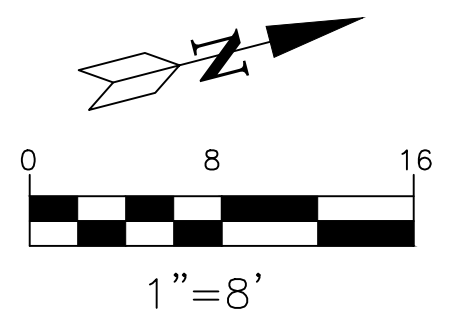
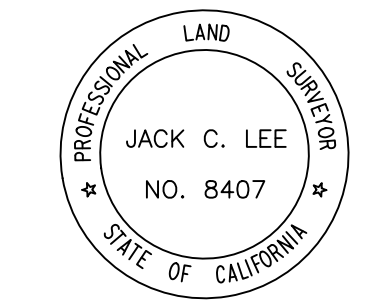
ELEVATION OF CONTOUR (FEET)	LENGTH OF CONTOUR (FEET)
811	17.55
812	36.49
813	43.33
814	56.26
815	62.34
816	101.91
817	98.14
818	96.35
819	98.05
820	102.83
821	97.80
822	96.39
823	94.02
824	91.62
825	89.39
826	90.27
827	91.83
828	102.25
829	108.82
830	124.19
831	152.84
832	164.69
833	164.45
834	201.35
835	233.31
836	141.54
837	133.38
838	124.05
839	114.68
840	57.99
841	23.02
TOTAL LENGTH	3211.13

LEGAL DESCRIPTION:
 PORTIONS OF LOTS 21 AND 22 IN BLOCK 11 OF TRACT NO. 2672, IN THE CITY OF SOUTH PASADENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 27 PAGE 29 AND 30, OF MAPS, IN THE CITY OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
 APN: 5308-022-010
 PROPERTY SIZE: 7741.26 S.F.

BENCHMARK:
 BENCHMARK NO. LY 11535
 L&T IN S CB MEDFORD ST ON C/L PROD MARIANNA AVE (SW/O EASTERN AVE)
 ELEVATION: 404.112' (NAVD 1988)
BASIS OF BEARING:
 NORTH BOUNDARY LINE OF ELKINS ST. N70°31'58"W PER RECORD OF SURVEY, R.S. 194-24

ALLOWABLE AREA (A): 7741.26 SF (0.178 ACRE)
 CONTOUR INTERVAL (I): 1 FOOT
 SUMMATION OF LENGTH OF ALL CONTOURS (L): 3211.13 FEET
 AVERAGE SLOPE: $\frac{0.00229(I \times L)}{A}$
 $\frac{0.00229(1 \times 3211.13)}{7741.26} = 41.31\%$

Jack C. Lee



CALLAND ENGINEERING, INC.
 dba QUARTECH CONSULTANTS
 576 E. LAMBERT ROAD, BREAS, CA 92821
 TEL: (714) 671-1050 FAX: (714) 671-1090

RELEASED

REVISIONS

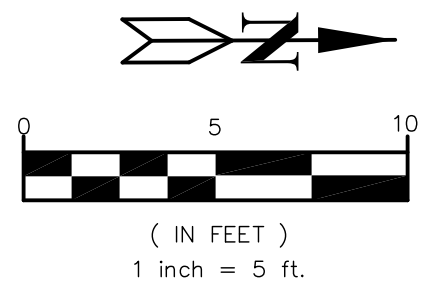
REVISIONS

PROJECT LOCATION:
 2089 Hanscom Drive,
 South Pasadena, CA 91030

DRAWN: ML
 CHECKED: JY
 DATE: 08-11-2021
 JOB NO.: 20-180-033
 SCALE: 1"=8'
 FILE NAME: Hanscom 2089 Slope.dwg

S-1
 SHEET 1 OF 1 SHT.

PRELIMINARY GRADING AND DRAINAGE PLAN

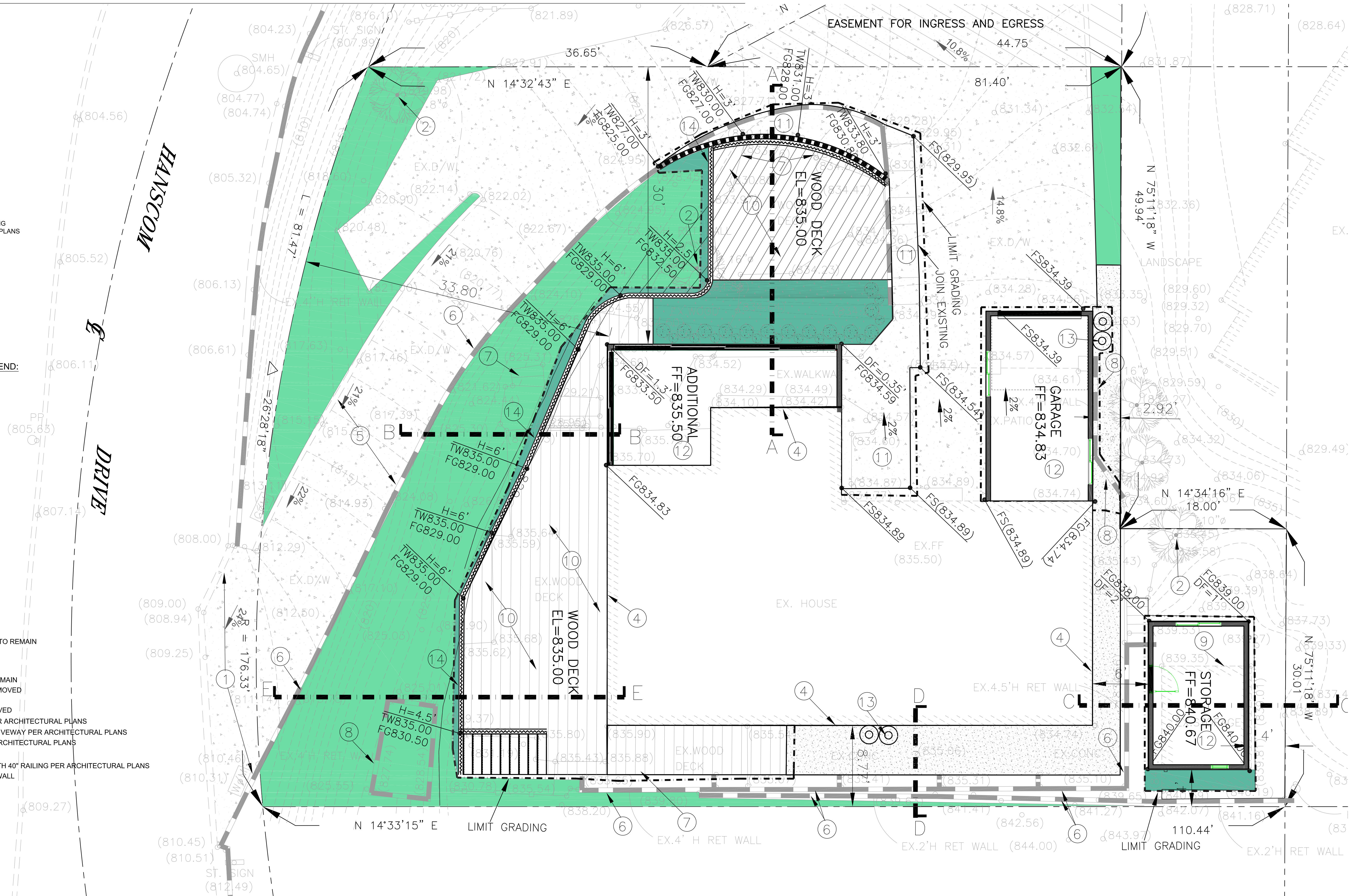


- LEGEND:**
- (527.63).....EXISTING ELEVATION
 - 520.00.....PROPOSED ELEVATION
 - (530).....EXISTING CONTOUR
 -EX. DRAINAGE PATTERN
 -PROPOSED STRUCTURE
 -PROPOSED WALL
 - SW.....SIDE WALK
 -LIGHT
 -CENTER LINE
 -PROPERTY LINE
 -CONSTRUCTION NOTES
 -BUILDING STEM/RETAINING WALL PER STRUCTURAL PLANS

- ABBREVIATIONS:**
- TC.....TOP OF CURB
 - FL.....FLOW LINE
 - FG.....FINISH GRADE
 - FS.....FINISH SURFACE
 - FF.....FLOOR FINISH
 - HP.....HIGH POINT
 - PP.....POWER POLE
 - D/W.....DRIVEWAY
 - WM.....WATER METER
 - INV.....INVERT ELEVATION
 - TG.....TOP OF GRATE
 - DS.....DOWNSPOUT

- NATURAL LANDSCAPE LEGEND:**
- DISTURBED AREAS (190 s.f.)
 - UNDISTURBED AREAS (1339 s.f.)

- CONSTRUCTION NOTES:**
- 1 EXISTING DRIVEWAY APPROACH TO REMAIN
 - 2 EXISTING TREE TO REMAIN
 - 4 EXISTING BUILDING TO REMAIN
 - 6 EXISTING DRIVEWAY TO REMAIN
 - 6 EXISTING RETAINING WALL TO REMAIN
 - 7 EXISTING WOOD DECK TO BE REMOVED
 - 8 EXISTING WALL TO BE REMOVED
 - 9 EXISTING STORAGE TO BE REMOVED
 - 10 CONSTRUCTION WOOD DECK PER ARCHITECTURAL PLANS
 - 11 CONSTRUCT NEW CONCRETE DRIVEWAY PER ARCHITECTURAL PLANS
 - 12 CONSTRUCTION BUILDING PER ARCHITECTURAL PLANS
 - 13 INSTALL RAIN BARREL
 - 14 CONSTRUCTION BLOCK WALL WITH 40" RAILING PER ARCHITECTURAL PLANS
 - 15 CONSTRUCTION 3' H RETAINING WALL



EARTHWORK QUANTITIES:

CUT: 10 CY
 FILL: 4 CY

SPECIAL NOTE:
 THE QUANTITIES SHOWN HEREON ARE FOR PERMIT AND BONDING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY QUANTITIES PRIOR TO START OF GRADING.

OWNER/CLIENT:

MR. DAVID SUN-PARADACE CORP.
 837 SAN NICHOLAS DR,
 WALNUT, CA 91789
 310-776-5672

BENCHMARK:

BENCHMARK NO. LY 11535
 L&T IN S CB MEDFORD ST ON C/L
 PROD MARIANNA AVE (SW/O
 EASTERN AVE)
 ELEVATION: 404.112'

LEGAL DESCRIPTION:

PARCEL PORTIONS OF LOTS 21 AND 22 IN BLOCK 11 OF TRACT NO. 2672, IN THE CITY OF SOUTH PASADENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 27 PAGE 29 AND 30, OF MAPS, IN THE CITY OFFICE OF THE COUNTY RECORDER OF SAID COUNTY. PARCEL 2 (AN EASEMENT FOR INGRESS AND EGRESS PORTION OF LOT 20 IN BLOCK 11 OF TRACT NO. 2672, IN THE CITY OF SOUTH PASADENA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 27 PAGE 29 AND 30, OF MAPS, IN THE CITY OFFICE OF THE COUNTY RECORDER OF SAID COUNTY. APN: 53308-022-010

SOIL ENGINEER:

JACK C. LEE, GE 2153
 EXP. DATE: 3-31-2023
 CALLAND ENGINEERING, INC.
 dba QUARTECH CONSULTANTS
 576 E. LAMBERT ROAD
 BREAA, CA 92821
 TEL. NO. (714) 671-1050



CALLAND ENGINEERING, INC.
 dba QUARTECH CONSULTANTS
 576 E. LAMBERT ROAD, BREAA, CA 92821
 TEL: (714) 671-1050 FAX: (714) 671-1090

RELEASED

REVISIONS

PROJECT LOCATION:
 2089 HANSKOM DRIVE
 SOUTH PASADENA, CA 91030

DRAWN: XY
 CHECKED:
 DATE: 07/17/2024
 JOB NO.: 21-225-011
 SCALE: 1"=5'
 FILE NAME:

C-1

ATTACHMENT 3

Site Images

2089 HANSCOM DR, SOUTH PASADENA, CA 91030

Photographs of existing site conditions



2089 HANSCOM DR, SOUTH PASADENA, CA 91030

Photographs of existing site conditions



1



2

2089 HANSCOM DR, SOUTH PASADENA, CA 91030

Photographs of existing site conditions



View from East side of house

3



Front deck view of house

4

2089 HANSCOM DR, SOUTH PASADENA, CA 91030

Photographs of existing site conditions



5



6

2089 HANSCOM DR, SOUTH PASADENA, CA 91030

Photographs of existing site conditions



7



8

2089 HANSCOM DR, SOUTH PASADENA, CA 91030

Photographs of existing site conditions



9



10

ATTACHMENT 4

Neighborhood Images



NEIGHBORHOOD MAP

2089 Hanscom Dr, South Pasadena, CA







ATTACHMENT 5

Materials Brochures

EXTIRA[®]
by JELD-WEN



EXTIRA PANELS ARE READY TO WORK

EXTIRA PRODUCT INFORMATION, WARRANTY AND APPLICATION INSTRUCTIONS



EXTIRA[®]

by JELD-WEN



MOISTURE RESISTANT: As measured by ASTM D1037 for Water Absorption and Thickness Swelling.

ROT RESISTANT: As measured by AWPA E-16 Field Test for Evaluation of Wood Preservatives to be Used Out of Ground Contact: Horizontal Lap-Joint Method.

TERMITE RESISTANT: As measured by AWPA E-7 Standard Method of Evaluating Wood Preservatives by Field Tests with Stakes.

EXTIRA IS A REVOLUTIONARY PRODUCT FOR EXTERIOR APPLICATIONS THAT PERFORMS BETTER THAN WOOD OR MDF

	EXTIRA PANELS	TYPICAL MDF
APPLICATION	Exterior	Interior
COMPOSITION	Wood, phenolic resins, zinc borate, wax and other ingredients. No added urea formaldehyde.	Wood, urea formaldehyde resin. May emit formaldehyde.
MANUFACTURING PROCESS	Proprietary, patented steam injection technology using TEC™ manufacturing process.	Pressed between hot platens in an open press without steam injection.
BENEFITS	Consistent density. Resists moisture, rot and termite. Made for exterior performance.	Not uniformly dense throughout. No termite or rot protection. MR MDF (moisture resistance MDF) only offers moisture resistance for interior use.
WARRANTY	10 years	30 days

	EXTIRA 3/4"	MEDEX 3/4"	MR 50 GRADE 110 PER ANSI 208.2-2002	WOOD
THICKNESS SWELL (TS)	2.3%	3% ²	5% max	NA
ADVANCED BOND INTEGRITY (% strength retention)	90% ASTM D1037-96	Passes ²	50% min	NA
TERMITE RESISTANCE (10 is the highest score)	7.9 out of 10 (3 year exposure) ¹	None	None	None, 0.0 ¹
ROT RESISTANCE (0 is the highest score)	1.0 out of 5 (3 year exposure) ¹	None	None	None, 5.0 ¹

¹ Independent testing per AWPA E-7 and AWPA E-16

² Published material by Medex

WITH FIVE THICKNESSES AND THREE PANEL SIZES, EXTIRA MEASURES UP TO ANY PROJECT

EXTIRA PANEL SIZES AND THICKNESSES

SIZE (NOMINAL)	THICKNESS (+/-0.005")						
	7/16"*	1/2"	5/8"	11/16"*	3/4"	1"	1-1/4"
4' x 8' (49" x 97")	●	●	●	●	●	●	●
4' x 16' (49" x 194")	●	●	●	●	●	●	●
2' x 16' (25" x 194")	●	●	●	●	●	●	●

*Available by special order.



MANUFACTURING PROCESS BINDS NATURAL WOOD FIBERS WITH PHENOLIC RESINS AND ZINC BORATE.

Extira panels can be used for any non-structural paint-grade application, including exterior millwork, door and window parts, signage, and architectural components. While designed for exterior use, Extira panels also work well in high moisture interior applications such as bathrooms, medical installations, laboratories, countertop underlayment and casework.

EXTIRA – EXTERIOR GRADE SMOOTH TWO SIDE PANELS

- Extira is sold in panel dimensions, unprimed and is smooth on both sides.
- Extira meets industrial caliper requirements of +/- 0.005".
- Easy to work with; can be carved, routed and machined.
- Resists moisture, rot, and termites. Extira is made to be used outside.
- No added urea formaldehyde; made from sustainable materials.
- Made from the same proprietary process that creates MiraTEC® trim. Extira has the same performance properties.
- Class C fire rating; Flame spread 120; Smoke developed 95.
- Extira has a 10-year limited warranty that far exceeds competitive panel products.

EXTIRA IS THE BEST ALTERNATIVE

EXTIRA VS. THE COMPETITION

	EXTIRA	MDF	PLYWOOD	MF	PVC
Price	\$\$	\$	\$	\$\$	\$\$\$\$
Moisture Resistance	Good	Poor	Poor	Good	Best
Rot Resistance	Best	None	None	None	Best
Weathering ³	Good	Poor	Poor	Good	Good
UV Resistance ³	Good	Good	Best	Good	Poor ²
Warranty	10-Year	30-Days	None	Varies	5-Year to Lifetime
Machineability	Good	Good	Poor	Poor	Varies
Paintability ³	Best	Best	Good	Best	Poor

² PVC may have UV-related issues when painted a dark color

³ Ratings reflect uncoated material ranking. Extira must be field finished before use



EXTIRA PANELS CARVE BEAUTIFULLY



EXTIRA MACHINES WELL



ROUTE EXTIRA FOR ALL YOUR SIGN NEEDS

EXTIRA[®]

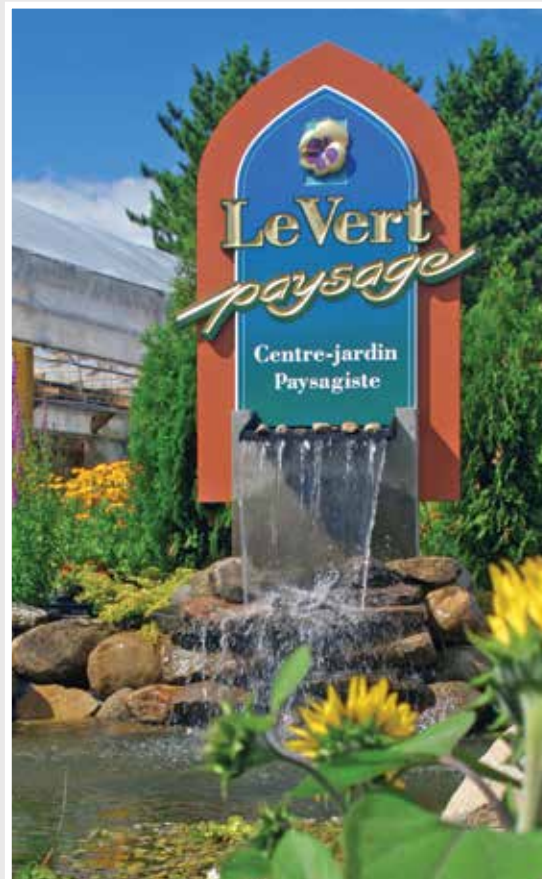
by JELD-WEN



SUPERIOR PERFORMANCE FOR EXTERIOR SIGNS

RESISTS MOISTURE, ROT AND TERMITES

Choosing material for outdoor signage can be challenging. Extira panels are backed by our 10-year limited warranty and ready to work outside.





ENVIRONMENTALLY FRIENDLY PANEL PRODUCT

SUSTAINABLE MATERIALS

- No old growth wood is used in the manufacture of Extira panel. It is made from wood that has no commercial timber value and is the byproduct of other operations. This leftover wood is also detrimental to the overall vitality of the forest.

>> All wood comes from an area within a 150-mile radius of the Towanda, PA production facility.

>> JELD-WEN® uses 100% northern hardwoods, which include maple, beech, oak and other species.

- Extira panel is treated with zinc borate, an EPA-registered biocide and a naturally occurring earth mineral that is environmentally safe and ensures protection against termites.

NO ADDED UREA FORMALDEHYDE

- Extira panel has no added urea formaldehyde. This is certified by Scientific Certification Systems under certificate number SCS-NAUF-01802.
- Through repeated testing by the Composite Panel Association (CPA), MiraTEC trim has demonstrated formaldehyde emissions equivalent to background levels found in the environment.

COMPLIES WITH CARB

- Extira panel is acknowledged by the California Air Resources Board's (CARB) Airborne Toxic Control Measure (ATCM) 93120 to utilize exempt status ultra-low emitting formaldehyde (ULEF) resins.

CONTRIBUTES TO GREEN BUILDING PROGRAMS

- Extira panel contributes to industry programs such as LEED and the National Green Building Standard.™



TOWANDA, PA MANUFACTURING FACILITY



LEFTOVER WOOD IS A PRIMARY INGREDIENT OF EXTIRA



INSTALLATION GUIDELINES

WHEN USING EXTIRA® PANELS FOR EXTERIOR MOULDINGS AND MILLWORK

EXTIRA®
by JELD-WEN



GENERAL INFORMATION:

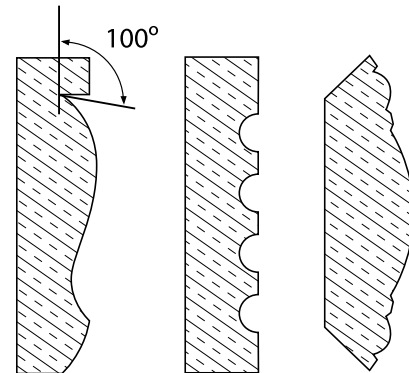
Extira was conceived and engineered to resist moisture, rot and termites, so it is perfect for exterior non-structural applications. It handles like wood but is smooth on both sides, and is sanded to meet caliper requirements of +/- 0.005".

MATERIAL SELECTION:

Extira panels are available in the following thicknesses: 1/2", 5/8", 3/4", 1" and 1-1/4". For exterior moulding and millwork applications, JELD-WEN, Inc. does not recommend using the 1/2" product other than when it is mechanically fastened or laminated to another substrate. Use 5/8" or thicker panels for soffit applications.

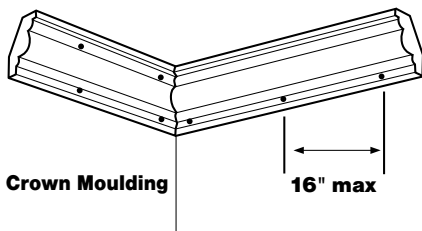
CUTTING AND MACHINING:

Use a fine-tooth hand saw or power saw with a combination blade. Cut into the exposed face of the material. Use only carbide-tipped or diamond-tipped blades with Extira panels. To produce decorative applications, rout, groove or machine Extira panels. The routed or grooved product should not have any surfaces where water can accumulate. Maintain an angle of at least 100 degrees from the vertical to provide positive drainage and to best ensure that moisture does not accumulate on Extira.



FASTENING REQUIREMENTS:

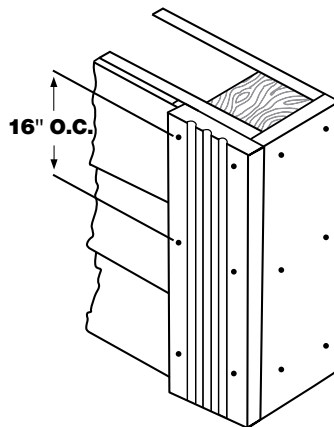
Extira panels are a non-structural composite product and should not be used where structural lumber properties are required. Extira panels are designed to be applied to structural framing, sheathing and other structural materials.



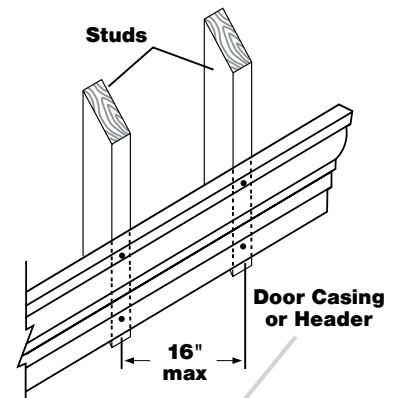
Crown Moulding

16" max

Door or Window Trim Molding



16" O.C.



INSTALLATION GUIDELINES

WHEN USING EXTIRA® PANELS FOR EXTERIOR MOULDINGS AND MILLWORK

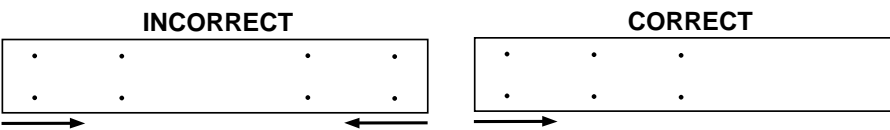
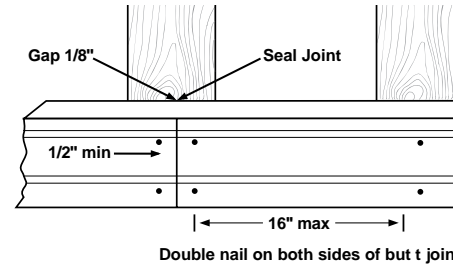
EXTIRA®
by JELD-WEN



BUTT JOINTS:

All joints must fall over a framing member. For runs less than 30', butt joints should lightly touch. Space all butt and scarf joints over 30' 1/8" apart and apply flexible sealant into the full depth of the 1/8" joint. Joints must be double nailed on both sides as noted in the diagram above.

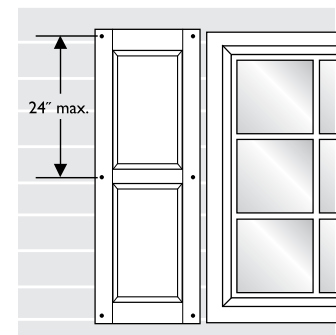
Note: Nail at least 1/2" from edge, but no more than 2" from edge. Do not nail into cut end of Extira panels. For fascia, Extira panels must be double nailed and fastened a maximum 24 inches-on-center. For all other applications, double nail 16" on center.



Fasten Extira panels from one end to the other end. DO NOT nail toward the center from both ends.

SHUTTERS:

Extira panels can be used to make decorative shutters. The shutter must be fastened to the home 24" on center around the perimeter of the shutter as shown in the illustration. Working shutters will not be covered under the Extira warranty due to the inability to provide adequate fastening on the non-hinge side of the shutter.



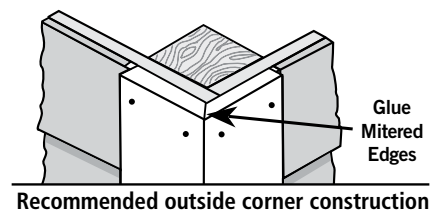
FASTENERS:

Fasteners must be equal or better in performance (such as nail withdrawal, bending strength and corrosion resistance) to 6d or 8d 15 gauge finish nails or headed nails, long enough to penetrate 1 1/4" into structural wood studs or studs and structural sheathing material. Use nails with corrosive resistance equivalent to hot-dipped galvanized nails. For buildings utilizing steel studs, use ET&F fasteners: AST-075 for 5/8" and 3/4" Extira and AST-100 for 1" Extira. For installations near oceans, large bodies of water or in high humidity climates, JELD-WEN, Inc. recommends using stainless steel fasteners on Extira. For these installations, do not use electro-galvanized fasteners, due to poor long term rust resistance.

Tapered or bugle head fasteners are permitted when the heads are properly sealed from moisture.

Nail heads, or any other dents, can be filled with exterior grade spackling putty specifically designed for filling nail holes. Allow putty to dry, sand smooth with 100 grit sandpaper and spot prime before painting. Over time, spackling putty may need to be replaced or touched up.

Use a nail that is appropriate to the style of construction.



CONDITION		CONDITION
Snug		OK
Flush		OK
Visible fiber		Paint
Counter sunk 1/16" - 1/8"		Exterior putty
Counter sunk more than 1/8"		Exterior putty & add nail

INSTALLATION GUIDELINES

WHEN USING EXTIRA® PANELS FOR EXTERIOR MOULDINGS AND MILLWORK

EXTIRA®
by JELD-WEN



FLASHING AND MOISTURE CONTROL:

The structure on which Extira panels are applied should be well ventilated and dry. Do not apply moulding over wet sheathing, or any closer than 6" to finished grade or final landscaping. As with all wood products, Extira panels should not come in direct contact with masonry or concrete. Properly flash and space at least 1/2" from any concrete flatwork (such as porches, patios, or driveways) or horizontal brick ledges. Flatwork should slope so water flows away from Extira panels. In all applications, Extira panels should not stand in water or have water accumulate near them. At foundations or exterior brick veneer, the product should be separated from the masonry by metal flashing, polyethylene film, 30 lb. felt or a 1/4" to 1/2" air space using masonry standoffs. For applications near rooflines when Extira panels are used as trim, such as dormers and chimneys, the trim should be installed with a minimum of 1" clearance between the roofing and the bottom edge of the trim. At the junction of the roofing material and vertical surfaces, flashing is required per the roofing manufacturers' application requirements and local building codes.

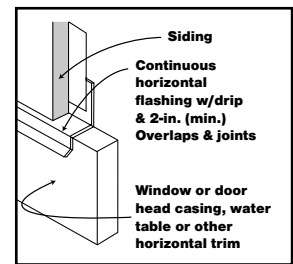
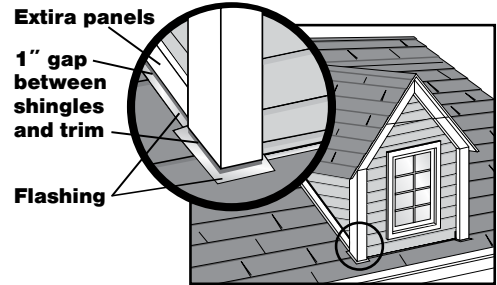
Seal the trim applications to prevent water intrusion. Do not allow water to stand on or leak behind any Extira panels used as trim. Extira panels used as trim in a horizontal application, including window and door headers, must be properly flashed in accordance with the siding manufacturers', window manufacturers', or door manufacturers' application requirements and local building codes.

SEALANT AND ADHESIVES:

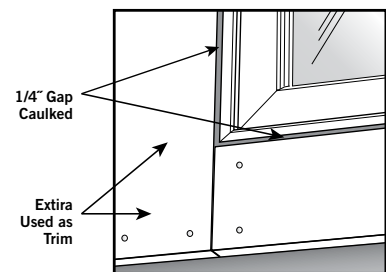
Sealant is required at butt joints and where Extira panels abut siding, windows, doors or other materials. Use only exterior quality sealant that remains flexible over time. Do not use hard-setting caulk. Apply caulk or sealant according to the manufacturer's written instructions. We recommend use of caulks and sealants that meet or exceed ASTM C920. Glues or adhesives can be used on Extira. Consult our Using Extira Bulletin for more information at www.miratecextira.com.

PAINTING/FINISHING REQUIREMENTS:

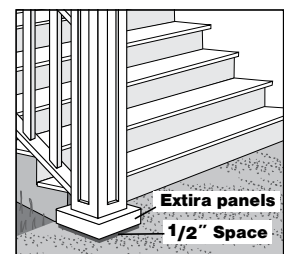
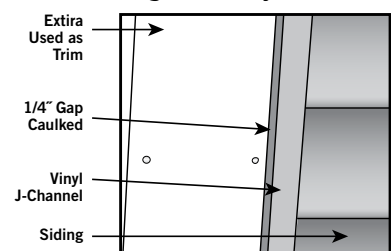
Extira panels are manufactured from wood and must be primed and painted with an exterior coating system in accordance with the following specification within 90 days of installation to fulfill the Extira panel warranty requirements. Use a field finish system recommended by the paint manufacturer for use on a composite wood product. Always follow the paint manufacturer's recommendations for the application and maintenance of field-applied paints. Test the coating system on a small area of Extira panel first before finishing large pieces.



Window Trim



Using with vinyl J-Channel



INSTALLATION GUIDELINES

WHEN USING EXTIRA® PANELS FOR EXTERIOR MOULDINGS AND MILLWORK

EXTIRA®
by JELD-WEN



PRIMER AND PAINT APPLICATION:

1. The surface must be free of dust, dirt, mildew and other foreign materials before priming.
2. Prime and paint all exposed surfaces and field-cut edges, including the bottom edge of Extira panels using a high quality exterior oil/alkyd solvent based or acrylic latex primer recommended by the paint manufacturer for application over composite wood substrates.
3. **A total field-applied dry film paint thickness of a minimum of 4 mils is required on Extira panels.** This requires the application of a primer and two or more unthinned coats of topcoat at the spread rate recommended by the paint manufacturer.

Note: The paint manufacturer may require a specific primer and topcoat combination. Use of primer and/or topcoats should be determined according to the manufacturers recommendations.

JELD-WEN, Inc. does not recommend using the following coatings:

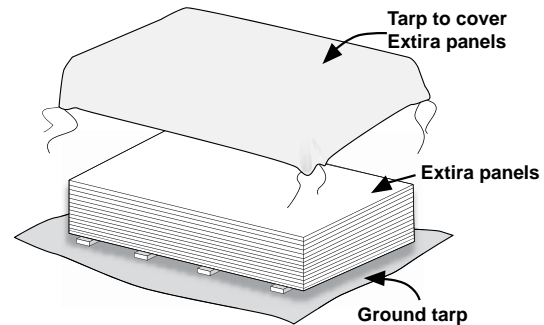
Shake and shingle paints	Vinyl acrylic paint*
Vinyl acetate co-polymer paint	Vinyl acetate paint
Clear coatings	Flat oil paint
Transparent or semi-transparent stains	Opaque solvent stains

* Although vinyl acrylic exterior paints contain acrylic resin and may be readily available, they are generally of lower quality and will not last as long as 100% acrylic paints. If you are unsure, ask your paint supplier.

JELD-WEN, Inc. is not responsible for the performance of finishes. Finish performance is dependent upon coating quality and application methods. These factors are controlled by the finish manufacturer and applicator.

STORAGE:

Inside storage of Extira is recommended and preferred. Cover when stored outside. Keep Extira panels off the ground and dry. Excessive moisture pickup from improper storage may affect the performance of Extira panels. Ensure the material is fully dry before installation. For job site storage, Extira panels should be placed on stringers and stored on concrete, asphalt or a similar surface. For all other instances, a tarp should be placed over the ground cover under the stringers, with the material still under cover.



IMPORTANT: Read and understand all application instructions before installing material. The statements expressed in this technical bulletin are the recommendations for the application of the products as outlined and illustrated under normal conditions of installation. JELD-WEN, Inc. is a manufacturer of building materials. It does not practice architecture or engineering. The recommendations provided in this bulletin represent JELD-WEN, Inc.'s best judgment based on JELD-WEN, Inc.'s experience to date with normal applications. These instructions supplement standard building practices and building code requirements; they are not to be deemed exclusive or exclusionary of these practices and requirements. Unless prior approval is obtained in writing from the Product Performance Department of JELD-WEN, Inc., PO Box 311, Towanda, PA 18848, any deviation from these recommended procedures shall be at risk of the installers.

These application instructions are the minimum requirements for the storage, application, and finishing of the products manufactured by JELD-WEN, Inc.. Where building code requirements or standards are more restrictive, the applicable regulations must be followed. Consult your local Representative or the Product Performance Department for conditions not covered by this bulletin. All drawings are shown for illustration purposes only and are not to scale. Adequate design and bracing of the walls, as well as compliance with these application instructions, are the responsibility of the architect, builder, applicator and painter.



WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

GENERAL INFORMATION ON FINISHING AND ADHESIVES

EXTIRA[®]
by JELD-WEN



Various manufacturers in the following sections have provided their recommendations for using their products with Extira panels. JELD-WEN provides this information to prospective users who must independently determine the suitability of such materials for its purpose. It is the user's responsibility to test and qualify all materials the user intends to use on Extira panels. This document is not a guideline or direction meant to guarantee any result; it is strictly informational in nature. JELD-WEN, Inc. makes no warranties or representations, express or implied, as to the accuracy, completeness, or any other aspect of the information in this document and JELD-WEN, Inc. assumes no liability in connection with any use of the information. JELD-WEN, Inc. provides this document to you on the condition that you will make your own complete assessment of the information given, prior to using the material. JELD-WEN, Inc. has no knowledge of or control over your use of the information, and it is provided "as is" and without any warranty of any kind. Accordingly, JELD-WEN, Inc. excludes all implied warranties, including but not limited to any warranty of merchantability or fitness for a particular purpose and warranties to the effect that the use of this information will not infringe any patent, copyright or trademark of any third party.

Samples of Extira panels are available for your testing needs. Testing samples may be requested by email to samples@miratecextira.com or through the contact us form on miratecextira.com.

JELD-WEN, Inc. welcomes information from you about your experience with the use of these materials or any other in the secondary treatment of Extira. Feedback may be sent to marketing@miratecextira.com.

FINISHING:

Extira panels must be primed and painted or finished before use. Use a high quality exterior oil/alkyd solvent-based or acrylic latex primer system specifically designed for use on wood composite substrates. The final topcoat should be compatible with the primer system used. Ninety-degree (90°) edges should be eased where possible to improve paint coverage and to extend service life. Final qualification is the responsibility of the end user.

The companies listed below have tested paint systems for use with Extira panels. The following topcoats are not recommended by JELD-WEN, Inc. or most paint manufacturers because of short service life, poor protection against UV light and a higher potential for performance problems:

- Shake and shingle paints, clear coatings, flat oil/alkyd paints topcoats, and vinyl acetate (PVA) base paints.
- Transparent and semi-transparent stains.

FINISHING CONTACT INFORMATION

Please visit the company websites below for support and information:

Akzo Nobel Coatings, Inc.
akzonobel.com

Matthews Paint
matthewspaint.com

Ronan's Paint Corp.
ronanpaints.com

Axalta
axalta.com

One Shot, LLC.
1shot.com

Sherwin Williams
sherwin-williams.com

GENERAL INFORMATION ON FINISHING AND ADHESIVES

EXTIRA[®]
by JELD-WEN



ADHESIVES:

The following companies have tested Extira panels with the products listed below for the specific applications shown. Contact the manufacturer for final overlay compatibility, recommendation on specific usage, adhesive quantities and press conditions before using the product specified. Please verify all information with the finish and adhesive manufacturers to confirm validity.

EXTERIOR APPLICATIONS:

Glue Manufacturer	Glue System	Application
Ashland Performance Materials	Isoset WD3-A322/CX-47 (water based)	HPL
	Isogmp SP 5050D (moisture cure urethane)	HPL
Franklin International	Titebond II	Extira to Extira, wood veneer
	Titebond Heavy Duty Construction Adhesive (solvent based)	Extira to Extira
	Titebond Trowelable Construction Adhesive (solvent based)	Extira to Extira
	Titebond Premium Polyurethane Construction Adhesive	Extira to Extira
	Titebond 811 Advantage Adhesive	Extira to Extira
H.B. Fuller Company	RK3379001 (Precatalyzed PVAc)	HPL, Extira to Extira, and wood veneer
	UR0218MF (liquid moisture-cure urethane)	HPL, Extira to Extira
	NP2075T (hotmelt polyurethane reactive)	HPL, Extira to Extira, and wood veneer
National Casein	MB 330 (melamine powder)	wood veneer
	MUF 4301 (melamine powder)	wood veneer
	WP2271A/K4 (emulsion polymer w/catalyst)	wood veneer

INTERIOR APPLICATIONS:

Glue Manufacturer	Glue System	Application
Wilsonart Adhesives	WA 950/951 (Solvent contact adhesive)	Extira to HPL
	WA H2O (water basted contact adhesive)	Extira to HPL
	WA 3000 (PVA for postforming)*	Extira to HPL
	WA 3132 (Hot press PVA)*	Extira to HPL
National Casein	6500HV (cold press)	Extira to HPL
	3319-1 (cold press)	Extira to HPL
	PC2002 (cold press or hot press)	Extira to HPL

ADHESIVE CONTACT INFORMATION

Please visit the company websites below for support and information:

Ashland Performance Materials
ashland.com

H.B. Fuller Company
hbfuller.comr.com

Wilsonart Adhesives
wilsonart.com/adhesives-products

Franklin International
franklininternational.com

National Casein Company
nationalcasein.com

FIELD PAINTING BASICS:

- Step 1.** Sand all areas to be painted with 180 grit sandpaper and remove sanding dust. This is common for areas that have been cut, routed, or machined. All sharp and 90° edges should be rounded-off to avoid substrate chipping.
- Step 2.** Apply one coat with a brush, spray or roller with a high quality exterior alkyd-oil primer or acrylic latex primer, to a final thickness of 4 wet mils. Using a brush is the preferred method for adequate coverage. All freshly cut and routed edges (raised panel) should be double-coated to ensure a good seal. Dry time (cure) is likely to be within 48 hours, assuming ambient conditions are 50% RH and 77° F. Always follow the paint manufacturer's instructions for finishing.
- Step 3.** Lightly sand the primer coat with 220 grit sandpaper and remove sanding dust. Then, apply the first top coat with a high quality 100% acrylic latex top coat using a brush, spray or roller, typically at a rate of 4 wet mils. Allow at least 24 hours for the first top coat to dry before applying the second coat. Follow all paint manufacturer's recommendations.
- Step 4.** After the topcoat has dried, lightly sand the first top coat. Apply the second and final coat using the same 100% acrylic finish, typically, at a rate of 3 to 4 wet mils with a brush, spray or roller. Follow all paint manufacturer's recommendations.

A minimum field-applied dry film thickness of 4 mils is required on Extira.

If there is no oven or forced heat used in curing the various coats of paint, allow parts to air dry for 7 days before installation. The 7 day wait will ensure fingernail hardness of the paint and will avoid fingerprints. Wrap parts in clear polyethylene during shipping to prevent parts from sticking together or marring.

These recommendations are provided only as a guide for best results. Consult with your paint supplier for specific instructions based on the products you use and your end application.

SUGGESTED PAINT PRODUCTS

Sherwin-Williams[®]

Primers: A-100 Exterior Fast Dry Stain Blocking Alkyd Wood Primer
Multi-Purpose Latex Primer/Sealer
Fast Drying Interior/Exterior Oil-Based Primer

Paints: A-100 Exterior Latex Paint
SuperPaint Exterior Latex
Duration Exterior Acrylic

Valspar[®]

Primers: Valspar[®] All-Weather Exterior Primer Sealer
Valspar[®] All-Purpose Primer-Sealer

Paints: Valspar[®] Reserve Exterior Paint
Valspar[®] Duramax
Valspar[®] Storm Coat

Olympic[®] Paints

Primer: Olympic[®] IconTM Primer
Paint: Olympic[®] One Exterior
Olympic[®] Icon Exterior

Pittsburgh[®] Paints

Paint: Regency Exterior
Weather King[®] Exterior Acrylic Latex Paint
Wonder Shield[®] Exterior Acrylic Latex Paint

Benjamin Moore[®]

Primer: Fresh Start[®] Premium Exterior Primer
Fresh Start[®] Moorwhite[®] Exterior Wood Primer 100
Fresh Start[®] Multi-Purpose Latex Primer

Paint: Regal[®] Select Exterior High Build
Aura[®] Exterior Paint
ben Waterborne Exterior Paint

Behr[®]

Primer: Premium Plus[®] Exterior Multi-Purpose Surface Primer & Sealer
Paint: Behr Marquee[®] Exterior Paint & Primer Series
Premium Plus Ultra[®] Exterior Paint and Primer Series
Premium Plus[®] Exterior Paint

Dutch Boy[®]

Paint: Dura Weather[®] Maxbond™ Door & Trim Paint

Glidden[®]

Primer: Glidden[®] Interior/Exterior Gripper Primer/Sealer
Paint: Glidden[®] High Endurance[®] Plus Exterior
Glidden[®] Premium Collection Exterior House Paint
Glidden[®] Trim, Door & Furniture Exterior Paint



FINISHING:

For signs that require extremely high primer/surface adhesion, such as when using sand mask agents, use an exterior grade surface sealer before applying the prime coat. We suggest an oil-based polyurethane. For maximum surface strength results, use a high quality, solvent or oil-based primer with a surface sealer. Epoxy primers may also perform well. High quality water-based primers will provide long term performance, but are not recommended for applications requiring high primer-to-surface adhesion. If the creation of your sign requires the use of sand masking agents, use a low tack product with a rating around 2.2 lb/inch or less.

Be sure to follow the instructions that the sealer manufacturer provides for use. In general, we suggest that you do not let the sealer cure on the surface. It is important to have good surface penetration to achieve the best result. If there are areas of build-up, they should be lightly sanded before applying the primer application.

SEALERS	
SEALER MANUFACTURER	SEALER SYSTEM
ZAR	203 Gloss
	267 Satin
Harrison Paints	Dura Guard Alkyd Surface Sealer
Smith and Co. Epoxy Products	Multi Prime, Clear Penetrating Epoxy
Cargill Inc.	Dilulin (requires addition of metallic driers)

PRIMERS:

Contact the paint manufacturer for final topcoat compatibility with the selected primer system. Be sure to follow the paint manufacturer's instructions for use.

PRIMERS	
PAINT MANUFACTURER	PRIMER SYSTEM
One Shot, LLC	4411010 High Build Waterborne Primer
Matthews Paints	274 908SP White Epoxy Primer
	274 228SP E-Primer (low VOC)
Ronan Paints	Prime All — Waterborne Acrylic Primer/Stain Kill
	(2 coats recommended, water based)
Zinsser Co., Inc.	Cover-Stain Primer Sealer (oil based)
Harrison Paints	Versa-Seal Primer 249-88 (oil based)
	Versa-Seal Primer 248-88 (water based)

USING EXTIRA FOR SIGNS

Specific Sign Finishes

EXTIRA[®]
by JELD-WEN



Matthews Paint has provided the following instructions for specific sign finishes:

NON-SANDING SYSTEM

SANDING SYSTEM

CONVENTIONAL:

1. Tack off Extira with a clean tack cloth. Avoid using harsh solvents to clean Extira as the solvents may cause the substrate to swell.
2. Apply one to two coats of the 274 908SP White Epoxy Primer mixed per directions. See MPC125 Technical Bulletin for mixing and spraying instructions.
3. Topcoat with conventional Satin MAP or conventional Gloss MAP per directions. See MPC102 Technical Bulletin for Satin MAP, or MPC100 for Gloss MAP.

LOW VOC:

1. Tack off Extira with a clean tack cloth. Avoid using harsh solvents to clean Extira as the solvents may cause the substrate to swell.
2. Apply one to two coats of the 274 228SP E-Prime mixed per directions. See MPC126 Technical Bulletin for mixing and spraying instructions.
3. Topcoat with Low VOC Satin MAP or Low VOC Gloss MAP per directions. See MPC107 Technical Bulletin for Low VOC Satin MAP, or MPC106 for Low VOC Gloss MAP.

CONVENTIONAL:

1. Tack off Extira with a clean tack cloth. Avoid using harsh solvents to clean Extira as the solvents may cause the substrate to swell.
2. Apply one to two coats of the 274 908SP White Epoxy Primer mixed per directions. See MPC125 Technical Bulletin for mixing and spraying instructions.
3. Apply two to three coats of 6001SP Polyester Primer Surfacer mixed per directions. See MPC169 Technical Bulletin for mixing and spraying instructions.
4. Sand the 6001SP to leveling. Final sand with a grit no coarser than 600 before applying a topcoat.
5. Topcoat with conventional Satin MAP or conventional Gloss MAP per directions. See MPC102 Technical Bulletin for Satin MAP, or MPC100 for Gloss MAP.

LOW VOC:

1. Tack off Extira with a clean tack cloth. Avoid using harsh solvents to clean Extira as the solvents may cause the substrate to swell.
2. Apply one to two coats of the 274 228SP E-Prime mixed per directions. See MPC126 Technical Bulletin for mixing and spraying instructions.
3. Apply two to three coats of 6001SP Polyester Primer Surfacer mixed per directions. See MPC169 Technical Bulletin for mixing and spraying instructions.
4. Sand the 6001SP to leveling. Final sand with a grit no coarser than 600 before applying a topcoat.
5. Topcoat with Low VOC Satin MAP or Low VOC Gloss MAP per directions. See MPC107 Technical Bulletin for Low VOC Satin MAP, or MPC106 for Low VOC Gloss MAP.

SANDMASK TAPES:

In general, use a tape with a low grip adhesive, such as a rating of 2.2 lb/inch. The following tapes have produced acceptable results. Test or qualify the tapes with Extira before making a sign. Final qualification is the responsibility of the end user.

SANDMASK TAPES

TAPE MANUFACTURER	PRODUCT
Avery Dennison	SF 100-128-S White Paint Mask
	SF 100-231-S Yellow Paint Mask

CONTACT INFORMATION

Please visit the company websites below for support and information:

3M
3m.com/industrialtapee

Cargill, Inc.
cargill.com

Matthews Paint
matthewspaint.com

Zar/UGL
zar.com

Avery Dennison Graphics & Reflective Products Division NA
averydennison.com

Harrison Paints
harrisonpaint.com

One Shot, LLC.
1shot.com

Zinsser Co., Inc.
zinsser.com

HartCo. Inc.
hartcoservice.com

LIMITED WARRANTY

Effective February 1, 2016 to Current

EXTIRA[®]
by JELD-WEN



Extira[®] Treated Exterior Panel Limited Warranty

This warranty is effective for all Extira Products¹ manufactured on or after February 1, 2016 for use in the United States and Canada. Any previous warranties will continue to apply to products sold under the Extira name prior to this date. For additional information, including care and maintenance information refer to www.miratecextira.com.

What This Warranty COVERS...

We warrant to the original owner² that if your Extira Product exhibits a defect in material or workmanship within ten (10) years of the date of original purchase, we will pay for the replacement of the Product, limited to the original purchase price of the failed Product according to the following schedule:

Up to and including the 1st anniversary of the purchase date (Year 1)	100%
Years 2	90%
Years 3	80%
Years 4	70%
Years 5	60%
Years 6	50%
Years 7	40%
Years 8	30%
Years 9	20%
Years 10	10%
After the 10th anniversary of the purchase date	0%

Transferability: This warranty is not transferable.

How to Get Assistance...

If you have a problem with your Extira Product, immediately upon discovery, contact the distributor or dealer from whom you purchased our product or contact us directly:

Mail: Extira Limited Warranty
909 Pinder Avenue
Grinnell, IA 50112

Phone: 888-594-3578

We can respond quickly and efficiently if you provide the following: a) date and location of purchase, b) how to contact you, c) the address where the product can be inspected, and d) a description of the apparent problem and the product (photographs are helpful).

What We Will Do...

Upon receiving your notification, we will send out an acknowledgement, usually within three business days of receipt to the contact identified. We will investigate your claim and will begin to take appropriate action within 30 days after receipt of notification. If your warranty claim is denied, we may charge an inspection fee for an onsite inspection that is required or requested by you.

If your claim is accepted, and we choose to repair or replace the product or a component of the product, the replacement product/component will be provided in the same specification as the original product. Replacement products, components and services are warranted for the balance of the original product or service warranty, or 90 days, whichever is longer.

What This Warranty Does Not Cover...

We are not liable for damage, product failure or poor product performance due to:

- Normal wear and tear, and natural weathering of surfaces or variations in the color or texture of field-finished coating; surface cracks that are less than 1/32" in width and/or 1" in length.
- Exposure to chemicals (e.g. brick wash), a harsh environment (e.g., airborne pollutants, or prolonged contact with or immersion in liquid water), or direct contact with soil.
- Misuse, abuse or failure to properly store, handle, finish and provide maintenance for the Product.
- Alteration or modification of the Product.
- Any cause beyond our reasonable control (e.g. fire, flood, earthquake, other acts of nature, and acts of third parties outside of our control).

- Problems related to: improper field finishing of all exposed surfaces and edges of the panel (See our Finishing Instructions at www.miratecextira.com); variation or unsatisfactory results in sheen or texture resulting from the field application of paint or any other coating material.
- Warp which does not exceed our manufacturing specifications.
- Warp or bowing on any true operational shutters (those fastened to a structure with hinges on only one side).
- Warp or bowing on decorative shutters when mechanically fastened at greater than 24" on center around the perimeter of each side.
- Flaws in structure design and construction; installation into a condition that exceeds product design standards and/or is not in compliance with building codes.
- Hardware or accessories that are not provided by us.

We are also not liable for:

- Cost for labor, removal or disposal of defective product(s), freight, taxes or any other charge related to a failed product, installation or finishing of replacement panels.
- Incidental or consequential damage. Some states/provinces do not allow the exclusion or limitation of incidental or consequential damages, so this may not apply to you.

Important Legal Information -- Please read this carefully. It affects your rights.

This Limited Warranty document sets forth our maximum liability for our products. We shall not be liable for special, indirect, consequential, or incidental damages. Your sole and exclusive remedy with respect to any and all losses or damages resulting from any cause whatsoever shall be as specified above. We make no other warranty or guarantee, either express or implied, including implied warranties of merchantability and fitness for a particular purpose to the original purchaser or to any subsequent user of the Product, except as expressly contained herein. In the event state or provincial law precludes exclusion or limitation of implied warranties, the duration of any such warranties shall be no longer than, and the time and manner of presenting any claim thereon shall be the same as, that provided in the express warranty stated herein. This Limited Warranty document gives you specific legal rights, and you may have other rights that vary from state/province to state/province.

Any dispute, controversy or claim arising out of or relating to this warranty, any alleged breach thereof, or the use or sale of the products to which this warranty applies shall be resolved by mandatory and binding arbitration administered by the American Arbitration Association in accordance with its commercial arbitration rules. Original purchaser agrees that they may assert claims against JELD-WEN in their individual capacity only, and not as a plaintiff or class member in any purported class action proceeding. The warranty provision herein shall be interpreted in accordance with the laws of Oregon (excluding Oregon's conflict of laws principles). If any provision of this warranty is held illegal or unenforceable in a judicial proceeding, such provision shall be severed and shall be inoperative, and the remainder of this warranty shall remain operative and binding on the Parties. Rejection of these dispute resolution provisions must be sent to JELD-WEN at the address provided herein within thirty (30) days of original purchaser's receipt of the Products to which this warranty applies.

No distributor, dealer or representative of Extira Products has the authority to change, modify or expand this warranty. The original purchaser of this Product acknowledges that they have read this warranty, understand it and are bound by its terms and agrees to provide this warranty to the original owner of the structure into which the Product is installed.

1 "Extira Products" shall refer to exterior treated panels manufactured and marketed by JELD-WEN under the Extira brand name for use in the United States and/or Canada.

2 This warranty extends to the original owner (original owner means the contractor/dealer/distributor/purchaser and the initial owner of the structure where the product is initially installed) and is not transferable. The original purchaser of this product acknowledges that they have read this warranty, understand it and are bound by its terms and agrees to provide this warranty to the original owner of the structure into which the product is installed. Should state or provincial law preclude no transferability, then the warranty period is effective as applicable up to ten (10) years from the date of initial purchase.



© 2019 JELD-WEN, Inc. Trademarks shown are owned by JELD-WEN, Inc. or licensed by third parties. All rights reserved. 1026 9/19

EXTIRA[®]
by JELD-WEN



1.800.255.0785 | miratecextira.com

SIMPLE. *elegant*. SOLUTIONS.
from a company you can trust



Eagle Tile Product Specifications

www.eagleroofing.com



4697 Slate Range

Profile	Weight	Description	Category
Bel Air	Conventional	Range of Charcoal	Conventional

Regions Available

California, Great Plains, Hawaii, Intermountain, Pacific Northwest, Southwest, Western Canada

Ref	Aged Ref. (3 yr)	EMI	Aged EMI. (3 yr)	SRI	Aged SRI (3 yr)	CRRC
0.15	0.17	0.94	0.92	15	16	0918-0046



reSAWN TIMBER co.™

Exclusive Manufacturer + Distributor of Abodo® in the USA

 **ABODO**





CLEAR
Cantilever House
Washington, DC
Architect: Patrick Brian Jones
Designer: Hendrick Interiors

Vulcan Cladding Vertical Grain Fine Sawn Face

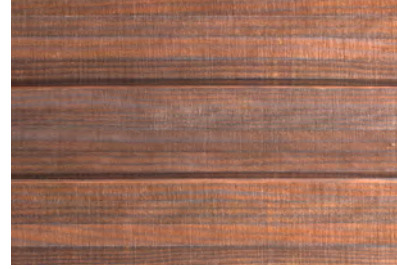
reSAWN TIMBER co.'s Abodo Fine Sawn Face Vulcan Cladding provides a unique, textured surface with beautiful grain depth. This fine sawn texture opens the wood grain to allow for optimal coating performance. Vulcan thermally modified wood cladding is created from New Zealand plantation timbers and engineered with a patented vertical grain orientation for superior weathering characteristics. All products except for EGRET, and STERLING are finished with Abodo Protector Oil. EGRET and STERLING are finished with reSAWN's 0-VOC Exterior Oil.



NERO
EXTERIOR CLADDING



WALNUT
EXTERIOR CLADDING



TEAK
EXTERIOR CLADDING



GRAPHITE
EXTERIOR CLADDING



NATURAL
EXTERIOR CLADDING



PEARL
EXTERIOR CLADDING



STRAW
EXTERIOR CLADDING



EGRET
EXTERIOR CLADDING & INTERIOR
WALL/CEILING CLADDING
(WEATHERED 2 MONTHS)



STERLING
EXTERIOR CLADDING & INTERIOR
WALL/CEILING CLADDING



PATINA
EXTERIOR CLADDING
(WEATHERED 2 MONTHS)



SiOO:X
EXTERIOR CLADDING
(PRE-WEATHERED)

Vulcan Cladding Vertical Grain Smooth Face

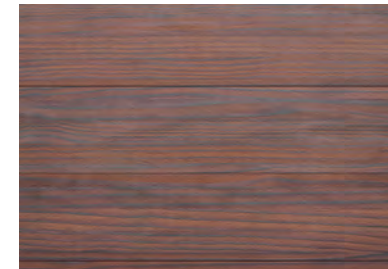
reSAWN TIMBER co.'s Abodo Smooth Face Vulcan Cladding is made using a proprietary brushing technique during manufacturing. Brushing the material opens the wood grain to allow for optimal coating performance. Vulcan thermally modified wood cladding is created from New Zealand plantation timbers and engineered with a patented vertical grain orientation for superior weathering characteristics. The brushing technique also provides a smooth, modern texture on the face of this unique clear vertical grain modified wood. All products except for OSPREY and KERERŪ are finished with Abodo Protector Oil. OSPREY and KERERŪ are finished with reSAWN's 0-VOC Exterior Oil.



TUI
EXTERIOR CLADDING



WARBLER
EXTERIOR CLADDING



WEKA
EXTERIOR CLADDING



MYNAH
EXTERIOR CLADDING



KāREAREA
EXTERIOR CLADDING
(WEATHERED 2 MONTHS)



KERERŪ
EXTERIOR CLADDING & INTERIOR
WALL/CEILING CLADDING



OSPREY
EXTERIOR CLADDING & INTERIOR
WALL/CEILING CLADDING
(WEATHERED 2 MONTHS)

Disclaimer: Product photos are meant to be a general guide to product appearance only. Due to our handcrafted process and wood being a product of nature, the color, grain pattern, character and profile will vary between individual boards on a project and will never be an exact match. Images shown with 2 coat application. Colors are subject to natural weathering - contact reSAWN for weathering guidelines.

Disclaimer: Product photos are meant to be a general guide to product appearance only. Due to our handcrafted process and wood being a product of nature, the color, grain pattern, character and profile will vary between individual boards on a project and will never be an exact match. Images shown with 2 coat application. Colors are subject to natural weathering - contact reSAWN for weathering guidelines.

Vulcan Cladding Flat Sawn Face

reSAWN TIMBER co.'s reSAWN TIMBER co.'s Abodo Flat Sawn Face Vulcan Cladding provides a high-performing exterior cladding with a unique aesthetic. The thermal modification process means Flat Sawn Vulcan Cladding has enhanced stability, reduced resin content, and is naturally durable so does not require any chemical preservatives.



TAUHARA
EXTERIOR CLADDING



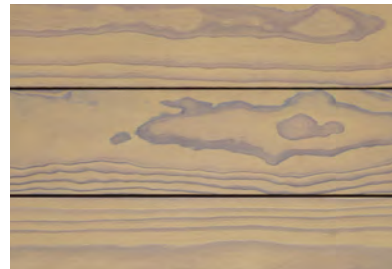
CALDERA
EXTERIOR CLADDING



TARANAKI
EXTERIOR CLADDING



GISBORNE
EXTERIOR CLADDING
(WEATHERED 2 MONTHS)



CANTERBURY
EXTERIOR CLADDING



MANAWATU
EXTERIOR CLADDING
(WEATHERED 2 MONTHS)



WAIKATO
EXTERIOR CLADDING
(WEATHERED 2 MONTHS)

Pre-Finished Vulcan Cladding

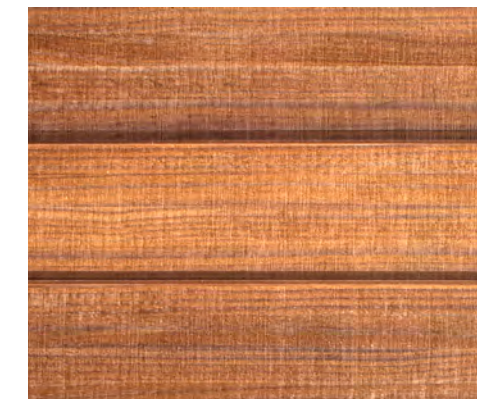
Vulcan Cladding is available pre-finished with **Abodo Protector Oil**, **SiOO:X Surface Treatment**, or **reSAWN's Exterior Oil Finish**.

Abodo Protector Oil: Abodo's Waterborne Protector Oil will nourish and protect external timbers. It uses the latest in waterborne oil technology combining refined plant oils, UV protection, advanced water barrier composition and an enhanced fungicidal package for superior exterior performance. A second coat of finish is required to be applied onsite by the installer post-install.

SiOO:X Surface Treatment: One design (SiOO:X) is pre-finished in SiOO:X natural wood coating. SiOO:X is a patented silicon technology which silvers off to a beautiful, low maintenance finish. Following application on timbers, SiOO:X cures by reacting with atmospheric carbon dioxide and moisture to form an insoluble and flexible silica network within the timber's surface. The formation of this silica network toughens the surface of the timber and forms an effective barrier against insects and rot. In addition to the protective benefits gained, as the mineral silicate cures, over time it will start to turn the timber a beautiful silver/greyish tone, starting from around 10-16 weeks (depending on UV exposure the weathering period may vary). From reSAWN's experience, boards will initially go darker and then lighten over time. The end result is a consistently weathered, light grey timber with a stunning, low maintenance driftwood appearance.

reSAWN's Exterior Oil Finish: STERLING, EGRET, OSPREY and KERERŪ are pre-finished in reSAWN's Exterior Oil Finish. They are appropriate for interior and exterior applications and are pre-finished with a non-toxic, odor-free, one-coat, oil-based sealer for all types of exterior wood. Most oil-based wood sealers have petroleum solvents that are hazardous; this is the first zero VOC oil-based finish to raise the bar and offer a long-lasting wood protection without the off-gassing of toxic chemicals.

VULCAN CLADDING PRE-FINISHED WITH SiOO:X



DAY ONE



WEATHERED 3 MONTHS

Disclaimer: Product photos are meant to be a general guide to product appearance only. Due to our handcrafted process and wood being a product of nature, the color, grain pattern, character and profile will vary between individual boards on a project and will never be an exact match. Images shown with 2 coat application. Colors are subject to natural weathering - contact reSAWN for weathering guidelines.

Vulcan Cladding Vertical Grain Dimensions and Milling:

WB10

STANDARD DIMENSIONS:

+/- 3/4" thick X +/- 5" wide X 6'-16' random lengths

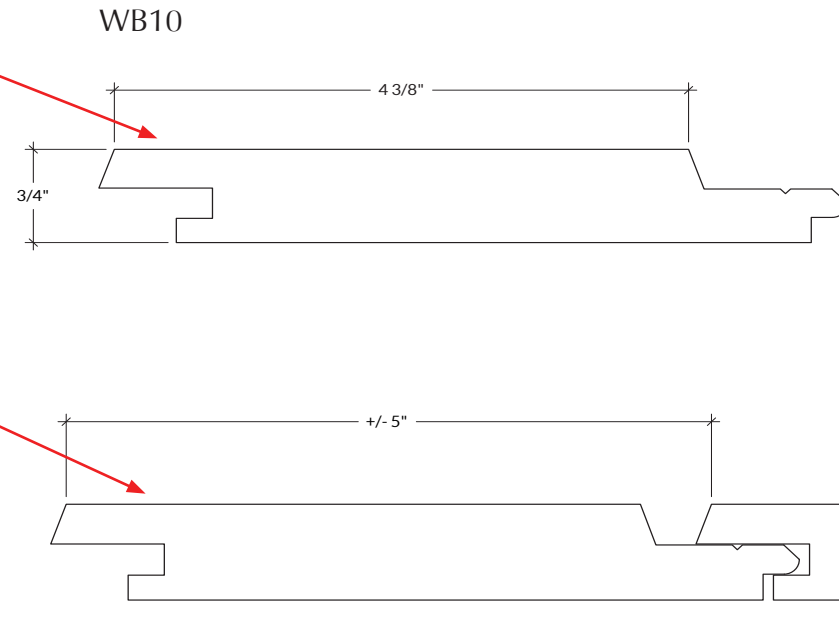
FACE:

- STERLING, GRAPHITE, NERO, PATINA, PEARL, STRAW, TEAK, WALNUT, EGRET, SiOO:X, and NATURAL have a Fine Sawn Face
- MYNAH, TUI, WARBLER, WEKA, OSPREY, KERERŪ, and KĀREAREA have a Smooth Face
- Arrows indicate face of profile - be sure to install correctly

BACK:

Fine Sawn WB10 **backs** are smooth

Smooth Face WB10 **backs** are textured



Vulcan Cladding Vertical Grain Dimensions and Milling:

TONGUE & GROOVE

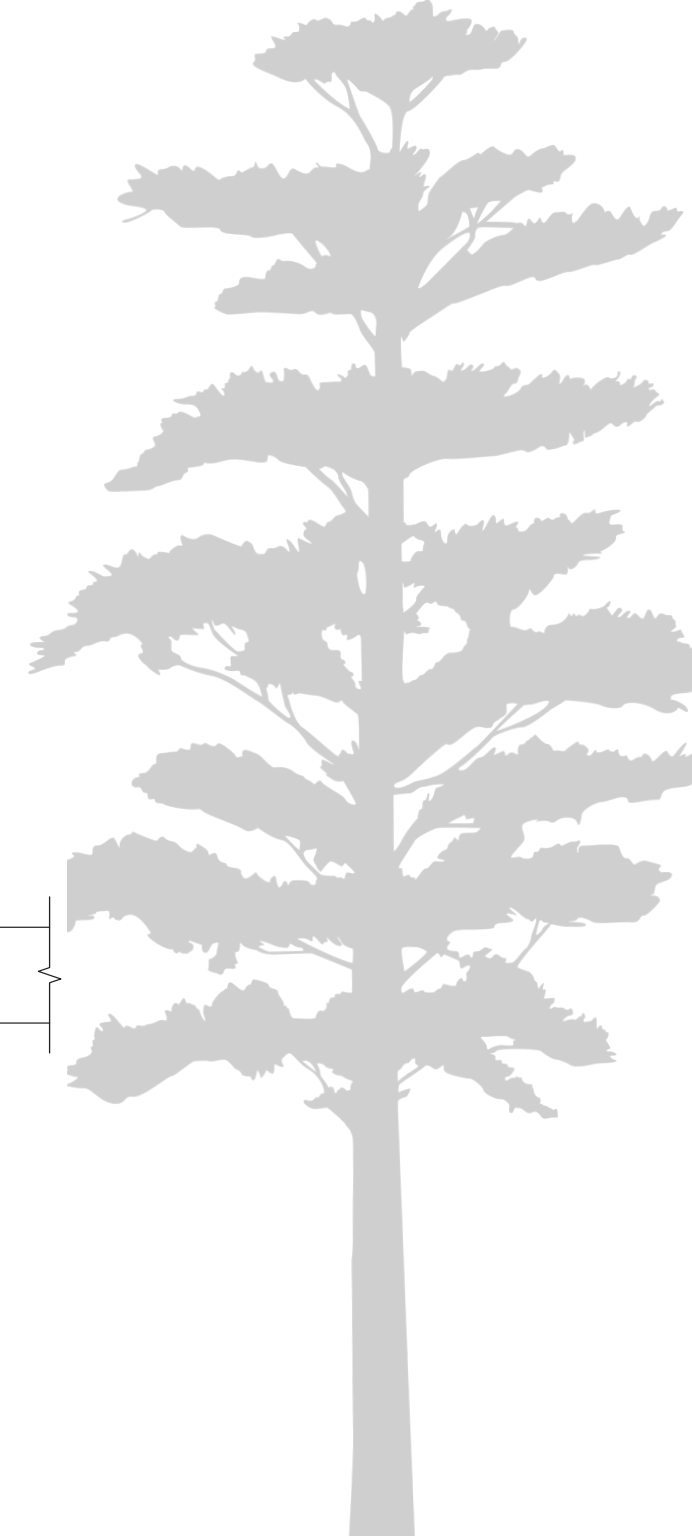
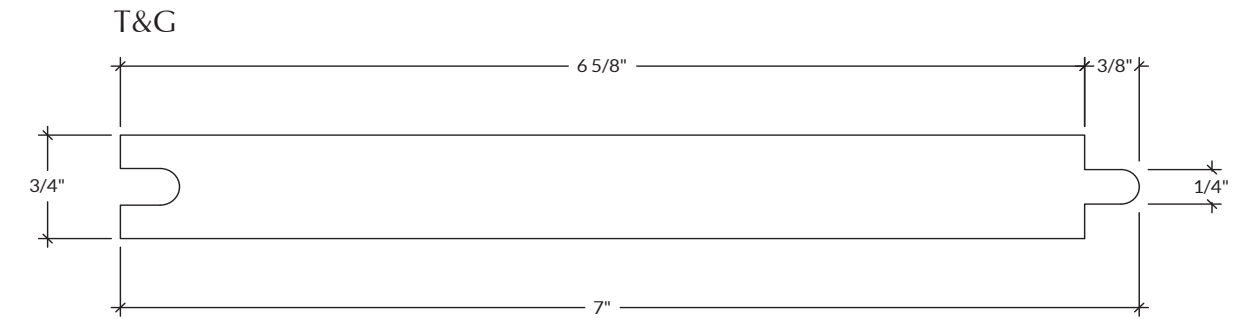
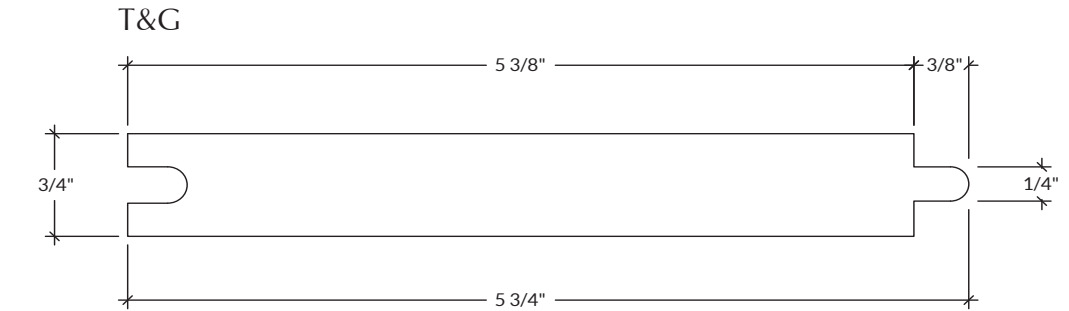
STANDARD DIMENSIONS:

+/- 3/4" thick X +/- 5-3/8" wide X 6'-16' random lengths

+/- 3/4" thick X +/- 6-5/8" wide X 6'-16' random lengths

FACE:

- STERLING, GRAPHITE, NERO, PATINA, PEARL, STRAW, TEAK, WALNUT, EGRET, SiOO:X, and NATURAL have a Fine Sawn Face
- MYNAH, TUI, WARBLER, WEKA, OSPREY, KĀREAREA, and KERERŪ have a Smooth Face
- Be sure to install correctly



Vulcan Cladding Vertical Grain Dimensions and Milling:

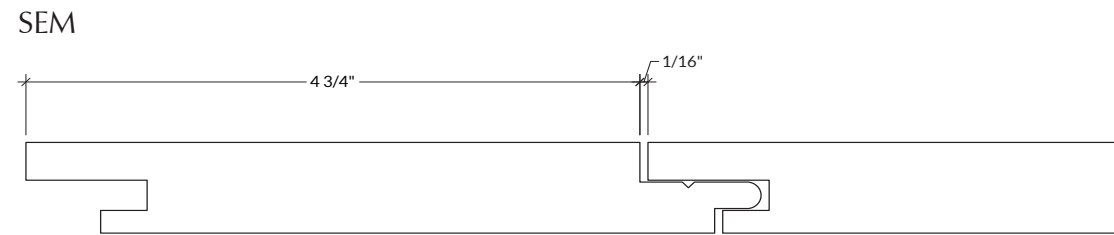
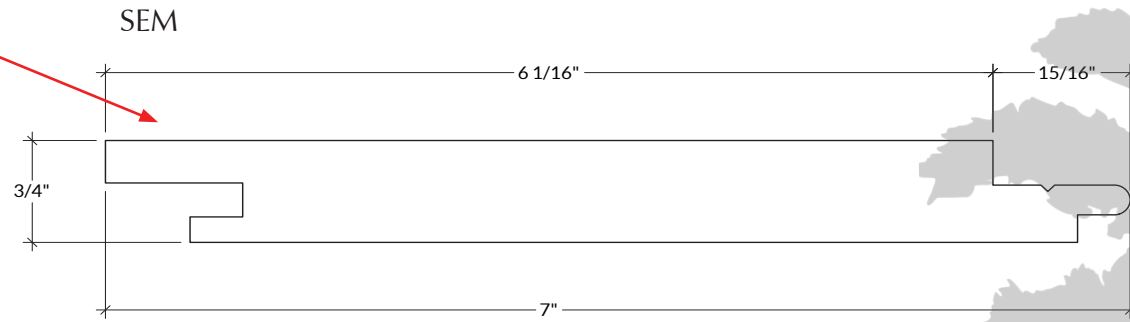
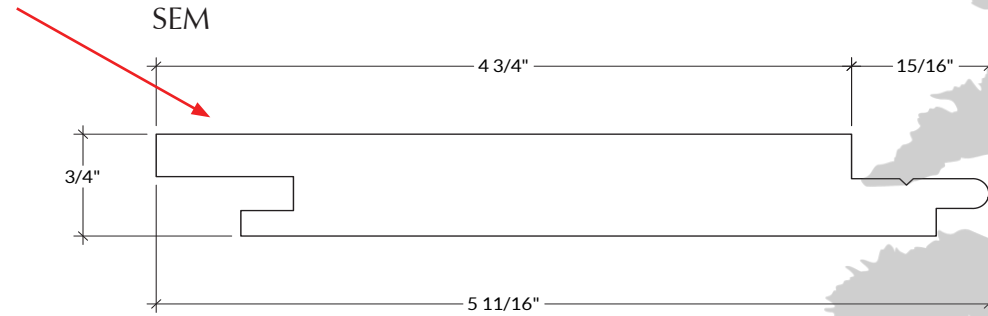
SEM (SQUARE EDGE MODIFIED)

STANDARD DIMENSIONS:

- +/- 3/4" thick X +/- 4-3/4" wide X 6'-16" random lengths
- +/- 3/4" thick X +/- 6-1/6" wide X 6'-16" random lengths

FACE:

- GRAPHITE, NERO, PATINA, PEARL, STRAW, TEAK, WALNUT, SiOO:X, and NATURAL have a Fine Sawn Face
- MYNAH, TUI, WARBLER, WEKA, and KāREAREA have a Smooth Face
- Not available for STERLING, EGRET, KERERŪ and OSPREY
- Arrows indicate face of profile - be sure to install correctly
- These profiles are only approved for VERTICAL wall application only and should not be used in horizontal applications.



Vulcan Cladding Vertical Grain Dimensions and Milling:

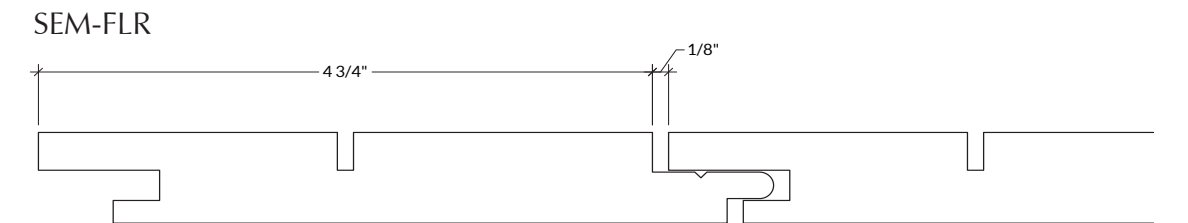
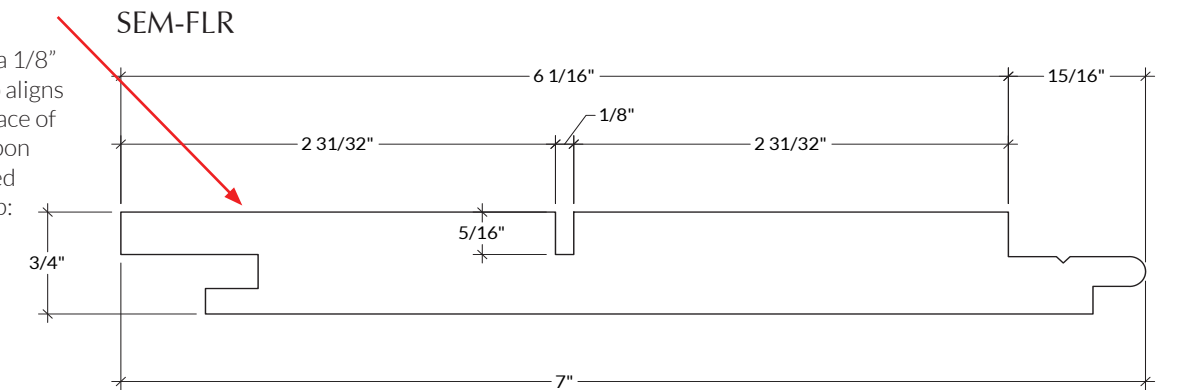
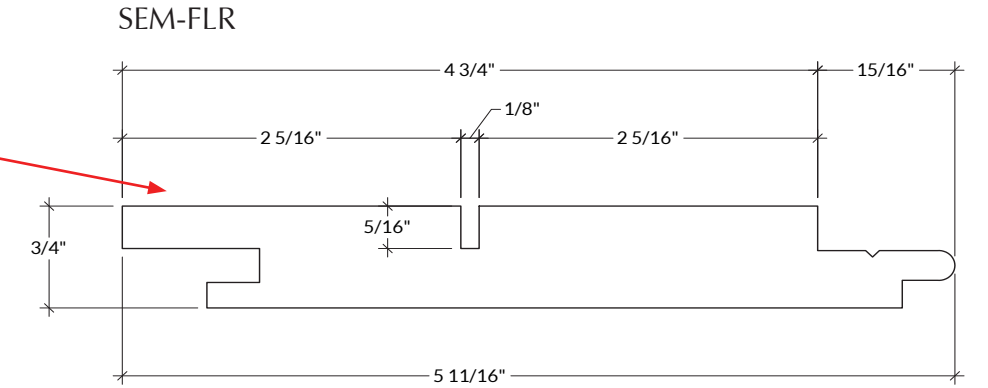
SEM-FLR (SQUARE EDGE MODIFIED - FINE LINE REVEAL)

STANDARD DIMENSIONS:

- +/- 3/4" thick X +/- 4-3/4" wide X 6'-16" random lengths
- +/- 3/4" thick X +/- 6-1/6" wide X 6'-16" random lengths

FACE:

- GRAPHITE, NERO, PATINA, PEARL, STRAW, TEAK, WALNUT, SiOO:X, and NATURAL have a Fine Sawn Face
- MYNAH, TUI, WARBLER, WEKA, and KāREAREA have a Smooth Face
- Not available for STERLING, EGRET, KERERŪ and OSPREY
- Arrows indicate face of profile - be sure to install correctly
- These profiles are only approved for VERTICAL wall application only and should not be used in horizontal applications.
- SEM-FLR profiles should be installed with a 1/8" expansion gap between boards. A 1/8" gap aligns with the width of the fine line cut into the face of the boards ensuring a uniform approach upon completion of installation. Typical shim used by installers to maintain 1/8" expansion gap: BARWALT SHIM



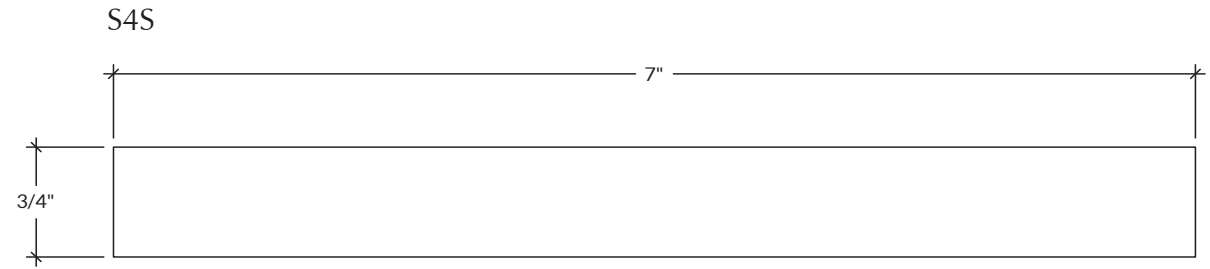
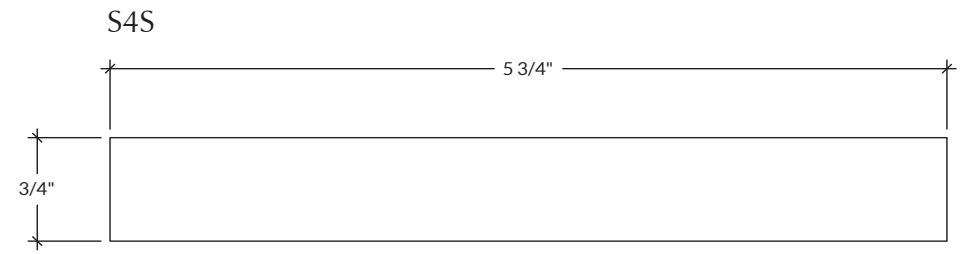
Vulcan Cladding Vertical Grain Dimensions and Milling:

S4S

STANDARD DIMENSIONS:
 +/- 3/4" thick X +/- 5-3/4" wide X 6'-16' random lengths
 +/- 3/4" thick X +/- 7" wide X 6'-16' random lengths

FACE:

- STERLING, GRAPHITE, NERO, PATINA, PEARL, STRAW, TEAK, WALNUT, EGRET, SiOO:X, and NATURAL have a Fine Sawn Face
- MYNAH, TUI, WARBLER, WEKA, OSPREY, KāREAREA, and KERURŪ have a Smooth Face
- Be sure to install correctly



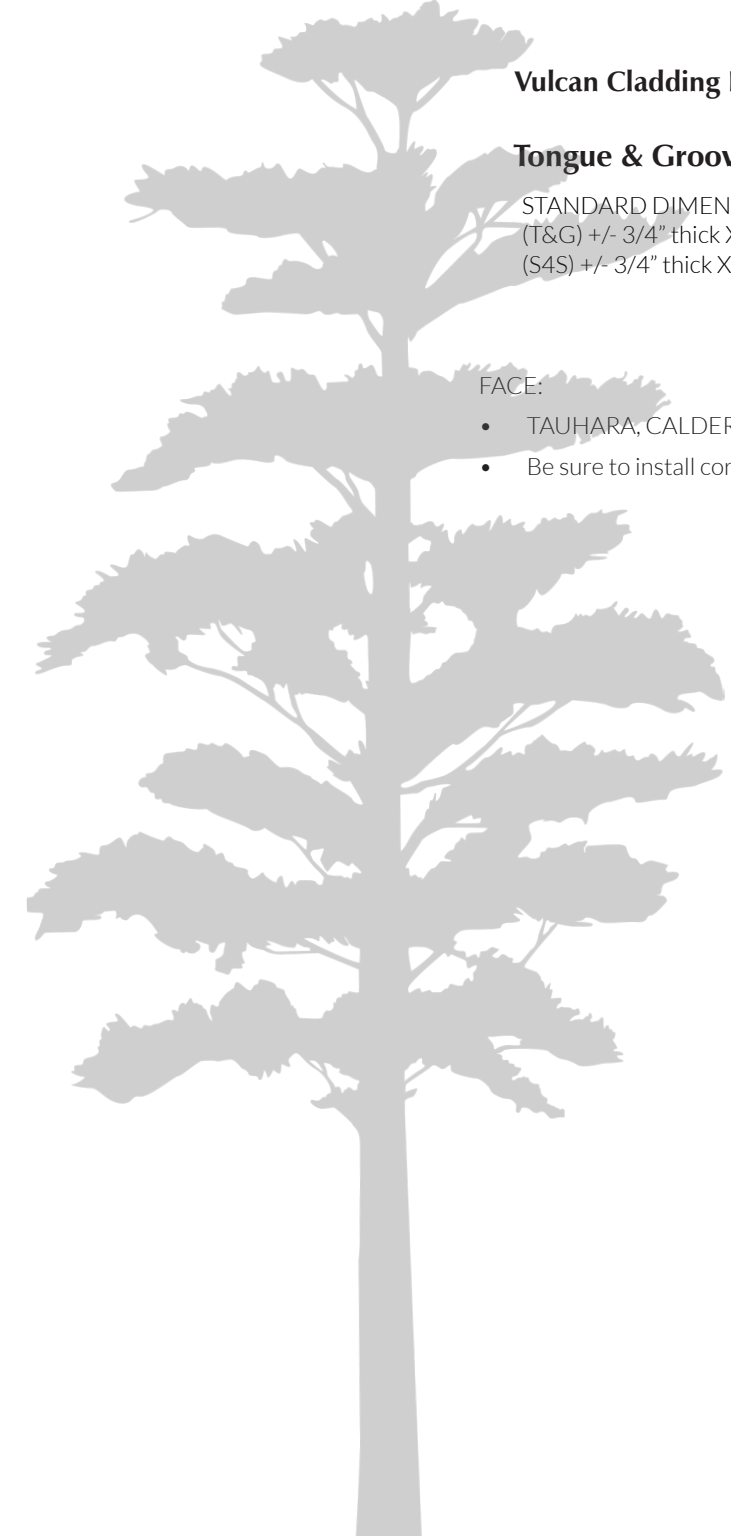
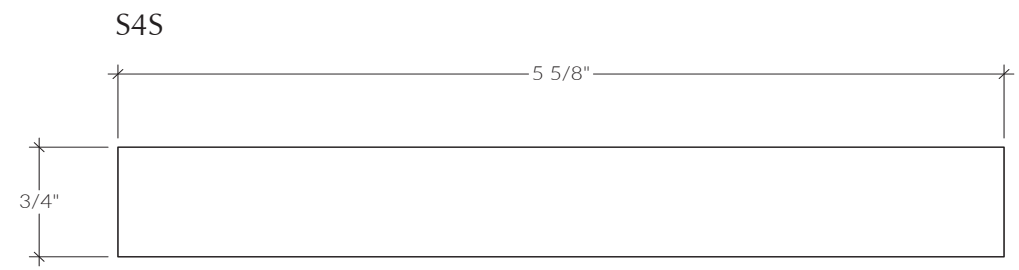
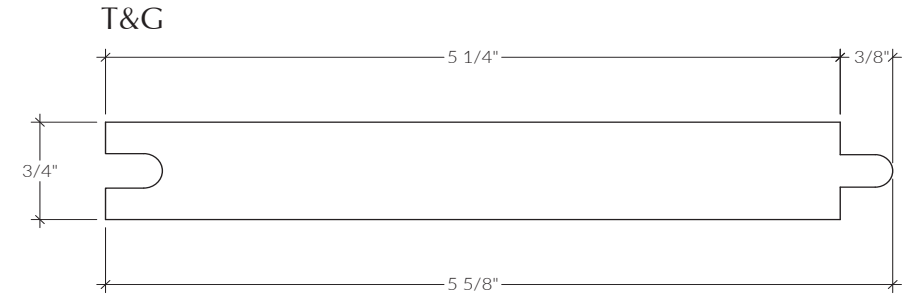
Vulcan Cladding Flat Sawn Dimensions and Milling:

Tongue & Groove, S4S

STANDARD DIMENSIONS:
 (T&G) +/- 3/4" thick X +/- 5-1/4" wide X 6'-16' random lengths
 (S4S) +/- 3/4" thick X +/- 5-5/8" wide X 6'-16' random lengths

FACE:

- TAUHARA, CALDERA, TARANAKI, GISBORNE, CANTERBURY, WAIKATO, and MANAWATU have a Flat Sawn face with a smooth texture
- Be sure to install correctly



Vulcan Cladding Vertical Grain Dimensions and Milling

(WB10) +/- 3/4" thick X +/- 5" wide X 6'-16' random lengths
 (T&G) +/- 3/4" thick X +/- 5-3/8" wide X 6'-16' random lengths
 (T&G) +/- 3/4" thick X +/- 6-5/8" wide X 6'-16' random lengths
 (S4S) +/- 3/4" thick X +/- 5-3/4" wide X 6'-16' random lengths
 (S4S) +/- 3/4" thick X +/- 7" wide X 6'-16' random lengths
 (SEM or SEM-FLR) +/- 3/4" thick X +/- 4-3/4" wide X 6'-16' random lengths
 (SEM or SEM-FLR) +/- 3/4" thick X +/- 6-1/16" wide X 6'-16' random lengths

*NOTE: CUSTOM WIDTH, LENGTHS AND MILLINGS AVAILABLE UPON REQUEST - CONTACT reSAWN TO DISCUSS

Specifications

Patented glue lamination is used for a modern, clean, vertical grain orientation. This provides superior weathering characteristics, greater stability and less surface cracking - this means the wood ages with grace as it's left to weather outdoors.

Species:	Radiata pine (Pinus radiata)
Grade:	Clear Vertical Grain Orientation
Finish:	Low VOC (85g/L)*
Applications:	Exterior applications only**
Dimensional Change:	Expected dimensional change in structure: Width expansion approx. 2%, length expansion approx. 0.25%, thickness expansion approx. 2.5% (from 7% MC to fiber saturation - variation will occur between boards).
Stability:	Approx. 50% more stable than non modified flat sawn radiata pine.
Janka Hardness:	Low (562 lbf)
Flame Spread Class Rating:	C (ASTM E 84)
Flame Spread Index:	80 (ASTM E 84)
Smoke Developed Index:	200 (ASTM E 84)
Durability Class:	1 (EN350-1), Class 2 above ground (AS5604), giving an anticipated service life of 60+ years

*STERLING, EGRET, OSPREY and KERERÚ are 0 VOC

**STERLING, EGRET, OSPREY and KERERÚ are available for interior applications

Sustainable Attributes and Possible LEED Credits

Forest Stewardship Council® (FSC®) - a guarantee that forest products come from responsibly managed sources, including forest management and chain of custody.

SS5 - Heat Island Reduction	MRC4 - Building product disclosure and optimization -Material Ingredients
MRC1 - Building Life-Cycle Impact Reduction	MRC 7 - FSC® Certified
MRC2 - Building product disclosure and optimization -Environmental Product Declarations	Red List Free: Free from Red List chemicals as required by the Living Building Challenge
IC1 Innovation	
MRC3 - Building product disclosure and optimization -Sourcing of raw materials	



Vulcan Cladding Flat Sawn Dimensions and Milling

(T&G) +/- 3/4" thick X +/- 5-1/4" wide X 6'-16' random lengths
 (S4S) +/- 3/4" thick X +/- 5-5/8" wide X 6'-16' random lengths

*NOTE: CUSTOM WIDTH, LENGTHS AND MILLINGS AVAILABLE UPON REQUEST - CONTACT reSAWN TO DISCUSS

Specifications

Species:	Radiata pine (Pinus radiata)
Grade:	Select
Finish:	Low VOC (85g/L)
Applications:	Exterior applications only
Dimensional Change: thickness	Expected dimensional change in structure: Width expansion approx. 4%, length expansion approx. 0.25%, expansion approx. 2.5% (from 7% MC to fiber saturation - variation will occur between boards).
Stability:	Vulcan Flat Sawn Cladding is approx. 30% more stable than flat sawn radiata pine..
Janka Hardness:	Low (562 lbf)
Flame Spread Class Rating:	C (ASTM E 84)
Flame Spread Index:	80 (ASTM E 84)
Smoke Developed Index:	200 (ASTM E 84)
Durability Class:	1 (EN350-1), Class 2 above ground (AS5604), giving an anticipated service life of 60+ years

Sustainable Attributes and Possible LEED Credits

Forest Stewardship Council® (FSC®) - a guarantee that forest products come from responsibly managed sources, including forest management and chain of custody.

SS5 - Heat Island Reduction	MRC4 - Building product disclosure and optimization -Material Ingredients
MRC1 - Building Life-Cycle Impact Reduction	MRC 7 - FSC® Certified
MRC2 - Building product disclosure and optimization -Environmental Product Declarations	Red List Free: Free from Red List chemicals as required by the Living Building Challenge
IC1 Innovation	
MRC3 - Building product disclosure and optimization -Sourcing of raw materials	



Vulcan Cladding Product Handling

- Cladding and accessories must be kept clean, dry, under cover and out of the weather prior to installation.
- Timber must be stored horizontally on dunnage that is at least four inches off the ground.
- Extra care must be taken during installation so as not to damage the factory finish of the boards.
- Wear a dust mask and eye protection when cutting timber.
- Do not burn timber that is treated for insect resistance. Dispose of off-cuts in a lined landfill or an approved furnace.

Vulcan Cladding Maintenance

- Wash down every 12 months with gentle detergent, warm water and a soft brush. Do not powerwash.
- If possible, it is recommended to apply an additional coat of oil after approx. 12 months of weathering.
- Make a maintenance check every two summers. Check all weatherboards, junctions, flashings, moldings and replace or remediate as required to maintain weather tightness of the cladding system.
- Re-coat every 2-3 years or as required to maintain color and integrity of coating. Re-coat period may be longer or shorter depending on climatic conditions and/or positioning of cladding to the sun. Preparation with Rejuvenator or other similar oxalic timber cleaner is recommended prior to coating.
- For heavily soiled or moldy areas use Rejuvenator or similar timber cleaner, apply active moldicide and recoat with penetrating oil.
- Contact reSAWN TIMBER co. for more information on maintenance and product weathering.

TEAK

New Fairfield Lake House, CT
Architect: Worrell Yeung



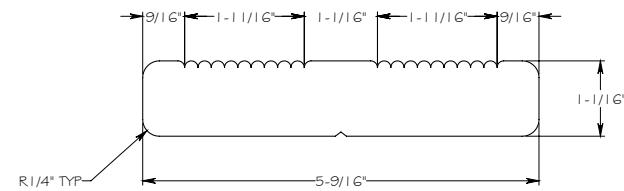
Vulcan Decking Product Offering

Vulcan Decking is created from thermally modified New Zealand plantation timbers. It's treated with an organic preservative system that includes water repellent for superior durability.

The thermal modification process gives the material an enhanced stability, reduced resin content, and is a beautiful, homogeneous, brown color. The premium grade and reeded face has little to no corrosiveness to most metals and can be coated on site.



Abodo Decking
CLEAR
SHOWN WITH 2 COAT APPLICATION



Decking Overview

Forest Stewardship Council (FSC®) - a guarantee that forest products come from responsibly managed sources, including forest management and chain of custody.

Red List Free: Free from Red List chemicals as required by the Living Building Challenge.

Built to Last Warranty: Vulcan Decking is covered by a 25 year Built to Last Warranty.

Treated with an organic system that includes water repellent for superior durability.

Vulcan Decking is supplied pre-finished with 1-coat of CLEAR Abodo Protector Oil (Abodo's high performance penetrating exterior oil) and requires a second coat to be applied onsite by the installer post-install.

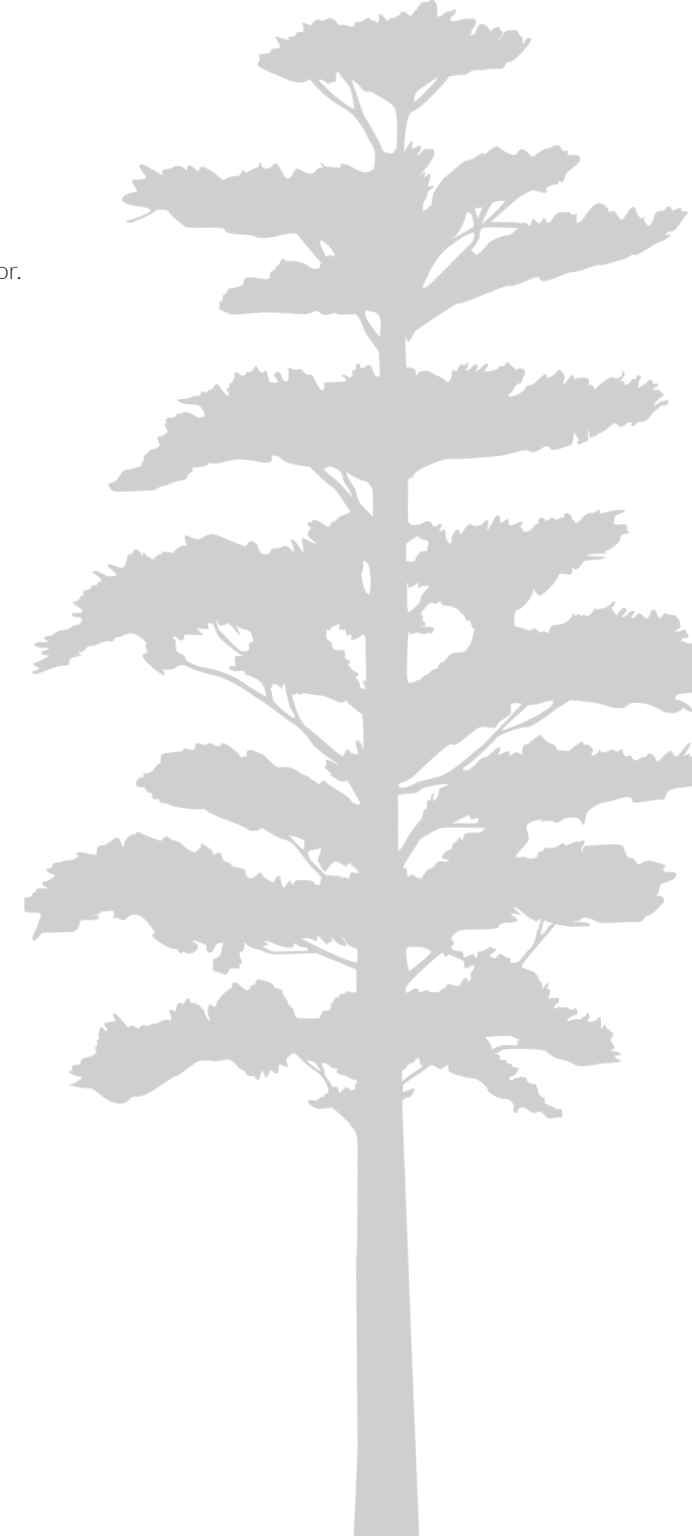
Standard Decking Dimensions and Milling

+/- 1-1/16" thick X +/- 5-9/16" wide
DK16 Decking Profile

Decking Specifications

Premium Grade/Graded to the reeded face with mainly clear sections, but with some defects including knots and resin pockets allowed up to 1/3rd of the board width. Reverse face with defects permitted according to Standard Grade.

Species:	Thermally Modified radiata pine (Pinus radiata)
Grade:	Select Grade-Flat Sawn
Finish:	Low VOC (85g/L)
Applications:	Decking
Janka Hardness:	Low (562 lbf)
Durability Class:	1 (EN350-1), Class 2 above ground (AS5604), giving an anticipated service life of 60+ years



Decking Specifications *Continued*

- Weight: 2 lbs/sf (light weight decking).
- ASTM D4442 - Moisture Content.
- Approx. 12% MC (at time of dispatch from factory).
- Thermally modified pine is resistant to most wood boring insects.
- Treated with OPX azole-based preservation system. Durability Class 1 (EN350), H3 (AS1604) and suitable for use Class 3 (EN335).
- Outstanding dimensional stability, which results in lower maintenance frequency and therefore less coating over the lifetime of the product.
- Width expansion approx. 3%, length expansion approx 0.25%, thickness expansion approx 1.5% change in surface* variation may occur between boards. (*Indicative tangential movement from 'dry' 12% MC to 'wet' fiber saturation approx 25% MC).

Abodo Decking Sustainable Attributes and Possible LEED Credits

All Abodo wood is produced from well managed, sustainable sources, including FSC® and other regionally certified woods. Additionally, reSAWN TIMBER co. holds FSC® Chain of Custody Certification. Abodo wood is an environmentally compatible substitute for carbon intensive materials. Environmentally compatible: 100% recyclable and reusable, naturally renewable.

SS5 - Heat Island Reduction

MRC3 - Building product disclosure and optimization – sourcing of raw materials

MRC1 - Building Life-Cycle Impact Reduction

MRC4 - Building product disclosure and optimization – Material Ingredients

MRC2 - Building product disclosure and optimization

Environmental Product Declarations

MR 7 - Certified Wood (FSC®)

IC1 Innovation

Red List Free : Free from Red List chemicals as required by the Living Building Challenge.



Decking Product Handling

- Prior to installation, keep decking boards dry and out of the weather or under plastic wrap, elevated four inches off the ground on dunnage.
- During installation, wear safety glasses, gloves, footwear and ear protection as appropriate.
- When cutting, do not breathe in wood dust - always wear a dust mask.
- Consult with a design professional, engineer or architect when building a deck with elevated or critical structural elements.
- Preservative treated Vulcan should be disposed of in a lined landfill or burned in an approved industrial furnace only.
- Adhere to local building codes and construction standards in all cases.

Decking Maintenance

- After exposure to the weather and foot traffic, the coating will start to fade and tracking marks may start to appear in heavy traffic areas. The coating should be re-applied once it begins to show signs of wear or water stops beading from the surface. Depending on sun exposure the re-coat cycle may be 12-18 months. Love your deck and it'll love you right back.
- Wash down regularly (at least every six months) with mild detergent, warm water and soft brush.
- All wood will go grey after extended exposure to the weather. To maintain color use a brown pigmented deck stain and re-apply on a regular basis.
- Surface cracking or 'checking' may occur after exposure to the weather. This can be reduced by using a quality decking stain and by installing boards with ribbed face up.
- Re-apply coating as required every 12-18 months.
- Mold growth will occur on timber, especially in high humidity conditions. For heavily soiled or moldy areas use Abodo Rejuvenator, a similar timber cleaner or oxygenating cleaner, then apply long-acting mold inhibitor such as Resene Deep Clean.

Contact reSAWN TIMBER co. for more information on maintenance and weathering of products.

Front Cover Image :

SiOO:X
Twin Gables, Watermill, NY
Architect: THE UP STUDIO

**It's Possible™
to fall in love
with your
home again.**

Southwest Product Catalog



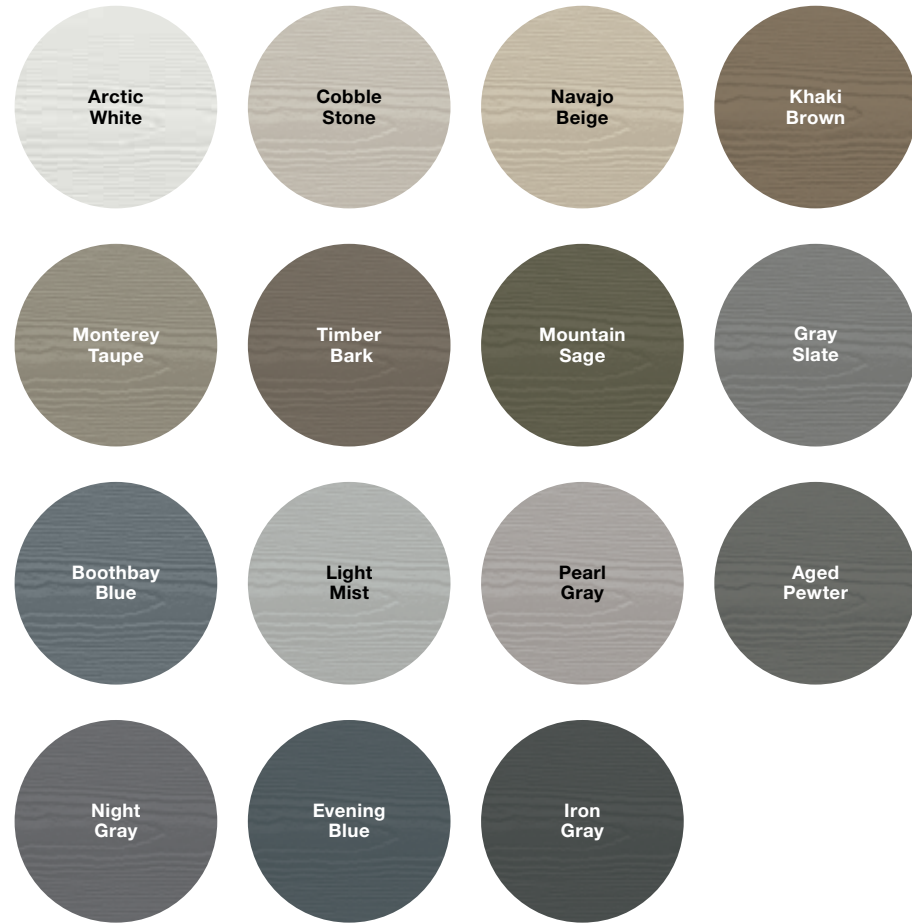
Statement Collection® Products

It's your turn to let your home stand out with our Statement Collection® products. Curated by our design experts, this collection of Hardie® siding and trim products with ColorPlus® Technology finishes are unique to your home's region. This gorgeous selection is locally stocked in your area, making it easier than ever to find the exterior style of your dreams.

COLORPLUS® TECHNOLOGY

ColorPlus® Technology finishes combine distinct beauty and high performance in a way that no other finish does. They're the easiest way to choose a gorgeous pre-finished color for your house, and feel confident in its staying power.

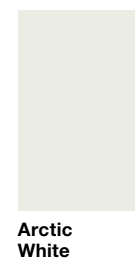
Hardie® Plank, Hardie® Panel, Hardie® Shingle and Hardie® Trim Batten Color Offering



Hardie® Trim Color Offering



Hardie® Soffit Color Offering



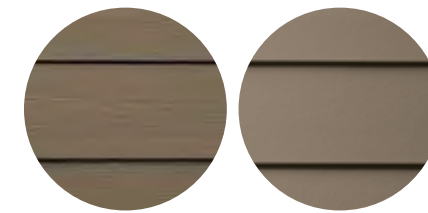
Hardie® Plank

Thickness 5/16 in
Length 12 ft planks

Select Cedarmill® & Smooth

Width 8.25 in

Exposure 7 in

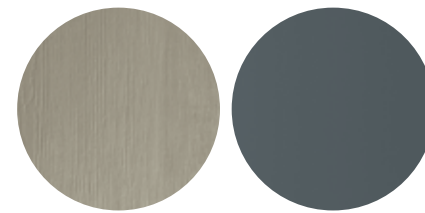


Hardie® Panel

Thickness 5/16 in

Select Cedarmill® & Smooth

Size 4 ft x 10 ft



Hardie® Shingle

Thickness 1/4 in
Length 48 in

Straight Edge Panel

Height 15.25 in

Exposure 7 in



Hardie® Soffit

Thickness 1/4 in

Non-Vented Select Cedarmill®

Width 24 in

Length 8 ft



Hardie® Trim

Length 12 ft

4/4 Rustic Grain

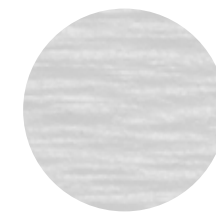
Thickness .75 in

Width 5.5 in

5/4 Rustic Grain

Thickness 1 in

Width 3.5 in 5.5 in 7.25 in 11.25 in



Hardie® Trim

Length 12 ft

4/4 Smooth

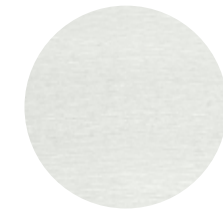
Thickness .75 in

Width 5.5 in

5/4 Smooth

Thickness 1 in

Width 3.5 in 5.5 in



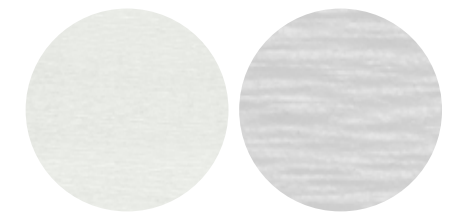
Batten Boards

Smooth & Rustic Grain

Thickness .75 in

Length 12 ft

Width 2.5 in



Scan code to request a sample.

STYLES

find your perfect mix of exterior products



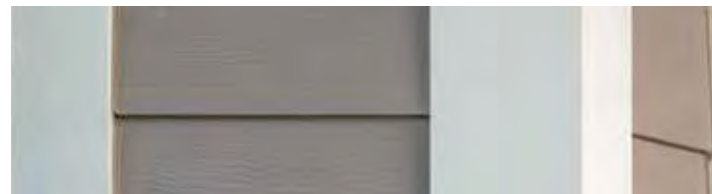
HARDIE® PANEL & HARDIE® TRIM BATTEN



HARDIE® SHINGLE



HARDIE® PLANK



HARDIE® TRIM



HARDIE® SOFFIT

For more detailed product size and availability information, visit jameshardie.com/magnolia.

TEXTURES

choose the texture you prefer



HARDIE® TRIM SMOOTH



HARDIE® SIDING SMOOTH*



HARDIE® TRIM RUSTIC GRAIN



HARDIE® SIDING SELECT CEDARMILL**

* Textures available for siding and soffit.
Hardie® Shingle only offered in Select Cedarmill®.

DESIGN *the* HOME YOU'VE ALWAYS IMAGINED

Visualize Hardie® products on a 3D model of your home with HOVER® Design Studio, brought to you by James Hardie.

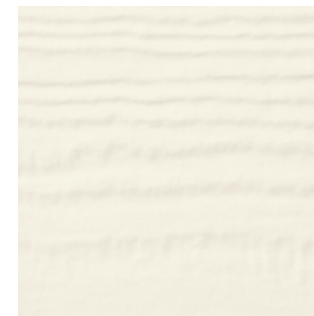
Every home tells a story. What will yours be? Start your free design.



VISUALIZE THE COLLECTION ON YOUR HOME

COLORS

select the hue that's right for you



BIRCH TREE



WEATHERED CLIFFS



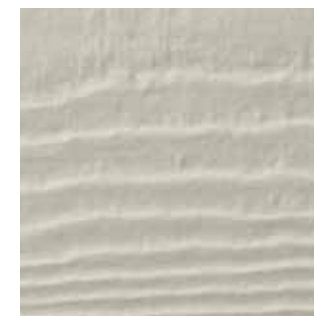
RUSTIC ROAD



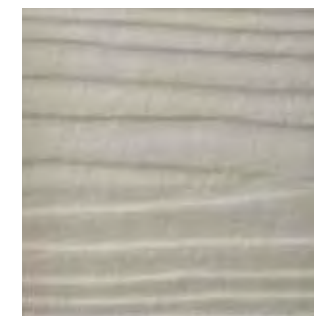
RUGGED PATH



IT'S ABOUT THYME



STONE BEACH



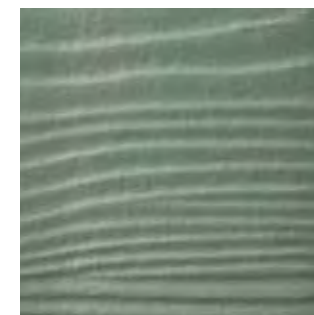
STONE PAVER



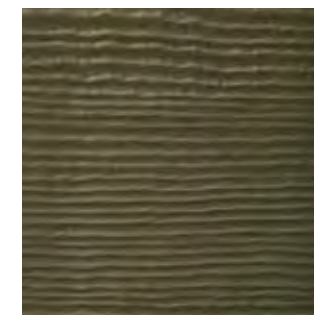
WARM CLAY



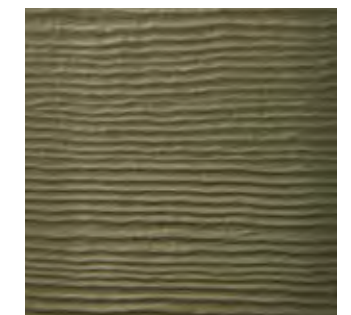
DRIED EUCALYPTUS



CHISELED GREEN



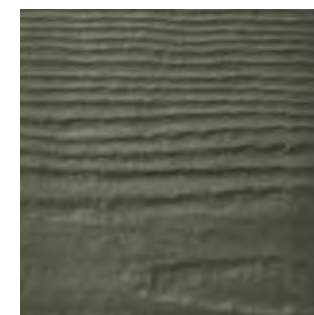
WANDERING GREEN



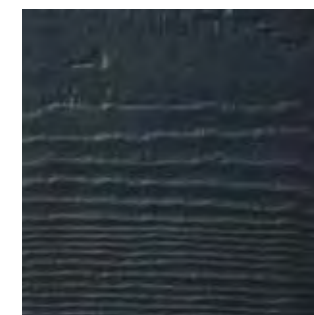
MUDFLATS



SLATE STEPS



PEPPERY ASH



LAST EMBERS



MIDNIGHT SOOT

All products in this collection come prefinished with ColorPlus® Technology finishes by James Hardie.

A classic look that stands the test of time.

Hardie® Plank

From Victorians to Colonials, Hardie® Plank is the perfect siding for your style, and has the durability and long-lasting beauty that can transform your home exterior. With endless gorgeous color and plank pairings available, you'll discover a Hardie® Plank style that transforms your home's aesthetic.



Hardie® Trim Smooth Arctic White

Hardie® Plank Select Cedarmill® Khaki Brown

Hardie® Plank



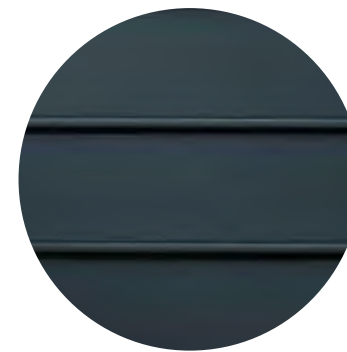
Select Cedarmill®



Smooth



Beaded Select Cedarmill®



Beaded Smooth

	Thickness 5/16 in		Length 12 ft planks			
Width	5.25 in	6.25 in	7.25 in	8.25 in	9.25 in	12 in
Exposure	4 in	5 in	6 in	7 in	8 in	10.75 in
Prime Pcs/Pallet	360	308	252	230	190	152
ColorPlus® Pcs/Pallet	324	280	252	210	—	—
Pcs/Sq.	25.0	20.0	16.7	14.3	12.5	9.3

Select Cedarmill®

Width	5.25 in	6.25 in	7.25 in	8.25 in	9.25 in	12 in
Statement Collection®				•		
Dream Collection®	•	•	•	•		
Prime	•	•	•	•	•	•

Smooth

Width	5.25 in	6.25 in	7.25 in	8.25 in	9.25 in*	12 in
Statement Collection®				•		
Dream Collection®	•	•	•	•		
Prime	•	•	•	•	•	•

Beaded Select Cedarmill® & Beaded Smooth

Width	8.25 in
Exposure	7 in
ColorPlus® Pcs/Pallet	210
Pcs/Sq.	14.3
Statement Collection®	
Dream Collection®	•
Prime	



C.H.I.  [®]
OVERHEAD DOORS

| FULL-VIEW ALUMINUM



**THE
QUALITY
GARAGE
DOOR™**



FULL-VIEW ALUMINUM

A dramatic statement, made to fit your contemporary garage door application. Our full-view aluminum garage doors are expertly engineered of aluminum and glass that will give your home the perfect blend of industrial and ultra modern.

3295 shown in clear anodized with optional frosted glass

KEY FEATURES



INSULATION

Optional insulated section rails are available providing additional thermal protection for your garage space.



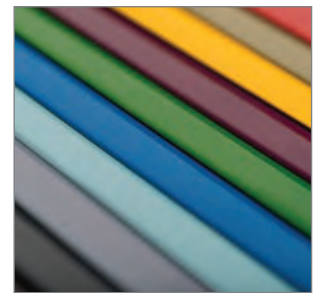
BULB SEAL

Integrated bulb seal eliminates air and water infiltration keeping your interiors protected from the unwanted elements.



SECTION CONSTRUCTION

Rail and stile sections are assembled with through bolts for added strength and longevity.



POWDER COATING

Choose from 188 color options that provide a maintenance free, durable finish.



Enjoy the view but keep the noise out!

C.H.I Full-View Aluminum doors have been tested and certified for an STC (sound transmission class) Rating of 27.

PERSONALIZING OPTIONS

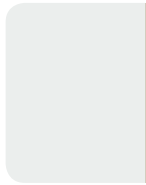
Choose from a variety of personalizing options to complement your home's design and create immediate curb appeal.

FINISH

SUPER DURABLE POWDER COAT COLORS All powder coat colors add 1-week lead time



Clear Anodized



White



Almond



Sandstone



Brown



Bronze



Dark Bronze



Gray



Desert Tan

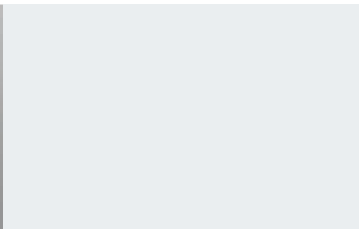


Black

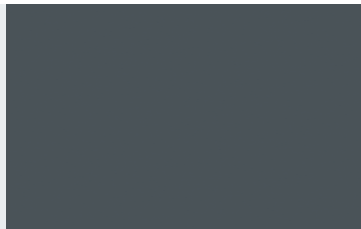
GLASS



Plain



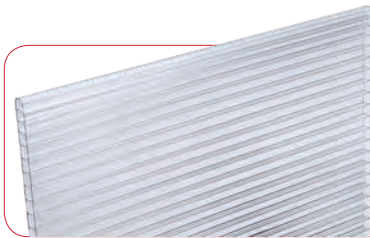
Frosted



Tinted

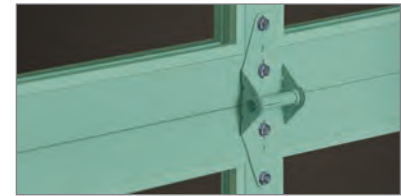


Obscure






ADDITIONAL GLASS & PANEL OPTIONS

In addition to our standard glass offering, customize your door with specialty glass, solid panels or special materials. Contact your C.H.I. Dealer for options and details.

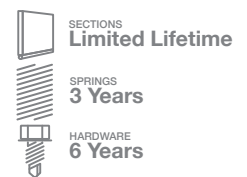


Full-View Aluminum Model Comparison Chart

	BETTER	BEST
Section Construction	2" Thick - Hollow aluminum rails with through bolt assembly and bulb seal between sections	2" Thick - Insulated aluminum rails with through bolt assembly and bulb seal between sections
Section Material	Heavy Duty - Aluminum	Heavy Duty - Aluminum
Insulation Type	No Insulation	Polystyrene Insulation
		
Panel Style / Model Number²		
	3295	3297
<small>Full-View</small>		
Personalizing Options		
Powder Coating¹	188 Colors	188 Colors
Windows	•	•
Solid Panels	Insulated or Non-Insulated	Insulated or Non-Insulated
Glass	•	•
Warranty	Limited Lifetime Warranty	

APPEARANCE PACKAGE

All hardware, including struts and track, is powder coated, creating a complete garage door system with a lasting impression.



¹ Refer to your local C.H.I. Dealer for exact color match. ² Model number indicates insulation type.



DOORVISIONS

Bring your vision to life.

C.H.I. DEALERS

A BETTER BUYING EXPERIENCE

All C.H.I. doors, replacement parts, and accessories are sold only through our network of C.H.I. dealers: dedicated professionals who install and service our doors with the same quality and workmanship we use to manufacture them.

chiohd.com | 1485 Sunrise Drive | Arthur, IL 61911 | USA

Your Local Garage Door Professional



Product Catalog

WINDOWS AND PATIO DOORS

LINCOLN
WINDOWS



Aluminum clad is definitely the most popular exterior choice from Lincoln, offering color flexibility and structural strength while providing a homeowner with a low maintenance exterior. Extruded aluminum .050 thick frame and sash cladding protects homes from the outdoor elements and add structural integrity for maximum functionality. The Aluminum Clad Collection is wide-ranging and includes a full line of windows, patio doors and a multitude of options.

Beauty, durability, variety and performance are all brought to you by the Aluminum Clad Collection and built with pride at Lincoln.

Features

- **Available Product:**
Full product selection.
- **Maintenance:**
Minimal. Periodic soap & water.
- **Structural Performance:**
Superior strength and rigidity for all-weather protection.
- **Thermal Performance:**
High. Good for meeting Energy Star.

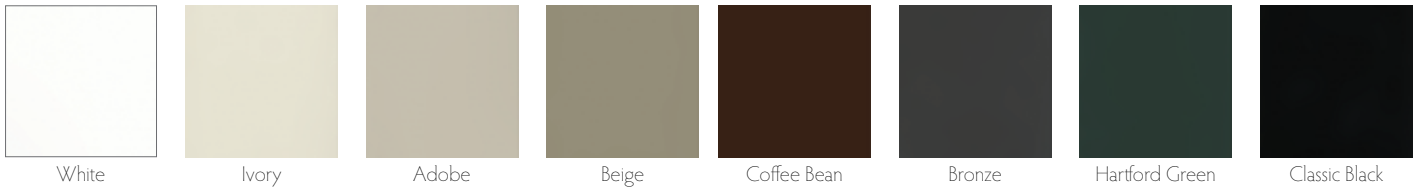


Frame and Sash Finishes

We offer eight standard colors, thirty-eight feature colors, seven spray-on anodized colors and have the ability to match from a customer's sample.

All of our standard, feature and custom color options are painted to AAMA 2605 performance requirements. AAMA 2605 high performance paint is the preferred choice of designers, architects and builders. Exceptional color retention and minimal chalking are leading characteristics of this premium paint finish.

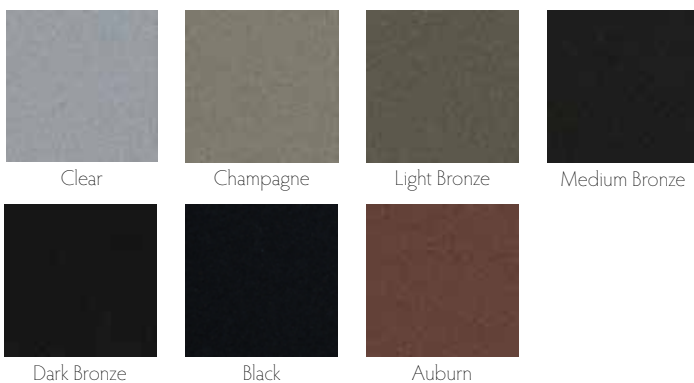
Standard Colors - AAMA 2605



Feature Colors - AAMA 2605



Spray-On Anodized Colors - AAMA 2604



Custom Colors - AAMA 2605



Due to printing limitations, the colors shown are for representation only.

ATTACHMENT 6

Geotechnical Investigation Report

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering

August 9, 2022

Mr. David Sun
838 San Nicholas Drive
Walnut, California 91789

Subject: Report of Preliminary Geotechnical Investigation, Proposed Residential Addition,
2089 Hanscom Drive, APN: 5308-022-010, South Pasadena, California, CLE
Project No.: 21-225-011EG

Dear Mr. Sun:

In accordance with your request, Quartech Consultants (QCI) is pleased to submit this Geotechnical Investigation Report for the subject site. The purpose of this report was to evaluate the subsurface conditions and provide recommendations for foundation design and other relevant parameters for the proposed construction.

Based on the findings of QCI's investigation, it is concluded that the proposed development of the subject lot is feasible from a geotechnical viewpoint, provided that recommendations presented herein are incorporated into design, grading and construction.

This opportunity to be of service is sincerely appreciated. If you have any questions pertaining to this report, please contact the undersigned at your convenience.
Respectfully submitted,

CalLand Engineering, Inc. (CLE)
dba Quartech Consultants (QCI)



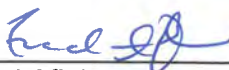
Jack C. Lee, GE 2153





John Tran

Reviewed By:



Fred Aflakian, CEG 2051





Abe Kazemzadeh

**REPORT OF GEOTECHNICAL ENGINEERING
INVESTIGATION**

Proposed Residential Addition

At

**2089 Hanscom Drive
APN: 5308-022-010
South Pasadena, California**

Prepared by
QUARTECH CONSULTANTS
Project No.: 21-225-011 EG
August 9, 2022

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	PURPOSE.....	1
1.2	SCOPE OF SERVICES.....	1
1.3	PROPOSED CONSTRUCTION.....	1
1.4	SITE CONDITIONS.....	1
2.0	SUBSURFACE EXPLORATION AND LABORATORY TESTING.....	2
2.1	SUBSURFACE EXPLORATION.....	2
2.2	LABORATORY TESTING.....	2
3.0	SOIL CONDITIONS.....	2
3.1	SITE GEOLOGY.....	2
3.1.1	<i>Fill (Map Symbol – Af)</i>	2
3.1.2	<i>Siltstone of Monterey Formation (Map Symbol – Tmsl)</i>	3
3.2	GEOLOGICAL STRUCTURES.....	3
3.3	GROUNDWATER.....	3
4.0	SLOPE STABILITY.....	3
4.1	EXISTING SLOPES.....	3
4.2	SURFICIAL SLOPE STABILITY AND LANDSCAPING.....	3
5.0	SEISMICITY.....	4
5.1	FAULTING AND SEISMICITY.....	4
5.2	ESTIMATED EARTHQUAKE GROUND MOTIONS.....	5
5.3	SEISMIC DESIGN CRITERIA.....	5
6.0	CONCLUSIONS.....	6
6.1	SEISMICITY.....	6
6.2	EXCAVATABILITY.....	6
6.3	SURFICIAL SOIL CONDITIONS.....	6
6.4	SEISMIC INDUCED HAZARD.....	6
6.5	SURFICIAL SOIL REMOVAL AND RECOMPACTION.....	7
6.6	GROUNDWATER.....	7
7.0	RECOMMENDATIONS.....	7

7.1	CONVENTIONAL SHALLOW FOUNDATION.....	7
7.1.1	<i>Site Preparation</i>	7
7.1.2	<i>Surficial Materials Removal</i>	7
7.1.3	<i>Treatment of Removal Bottoms</i>	7
7.1.4	<i>Structural Backfill</i>	8
7.1.5	<i>Temporary Excavation</i>	8
7.1.6	<i>Shallow Foundation</i>	8
7.2	DEEPENED FOUNDATION SYSTEM	8
7.3	FOUNDATION SETBACK.....	9
7.4	SETTLEMENT.....	9
7.5	LATERAL PRESSURE.....	9
7.6	RETAINING WALL BACKFILL AND WALL DRAINAGE	10
7.7	FOUNDATION CONSTRUCTION.....	10
7.8	CONCRETE SLABS.....	11
7.9	TEMPORARY TRENCH EXCAVATION AND BACKFILL.....	12
8.0	COROSION POTENTIAL	12
9.0	INSPECTION	12
10.0	INVESTIGATION LIMITATIONS	12

1.0 INTRODUCTION

1.1 Purpose

This report presents a summary of our preliminary geotechnical engineering investigation for the proposed construction at the subject site. The purposes of this investigation were to evaluate the subsurface conditions at the area of construction and to provide recommendations pertinent to grading, foundation design and other relevant parameters of the proposed development.

1.2 Scope of Services

QCI scope of services included:

- Review of available soil and geologic data of the area.
- Due to the limited access of the site, subsurface exploration consisting of logging and sampling of two hand dug test pits to a maximum depth of 5 feet below the existing ground surface. Test pit logs are presented in Appendix A.
- Laboratory testing of representative samples to establish engineering characteristics of the on-site soil. The laboratory test results are presented in Appendices A and B.
- Engineering analyses of the geotechnical data obtained from our background studies, field investigation, and laboratory testing.
- Preparation of this report presenting our findings, conclusions, and recommendations for the proposed construction.

1.3 Proposed Construction

It is anticipated that the subject site would be used for single-family residential addition. The proposed addition is anticipated to be a wood deck and one and/or two-story wood frame structures with concrete slab-on-grade. The proposed addition will be adjacent to the existing residence. Column loads are unknown, but are expected to be light to medium. Minor cut and fill grading operations are anticipated to reach the desired grades.

1.4 Site Conditions

The subject site is located at north side of Hanscom Drive, a relatively short distance east of Randolph Avenue, in the City of South Pasadena, California. Approximate regional location is shown on the attached Site Location Map (Figure 1). The site is currently occupied by an existing residence within the existing relatively level pad. The existing level pad is approximately 26 feet higher than the adjacent Hanscom Drive. Access to the pad is utilizing the existing paved driveway at the southerly portion of the site. A slope graded to approximately 1 to 1

(horizontal to vertical) and less than 26 feet high existed between the level pad and the access driveway. In order to accommodate the grade difference, a retaining wall with maximum height of 5 to 6 feet was constructed between the graded slope and access driveway. No major surface erosions were observed at the time of our field investigation. Detail configuration of the site is presented in the attached Site Plan, Figure 2.

2.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

2.1 Subsurface Exploration

Two hand excavated test pits were performed at the locations indicated in the attached Site Plan, Figure 2. The test pits were excavated to a maximum depth of 5.5 feet below the existing ground surface. The test pit was supervised and logged by an engineering geologist. Relatively undisturbed and bulk samples were collected for laboratory testing. Logs of test pit are presented in Appendix A.

2.2 Laboratory Testing

Representative samples were tested for the following parameters: in-situ moisture content and density, direct shear strength, percent of fines, Atterberg limits, expansion index, and corrosion potential. Results of our laboratory testing along with a summary of the testing procedures are presented in Appendix B. In-situ moisture and density test results are presented on the trench logs in Appendix A.

3.0 SOIL CONDITIONS

3.1 Site Geology

The earth materials encountered at the subject site include surficial soils overlying bedrock of Monterey Formation. A description of the subsurface materials from top down is provided as follows:

3.1.1 Fill (Map Symbol – Af)

Surficial fill was encountered in both Test Pit No. 1 and 2. The encountered fill depth varied from 3 to 4 feet. The fill is comprised of clayey silt with trace of rock fragments (MH), dark brown, slightly moist to moist and soft to firm with rock fragments up to 4 inches in size. No compaction report pertaining to the placement of these fills were available during our preparation of this report. It is our opinion that the encountered fill should be considered as non-structural fills and are not suitable for the additional fill and foundation support.

3.1.2 Siltstone of Monterey Formation (Map Symbol – Tmsl)

Underlying the surficial fill is bedrock of Monterey Formation. Bedrock mainly consists of siltstone, well bedded, light brown to gray, slightly moist, moderately hard to hard, siliceous, moderately fractured and moderate weathered.

3.2 Geological Structures

Based on our field investigation and the site regional geology, bedrock is generally strikes north-west and dips moderately toward north, which is considered favorable with respect to the site gross slope stability. No major fracturing was observed in bedrock to impact the development adversely. No faulting, adverse folding or other geologic hazards was observed or encountered during our site exploration. Based on our review of the site exploration, it is our understanding that adverse geologic conditions such as landsliding, faulting, and/or other geologic hazards will not affect the proposed residential development.

3.3 Groundwater

No ground water was encountered during our field investigation to a maximum depth of approximately 5.0 feet.

4.0 SLOPE STABILITY

4.1 Existing Slopes

Based on our filed exploration and review of the regional topographic map, the existing slope between the level pad and the adjacent driveway is graded at the slope ratio of 1 to 1 (horizontal to vertical) to a maximum height of less than 26 feet. The existing slope should be grossly stable under the current conditions provided the slopes are properly maintained.

4.2 Surficial Slope Stability and Landscaping

All slopes will be subject to surficial erosion. Therefore, slopes should be protected from surface runoff by means of top-of-slope compacted earth berms or concrete interceptor drains. All slopes should be landscaped with a suitable plant material requiring minimal cultivation and irrigation water in order to thrive. An irrigation system should be installed. Overwatering and subsequent saturation of slope surfaces should be avoided. The slope area outside the proposed construction area should remain intact and the vegetation should be maintained from drying to protect the slope form erosion. Overwatering and subsequent saturation of slope surfaces should be avoided. All roof runoff from proposed residence constructions should be directed to the street or to a drainage conduit.

5.0 SEISMICITY

5.1 Faulting and seismicity

The subject site, like the rest of Southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional faults such as the San Andreas, San Jacinto and Elsinore fault zones. These fault systems produce approximately 5 to 35 millimeters per year of slip between the plates.

We consider the most significant geologic hazard to be the potential for moderate to strong seismic shaking that is likely to occur at the subject site. The subject site is located in the highly seismic Southern California region within the influence of several faults that are considered to be Holocene-active or pre-Holocene faults. A Holocene-active fault is defined by the State of California as a fault that has exhibited surface displacement within the Holocene time (about the last 11,700 years). A pre-Holocene fault is defined by the State as a fault whose history of past movement is older than 11,700 years ago and does not meet the criteria for a Holocene-active fault.

These Holocene-active and pre-Holocene faults are capable of producing potentially damaging seismic shaking at the site. It is anticipated that the subject site will periodically experience ground acceleration as the result of small to moderate magnitude earthquakes. Other active faults without surface expression (blind faults) or other potentially active seismic sources that are not currently zoned and may be capable of generating an earthquake are known to be present under in the region.

The subject site is not included within any Earthquake Fault Zones as created by the Alquist-Priolo Earthquake Fault Zoning Act. Our review of geologic literature pertaining to the site area indicates that there are no known active or potentially active faults located within or immediately adjacent to the subject property.

As indicated in Table 1, Raymond fault zone is considered to have the most significant effect to the site from a design standpoint.

TABLE 1
Characteristics and Estimated Earthquakes for Regional Faults

Fault Name	Approximate Distance to Site (mile)	Maximum Earthquake Magnitude (Mw)
Raymond	1.3	6.8
Verdugo	2.4	6.9
Elysian Park (Upper)	2.5	6.7
Hollywood	3.4	6.7
Santa Monica Connected alt 2	6.3	7.4
Sierra Madre	7.2	7.2
Sierra Madre Connected	7.2	7.3
Puente Hills (LA)	9.0	7.0
Elsinore; W+GI	10.2	7.3
Elsinore; W+GI+T	10.2	7.5
Elsinore; W+GI+T+J	10.2	7.8
Elsinore; W+GI+T+J+CM	10.2	7.9
Elsinore; W	10.2	7.0
Clamshell-Sawpit	11.4	6.7
Newport Inglewood Connected alt 2	12.7	7.5
Newport Inglewood, alt 1	12.9	7.2

Reference: 2008 National Seismic Hazard Maps - Source Parameters

5.2 Estimated Earthquake Ground Motions

In order to estimate the seismic ground motions at the subject site, QCI has utilized the seismic hazard map published by California Geological Survey. According to this report, the peak ground acceleration at the subject site for a 2% and 10% probability of exceedance in 50 years is about 1.093g and 0.593g respectively (USGS, 2008 Deaggregation of Seismic Hazards). Site modified peak ground acceleration (PGAM), corresponding to USGS Design Map Summary Report, ASCE 7-16 Standard, is 1.100g.

5.3 Seismic Design Criteria

Based on our studies on seismicity, there are no known active faults crossing the property. However, the subject site is located in southern California, which is a tectonically active area. Based on ASCE 7-16 Standard (CBC 2019), the following seismic related values may be used.

The Project Structural Engineer should be aware of the information provided below to determine if any additional structural strengthening is warranted.

Seismic Parameters (Latitude: 34.1004542, Longitude: -118.1754183)	Site Class "C"
Mapped 0.2 Sec Period Spectral Acceleration S_s	2.107g
Mapped 1.0 Sec Period Spectral Acceleration S₁	0.728g
Site Coefficient for Site Class "C", F_a	1.2
Site Coefficient for Site Class "C", F_v	1.4
Maximum Considered Earthquake Spectral Response Acceleration Parameter at 0.2 Second, S_{M_s}	2.529g
Maximum Considered Earthquake Spectral Response Acceleration Parameter at 1.0 Second, S_{M₁}	1.019g
Design Spectral Response Acceleration Parameters for 0.2 sec, S_{D_s}	1.686g
Design Spectral Response Acceleration Parameters for 1.0 Sec, S_{D₁}	0.679g

6.0 CONCLUSIONS

Based on the results of our subsurface investigation and engineering analyses, it is our opinion that the proposed construction is feasible from a geotechnical standpoint, provided the recommendations contained herein are incorporated in the design and construction.

6.1 Seismicity

Based on our studies on seismicity, there are no known active faults crossing the property. However, the site is located in a seismically active region and is subject to seismically induced ground shaking from nearby and distant faults, which is a characteristic of all Southern California.

6.2 Excavatability

Based on our subsurface investigation, excavation of the subsurface materials should be able to be accomplished with conventional earthwork equipment.

6.3 Surficial Soil Conditions

The site is underlain by the previously placed fill. Based on our subsurface investigation, the encountered fill depth varied from 3 to 4 feet. The encountered fills are not suitable for the additional fills and/or foundation support and are subject to the remedial works as discussed in this report.

6.4 Seismic Induced Hazard

Based on our review of the "Seismic Hazard Zones, Los Angeles Quadrangle" by California Geological Services (CGS), it is concluded that the site is not located within the potential seismic induced landslide or liquefaction areas.

6.5 Surficial Soil Removal and Recomposition

Prior to initiating grading operations, any existing vegetation, trash, debris, over-sized materials (greater than 8 inches), and other deleterious materials within construction areas should be removed from the subject site. The existing near surface colluvium is about to remove to reach the required grade.

6.6 Groundwater

Groundwater was not encountered during our field exploration. In our opinion, groundwater will not be a problem during construction.

7.0 RECOMMENDATIONS

Based on the subsurface conditions exposed during field investigation and laboratory testing program, it is our opinion that the proposed additions may be supported by conventional shallow foundation or deepened foundation embedded into competent bedrock. The following recommendations to be incorporated in the design and construction phases of the project:

7.1 Conventional Shallow Foundation

7.1.1 Site Preparation

Prior to initiating grading operations, any existing vegetation, trash, debris, over-sized materials (greater than 8 inches), and other deleterious materials within fill areas should be removed.

7.1.2 Surficial Materials Removal

Within grading limits, existing surficial materials should be removed to expose competent bedrock. Based on the subsurface exploration, removal depth up to 4 feet or 2 feet below the bottom of the foundation, whichever is deeper, may be anticipated. All excavations should be observed by a representative of this office to verify the subgrade conditions and determine if additional removals or other mitigative measures are needed.

7.1.3 Treatment of Removal Bottoms

Soils exposed within areas approved for fill placement should be scarified to a depth of 6 inches, conditioned to near optimum moisture content, then compacted in-place to minimum project standards.

7.1.4 Structural Backfill

The onsite soils may be used as compacted fill provided, they are free of organic materials and debris. Fills should be placed in relatively thin lifts (6 to 8 inches), brought to near optimum moisture content, and then compacted to at least 90 percent relative compaction based on laboratory standard ASTM D-1557-12.

7.1.5 Temporary Excavation

Based on our field exploration and laboratory data obtained to date, it is our opinion that temporary excavation may need to be excavated vertically or near vertically up to 5 feet. It is recommended that temporary excavation of the onsite soils can be cut vertically up to 5 feet and sloped excavations may be made no steeper than 1 to 1 (horizontal to vertical) for the underlying material. Flatter slope cuts may be required if loose soils encountered during excavation. No heavy construction vehicles, equipment, nor surcharge loading should be permitted at the top of the slope. A representative of this office should inspect the temporary excavation to make any necessary modifications or recommendations.

7.1.6 Shallow Foundation

An allowable bearing value of 2000 pounds per square foot (psf) may be used for design of continuous or pad footings with a minimum of 12 inches in width. All footings should be at least 24 inches deep and founded entirely on competent compacted fill approved by the project geotechnical consultants. The bearing value may be increased by one third (1/3) when considering short duration seismic or wind loads.

7.2 Deepened Foundation System

In lieu of the onsite grading operation, the proposed additions and the proposed deck may be supported by deepen foundation or caisson.

Deepen foundation founded at least 12 inches into the competent bedrock. An allowable bearing value of 3000 pounds per square foot (psf) may be used for design of continuous or pad footings with a minimum of 12 inches in width. This bearing value may be increased by 200 psf for each additional foot of depth or width to a maximum value of 3,500 psf.

Caisson and grade beam foundation system may be used for the proposed development. Caissons should be a minimum of 5 feet into competent bedrock and approved by project geotechnical/geologist consultant. Caissons may be designed for an allowable end bearing of 4000 psf for the portion of caissons embedded within the competent bedrock. Caissons should be at least 24 inches in diameter to facilitate cleanout. The base of all caissons excavations should be cleaned of all loose materials. All caissons should be tied in two horizontal directions with grade beams or footings.

All footings should be at least 24 inches deep and founded at least 12 inches into the competent bedrock, whichever is deeper, approved by the project geotechnical consultants. The bearing value may be increased by one third ($1/3$) when considering short duration seismic or wind loads.

7.3 Foundation Setback

All foundations and building should be setback from the adjacent slope face per current City's building code (i.e., $H/3$ but not need to exceed 40 horizontal feet). Additionally, a minimum horizontal setback distance of 10 feet should be maintained between the edge of the foundation and the adjacent slope face. No passive pressure is allowed for the portion of the footing, which maintains less than 10 feet between the edge of the foundation and the adjacent slope face.

7.4 Settlement

Settlement of the footings placed as recommended and subject to no more than allowable loads is not expected to exceed $3/4$ inch. Differential settlement between adjacent columns is not anticipated to exceed $1/2$ inch.

7.5 Lateral Pressure

The active earth pressure to be utilized for cantilever retaining wall designs may be computed as an equivalent fluid having a density of 40 pounds per cubic foot when the slope of the backfill behind the wall is level. These values assume free-draining condition. Passive earth pressure for the residential foundation design may be computed as an equivalent fluid pressure of 400 pounds per cubic foot, with a maximum earth pressure of 3,500 pounds per square foot. An allowable coefficient of friction between soil and concrete of 0.35 may be used with the dead load forces. When combining passive pressure and frictional resistance, the passive pressure component should be reduced by one-third.

Earthquake earth pressure distribution on retaining walls retaining more than 6 feet of soils when the slope of the backfill behind the wall is level may be computed as 33 pcf. Resultant seismic lateral earth pressure can be applied assuming an inverted triangular distribution, with the resultant applied at a height of $2/3H$ measured from the bottom of wall footings. The earthquake-induced pressure should be added to the static earth pressure. Design of walls less than 6 feet in height may neglect the additional seismic pressure.

7.6 Retaining Wall Backfill and Wall Drainage

Walls may be backfilled with onsite soils. A free-drainage, selected backfill (SE of 30 or greater), should be used against the retaining wall to the top of the wall. The upper 18 inches of backfill should consist of native soils. All backfill should be compacted to at least 90 percent of the laboratory maximum dry density (ASTM D-1557-12). Any proposed retaining walls at the site should be provided with backdrains to reduce the potential for the buildup of hydrostatic pressure.

Backdrains should consist of 4-inch (minimum) diameter perforated PVC pipe surrounded by a minimum of 1 cubic foot per lineal foot of clean coarse gravel wrapped in filter fabric (Mirafi 140 or the equivalent) placed at the base of the wall.

The drain should be covered by no less than 18 inches (vertical) of compacted wall backfill soils. The backdrain should outlet through non-perforated PVC pipe or weepholes. Alternatively, commercially available drainage fabric (i.e., J-drain) could be used. The fabric manufacturer's recommendations should be followed in the installation of the drainage fabric backdrain. If there is not enough room for placing the above mentioned drainage systems, an alternative system such as pre-fabricated drainage system AQUADRAIN 100 BD with a 3-inch drain pipe set in gravel behind the wall, to prevent the buildup of hydrostatic pressure. This drainpipe may be connected to a 3-inch drain collector pipe connected to a sump pump.

7.7 Foundation Construction

The planned residential addition and deck may be supported by deepened foundation system founded at least 12 inches into the competent bedrock. It is anticipated that the entire structure will be underlain by onsite soils of medium expansion potential ($EI=87$). In accordance with Section 1808.6.4 of the 2019 California Building Code the soil should be stabilized by presaturation and all footings and slabs should be constructed as follows:

All shallow footings should be founded at a minimum depth of 24 inches below the lowest adjacent grade and founded on competent materials as recommended in Section 7.1 or 7.2 of this report. All continuous footings should have at least two No. 4 reinforcing bars placed within four inches of the top of the footing and two No. 4 bars shall be placed between 3 inches and 4 inches of the bottom of the footing. Foundations for exterior walls and interior bearing walls shall be tied to the floor slabs by reinforcing bars (dowels) having a diameter of not less than ½ inch (No. 4 bar) reinforcing bars and spaced at intervals not exceeding 16 inches on center. The reinforcing bars extend at least 40 bar diameters into the footings and the slabs.

Presaturation of soils is recommended for concrete slab areas. The moisture condition of each slab area should be 120 percent or greater of optimum moisture content to a depth of 24 inches below slab grade prior to pouring of slabs. Presaturation may be facilitated by maintaining the water content prior to foundation construction by periodic spraying and by slowly adding additional water after foundations are in.

7.8 Concrete Slabs

Concrete slabs and flatworks should be a minimum of 5 inches thick and reinforced with a minimum of No. 4 reinforcing bar spaced 16-inch each way or its equivalent. All slab reinforcement should be supported to ensure proper positioning during placement of concrete.

In order to comply with the requirements of the 2019 CalGreen Section 4.505.2.1 within the moisture sensitive concrete slabs, a minimum of 4-inch thick base of ½ inch or larger clean aggregate should be provided with a vapor barrier in direct contact with concrete. A 10-mil Polyethylene vapor retarder, with joints lapped not less than 6 inches, should be placed above the aggregate and in direct contact with the concrete slab. As an alternate method, 3 inches of sand then 10-mil polyethylene membrane and another 3 inches of sand over the membrane and under the concrete may be used, provided this request for an alternative method is approved by City Building Officials.

Should the deepened footings be used to support the proposed addition and no grading operation is performed within the proposed construction area, it is recommended that the structural slabs be used for the proposed addition. The reinforcement of the structural slabs should be determined by the project structural engineer.

7.9 Temporary Trench Excavation and Backfill

All trench excavations should conform to CAL-OSHA and local safety codes. All utilities trench backfill should be brought to near optimum moisture content and then compacted to obtain a minimum relative compaction of 90 percent of ASTM D-1557-12. All temporary excavations should be observed by a field engineer of this office so as to evaluate the suitability of the excavation to the exposed soil conditions.

8.0 COROSION POTENTIAL

Chemical laboratory tests were conducted on the existing onsite near surface materials sampled during QCI's field investigation to aid in evaluation of soil corrosion potential and the attack on concrete by sulfate soils. The testing results are presented in Appendix B. According to 2019 CBC and ACI 318-19, a "negligible" exposure to sulfate can be expected for concrete placed in contact with the onsite soils. Therefore, Type II cement or its equivalent may be used for this project. Based on the resistivity test results, it is estimated that the subsurface soils are severely corrosive to buried metal pipe (900 ohm-cm). It is recommended that any underground steel utilities be blasted and given protective coating. Should additional protective measures be warranted, a corrosion specialist should be consulted.

9.0 INSPECTION

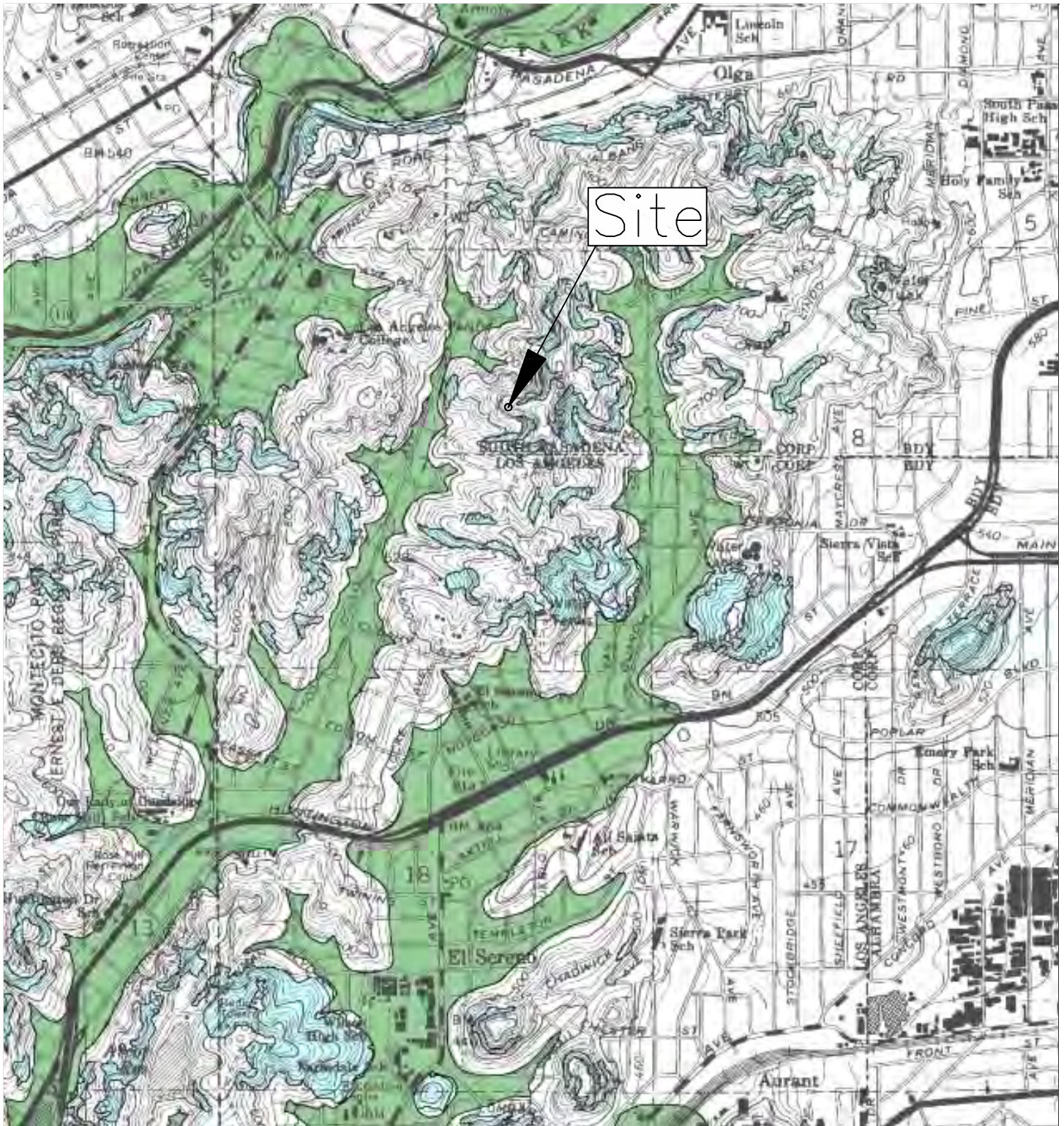
As a necessary requisite to the use of this report, the following inspection is recommended:

- Temporary excavations.
- Removal of surficial and unsuitable soils.
- Backfill placement and compaction.
- Utility trench backfill.

The geotechnical engineer should be notified at least 2 days in advance of the start of construction. A joint meeting between the client, the contractor, and the geotechnical engineer is recommended prior to the start of construction to discuss specific procedures and scheduling.

10.0 INVESTIGATION LIMITATIONS

The materials encountered on the subject site and utilized in our laboratory testing program are believed to be representative of the area. However, soil materials may vary in characteristics between excavations. Since our investigation is based on the site materials observed, selected laboratory testing, and engineering analyses, the conclusions and recommendations are professional opinion. These opinions have been derived in accordance with current standard of practice, and no warranty is expressed or implied.



SCALE 1" = 2000'

LEGEND

Maps modified from "Seismic Hazard Zones, Los Angeles Quadrangle" by CDMG

Area Subjected to Liquefaction Induced Settlement

Calland Engineering, Inc.
dba Quartech Consultants

Geotechnical, Environmental & Civil
Engineering Services

Project Address:

APN: 5308-022-010
2089 Hanscom Drive
South Pasadena, California

Site Location Map



NOT TO SCALE

LEGEND

Maps modified from "Geological Map of the Los Angeles Quadrangles" Los Angeles County, CA by Thomas W. Dibblee, Jr., 2001

Monterey Formation
 Tmsl - Gray, micaceous silty shale and siltstone; includes some semi-siliceous to siliceous shale and thin sandstone beds; Mohnian and Luisian Stages (includes upper part of Topanga Formation of Lamar, 1970)

CalLand Engineering, Inc.
 dba Quartech Consultants
 Geotechnical, Environmental & Civil
 Engineering Services

Project Address:
 APN: 5308-022-010
 2089 Hanscom Drive
 South Pasadena, California

Regional Geologic Map



Project Address:
 Calland Engineering, Inc.
 dba Quartech Consultants
 Geotechnical, Environmental & Civil
 Engineering Services

APN: 5308-022-010
 2089 Hanscom Drive
 South Pasadena, California

08/22

SITE PLAN

FIGURE 2



SCALE: 1" = 20'

Geologic Notes:

Af: Artificial Fill

Tmsl: Bedrock of Monterey Formation

45 Strike and Dip of Bedding

TP-1 Approximate Test Pit location

45 Geologic Contact

APPENDIX A

FIELD INVESTIGATION

Subsurface conditions were explored by excavating two hand dug test pits to a maximum depth of 5.5 feet below the existing ground surface at approximate locations shown on the enclosed Site Plan, Figure 2. Upon completion of excavation, the excavated test pits were backfilled with onsite soils that were removed from the excavations.

The excavating of the test pit was supervised by an engineering geologist, who continuously logged the test boring and visually classified the soils in accordance with the Unified Soil Classification System. Ring samples were taken at frequent intervals. These samples were obtained by driving a sampler with successive blows of 32-pound hammer dropping from a height of 48 inches.

Representative undisturbed samples of the subsurface soils were retained in a series of brass rings, each having an inside diameter of 2.42 inches and a height of 1.00 inch. All ring samples were transported to our laboratory. Bulk surface soil samples were also collected for additional classification and testing.

TEST PIT LOG TP-1

PROJECT LOCATION: 2089 Hansom Drive, South Pasadena, California

DATE DRILLED: 8/24/2021

PROJECT NO.: 21-225-011EG

SAMPLE METHOD: Hand Dug Pit

ELEVATION: N/A

LOGGED BY: FA

Depth (ft)	Sample			USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
	Bulk	Undisturbed	Blows/12"				
2	B	R	14	MH	89.1	11.3	0-4', Fill(Af): Clayey silt, dark brown, moist, firm to stiff, trace of rock fragments, angular up to 4-inch in size Percent of fines: 78.7, LL = 53, PL = 37, PI = 16
5		R	60	BR	102.4	14.8	@ 4', Bedrock (Tmsl): Siliceous siltstone, brown, moist, very hard, moderately fracured and moderately weathered (B): N80W, 45N
10							Total Depth: 5.5 feet No Groundwater Pit Backfilled
15							Hammer Driving Weight: 32 lbs Hammer Driving Height: 48 inches
20							
25							
30							
35							

TEST PIT LOG TP-2

PROJECT LOCATION: 2089 Hansom Drive, South Pasadena, California

DATE DRILLED: 8/24/2021

PROJECT NO.: 21-225-011EG

SAMPLE METHOD: Hand Dug Pit

ELEVATION: N/A

LOGGED BY: FA

Depth (ft)	Sample			USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
	Bulk	Undisturbed	Blows/12"				
0-3'	B			MH		12.2	0-3', Fill(Af): Clayey silt, dark brown, moist, firm to stiff, trace of rock fragments, angular up to 4-inch in size
@ 3'				BR			@ 3', Bedrock (Tmsl): Siliceous siltstone, brown, moist, very hard. moderately fractured and moderately weathered
Total Depth: 4.0 feet No Groundwater Pit Backfilled							
Hammer Driving Weight: 32 lbs Hammer Driving Height: 48 inches							

APPENDIX B LABORATORY TESTING

During the subsurface exploration, QCI personnel collected relatively undisturbed ring samples and bulk samples. The following tests were performed on selected soil samples:

Moisture-Density

The moisture content and dry unit weight were determined for each relatively undisturbed soil sample obtained in the test borings in accordance with ASTM D2937 standard. The results of these tests are shown on the boring logs in Appendix A.

Shear Tests

Shear tests were performed in a direct shear machine of strain-control type in accordance with ASTM D3080 standard. The rate of deformation was 0.010 inch per minute. Selected samples were sheared under varying confining loads in order to determine the Coulomb shear strength parameters: internal friction angle and cohesion. The shear test results are presented in the attached plates.

Expansion Index

Laboratory Expansion Index test was conducted on the existing onsite near surface materials sampled during QCI's field investigation to aid in evaluation of soil expansion potential. The test is performed in accordance with ASTM D-4829. The testing result is presented below:

Sample Location	Expansion Index	Expansion Potential
TP-1 @ 0-3'	87	Medium

Corrosion Potential

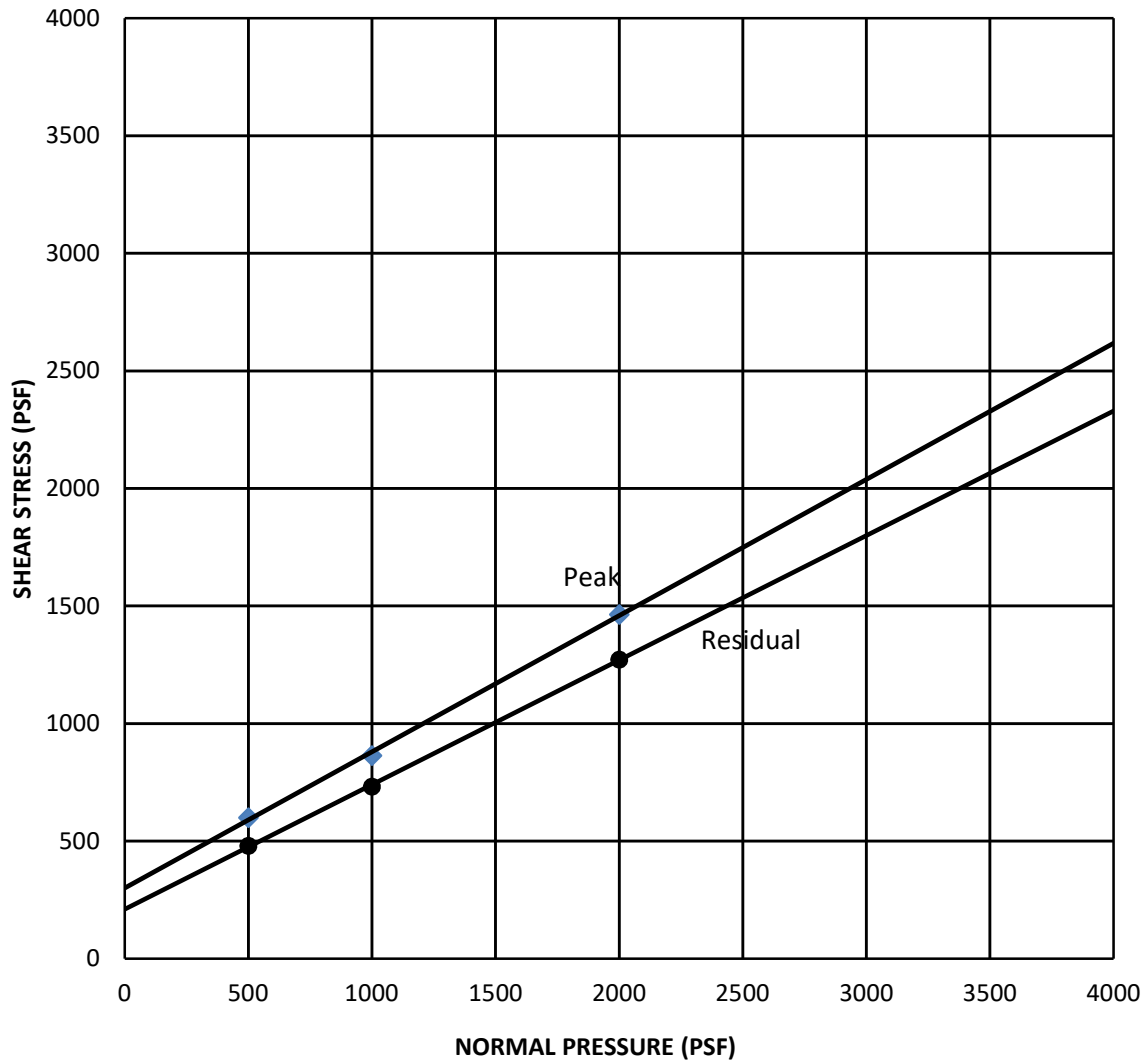
Chemical laboratory tests were conducted on the existing onsite near surface materials sampled during QCI's field investigation to aid in evaluation of soil corrosion potential and the attack on concrete by sulfate soils. These tests are performed in accordance with California Test Method 417, 422, 532, and 643. The testing results are presented below:

Sample Location	pH	Chloride (ppm)	Sulfate (% by weight)	Min. Resistivity (ohm-cm)
TP-1 @ 0-3'	8.40	180	0.016	900

Atterberg Limits

Laboratory Atterberg Limits tests were conducted on the existing onsite materials sampled during QCI's field investigation to aid in evaluation of soil liquefaction potential. These tests are performed in accordance with ASTM D4318. The testing results are presented below:

Sample Location	USCS Class. ASTM D2488	Liquid Limit %ASTM D4318	Plastic Limit %ASTM D4318	Plasticity Index ASTM D4318
TP-1 @ 0-3'	MH	53	37	16



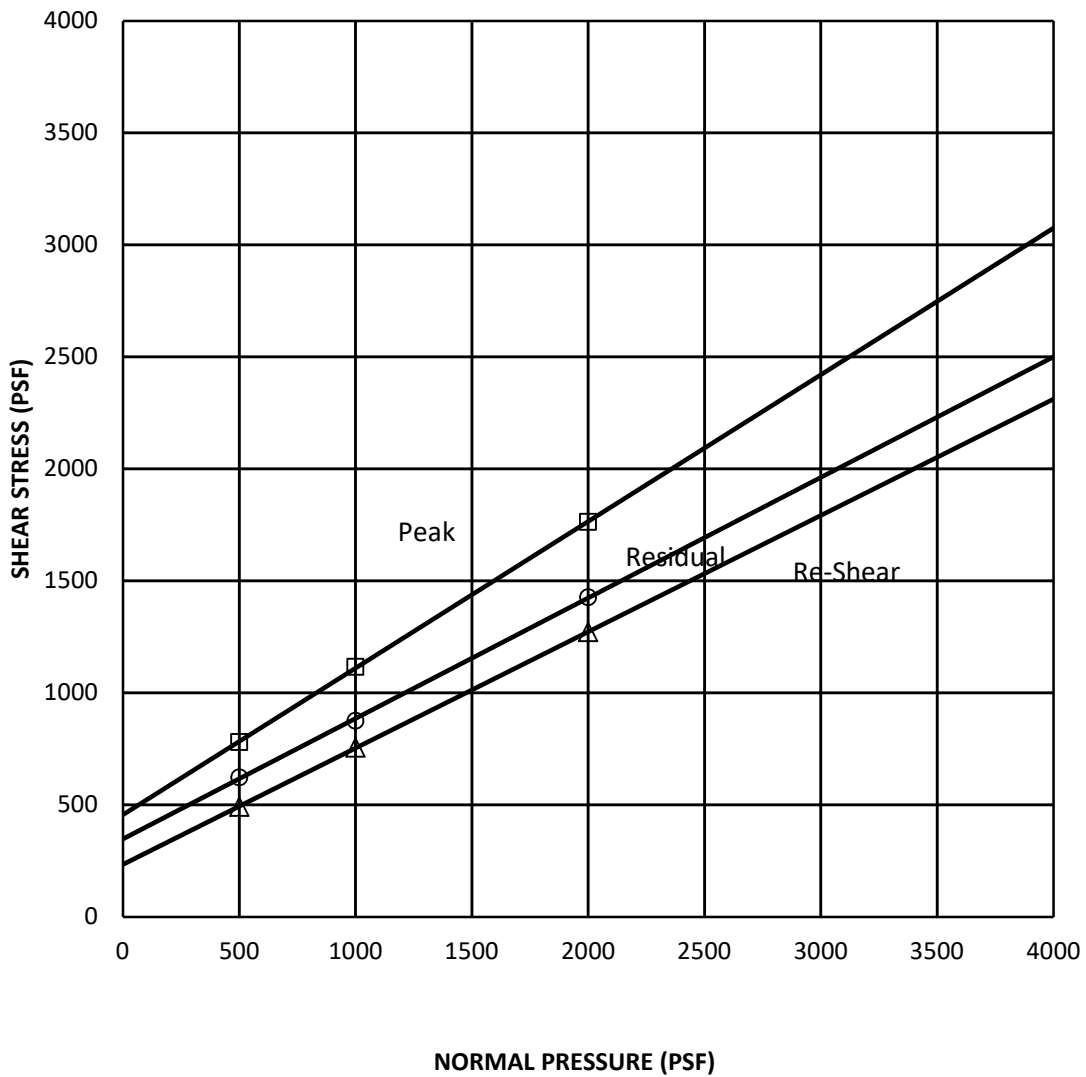
SYMBOL	BORING NO.	SAMPLE NO.	DEPTH (FT)	SAMPLE TYPE	SOIL TYPE	COHESION (PSF)	FRICTION ANGLE (DEG)
□	TP-1	N/A	2.0	RING	MH	300	30
●						210	28

Vertical Loads (PSF)	Moisture Content Before Test (%)	Moisture Content After Test (%)
500	11.3	32.6
1000	11.3	32.2
2000	11.3	31.8

Calland Engineering, Inc
dba Quartech Consultants
 Geotechnical, Environmental & Civil
 Engineering Services

Project Address:
 APN: 5308-022-010
 2089 Hanscom Drive
 S. Pasadena, California

DIRECT SHEAR
 (ASTM D3080)



SYMBOL	BORING NO.	SAMPLE NO.	DEPTH (FT)	SAMPLE TYPE	SOIL TYPE	COHESION (PSF)	FRICTION ANGLE (DEG)
Δ	TP-1	N/A	4.0	RING	BR	460	33
○						350	28
□						230	27

Vertical Loads (PSF)	Moisture Content Before Test (%)	Moisture Content After Test (%)
500	14.8	23.8
1000	14.8	23.5
2000	14.8	23.1

Calland Engineering, Inc
dba Quartech Consultants
 Geotechnical, Environmental
 & Civil Engineering Services

Project Address:
 APN: 5308-022-010
 2089 Hanscom Drive
 S. Pasadena, California

DIRECT SHEAR
 (ASTM D3080)

ATTACHMENT 7

March 12, 2024 Planning Commission Staff Report



Planning Commission Agenda Report

ITEM NO. ____

DATE: March 12, 2024

FROM: Angelica Frausto-Lupo, Community Development Director
Matt Chang, Planning Manager

PREPARED BY: Sandra Robles, Associate Planner

SUBJECT: **Project No. 2461-HDP/DRX/VAR – A request for a Hillside Development Permit (HDP) and Design Review Permit (DRX) for a 234-square-foot first-story addition and a 605-square-foot second-story addition, to an existing 1,990-square-foot single-family dwelling located at 2089 Hanscom Drive (APN: 5308-022-010). The project includes a raised deck, a one-car garage, a carport, and a second-story balcony. The request also includes a Variance (VAR) for a fence, located within the front yard setback, exceeding three (3) feet in height. In accordance with the California Environmental Quality Act (CEQA), this project qualifies for a Categorical Exemption under Section 15301, Class 1 (Existing Facilities).**

Recommendation

Staff recommends that the Planning Commission adopt a Resolution (**Attachment 1**) taking the following actions:

1. Finding the project exempt under the California Environmental Quality Act (CEQA) Guidelines, Section 15301, Class 1 (Existing Facilities).
2. Approve Project No. 2461-HDP/DRX/VAR, subject to the recommended Conditions of Approval (**Attachment 1**).

Background

The subject site is a 7,760-square-foot, irregularly shaped lot located within the Southwest Monterey Hills area and zoned Residential Single-Family (RS). The subject property is surrounded by single-family residential uses to the north and east; the area adjacent to the southwestern part of the property is zoned Open Space (see **Figure 1**, to view the Aerial). The surrounding neighborhood includes an eclectic mix of architectural styles

including 20th Century Modern, Minimal Traditional, and Ranch-style, amongst others (see **Attachments 2 and 3** for Site and Neighborhood Images).

Figure 1: Aerial



The subject site is currently developed with a 1,990-square-foot, two-story single-family residence consisting of three bedrooms and two bathrooms. Originally constructed in 1954, the home underwent an 824-square-foot addition in 1979. The addition consisted of a new second story and a carport.

The subject site has an average slope of 41.31 percent; slopping upward from the front property line and leveling off into a building pad towards the northeast portion of the property, where the existing primary residence is situated and where the addition is proposed.

Project Description

The applicant is requesting approval to add a 234-square-foot first-story addition and a 605-square-foot second-story addition (839 total square feet) to an existing 1,990-square-foot, two-story, single-family dwelling. The project also includes a 269-square-foot raised deck to the west of the dwelling, a 547-square-foot raised deck to the south of the property, and a 961-square-foot second-story balcony.

Entitlements:

The applicant is requesting the following entitlement applications for the proposed project:

1. Hillside Development Permit (HDP) for the proposed 839-square-foot addition, a total of 816 square feet for two proposed raised decks, a 961-square-foot second-story balcony, a proposed retaining wall on a site with an average slope of 20 percent or greater;
2. Design Review Permit (DRX) for the review of the design aspects of the proposed development; and,
3. Variance (VAR) to increase the height of a fence within the front yard setback to six (6) feet. The South Pasadena Municipal Code (SPMC), Section 36.300.050(B) limits fences within the front yard setback to three (3) feet.

The architectural drawings are included as **Attachment 9**.

Project Analysis

General Plan Consistency

The City has updated its General Plan to be consistent with the 2021-2029 (6th Cycle) Housing Element, which included a new Downtown Specific Plan (DTSP) to replace the Mission Street Specific Plan (MSSP), amendments to the Zoning Code and Zoning Map, the creation of a Mixed-Use Overlay District and development standards. The subject property is not slated to be rezoned, but updated General Plan policy goals will apply throughout the City. The proposed project was deemed complete prior to the General Plan update, as such, the project was subject to the evaluation criteria at the time of submittal.

The General Plan land use designation of the site is Low Density Residential, which allows for detached single-family units. The proposed project does not involve the addition of another dwelling unit; therefore, the project is consistent with the General Plan.

Zoning Code Compliance & Development Standards

The subject property is zoned Residential Single-Family (RS), which is intended for the development of detached, single-family homes. A two-story residence is a use anticipated in this zoning district. The purpose of the Residential Design Review process is to ensure that the proposed site layout and building design are suitable and compatible with the City's design standards and guidelines. The proposed project meets the requirements of the City's adopted Design Guidelines for single-family residences on hillside sites. Development standards from SPMC Sections 36.340.050—Hillside Project Development Standards; 36.220.040—Residential Zoning District General Development Standards for the RS Zone; and 36.220.050(F)—Development of Small Nonconforming Residential Parcels, were applied to the project. **Table 1**, on the following page, provides

a breakdown of the proposed project and its compliance with SPMC Sections 36.220.040 and 36.220.050(F), regulating residential land uses.

Table 1: Residential Single-Family (RS) District General Development Standards & Development of Small Nonconforming Residential Parcels

Standard	Requirement	Proposed
Lot Coverage	50% (3,880 SF max. allowed)	39.5% (3,088 SF)
Floor Area Ratio (FAR)	35% (2,716 SF max. allowed)	34.99% (2,715 SF)

Hillside Development Permit

Pursuant to SPMC Section 36.340.020, any development on a site with an average slope of 20 percent or greater requires a Hillside Development Permit—the subject site has an average slope of 41.31 percent. The purpose of the Hillside Development Permit is to ensure that developments are designed to preserve the City’s scenic resources, encourage appropriate grading practices, and encourage appropriate design to maintain the hillside in a natural, open character. **Table 2** provides a breakdown of the existing conditions of the proposed project and its compliance with SPMC Section 36.340.050—Hillside Project Development Standards, regulating residential land uses.

Table 2: Hillside Project Development Standards

Standard	Requirement	Existing	Proposed
Front Setback	10 ft.	36’-3”	33’-9”
Side Setback	10% of lot width, min. of 4 ft., max. of 10 ft. Lot Width=81’ Side Setback Requirement=8’	West: 36’-8” East: 8’-9” (existing)	Complies West: 30’ East: 8’-9” (existing)
Building Height	Maximum height for structures with a roof pitch of 3:12 or greater is 28 ft. If a roof pitch is less than 3:12, the maximum height is 24 ft.	25’-6”	Complies: 25’-11”
Siting Restrictions	Structures shall not be placed so that they appear silhouetted against the sky when viewed from a public street	Complies	Complies
Placement Below Ridgeline	50 ft. between top of the structure and the top of the ridge or knoll	Complies	Complies

Standard	Requirement	Existing	Proposed
Height of Lowest Floor Level	Vertical distance between the lowest point where foundation meets grade and the lowest floor line of the structure shall not exceed 6 ft.	Complies	Complies
Downhill Building Walls	No single building wall on the downhill side of a house shall exceed 15 ft. in height above grade.	Complies	Complies
Decks	No portion of the walking surface of a deck with visible underpinnings shall exceed a height of six feet above grade. Decks should be integrated into the architecture of the house, not appearing as an “add-on” to the primary building mass	Complies	Complies
Driveways	Driveway shall not have a grade steeper than 5% within 10 ft. of the garage or carport entry. Finished grade of driveways shall not exceed an average of 15%	N/A	N/A (Existing driveway, no grading work to the existing driveway)
Natural State	A minimum of 25% of the lot area plus the percentage figure of the average slope must be remediated to its natural state in terms of slope and vegetation.	N/A	N/A (Applies to new development)
Height of New Retaining Walls	Maximum height of six (6) feet	Complies	Complies

Variance: Increased Height of Fence within Front Yard Setback

SPMC, Section 36.300.050—Walls, Fences, and Hedges—applies to all walls, fences, and hedges throughout the City, except for retaining walls. The section places a three-foot height limitation on fences located within the front yard setback. The applicant is requesting a six-foot motorized swing gate within the front yard setback. The average slope for the property is 41.31 percent and toward the southern portion of the lot the slope is more significant (see **Attachment 6** to view **Slope Analysis**). The placement of the existing driveway is at an angle, making it difficult for the applicant to place a gate beyond the 10-foot front yard setback (see **Figures 2 and 3** to view the front setback location and an image of the driveway). Due to the topography of the Southwest Monterey Hills area, each parcel is unique in its characteristics. The subject property is upslope and not comparable to the neighboring properties; the steep terrain of the project site is the driving factor for the Variance. If the proposed project were to meet the 10-foot setback requirement, the operable gate would be placed near the top of the driveway and would negate the added security that the applicant desires.

Figure 2: Front Setback Outlined in Red

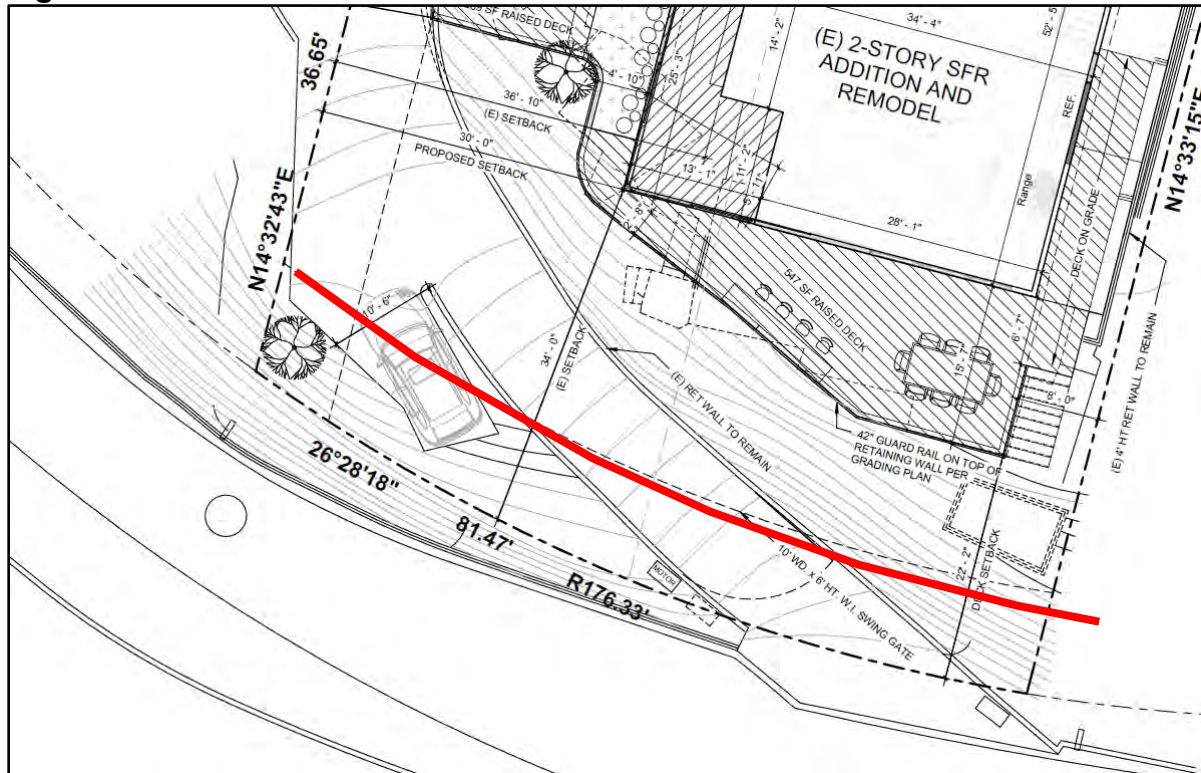


Figure 3: Image of Driveway



Soils & Grading

The applicant submitted a Geotechnical Investigation Report of the subject property (**Attachment 5**). According to the report, the subject project is feasible and concluded the following:

- A. Seismicity: According to the report, the subject site is located within a seismically active region of Southern California, but no active faults are crossing the property.
- B. Excavatability: According to the report, excavation should be able to be accomplished with conventional earthwork equipment.
- C. Surficial Soil Conditions: According to the report, the property is situated in previously placed fill of 3 to 4 feet, not suitable for additional fills and/or foundation support and are subject to remedial works recommended in the report.
- D. Seismic Induced Hazard: According to the report, the site is not located within the potential seismic induced landslide or liquefaction areas.
- E. Surficial Soil Removal and Recomposition: According to the report, all vegetation and other materials over 8 inches should be removed from the subject site.
- F. Groundwater: According to the report, no groundwater was encountered.

The addition is situated on a relatively flat building pad, as such, the grading for the residence will be minimal, as would normally be expected for structures constructed on building pads. The applicant submitted a Preliminary Grading and Drainage Plan for the subject property (**Attachment 8**). According to the grading plan, the proposed project will require minimal grading with 10 cubic yards of cut and 4 cubic yards of fill.

The documents reviewed by the City include a topographic map, slope analysis, and preliminary grading plan prepared by a Registered Professional Engineer. The applicant will provide a final grading plan prepared by Registered Professional Engineer. As required and conditioned, the final grading plan will be approved by the Public Works Department and the Building Division prior to grading permit issuance. As such, the grading for the retaining wall would not impact the safety of the site, adjacent properties, or the general safety and welfare of the public. The applicant is required to submit a draft Construction Management Plan to be reviewed and approved by the Public Works Department to reduce potential construction impacts on nearby residents (see **Attachment 1** for Conditions of Approval).

Design Review

Hillside Design Guidelines

The Hillside Development Design Guidelines in Section 36.340.040 of the SPMC and the City's residential design guidelines for hillside lots apply to the proposed project. To approve the project, the Planning Commission must find that the proposed project is

consistent with City's design requirements and must make the findings for approval for Design Review. These guidelines and findings require projects to be compatible within the neighborhood context and surrounding architectural characteristics so as not to adversely impact the character of the City. The City's adopted *Design Guidelines for Residential Single-Family Buildings on Hillside Lots*, state the following:

1. *Neighborhood Compatibility and Character: Alterations to existing hillside homes should be designed with consideration for the character and scale of the existing development in the vicinity. Compatibility should be developed in the design of residence following a review of exiting site conditions, visibility of the site, and the size, scale, and character of existing development within 500 feet of the site.*

The proposed addition is situated to the rear of the property and is set back approximately 33 feet from the front property line, which will result in a minimal visual impact from the front street view. The character of the existing neighborhood is a mix of architectural styles and sizes, consisting of a variety of one- and two-story homes. As such, the proposed addition will complement the scale of the existing neighborhood.

2. *View Protection: Preservation of views from adjoining hillside lots should be carefully considered in the design of a new home or addition to an existing home on a hillside lot.*

The views from the properties located south from the subject property (across the street), will not be visually impacted from the addition, as the subject property is located uphill. The property to the east is situated slightly uphill from the subject property and will not have view impacts. The property located northwest of the subject property will not have a view impact, as the property has views to the southwest.

3. *Scale and Massing: Vertical building walls should not exceed 15 feet in height above grade. Any vertical walls above 15 feet should be stepped back from adjacent lower walls by a minimum distance of ten feet. Flat building walls over one story in height and over 25 feet in horizontal dimension are discouraged to minimize unarticulated wall mass.*

The downhill building wall requirement would not apply to this addition, as the addition will be situated on an existing building pad, which does not allow for a stepped design, as such, the proposed project is in compliance.

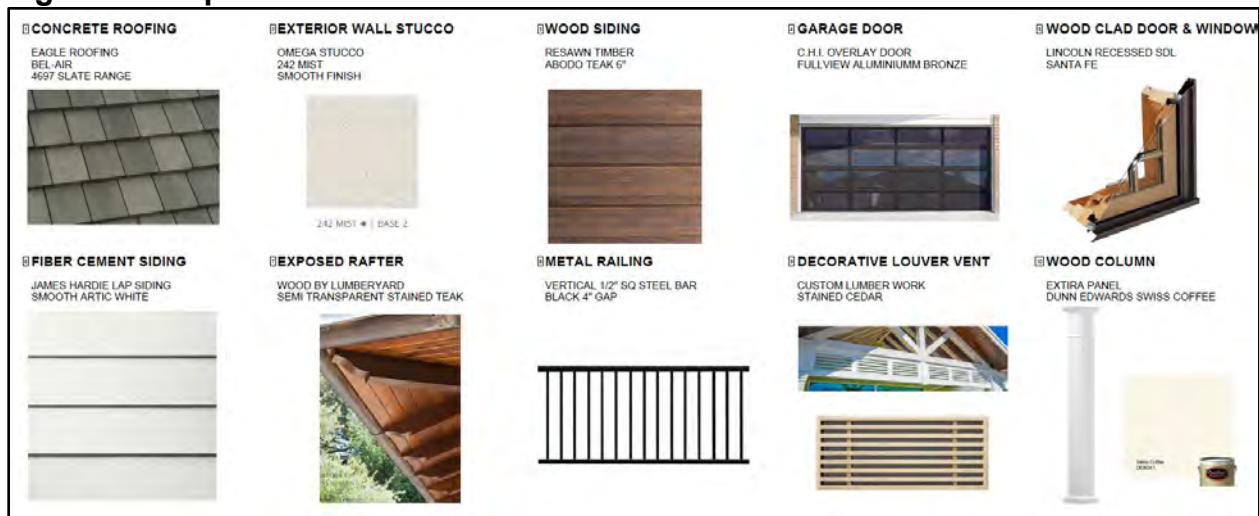
The surrounding neighborhood includes a mix of large, multi-story homes and small, one-story homes and a variety of architectural styles. The proposed addition will be to the rear of the property and will have minimal view impacts from hilltop homes. The proposed addition is designed with consideration of the character and scale of the existing multi-story residential developments in the vicinity.

Design Review

The existing building consists of three bedrooms and two bathrooms. The first floor will be reconfigured to accommodate one bedroom and an open floor plan with a kitchen, dining area, and family room with a small laundry room. The second floor will include two bedrooms, an office, a loft and two-and-a-half bathrooms. The second floor will also include a large balcony.

The proposed addition and remodel boasts a modern architectural style with large windows, a sleek deck and balcony, and a hipped roof. The architectural features include large wood clad doors and windows manufactured by Lincoln Windows. The exterior walls will be clad with a combination of smooth-finish stucco, fiber cement siding, and wood siding. The family room will include large folding doors to create an indoor/outdoor feel (see **Figure 4** for proposed materials).

Figure 4: Proposed Materials



As shown in the photo rendering and front elevations (**Figures 5, 6 and Attachment 9**), the mass and scale of the proposed project, would be well-proportioned and harmonious with the established neighborhood (see **Attachments 2 and 3 for Site and Neighborhood Images**). The applicant is proposing large windows from all elevations, but to address privacy concerns, the applicant has reduced the number of windows and size of windows to the east elevation (see **Figures 7-10** to view elevations and **Attachment 9**). The overall design of the project would result in an attractive and orderly development as intended by the General Plan and design guidelines. As required and conditioned, the final design, materials, and construction documents would be reviewed and approved by the Planning Division and Building Division prior to permit issuance.

Figure 5: Rendering Viewed from the Front Elevation



Figure 6: Rendering Viewed from the Top



Figure 7: Front (West) Elevation



Figure 8: Proposed South Elevation

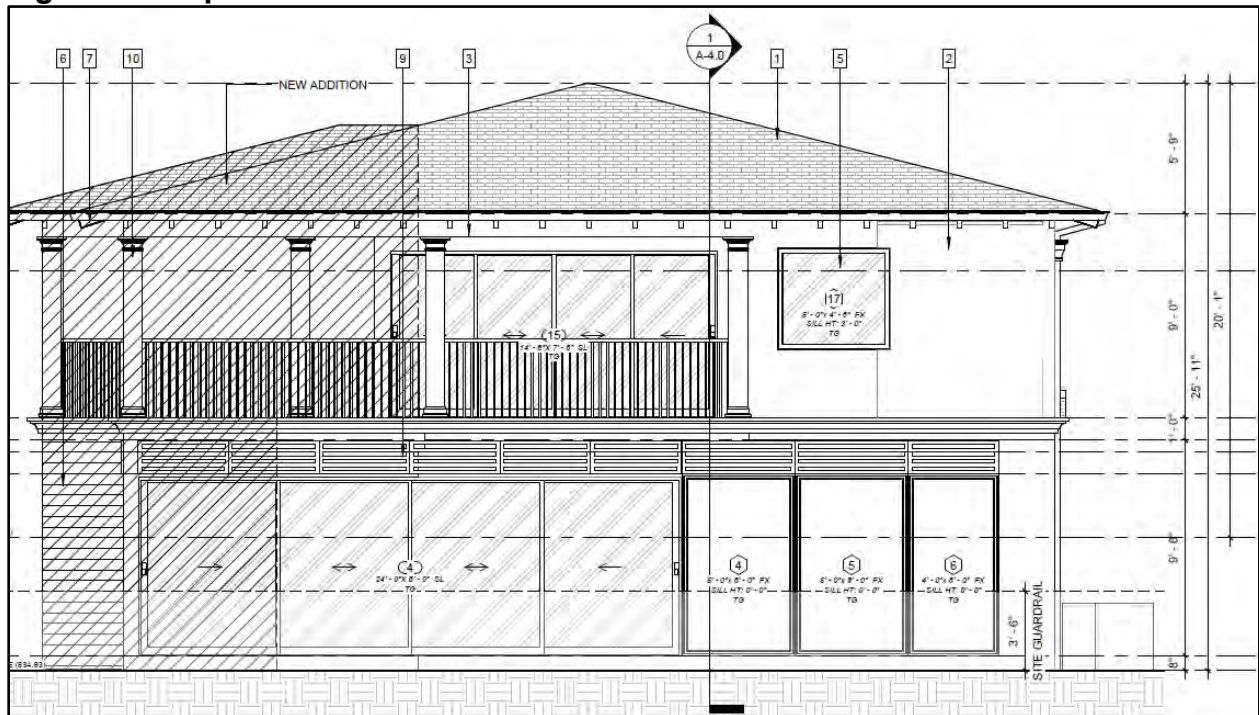


Figure 9: Proposed East Elevation

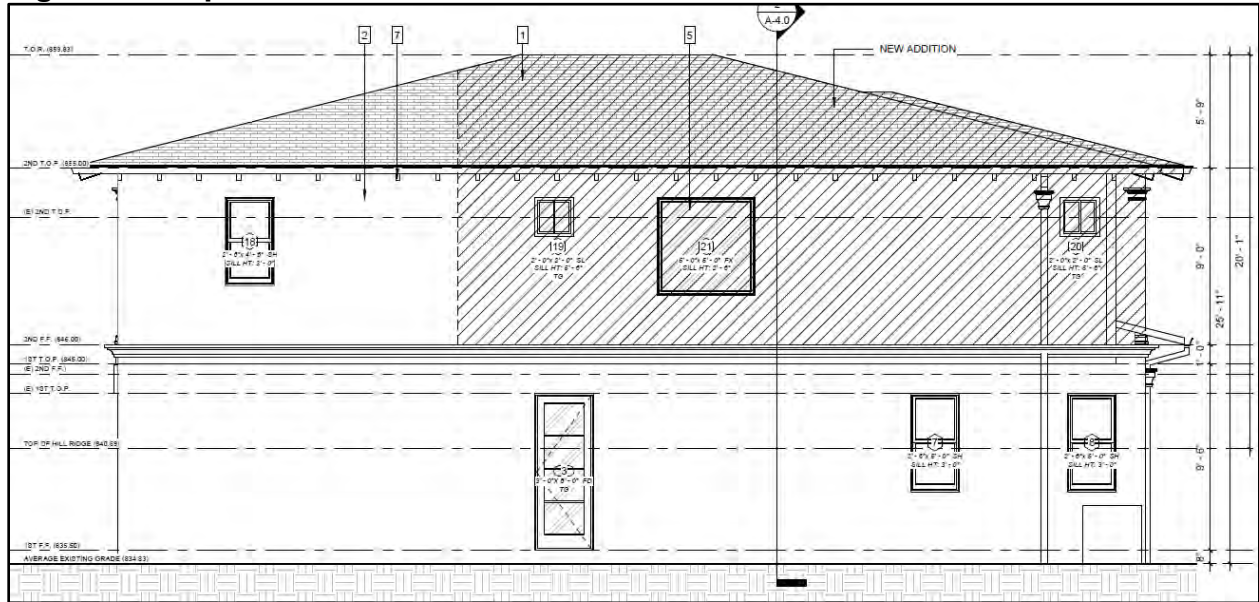


Figure 10: Proposed North Elevation



Findings

In order to approve the project, the Planning Commission shall find that the design and the proposed layout comply with the findings for a Hillside Development Permit, Design Review, and a Variance as stipulated in the South Pasadena Municipal Code. All findings for the proposed project may be found within the resolution (**Attachment 1**).

Environmental Analysis

This item is exempt from California Environmental Quality Act (CEQA) analysis based on State CEQA Guidelines Section 15301, Class 1 – Existing Facilities. Class 1 exemption includes additions to existing structures provided that the addition will not result in an increase of more than 10,000 square feet, in which the project site is in an area where all public facilities are available and is not located in an environmentally sensitive area.

Alternatives to Consider

Planning Commission may also consider the following alternatives to this recommendation:

1. The Planning Commission may approve the project with or without modified/added conditions;
2. The Planning Commission may continue the project to address comments discussed; or
3. The Planning Commission may deny the project.

Public Notification

Hearing notices were sent to all properties within a 300-foot radius of the property and to all properties located within the Southwest Monterey Hills Notification Area on February 29, 2024. A Public Hearing Notice was published on March 1, 2024 in the South Pasadena Review. In addition, the public was made aware that this item was to be considered at a public hearing by virtue of its inclusion on the legally publicly noticed agenda, posting of the same agenda and reports on the City's website.

Public Comments

At the time of writing this report, staff has not receive public comments regarding the proposed project.

Next Steps

If the Planning Commission approves the project, a 15-day appeal period will commence in which any person affected by the decision may appeal the decision for a public hearing by the City Council. Should there be no appeals during this 15-day period, the applicant may proceed through the Plan Check Process with the Building Division and staff will review the construction plans to ensure that all conditions are satisfied.

Attachments:

1. P.C. Resolution with Exhibit "A" – Conditions of Approval
2. Site Images
3. Neighborhood Images
4. Materials Brochures
5. Geotechnical Investigation Report
6. Slope Analysis
7. Landscape Plans
8. Preliminary Grading & Drainage Plans
9. Architectural Plans & Renderings

ATTACHMENT 8

Notice of Violation (Dated November 26, 2024)



**CITY OF SOUTH PASADENA
COMMUNITY DEVELOPMENT DEPARTMENT**

1414 Mission Street, South Pasadena, CA 91030

Tel: 626.403.7220 Fax: 626.403.7221

WWW.SOUTHPASADENACA.GOV

NOTICE OF VIOLATION

11/26/2024

VIA: U.S.P.S. First Class Mail



**LOCATION OF VIOL.: 2089 HANSCOM DR,
SOUTH PASADENA, CA 91030**

APN: 5308022010

Dear SUN, DAVID J & EQUITY TRUST COMPANY CUSTODIAN:

City records indicate that you are the owner of the real property located at **2089 HANSCOM DR, SOUTH PASADENA, CA 91030**. A recent inspection of the property confirmed there are violations which must be corrected. Those conditions are:

36.300.050 Walls, Fences and Hedges.

A. Applicability. The provisions of this Division apply to all walls, fences, and hedges, except for retaining walls, and a fence or wall required by regulations of a State or Federal agency, or by the City for reasons of public safety.

B. Height limitations. Fences, walls, and hedges shall comply with the height limitations in Table 3-2.

TABLE 3-2. MAXIMUM HEIGHT OF FENCES, WALLS, AND HEDGES	
Location	Maximum Height (1)
Within a required front or <u>street</u> side <u>setback</u>	3 ft
Within a required side or rear <u>setback</u>	6 ft (2)
Nonresidential <u>district</u> adjacent to a residential <u>district</u>	8 ft
Notes: (1) See height limit exceptions in Subsection D below	

(2) Side and rear fences may exceed the height limit of 6 feet up to a maximum of 8 feet with administrative approval. These height regulations do not apply to a hedge along a rear property line. A hedge within a required side setback shall not exceed a height of 10 feet unless a greater height is approved by the Director after first determining that the hedge will not unduly limit access to natural light and views from adjoining property.

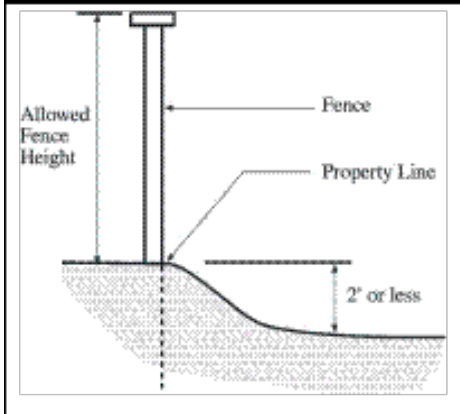


Figure 3-6. Fence Height Measurement

C. Measurement of fence or wall height. Fence or wall height shall be measured from finished grade at the base of the fence or wall to the uppermost part of the fence or wall. In a case where the elevation of finished grade differs from one side of the fence or wall to the other (as on a slope or retaining wall), fence or wall height shall be measured on the side with the lowest grade where the elevation difference is more than two feet, and on the side with the highest grade where the elevation difference is two feet or less. See Figure 3-6.

36.340.050 Hillside Project Development Standards.

A. Setbacks. Hillside developments shall comply with the following setback requirements, and with the limitations on the allowable uses of setbacks in SPMC 36.300.030(E)(3).

TABLE 3-10. HILLSIDE SETBACKS	
Property <u>Setback</u>	<u>Setback</u> Distance
Front	10 ft.
Side	10 percent of width, minimum 4 ft., maximum 10 ft.
Corner Side	10 percent of width, minimum 10 ft., maximum 15 ft.
Ridgeline (1)	50 vertical ft from ridgeline Also see

SPMC 36.340.050(C), and Figure 3-31.

Notes:

(1) New structures or additions are prohibited within 50 feet of a ridgeline unless this restriction precludes development of the property. An exception may be granted if the review authority finds the following:

- a. There are no site development alternatives that avoid ridgeline development;
- b. The density has been reduced to the minimum standards consistent with the General Plan density range;
- c. No new subdivision of parcels is created that will result in ridgeline development; and
- d. The proposed development will not have significant adverse visual impacts due to modifications in structural design including height, bulk, size, foundation, siting, and landscaping that avoid or minimize the visual impacts of the development.

Please modify the new electrical 6ft fence installed on the front setback as the Zoning Code states it must be 10ft from the front setback. The fence must be moved to the required distance as stated in our Zoning Code 36.340.050.

9.2 Electrical code administration.

Except as modified herein, the administration of the electrical code shall be as set forth in SPMC 9.1 (Building code administration).

107.1 Electrical Permit Required. No person shall erect, alter, install, repair, move, improve, remove, connect or convert, or cause the same to be done, any electrical equipment without first obtaining an electrical permit from the building official.

The issuance of a permit without first requiring a plan review shall not prevent the building official from requesting plans deemed necessary to verify that the work performed under said permit complies with any Code and all relevant laws, ordinances, rules and regulations.

Please obtain the correct Electrical Permit from our Building Department for the electric fence installed on the driveway of the property.

We hope that these violations, which constitutes misdemeanors, will be corrected voluntarily to prevent the initiation of further enforcement procedures. Please correct these violations by 12/24/2024. Failure to correct the violations by that deadline may result in any of the additional remedies:

- (1) The penalty for any person convicted of a misdemeanor under the provisions of the South Pasadena Municipal shall be a fine not to exceed \$1,000.00, and imprisonment for a term not exceeding six months, or both.
- (2) Violations of the South Pasadena Municipal Code may also be cited as an infractions or as administrative citations, with increasing fines for repeated violations.
- (3) Summary Abatement where the City will affect the necessary demolition and/or repairs to the property to bring the property into compliance. A lien will be placed on the property in the amount of the costs incurred by the City for the enforcement action and the resulting remedies carried out by the City.
- (4) Receivership where the City will seek to have the Court appoint a receiver to affect the necessary demolition and/or repairs to the property to bring the property into compliance. Upon completion of the court approved remedies, the property would be sold, with the city incurred expenses and liens satisfied by the proceeds of the sale.

Once the above referenced violations have been corrected, please contact Community Improvement to inform us. We will arrange for a follow-up compliance inspection of your property.

Please contact the Community Improvement Division at (626) 403-7264 from 8 a.m. to 5 p.m. Monday through Thursday if you have any questions regarding this Notice of Violation or wish to arrange a re-inspection of your property to determine compliance.

Thank you for helping in the community effort to improve the quality of life for those who live and do business here in South Pasadena.

Respectfully,

Richard Nilo

Enclosure(s): Zoning, Electrical Permit

ATTACHMENT 9

Gate Elevations

















Planning Commission Agenda Report

ITEM NO. 4

DATE: December 10, 2024

FROM: Alison Becker, AICP, Acting Community Development Director
Elizabeth Bar-El, Interim Deputy Community Development Director

PREPARED BY: Michael Donovan, Associate Planner

SUBJECT: **Project No. 2571-VAR/HDP/DRX/TRP – A request for Design Review and Hillside Development Permits to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant property located on Peterson Avenue (APN: 5308-031-042). The project site is located within the Southwest Monterey Hills area. The application includes three Variance requests: 1) for building height exceeding the maximum height of 28 feet, 2) Downhill building wall requirements, and 3) Front yard setback requirements. Additionally, the applicant requests a Tree Removal Permit for the proposed removal of two trees. In accordance with the California Environmental Quality Act (CEQA), a Categorical Exemption under Section 15303, Class 3 (New Construction or Conversion of Small Structures) will be considered for the project.**

APPLICANT: Yung Kao

Recommendation

Staff recommends that the Planning Commission adopt a Resolution (**Attachment 1 - P.C. Resolution with Exhibit "A" – Conditions of Approval**) taking the following actions:

1. Find the project exempt under the California Environmental Quality Act (CEQA) Guidelines, Section 15303, Class 3 (New Construction or Conversion of Small Structures) which includes construction and location of limited numbers of new, small facilities or structures, including single-family residence.
2. Approve Project No. 2571-VAR/HDP/DRX/TRP, subject to the recommended Conditions of Approval, as follows:

- a. **Three (3) Variances (VAR)** to deviate from development standards to allow the following:
 - i. A Variance to exceed the maximum height of 28 feet and provide 33 feet (South Pasadena Municipal Code Section 36.340.050 Subsection (C));
 - ii. A Variance from the downhill building wall requirements providing a step-back of less than 10 feet varying from 4 feet and 2 inches to 8 feet and 3 inches (South Pasadena Municipal Code Section 36.340.050 Subsection (C)(5); and
 - iii. A Variance from the front yard setback requirement and provide a 6 inch front setback (South Pasadena Municipal Code Section 36.220.040)
- b. **A Hillside Development Permit (HDP)** to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant hillside property.
- c. **A Design Review Permit (DRX)** for the review of the design aspects of the proposed development; and,
- d. **A Tree Removal Permit (TRP)** for the removal of two (2) trees.

BACKGROUND

Project Timeline

On February 22, 2023, Yung Kao (the “Applicant”) submitted an application for a Hillside Development Permit, Variances, and Tree Removal Permit to construct a new 2,732 square-foot single-family home with an attached 495 square-foot garage on a vacant hillside property (APN: 5308-031-042).

On April 9, 2024, the Planning Commission continued the item and advised the applicant to revise the proposal, citing concerns with the proposed building height.

On September 28, 2024, the Applicant submitted revised plans and a revised application for a third Variance to provide a 6-inch front yard setback instead of the required 10-foot front yard setback in order to lower the height of the building by bringing the building closer to the street.

PROJECT DESCRIPTION

The applicant is requesting a Hillside Development Permit, three (3) Variances, and a Tree Removal Permit to construct a new 2,732 square-foot, multi-story, single-family home with an attached 495 square-foot garage on a vacant hillside property (APN: 5308-031-042) that is accessed from Peterson Ave. The property has an average slope of 54.48

percent, sloping upward from the rear property line up to Peterson Ave. The project proposes a minimalist architectural style which pursues natural materials, neutral or natural color pallets, and streamline forms and detailing. The property currently has no assigned property address.

The structure has a total building height of 41 feet and 9 inches as measured from the lowest point at the base of the structure to the highest point at the roof ridge, but when calculating the height of a structure along a hillside slope, the height is measured from the existing grade along the entire slope as shown in *Figure 3-4. Height Measurement*, below. Because the structure is tiered along the hillside slope, the height changes from each floor with the 28-foot height limit dimensioned along the entire slope – at its highest point measured parallel to the grade, the structure will be 33 feet. The 723 square-foot top floor plan includes a living room, dining room, kitchen, 2-car garage, and 328 square-foot deck. The 1,026 square-foot middle floor plan includes a master bedroom, second bedroom, and associated bathrooms, and a 835 square-foot deck. Lastly, the 983 square-foot bottom floor is designed with two additional bedrooms and an entertainment room connected to a 156 square-foot rear balcony. In total, the home will have four bedrooms, four and a half bathrooms, and two floors with shared living space. **(Attachment 2 - Architectural Drawings)**

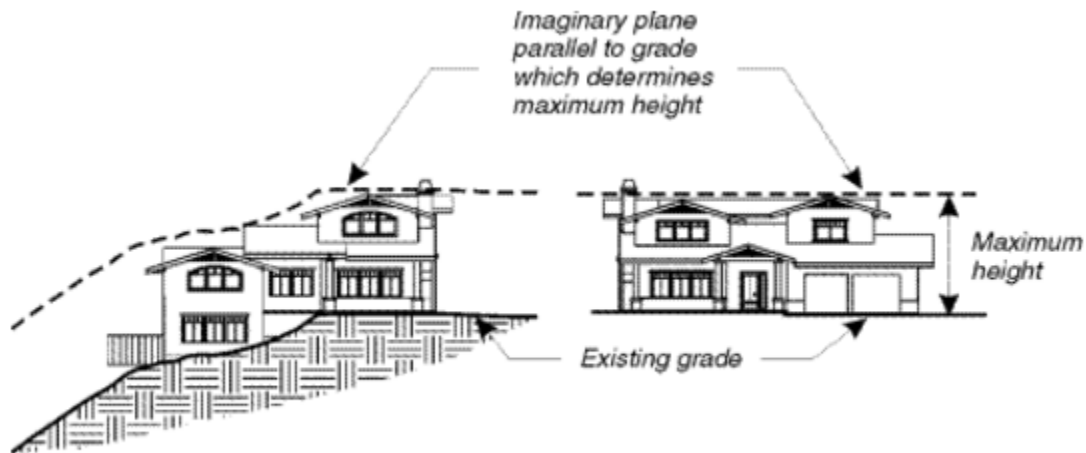


Figure 3-4. Height Measurement

Based on feedback and suggestions from the Planning Commissioners at the April 9, 2024 Commission meeting, the applicant adjusted the project in order to reduce the overall height of the building and break up the massing. The project has reduced the front yard setback from 10 feet to 6 inches and pushed the home further into the hillside to reduce the perceived height of the building measured from the existing grade. The height of the garage at the rear end has now been reduced from approximately 10 feet and 8 inches to 8 feet and 5 inches. A portion of the rear end of the garage, approximately 5 feet, will still exceed the 28 foot height limitation. The front massing has been broken up and the garage is set back 10 feet from the building's frontage to differentiate it from the

livable space. The garage will maintain the 10-foot front yard setback and provide one guest off-street parking space in compliance with SPMC Section 36.310.040.

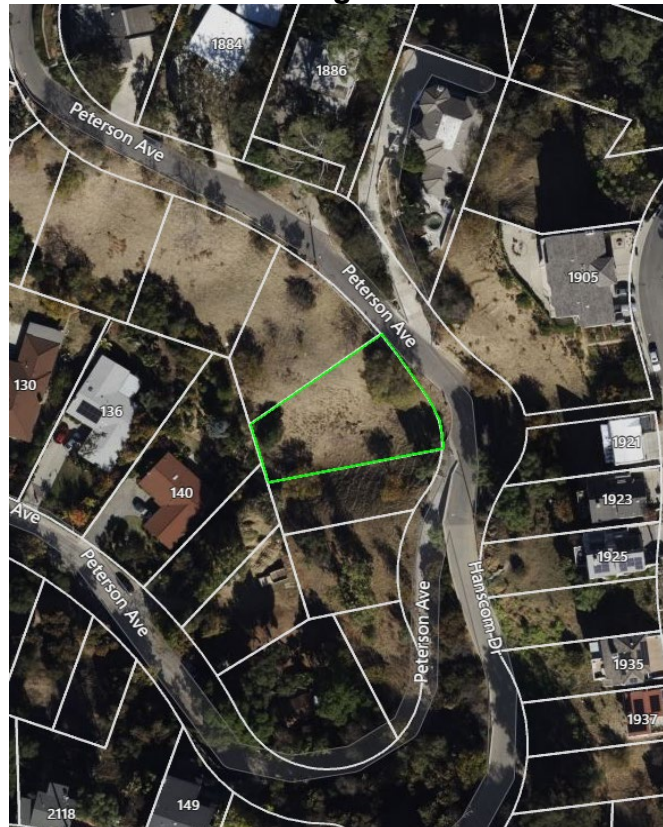
Image 1:



Site Characteristics

The subject site is an 8,755 square-foot, irregularly shaped lot located within the Southwest Monterey Hills area and zoned Residential Low Density (RS). The subject site is currently vacant and has an average slope of 54.48 percent; slopping upward from the rear property line up to Peterson Ave. The subject property is surrounded by single-family residential uses to the east and west and vacant single family lots to the north and south. The surrounding neighborhood includes a wide variety of architectural styles including but not limited to Minimal Traditional, and Contemporary Modern, amongst others. **(Attachments 3 and 4 - Site and Neighborhood Images)**

Image 2:



Entitlements:

The applicant is requesting the following entitlement applications for the proposed Project No. 2571-VAR/HDP/DRX/TRP:

1. **Three (3) Variances (VAR)** to deviate from development standards to allow the following:
 - a. A Variance to exceed the maximum height of 28 feet and provide 33 feet (South Pasadena Municipal Code Section 36.340.050 Subsection (C));
 - b. A Variance from the downhill building wall requirements providing a step-back of less than 10 feet varying from 4 feet and 2 inches to 8 feet and 3 inches (South Pasadena Municipal Code Section 36.340.050 Subsection (C)(5); and
 - c. A Variance from the front yard setback requirement and provide a 6 inch front setback (South Pasadena Municipal Code Section 36.220.040)

2. **A Hillside Development Permit (HDP)** to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant hillside property.
3. **A Design Review Permit (DRX)** for the review of the design aspects of the proposed development; and,
4. **A Tree Removal Permit (TRP)** for the removal of two (2) trees.

Image 3:

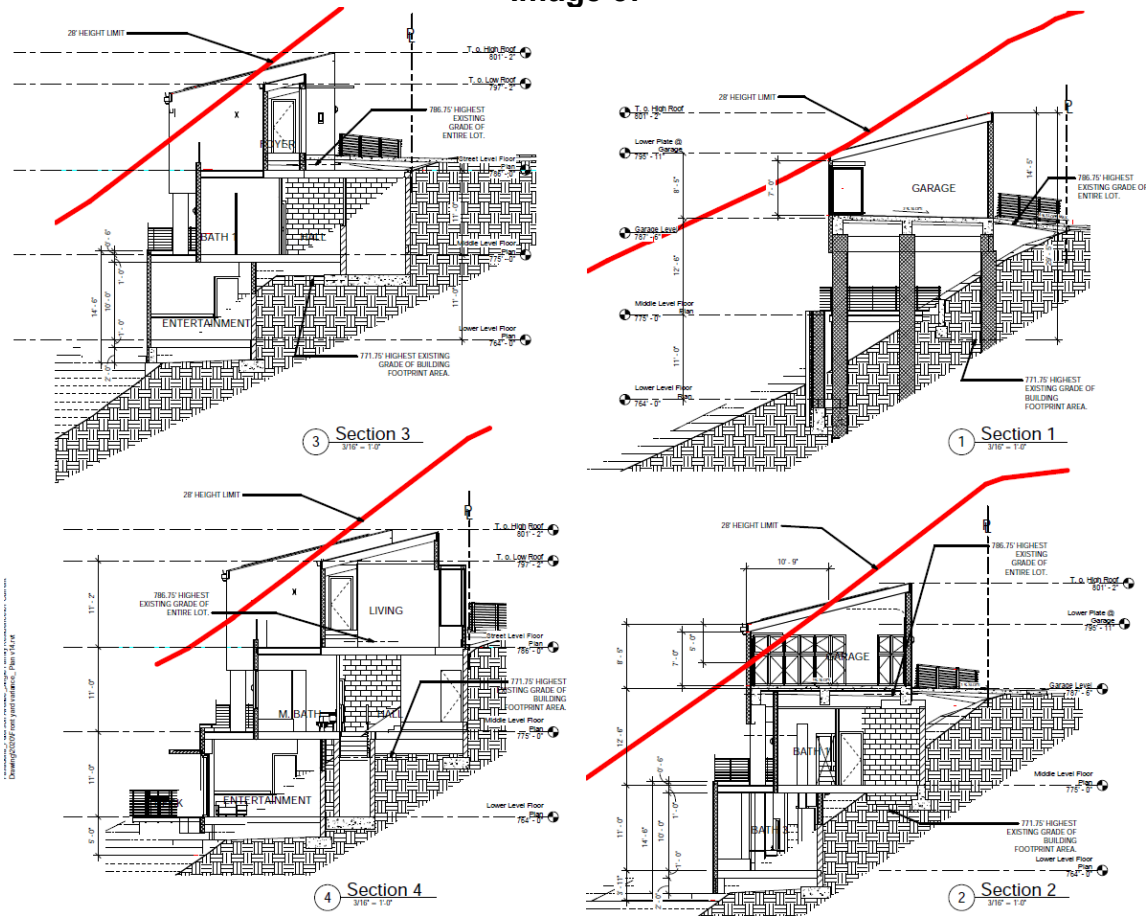
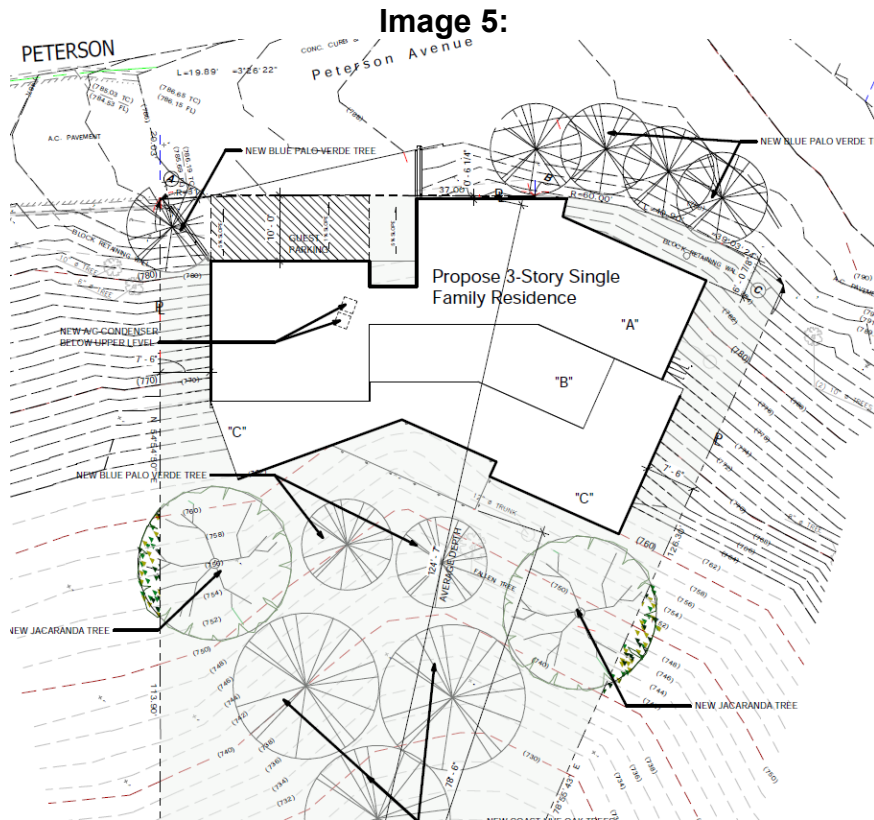
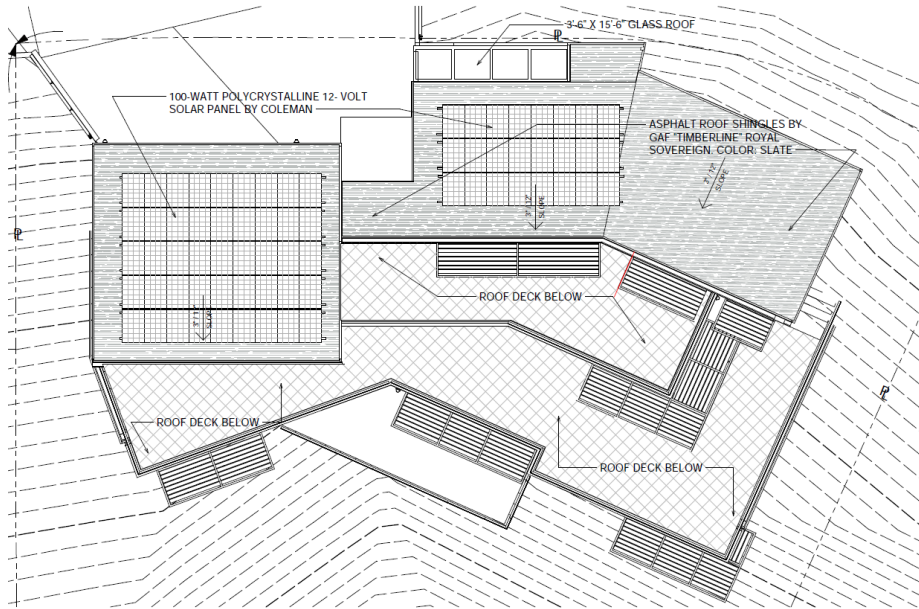


Image 4:



PROJECT ANALYSIS

Zoning Code Compliance & Development Standards

The subject property is zoned Residential Low Density (RS), which is intended for the development and anticipated use of a detached, single-family home. The purpose of the Residential Design Review process is to ensure that the proposed site layout and building design are suitable and compatible with the City’s design standards and guidelines. The proposed project meets the requirements of the City’s adopted Design Guidelines for *New Residential Buildings - Single-Family on Hillside Sites*. Development standards from SPMC Sections 36.340.050—Hillside Project Development Standards; 36.220.040—Residential Zoning District General Development Standards for the RS Zone; and 36.220.050(F)—Development of Small Nonconforming Residential Parcels as required by the section for any single-family hillside development with less than 10,000 square feet, were applied to the project. **Table 1** below, provides a breakdown of the proposed project and its compliance with the applicable development standards listed under SPMC Sections 36.220.040 and 36.220.050(F), regulating residential land uses. Standards not applicable to the hillside project have been omitted from all the tables below.

Table 1: Residential Low Density (RS) District General Development Standards & Development of Small Nonconforming Residential Parcels

Standard	Requirement	Proposed
Allowable density	Maximum of 5 du/acre	1 dwelling unit
Floor Area Ratio (FAR)	35% (3,064 SF max. allowed)	31% (2,732 SF)
Landscaping	As required by SPMC 36.330 (Landscaping Standards)	Complies
Lot Coverage	50%, sites smaller than 10,000 sq. ft. (4,377 SF max. allowed)	28% (2,438 SF)

Hillside Development Permit

Pursuant to SPMC Section 36.340.020, any development on a site with an average slope of 20 percent or greater requires a Hillside Development Permit. The subject site has an average slope of 54.48 percent. The purpose of the Hillside Development Permit is to ensure that developments are designed to preserve the City’s scenic resources, incorporate appropriate grading and landscaping practices, and be built at a scale that

includes height and massing that are appropriately designed to maintain the hillside in a natural, open character.

Table 2 provides a breakdown of the proposed project and its compliance with SPMC Section 36.340.050 (Hillside Project Development Standards), with the exception of the requested variances. Any standards not applicable to the project site have been omitted from the table.

Table 2: Hillside Project Development Standards

Standard	Requirement	Proposed
Front Yard Setback	10 ft.	6" Variance required
Side Yard Setback	10% of lot width, min. of 4 ft., Average Lot Width: 70' Side Setback Requirement = 7'	North: 7'-6" South: 7'-6"
Rear Yard Setback	20'	78'-6"
Building Height Maximum	Maximum height for structures with a roof pitch of 3:12 or greater is 28 ft.	33' Variance required
Siting Restrictions	Structures shall not be placed so that they appear silhouetted against the sky when viewed from a public street.	Complies
Placement Below Ridgeline	50 ft. between top of the structure and the top of the ridge or knoll.	98' -10" below ridgeline
Height of Lowest Floor Level	Vertical distance between the lowest point where foundation meets grade and the lowest floor line of the structure shall not exceed 6 ft.	Complies
Downhill Building Walls	No single building wall on the downhill side of a house shall exceed 15 ft. in height above grade. Additional building height on a downhill side may be allowed in 15-foot increments, where each	Step-back of less than 10' proposed.

	increment is stepped back from the lower wall a minimum of 10 feet.	Variance required.
Decks and Balconies	No portion of the walking surface of a deck with visible underpinnings shall exceed a height of six feet above grade. Decks should be integrated into the architecture of the house, not appearing as an “add-on” to the primary building mass.	Complies
Driveways	Driveway shall not have a grade steeper than 5% within 10 ft. of the garage or carport entry. Finished grade of driveways shall not exceed an average of 15%.	Complies
Natural State	A minimum of 25% of the lot area plus the percentage figure of the average slope must be remediated to its natural state in terms of slope and vegetation. 79.48% required.	81.89% of the project site will retain the natural state of the existing land.
Required Parking	2 covered parking space and one guest parking.	Complies
Parking Space Dimensions	Uncovered parallel spaces shall be at least 10 feet wide by 24 feet deep	Complies
Grading	Grading on slopes over 30 percent shall be permitted when sufficient technical information has been provided to support the determination that such development would have no negative impacts on the subject property, adjacent properties, or on the safety and welfare of the public. Grading shall utilize landform grading techniques.	Complies, the determination can be supported.

As conditioned, all landscaped areas shall be maintained in a healthy and sound condition at all times, in compliance with approved landscape plans and conditions of approval. Final landscape plans shall be submitted and approved prior to issuance of a building permit. Irrigation systems and their components shall be maintained in a fully functional manner consistent with the originally approved design and the applicable provisions of SPMC Section 36.330 (Landscape Standards).

The maintenance required by Section 36.330 shall include checking, adjusting, and repairing irrigation equipment; resetting automatic controllers; aerating and dethatching

turf areas; adding/replenishing mulch, fertilizer, and soil amendments; the replacement of dead or diseased plants; pruning; and weeding all landscaped areas.

Furthermore, because this project has an aggregate landscape area equal to or greater than 500 square-feet requiring a building or landscape permit, plan check or design review shall require the submittal and review of a documentation package in compliance with the SPMC Chapter 35 subsection *Article III. Water Efficiency Landscape*, as listed in the conditions of approval.

Overall, this project has considered and incorporated the objectives of the Hillside Development requirements. Due to the extreme slope, compliance with the intent of the standards could only be achieved by requesting the three variances described below.

Variance

The Applicant is requesting three Variances:

- 1) Increased Height: Pursuant to SPMC Section 36.340.050(C), the maximum height for structures with a roof pitch of 3:12 or greater shall be 28 feet. The Applicant is requesting to exceed the height limitation of 28 feet and propose a total building height of 33 feet. The rear end of the garage will exceed the 28-foot height limit by 5 feet.
- 2) Reduced Building Wall Step back: Pursuant to SPMC Section 36.340.050(C)(5), no single building wall on the downhill side of a house shall exceed 15 feet in height above grade. Additional building height on a downhill side may be allowed in 15-foot increments, where each increment is stepped back from the lower wall a minimum of 10 feet. The Applicant is requesting to deviate from the 10-foot step back requirement and propose a 0 foot step back for the first floor.
- 3) Reduced Front Yard Setback: Lastly, the Applicant requests to deviate from the 10-foot front yard setback requirement pursuant to Section 36.220.040, proposing a front yard setback of 6 inches. The Applicant is requesting this variance in order to redesign the project to address concerns expressed by Commissioners at the April 9th, 2024, Planning Commission meeting regarding the perceived height of the building.

Tree Removal Permit

The applicant has carefully designed the proposed project to minimize the removal of trees. As such, the footprint of the home is narrow and situated along the top portion of the property. Two non-native Chinese Elms trees are proposed for removal. The applicant has provided all necessary documents to the department of Public Works as required by the SPMC. In exchange, the applicant proposes replacement trees and will pay the applicable in lieu fee of \$426 per tree that is not installed as required by SPMC Section 34.10(a)(5).

The department of Public Works has reviewed the requested tree removal and has provided a tentative approval, granted upon approval of the building permit. **(Attachment 5 & 6- Landscape Plan / Tentative Tree Removal Approval Letter)**

As stated under SPMC Section 34.6(a)(3), *Procedures for Consideration of the Tree Trimming/ Removal Applications*, this section authorizes the commission to provide conditions of approval for the project or recommendations to the approval body, associated with the proposed replacement trees or their placement, referenced in the tentative landscape plan.

Soils & Grading

The applicant submitted a preliminary geological investigation report of the subject property **(Attachment 7)**. According to the report, the subject project is feasible from a geotechnical standpoint, provided that the recommendations presented in the report are implemented:

- A. Subsurface Conditions: The subject site is undeveloped, consisting mostly of light seasonal grasses and several mature trees. The site is located on a westerly facing slope with gradients generally ranging between 1.2H:1V to 1.8H:1V for a total relief onsite equal to 74 feet. The bedding structure is anticipated to be generally neutral with respect to overall stability of the westerly-descending slope.
- B. Groundwater: No seepage or ground water was encountered within any of the test pit excavations to the total depth explored of 12' beneath the surface. Due to the elevation of the site with respect to natural drainage courses, regional ground water is not expected to be a significant factor during construction of the proposed project.
- C. Expansive Soil: Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Based on laboratory testing, the upper foundation soil onsite is expected to have a medium expansion potential (EI=51), as defined in ASTM D4829. This would require verification subsequent to completion of new footing excavations.
- D. Corrosive Soil: Ferrous metal pipes should be protected from potential corrosion by bituminous coating, etc. the consultant recommends that all utility pipes be nonmetallic and/or corrosion resistant. Recommendations should be verified by soluble sulfate and corrosion testing of soil samples obtained from specific locations at the completion of rough grading.
- E. Seismic Design Parameters: Based on the soils encountered in the exploratory borehole within the subject site and with consideration of the geologic units mapped in the area, it is consultant's opinion that the site soil profile corresponds

to Site Class C in accordance with Section 1613.2.2 of the California Building Code.

- F. Regional Faulting and Seismic Hazards: There are no mapped active or potentially active faults with surface expression that trend through or are adjacent to the subject property based on the references cited. The site does not lie within a designated Alquist-Priolo Earthquake Fault Zone (CDMG, 2000). According to the Seismic Hazard Zones Map (see Figure 4) published by the State of California, Division of Mines and Geology, Los Angeles Quadrangle (1998), the site is not indicated to lie within a zone of potential seismic liquefaction hazard. Additionally, the site is not indicated to lie within a zone considered to be potentially susceptible to seismically-induced slope failure.
- G. Slope Stability: The bedrock and soil materials onsite will be modeled utilizing ultimate shear strength parameters. The shear strength parameters for the existing bedrock used in the stability analyses were based on laboratory test results of relatively undisturbed soil samples obtained from the onsite material.

The documents reviewed by the City include a topographic map, slope analysis, and preliminary grading plan prepared by a registered professional engineer. The applicant will provide a final grading plan prepared by a registered engineer. As required and conditioned, the final grading plan will be approved by the Public Works Department and the Building Division prior to grading permit issuance. As such, the grading work would not impact the safety of the site, adjacent properties, or the general safety and welfare of the public. The applicant is required to submit a draft Construction Management Plan to be reviewed and approved by the Public Works Department to reduce potential construction impacts on nearby residents.

General Plan Consistency

The General Plan (2040) land use designation for the subject site is Very Low-Density Neighborhood, which allows for single-family dwellings at up to 5 units per acre. The proposed project, therefore, complies with the following General Plan goals, policies, and/or actions:

Goal 3: Preserve and enhance the distinctive residential neighborhoods; provide housing opportunities for all; reinvest in downtown corridors and neighborhood centers; and ensure that new development contributes its fair share towards the provision of affordable housing, adequate parks, schools, and other public facilities.

Policy P3.4: Conserve South Pasadena's character and scale, including its traditional urban design form, while creating places of enduring quality that are uniquely fit to their time and place.

The proposed project is consistent with Goal 3 and Policy 3.4 above because the proposal enhances the existing neighborhood and conserves South Pasadena's character and scale by providing an additional residential unit with a modern architectural style that is

consistent in massing and scale and fits appropriately with the surrounding neighborhood. The drought and fire-tolerant landscaping and remediation will also help insure that the natural landscape is maintained and improved to protect the hillside against wildfire and erosion.

DESIGN REVIEW GUIDELINES

Hillside Design Guidelines

SPMC Section 36.340.040 (Hillside Development Design Guidelines) and the City's residential design guidelines for hillside lots apply to the proposed project. To approve the project, the Planning Commission reviews consistency with the City's design guidelines. These guidelines advise that projects be compatible with the neighborhood context and surrounding architectural characteristics so as not to adversely impact the character of the City. The proposed project meets the following guidelines from the City's adopted *Part V: Design Guidelines for New Residential Buildings - Single-Family on Hillside Sites*:

Neighborhood Compatibility and Character

- 1. New hillside homes or additions and alterations to existing hillside homes should be designed with consideration for the character and scale of the existing development in the vicinity. Alterations to existing hillside homes should be designed with consideration for the character and scale of the existing development in the vicinity.*
- 2. Preservation of views from adjoining hillside lots should be carefully considered in the design of a new home or addition to an existing home on a hillside lot.*

Site Planning and Development

- 1. Structures should not be sited so that they are silhouetted against the sky when viewed from the street.*
- 2. Grading into the hillside to locate a structure and reduce its visual bulk is encouraged.*
- 3. New construction on hillsides should not disregard or significantly alter the existing topography of a site. Further, the requirements put forward in the South Pasadena Zoning Code should be followed. To minimize grading, building designs should step up or down hillsides.*

Physical Design Components

- 1. Massing should be stepped with the slope to avoid large expanses of tall walls. The wall planes at various levels should be articulated and have a variety of solid and void elements.*
- 2. Garages at hillside homes should be carefully designed and integrated into the overall design of the residence with articulated details and quality materials. Garages can be enveloped into the building, treated as a free standing building, or pushed back away from the front of the house.*

3. *To reduce the overall height, mass and bulk and avoid adverse visual impacts, roof pitches should be kept to slopes at or below 6:12.*
4. *New hillside construction should be compatible with the character of the City, and the traditional architectural styles found there, and could incorporate the features of any one of the traditional styles identified in part II of these Guidelines. Further, new hillside construction could embrace modernism while maintaining the scale and patterns of building placement in the neighborhood.*
5. *New designs in the traditional styles should be comprehensive in massing, forms, details and materials, with quality design and workmanship. Hillside designs in these styles should be respectful to the contours of the site, and be stepped back with the slope of the site.*
6. *The number of different materials used on the exterior of a house should be consistent with the neighborhood and the architectural style of the house. An abundance of different materials should be avoided. The use of one main material and a strong accent material is encouraged.*

The placement of the building is consistent with most existing houses in the neighborhood. The proposed house will roughly be an equal distance from the house across the street up on the hill and from its rear neighbor down below. The proposed design terraces the house along the slope to minimize the massing viewed from the top or bottom of the hillside. Additionally, the mid-level's wood siding treatment is intended to break up the continuous stucco material and further modulate the scale of the building as viewed from below.

Based on feedback and suggestions from Planning Commissioners, the applicant has adjusted the project in order to reduce the overall height of the building and break up the massing. The Applicant requests an additional Variance to reduce the front yard setback in order to lower the height of the building by bringing the building closer to the street. The project has been pushed further into the hillside to reduce the overall height of the building. The rear end of the garage has been reduced from approximately 10 feet and 8 inches to 8 feet and 5 inches. A portion of the rear end of the garage, approximately 5 feet, will still exceed the 28 foot height limitation. The front massing has been broken up and the garage is setback 10 feet from the buildings frontage to differentiate it from the livable space. The garage will maintain the 10 foot front yard setback and provide one (1) guest off-street parking space in compliance with SPMC Section 36.310.040.

The proposed project exemplifies the application of the city's design standards for unique hillside home design. The thoughtful design contrasts with some older homes that were designed in the form of a deep rectangular shaped box, extruding from the hillside, with minimal breaks from each floor level or decorative architectural elements.

The surrounding neighborhood includes a mix of large, multi-story homes with a variety of architectural styles. The project is designed with consideration of the character and scale of the existing multi-story residential developments in the vicinity as well as the topographic conditions of the site and future occupants and neighbors. The proposed

project uses appropriate materials that complement the eclectic architecture of the surrounding neighborhood. The development would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

The scale of the project is appropriate in size, when compared to the surrounding neighborhood and the topography of the land and the configuration of neighboring properties minimizes view impacts. With the exception of the requested variances, the proposed design complies with the City's Hillside Design Guidelines, the Hillside Protection Ordinance, and the SPMC, including but not limited to building mass, scale, respect of the topography, FAR and lot coverage.

The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards, with implementation of conditions and the City's construction requirements. A construction management plan will be reviewed and approved as part of the Building and Public Works permitting process.

FINDINGS

Design Review Findings

Pursuant to SPMC Section 36.410.040(I), in order to approve a Design Review, the Commission is required to make the following findings that the project:

- 1. Is consistent with the General Plan, any adopted design guidelines and any applicable design criteria for specialized areas (e.g., designated historic district or other special districts, plan developments, or specific plans);**

The General Plan land use designation of the site is Low Density Neighborhood, which allows for detached single-family units. The proposed project provides one new dwelling unit on an existing parcel and complies with the applicable General plan Goals, Development and Design Standards, and related Design Guidelines for the development of a hillside property; therefore, the project is consistent with the General Plan. In addition, the project has been conditioned to ensure that the applicant abides with the applicable Southwest Monterey Hills construction regulations.

As proposed, the project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan for development of a single-family dwelling located in the single-family zoning district on the hillside.

- 2. Will adequately accommodate the functions and activities proposed for the site, will not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards;**

The project involves construction of a new 2,732 square-foot home with an attached 495 square-foot garage on a vacant hillside property. The proposed development is consistent with the land use and design standards for the zone, with the exception of the requested variances. Based upon the height and massing of the proposed project and its location, the new development will not interfere with the use and enjoyment of existing or future neighboring developments. Conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

The development project and the associated temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. A construction management plan will be reviewed and approved by staff during the Building and Public Works permitting process.

- 3. Is compatible with the existing character of the surrounding neighborhood and that all reasonable design efforts have been made to maintain the attractive, harmonious, and orderly development contemplated by SPMC Section 36.410.040 and the General Plan; and**

The project site is surrounded by multi-story residential buildings of different architectural styles and sizes. Except for the variances sought, the project complies with all the development standards for zoning and hillside lots. The proposed development is compatible with the neighborhood and it will have minimal view impacts from hilltop or to the existing terrain due to the limited projections of each floor level. The building location, size, and form fits the size of the lot. As described in more detail by the staff report, the proposed project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan for the proposed development of a single-family dwelling located in the single-family zoning district on the hillside.

- 4. Would provide a desirable environment for its occupants and neighbors, and is aesthetically of good composition, materials, and texture that would remain aesthetically appealing with a reasonable level of maintenance and upkeep.**

The proposed project has been designed with consideration to its future occupants and neighbors. The proposed project uses appropriate materials that complement the eclectic architecture of the surrounding neighborhood. The proposed

minimalist architectural style uses large windows and glass doors facing the rear of the property with minimal fenestration and architectural elements at the front elevation, sleek decks and a balcony, and use of natural materials and neutral color palettes. The architectural features include a wood garage door and Milgard windows and doors. The exterior walls will be clad with a combination of super fine finished stucco, stone veneer, and composite horizontal siding. The project also proposes steel plate guardrails for the decks and balcony and a sloped roof with asphalt roof shingles. As required and conditioned, the final design, materials, and construction documents would be reviewed and approved by the Planning Division and Building Division prior to permit issuance.

Hillside Development Permit Findings

Pursuant to SPMC Section 36.410.065(F), in order to approve a Hillside Development Permit, the Commission must make all of the following findings:

1. The proposed use complies with requirements of Division 36.340 (Hillside Protection) and all other applicable provisions of this Zoning Code.

The project uses thoughtful site design which conforms to the hillside development standards and design guidelines. The project is considerate of the character and scale of the existing single-family developments in the vicinity. The overall objectives of the hillside development standards in the Zoning Code include, but are not limited to, protections of views, sensitive terrain alterations, site layout, grading and location of structures, appropriate massing, quality architectural design features and properly designated landscape and landscape features, in which this project has considered and exemplified. With the exception of three variances being requested, the project as designed and conditioned will comply with the Hillside Protection Ordinance and the RS standards in the SPMC.

2. The proposed use is consistent with the General Plan and any applicable specific plan;

The General Plan land use designation of the site is Low Density Neighborhood, which allows for detached single-family units. The proposed project provides one new dwelling unit on an existing parcel and complies with the applicable General plan Goals, Development and Design Standards, and related Design Guidelines for the development of a hillside property; therefore, the project is consistent with the General Plan. In addition, the project has been conditioned, to ensure that the applicant abides, to meet the applicable Southwest Monterey Hills construction regulations.

As proposed, the project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan for development of a single-family dwelling located in the single-family zoning district on the hillside.

- 3. The establishment, maintenance, or operation of the use would not, under the circumstances of the particular case, be detrimental to the health, safety, or general welfare of the persons residing or working in the neighborhood of the proposed use;**

The neighborhood is developed with a mix of hillside homes in both architectural style and scale; as required and conditioned, all construction documents, including grading plans and calculations, would be prepared by professional architects or engineers and must be formally reviewed and approved by the appropriate City departments prior to issuing permits. As such, the proposed single-family residential home will not be established, maintained or operated in a manner that would be detrimental to the health and safety or general welfare of persons residing or working in the neighborhood.

- 4. The use, as described and conditionally approved, would not be detrimental or injurious to properties and improvements in the neighborhood or to the general welfare of the City; and,**

Prior to commencing construction, the project is required to comply with and obtain all applicable building permits, including those necessary for grading, utilities, public works, and fire prevention. The applicant has provided a preliminary geological investigation report that indicates the subject project is feasible from a geotechnical standpoint, provided that the recommendations presented in the report are implemented. Additionally, the applicant shall provide a construction management plan, as required in the Southwest Monterey Hills Construction Plan area, prior to the issuance of building permits. By complying with the applicable codes and conditions of approval, the project will not be detrimental or injurious to the properties and improvements in the neighborhood or to the general welfare of the City.

- 5. The design, location, operating characteristics, and size of the proposed use would be compatible with the existing and future land uses in the vicinity, in terms of aesthetics, character, scale, and view protection.**

The scale of the project is appropriate in size, when compared to the surrounding neighborhood, and the topography of the land and configuration of neighboring single-family residential properties minimizes view impacts. With the exception of the variances requested, the proposed design complies with the City's Hillside Design Guidelines, the Hillside Protection Ordinance, and other SPMC sections, including but not limited to building mass, height, scale, respect of the topography, and lot coverage.

Variance Findings

Pursuant to SPMC Section 36.410.080, in order to approve a Variance, the Commission shall first make all the required findings listed below:

- 1. There are special circumstances applicable to the subject property (e.g., location, shape, size, surroundings, topography, or other conditions), so that the strict application of this Zoning Code denies the property owner privileges enjoyed by other property owners in the vicinity and within the same zoning district, or creates an unnecessary and involuntarily created hardship, or unreasonable regulation which makes it impractical to require compliance with the development standards;**

SPMC Section 36.340.050(C)— Height limitations.

There are special circumstances applicable to the subject property which consists of an irregular shape and an average slope of 54.48 percent. The steep terrain of the site is the driving factor for the Variance. Since the roof slope is proposed at a 3:12 slope, the municipal code places a 28-foot height limitation on structures, measured vertically from existing grading.

As such, due to the existing conditions of the site, the Applicant has requested additional height of approximately five feet for the attached garage, bringing the total height of the building, specifically the portion with the attached garage, to approximately 33 feet. The garage will meet the front yard setback requirement of 10 feet and provide space for one (1) guest parking space in addition to the two required spaces for the use. The Variance for height is needed to maintain the proposed driveway and guest parking to ensure that the property owner has the same privilege as other property owners in the same vicinity and zoning district.

SPMC Section 36.340.050(C)(5)— Downhill building walls.

The steep sloping terrain and preservation of hillside views is the driving factor for the Variance.

If the project were to comply with the 10 foot step-back requirement for each 15' of downhill building wall, the proposed house would have to further encroach onto the building height limitations, obstruct hillside views, and potentially require additional Variances for an increase in maximum FAR and siting restrictions against the silhouette of the sky.

As such, special circumstances exist to justify the requested Variance to allow the deviation of the downhill building wall standards. As proposed and conditioned, the requested Variance would alleviate an unnecessary and involuntarily hardship, or unreasonable regulation which makes it impractical to require compliance with the development standards.

SPMC Section 36.220.040 – Front Yard Setback.

The site's steep sloping terrain, irregular shaped lot, setback requirements, and height limitations, when taken together, do not permit the reasonable development of this property in such a way that surrounding properties are able to enjoy. The steep slope along with the required front yard setback naturally forces the massing of the development away from the hillside - the height limitations further restrict the proposed development creating an unnecessary hardship and unreasonable regulation which makes it impractical to require compliance with the development standards.

By reducing the front yard setback of the primary frontage from 10 feet to 6 inches in order to bring certain portions of the building into compliance with the height requirements, the 10-foot front yard setback for the garage will be retained. In this way, the project can shift closer into the hillside thus reducing its outward projection and bringing the massing of the development more in line with the existing slope and height regulations. This will also result in a project that does not visually impact surrounding properties adversely.

2. Granting the Variance would:

- a. Be necessary for the preservation and enjoyment of substantial property rights possessed by other property owners in the same vicinity and zoning district, and denied to the subject property owner;**

SPMC Section 36.340.050(C)— Height Limitations.

The granting of this Variance allows the property owner to build a home with sufficient off-street parking, a driveway, and a front yard setback for the garage, which other property owners in the area are able to do. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shape lot.

SPMC Section 36.340.050(C)(5)— Downhill Building Walls.

The granting of this Variance allows the property owner to build a home with sufficient off-street parking, a driveway, and a front yard setback for the

garage, which other property owners in the area are able to do. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shaped lot. If the project were to comply with the 10 foot stepped back requirement for each floor, the proposed house would have to further encroach onto the existing building height limitations and further obstruct the hillside views or potentially propose additional Variances for an increase in maximum FAR and siting restrictions against the silhouette of the sky.

SPMC Section 36.220.040 – Front Yard Setback.

The granting of this Variance creates the opportunity for the property owner to build a home that minimizes the height and massing impacts to surrounding properties. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shape lot. The steep slope along with the required front yard setback naturally forces the massing of the development away from the hillside - the height limitations further restrict the proposed development creating an unnecessary hardship and unreasonable regulation which makes it impractical to require compliance with the development standards. The existing site characteristics and development standards do not permit the reasonable development of the property in such a way that surrounding properties are able to enjoy.

b. Be consistent with the General Plan and any applicable specific plan, and the limitations established by the 1983 initiative;

SPMC Section 36.340.050(C)— Height Limitations.

The proposed project is consistent with the General Plan, the City's adopted Design Guidelines for new single-family buildings on hillsides, and the height limit established by the 1983 initiative. The proposed project does not impact limitations established by the 1983 initiative and does not impact goals established by the General Plan. The General Plan land use designation of the site was previously Low Density Residential, now recognized as Low Density Neighborhood, which allows for detached single-family units. The proposed project with the Variance does not involve the addition of another dwelling unit or a subdivision of land; therefore, the project is consistent.

SPMC Section 36.340.050 (C)(5)— Downhill Building Walls.

The proposed project is consistent with the General Plan, the City's adopted Design Guidelines for new single-family buildings on hillsides, and the

height limit established by the 1983 initiative. The proposed project does not impact limitations established by the 1983 initiative and does not impact goals established by the General Plan. The General Plan land use designation of the site was previously Low Density Residential, now recognized as Low Density Neighborhood, which allows for detached single-family units. The proposed project with the Variance does not involve the addition of another dwelling unit or a subdivision of land; therefore, the project is consistent with the General Plan.

SPMC Section 36.220.040 – Front Yard Setback.

The proposed project is consistent with the General Plan, the City's adopted Design Guidelines for new single-family buildings on hillsides, and the height limit established by the 1983 initiative. The proposed project does not impact limitations established by the 1983 initiative and does not impact goals established by the General Plan. The General Plan land use designation of the site was previously Low Density Residential, now recognized as Low Density Neighborhood, which allows for detached single-family units. The proposed project with the Variance does not involve the addition of another dwelling unit or a subdivision of land; therefore, the project is consistent with the General Plan.

- c. Not constitute a grant of special privileges inconsistent with the limitations on other properties in the vicinity and in the same zoning district; and**

SPMC Section 36.340.050(C)— Height Limitations.

The granting of the Variance to exceed the maximum height of a single-family hillside development would not constitute a grant of special privileges that are inconsistent with the limitations on other properties in the vicinity and in the same zoning district, as other existing properties in the hillside neighborhood exceed the limitations due to the implementation of the hillside development standards.

If the project were to meet the height limitations, the proposed garage and home would need to further cut into the hillside and remove the driveway and the guest parking space. In fact, granting the Variance to accommodate the driveway and guest parking is preferable for the preservation and enjoyment of property rights possessed by other property owners in the same vicinity and zoning district.

Thus, the approval of the Variance for height would not constitute a grant of special privileges that are inconsistent with the limitations on other properties in the vicinity and in the same zoning district.

SPMC Section 36.340.050(C)(5)— Downhill Building Walls.

The granting of the Variance for the downhill building wall requirements does not constitute a grant of special privileges inconsistent with the limitations on other properties in the vicinity and in the same zoning district, as other parcels are developed with downhill walls that exceed 15 feet without the required 10 foot increments from the lower level downhill facing wall either due to the year built or issuance of a Variance.

If the project were to comply with the 10-foot setback requirement for each floor, the proposed house would have to further encroach onto the existing building height limitations or potentially propose additional Variances for an increase in maximum FAR and siting restrictions against the silhouette of the sky.

As such, the requested Variance to allow the deviation of the downhill building wall standard will not set a precedent for the existing neighborhood.

SPMC Section 36.220.040 – Front Yard Setback.

The granting of this Variance creates the opportunity for the property owner to build a home that minimizes the height and massing impacts to surrounding properties. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shape lot. The steep slope along with the required front yard setback naturally forces the massing of the development away from the hillside - the height limitations further restrict the proposed development creating an unnecessary hardship and unreasonable regulation which makes it impractical to require compliance with the development standards. The existing site characteristics and development standards does not permit the reasonable development of the property in such a way that surrounding properties are able to enjoy.

- d. Not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity and zoning district in which the property is located.**

SPMC 36.340.050(C)— Height Limitations.

Conditions of Approval will mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage

of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

The Variance for an additional height of 5 feet for the garage will not impact the view of surrounding properties because it is substantially lower than properties above and complies with the ridgeline setback. As such, the project, with the requested Variance for building height, would not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity and zoning districts in which the property is located.

SPMC Section 36.340.050 (C)(5)— *Downhill Building Walls*.

Conditions of Approval will mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

As such, the project, with the requested Variance for downhill building wall requirements, would not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity and zoning districts in which the property is located.

SPMC Section 36.220.040 – Front Yard Setback.

Conditions of Approval will mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

The Variance for a reduced front yard setback of 6 inches will not impact surrounding properties because the front property line is separated by the street curb by an approximately 7-foot shoulder. As such, the project, with the requested Variance for front yard setback requirements, would not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity and zoning districts in which the property is located.

- 3. The proposed project would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.**

SPMC 36.340.050(C)— Height Limitations.

The project has been designed to fit the existing contour lines of the terrain as recommended by the SPMC. The subject property is surrounded by existing single-family dwellings with a mix of large, multi-story homes with a variety of architectural styles. The proposed modern architectural style will be compatible with the existing neighborhood.

The requested Variance to permit the garage to exceed the 28-foot height limitation will allow the garage to maintain the required 10 foot front yard setback and provide one off-street guest parking space in compliance with the SPMC. The development would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

SPMC Section 36.340.050(C)(5)— Downhill Building Walls

The project has been designed to fit the existing contour lines of the terrain as recommended by the SPMC. The subject property is surrounded by other existing single-family dwellings that do not meet the downhill building wall requirements and were built prior to the adoption of the City's Hillside Development Standards. As a result, some of the properties in the vicinity do not meet the downhill building wall requirements

The requested Variance to allow deviation from the downhill building wall standards will be compatible with the surrounding neighborhood. The architectural style of the neighborhood surrounding the project site is mixed with various architectural styles including minimalist architectural designs, same as the proposed. The development would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

SPMC Section 36.220.040 – Front Yard Setback.

The subject property is surrounded by existing single-family dwellings with a mix of large, multi-story homes with a variety of architectural styles. The modern architectural style will be compatible with the existing neighborhood.

By reducing the front yard setback, the project can shift closer into the hillside thus reducing its outward projection and bringing the massing of the development more in line with the existing slope and height regulations. This will also result in a project that visually does not adversely impact surrounding properties. The development would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

General Standards for Construction

The Public Works Department has reviewed this project and recommended Conditions of Approval (**Attachment 1 - P.C. Resolution with Exhibit "A" – Conditions of Approval**) to mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of

construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

Environmental Analysis

This item is exempt from California Environmental Quality Act (CEQA) analysis based on State CEQA Guidelines Section 15303, Class 3 – New Construction or Conversion of Small Structures. Class 3 exemption includes the construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Class 3 exemption includes, but is not limited to: one single-family residence, or a second dwelling unit in a residential zone; in urbanized areas, up to three single-family residences may be constructed or converted under this exemption. The project will not have a significant effect on the environment because the project includes one single-family residence, the project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan; and is not located in an environmentally sensitive area.

Alternatives to Consider

Planning Commission may also consider the following alternatives to this recommendation:

1. The Planning Commission may approve the project with or without modified/added conditions;
2. The Planning Commission may continue the project to address comments discussed; or
3. The Planning Commission may deny the project.

Public Notification

Hearing notices were sent to all properties within a 300-foot radius of the property and to all properties located within the Southwest Monterey Hills Notification Area on November 26, 2024. A Public Hearing Notice was published on November 29, 2024 in the South Pasadena Review. In addition, the public was made aware that this item was to be considered at a public hearing by virtue of its inclusion on the legally publicly noticed agenda, posting of the same agenda and reports on the City's website.

Public Comments

At the time of writing this report, staff has not receive public comments regarding the proposed project.

Next Steps

If the Planning Commission approves the project, a 15-day appeal period will commence in which any person affected by the decision may appeal the decision for a public hearing by the City Council. Should there be no appeals during this 15-day period, the applicant may proceed through the Plan Check Process with the Building Division and staff will review the construction plans to ensure that all conditions are satisfied.

Attachments:

1. P.C. Resolution with Exhibit "A" – Conditions of Approval
2. Architectural Drawings
3. Site Images
4. Neighborhood Images
5. Landscape Plans
6. Tentative Tree Removal Approval
7. Preliminary Geotechnical Investigation Report

ATTACHMENT 1

P.C. Resolution with Exhibit "A" - Conditions of Approval

P.C. RESOLUTION NO. 24 - __

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SOUTH PASADENA APPROVING PROJECT NO. 2571-VAR/HDP/DRX/TRP FOR DESIGN REVIEW AND HILLSIDE DEVELOPMENT PERMITS TO CONSTRUCT A NEW 2,732 SQUARE-FOOT SINGLE-FAMILY DWELLING WITH AN ATTACHED 495 SQUARE-FOOT GARAGE AT A VACANT PROPERTY LOCATED ON PETERSON AVENUE (APN: 5308-031-042). THE PROJECT SITE IS LOCATED WITHIN THE SOUTHWEST MONTEREY HILLS AREA. THE PROJECT INCLUDES THREE VARIANCE REQUESTS: 1) FOR BUILDING HEIGHT EXCEEDING THE MAXIMUM HEIGHT OF 28 FEET, 2) DOWNHILL BUILDING WALLS REQUIREMENTS, AND 3) FRONT YARD SETBACK REQUIREMENTS, AND A TREE REMOVAL PERMIT FOR THE PROPOSED REMOVAL OF TWO TREES; AND FINDING PROJECT EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT PUSUANT TO SECTION 15303, CLASS 3 (NEW CONSTRUCTION OR CONVERSION OF SMALL STRUCTURES).

WHEREAS, on February 22, 2023, Yung Kao (the “Applicant”) submitted an application for the following entitlements:

1. **Two (2) Variances (VAR)** to deviate from development standards:
 - a. A Variance to exceed the maximum height of 28 feet and provide 33 feet (South Pasadena Municipal Code Section 36.340.050(C), and;
 - b. A Variance from the downhill building walls requirements providing a step-back of less than 10 feet varying from 4 feet and 2 inches to 8 feet and 3 inches (South Pasadena Municipal Code Section 36.340.050(C)(5)) in conjunction with;
2. **Hillside Development Permit (HDP)** to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant hillside property.
3. **A Design Review Permit (DRX)** for the review of the design aspects of the proposed development; and,
4. **A Tree Removal Permit (TRP)** to remove two (2) trees.

The project is located on Peterson Avenue (APN: 5308-031-042) within the Southwest Monterey Hills area (the above-referenced applications and requests are referred to herein as the “project” or “proposed project”); and

WHEREAS, on April 9, 2024, the Planning Commission continued the item and advised the “applicant” to revise the proposal, citing concerns with the proposed building height; and

WHEREAS, on September 28, 2024, the Applicant submitted a revised application to include an additional **Variance (VAR)** to deviate from the following development standard:

1. A **Variance** from the front yard setback requirement and provide a 6 inch front setback (South Pasadena Municipal Code Section 36.220.040)

WHEREAS, the subject property is zoned Residential Low Density (RS) and has a General Plan land use designation of Low Density Residential; and

WHEREAS, the proposed project is categorically exempt from the California Environmental Quality Act (CEQA), per CEQA Guidelines Section 15303, Class 3 – New Construction. The project will not have a significant effect on the environment because the project falls under a Class 3 – New Construction or Conversion of Small Structures. Class 3 exemption includes the construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Class 3 exemption includes, but is not limited to: one single-family residence, or a second dwelling unit in a residential zone; in urbanized areas, up to three single-family residences may be constructed or converted under this exemption. The project will not have a significant effect on the environment because the project includes one single-family residence; the project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan; and is not located in an environmentally sensitive area.

WHEREAS, the Community Development Department evaluated the project for consistency with the City's General Plan, South Pasadena Municipal Code, the City's Design Guidelines, and all other applicable state and local regulations; and

WHEREAS, on November 29, 2024, the City of South Pasadena Planning Division, published a legal notice in the *South Pasadena Review*, a local newspaper of general circulation, indicating the date, time, and location of the public hearing in compliance with state law concerning Project No. 2571-VAR/HDP/DRX/TRP. On November 26, 2024 said public hearing notices were also mailed to each property owner within a 300-foot radius of the project site and to properties located within the Southwest Monterey Hills Notification Area in accordance with the requirements of South Pasadena Municipal Code declaring the project review by the Planning Commission; and

WHEREAS, the South Pasadena Planning Commission held a duly noticed public hearing on December 10, 2024, at which time it considered the staff report, oral report, the testimony, and the written evidence submitted by and on behalf of the applicant and by members of the public concerning Project No. 2571-VAR/HDP/DRX/TRP.

NOW, THEREFORE, THE PLANNING COMMISSION OF THE CITY OF SOUTH PASADENA DOES HEREBY FIND, DETERMINE, AND RESOLVE AS FOLLOWS:

SECTION 1: ACKNOWLEDGEMENTS

The foregoing recitals are true and correct and are incorporated and made an operative

part of this resolution.

SECTION 2: ENVIRONMENTAL REVIEW FINDINGS

The Planning Commission has determined that the proposed project is Categorically Exempt from the provisions of the California Environmental Quality Act (CEQA), under CEQA Guidelines Section 15303, Class 3 – New Construction or Conversion of Small Structures. Class 3 exemption includes the construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. Class 3 exemption includes, but is not limited to: one single-family residence, or a second dwelling unit in a residential zone; in urbanized areas, up to three single-family residences may be constructed or converted under this exemption. The project will not have a significant effect on the environment because the project includes one single-family residence; the project is in an area where all public services and facilities are available to allow for maximum development permissible in the General Plan; and is not located in an environmentally sensitive area.

SECTION 3: HILLSIDE DEVELOPMENT PERMIT FINDINGS

Based upon the entire record made available at the April 9, 2024 public hearing, including the public hearing, the staff report, the oral presentation, and related documents submitted to the Planning Commission prior to and at the public hearing, the Planning Commission finds and determines that the proposed project is consistent with all applicable findings for approval of a Hillside Development Permit pursuant to the South Pasadena Municipal Code (SPMC), Section 36.410.065(F), as follows:

1. The proposed use complies with requirements of Division 36.340 (Hillside Protection) and all other applicable provisions of this Zoning Code.

The project uses thoughtful site design which conforms to the hillside development standards and design guidelines. The project is considerate of the character and scale of the existing single-family developments in the vicinity. The overall objectives of the hillside development standards in the Zoning Code include, but are not limited to, protections of views, sensitive terrain alterations, site layout, grading and location of structures, appropriate massing, quality architectural design features and properly designated landscape and landscape features, in which this project has considered and exemplified. With the exception of three variances being requested, the project as designed and conditioned will comply with the Hillside Protection Ordinance and the RS standards in the SPMC.

2. The proposed use is consistent with the General Plan and any applicable specific plan;

The General Plan land use designation of the site is Low Density Neighborhood,

which allows for detached single-family units. The proposed project provides one new dwelling unit on an existing parcel and complies with the applicable General plan Goals, Development and Design Standards, and related Design Guidelines for the development of a hillside property; therefore, the project is consistent with the General Plan. In addition, the project has been conditioned, to ensure that the applicant abides, to meet the applicable Southwest Monterey Hills construction regulations.

As proposed, the project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan for development of a single-family dwelling located in the single-family zoning district on the hillside.

- 3. The establishment, maintenance, or operation of the use would not, under the circumstances of the particular case, be detrimental to the health, safety, or general welfare of the persons residing or working in the neighborhood of the proposed use;**

The neighborhood is developed with a mix of hillside homes in both architectural style and scale; as required and conditioned, all construction documents, including grading plans and calculations, would be prepared by professional architects or engineers and must be formally reviewed and approved by the appropriate City departments prior to issuing permits. As such, the proposed single-family residential home will not be established, maintained or operated in a manner that would be detrimental to the health and safety or general welfare of persons residing or working in the neighborhood.

- 4. The use, as described and conditionally approved, would not be detrimental or injurious to properties and improvements in the neighborhood or to the general welfare of the City; and,**

Prior to commencing construction, the project is required to comply with and obtain all applicable building permits, including those necessary for grading, utilities, public works, and fire prevention. The applicant has provided a preliminary geological investigation report that indicates the subject project is feasible from a geotechnical standpoint, provided that the recommendations presented in the report are implemented. Additionally, the applicant shall provide a construction management plan, as required in the Southwest Monterey Hills Construction Plan area, prior to the issuance of building permits. By complying with the applicable codes and conditions of approval, the project will not be detrimental or injurious to the properties and improvements in the neighborhood or to the general welfare of the City.

- 5. The design, location, operating characteristics, and size of the proposed use would be compatible with the existing and future land uses in the vicinity, in terms of aesthetics, character, scale, and view protection.**

The scale of the project is appropriate in size, when compared to the surrounding neighborhood, and the topography of the land and configuration of neighboring

single-family residential properties minimizes view impacts. With the exception of the variances requested, the proposed design complies with the City's Hillside Design Guidelines, the Hillside Protection Ordinance, and other SPMC sections, including but not limited to building mass, height, scale, respect of the topography, and lot coverage.

SECTION 4: DESIGN REVIEW FINDINGS

Based upon the entire record made available at the December 10, 2024 public hearing, including the public hearing, the staff report, the oral presentation, and related documents submitted to the Planning Commission prior to and at the public hearing, the Planning Commission finds and determines that the proposed project is consistent with all applicable findings for approval of a Design Review Permit pursuant to the South Pasadena Municipal Code (SPMC), Section 36.410.040(I), as follows:

- 1. Is consistent with the General Plan, any adopted design guidelines and any applicable design criteria for specialized areas (e.g., designated historic district or other special districts, plan developments, or specific plans);**

The General Plan land use designation of the site is Low Density Neighborhood, which allows for detached single-family units. The proposed project provides one new dwelling unit on an existing parcel and complies with the applicable General plan Goals, Development and Design Standards, and related Design Guidelines for the development of a hillside property; therefore, the project is consistent with the General Plan. In addition, the project has been conditioned to ensure that the applicant abides with the applicable Southwest Monterey Hills construction regulations.

As proposed, the project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan for development of a single-family dwelling located in the single-family zoning district on the hillside.

- 2. Will adequately accommodate the functions and activities proposed for the site, will not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards;**

The project involves construction of a new 2,732 square-foot home with an attached 495 square-foot garage on a vacant hillside property. The proposed development is consistent with the land use and design standards for the zone, with the exception of the requested variances. Based upon the height and massing of the proposed project and its location, the new development will not interfere with the use and enjoyment of existing or future neighboring developments. Conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

The development project and the associated temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. A construction management plan will be reviewed and approved by staff during the Building and Public Works permitting process.

3. Is compatible with the existing character of the surrounding neighborhood and that all reasonable design efforts have been made to maintain the attractive, harmonious, and orderly development contemplated by SPMC Section 36.410.040 and the General Plan; and

The project site is surrounded by multi-story residential buildings of different architectural styles and sizes. Except for the variances sought, the project complies with all the development standards for zoning and hillside lots. The proposed development is compatible with the neighborhood and it will have minimal view impacts from hilltop or to the existing terrain due to the limited projections of each floor level. The building location, size, and form fits the size of the lot. As described in more detail by the staff report, the proposed project complies with requirements contemplated by SPMC Section 36.410.040 and the General Plan for the proposed development of a single-family dwelling located in the single-family zoning district on the hillside.

4. Would provide a desirable environment for its occupants and neighbors, and is aesthetically of good composition, materials, and texture that would remain aesthetically appealing with a reasonable level of maintenance and upkeep.

The proposed project has been designed with consideration to its future occupants and neighbors. The proposed project uses appropriate materials that complement the eclectic architecture of the surrounding neighborhood. The proposed minimalist architectural style uses large windows and glass doors facing the rear of the property with minimal fenestration and architectural elements at the front elevation, sleek decks and a balcony, and use of natural materials and neutral color palettes. The architectural features include a wood garage door and Milgard windows and doors. The exterior walls will be clad with a combination of super fine finished stucco, stone veneer, and composite horizontal siding. The project also proposes steel plate guardrails for the decks and balcony and a sloped roof with asphalt roof shingles. As required and conditioned, the final design, materials, and construction documents would be reviewed and approved by the Planning Division and Building Division prior to permit issuance.

SECTION 5: VARIANCE FINDINGS

Based upon the entire record made available at the December 10, 2024 public hearing, including the public hearing, the staff report, the oral presentation, and related documents submitted to the Planning Commission prior to and at the public hearing, the Planning Commission finds and determines that the proposed project is consistent with all

applicable findings to grant a Variance, pursuant to the South Pasadena Municipal Code (SPMC) Section 36.410.080, for deviation from Section 36.340.050(C), Section 36.340.050(C)(5), and Section 36.220.040 as follows:

- 1. There are special circumstances applicable to the subject property (e.g., location, shape, size, surroundings, topography, or other conditions), so that the strict application of this Zoning Code denies the property owner privileges enjoyed by other property owners in the vicinity and within the same zoning district, or creates an unnecessary and involuntarily created hardship, or unreasonable regulation which makes it impractical to require compliance with the development standards;**

SPMC Section 36.340.050(C)— Height limitations.

There are special circumstances applicable to the subject property which consists of an irregular shape and an average slope of 54.48 percent. The steep terrain of the site is the driving factor for the Variance. Since the roof slope is proposed at a 3:12 slope, the municipal code places a 28-foot height limitation on structures, measured vertically from existing grading.

As such, due to the existing conditions of the site, the Applicant has requested additional height of approximately five feet for the attached garage, bringing the total height of the building, specifically the portion with the attached garage, to approximately 33 feet. The garage will meet the front yard setback requirement of 10 feet and provide space for one (1) guest parking space in addition to the two required spaces for the use. The Variance for height is needed to maintain the proposed driveway and guest parking to ensure that the property owner has the same privilege as other property owners in the same vicinity and zoning district.

SPMC Section 36.340.050(C)(5)— Downhill building walls.

The steep sloping terrain and preservation of hillside views is the driving factor for the Variance.

If the project were to comply with the 10 foot step-back requirement for each 15' of downhill building wall, the proposed house would have to further encroach onto the building height limitations, obstruct hillside views, and potentially require additional Variances for an increase in maximum FAR and siting restrictions against the silhouette of the sky.

As such, special circumstances exist to justify the requested Variance to allow the deviation of the downhill building wall standards. As proposed and conditioned, the requested Variance would alleviate an unnecessary and involuntarily hardship, or unreasonable regulation which makes it impractical to require compliance with the development standards.

SPMC Section 36.220.040 – Front Yard Setback.

The site's steep sloping terrain, irregular shaped lot, setback requirements, and height limitations, when taken together, do not permit the reasonable development of this property in such a way that surrounding properties are able to enjoy. The steep slope along with the required front yard setback naturally forces the massing of the development away from the hillside - the height limitations further restrict the proposed development creating an unnecessary hardship and unreasonable regulation which makes it impractical to require compliance with the development standards.

By reducing the front yard setback of the primary frontage from 10 feet to 6 inches in order to bring certain portions of the building into compliance with the height requirements, the 10-foot front yard setback for the garage will be retained. In this way, the project can shift closer into the hillside thus reducing its outward projection and bringing the massing of the development more in line with the existing slope and height regulations. This will also result in a project that does not visually impact surrounding properties adversely.

2. Granting the Variance would:

- a. Be necessary for the preservation and enjoyment of substantial property rights possessed by other property owners in the same vicinity and zoning district, and denied to the subject property owner;**

SPMC Section 36.340.050(C)— Height Limitations.

The granting of this Variance allows the property owner to build a home with sufficient off-street parking, a driveway, and a front yard setback for the garage, which other property owners in the area are able to do. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shape lot.

SPMC Section 36.340.050(C)(5)— Downhill Building Walls.

The granting of this Variance allows the property owner to build a home with sufficient off-street parking, a driveway, and a front yard setback for the garage, which other property owners in the area are able to do. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shaped lot. If the project were to comply with the 10 foot stepped back requirement for each floor, the proposed house would have to further encroach onto the existing building height limitations and further obstruct the hillside views or potentially propose additional Variances for an increase in maximum FAR and siting restrictions against the silhouette of the sky.

SPMC Section 36.220.040 – Front Yard Setback.

The granting of this Variance creates the opportunity for the property owner to build a home that minimizes the height and massing impacts to surrounding properties. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shape lot. The steep slope along with the required front yard setback naturally forces the massing of the development away from the hillside - the height limitations further restrict the proposed development creating an unnecessary hardship and unreasonable regulation which makes it impractical to require compliance with the development standards. The existing site characteristics and development standards do not permit the reasonable development of the property in such a way that surrounding properties are able to enjoy.

b. Be consistent with the General Plan and any applicable specific plan, and the limitations established by the 1983 initiative;

SPMC Section 36.340.050(C)— Height Limitations.

The proposed project is consistent with the General Plan, the City's adopted Design Guidelines for new single-family buildings on hillsides, and the height limit established by the 1983 initiative. The proposed project does not impact limitations established by the 1983 initiative and does not impact goals established by the General Plan. The General Plan land use designation of the site was previously Low Density Residential, now recognized as Low Density Neighborhood, which allows for detached single-family units. The proposed project with the Variance does not involve the addition of another dwelling unit or a subdivision of land; therefore, the project is consistent.

SPMC Section 36.340.050 (C)(5)— Downhill Building Walls.

The proposed project is consistent with the General Plan, the City's adopted Design Guidelines for new single-family buildings on hillsides, and the height limit established by the 1983 initiative. The proposed project does not impact limitations established by the 1983 initiative and does not impact goals established by the General Plan. The General Plan land use designation of the site was previously Low Density Residential, now recognized as Low Density Neighborhood, which allows for detached single-family units. The proposed project with the Variance does not involve the addition of another dwelling unit or a subdivision of land; therefore, the project is consistent with the General Plan.

SPMC Section 36.220.040 – Front Yard Setback.

The proposed project is consistent with the General Plan, the City's adopted

Design Guidelines for new single-family buildings on hillsides, and the height limit established by the 1983 initiative. The proposed project does not impact limitations established by the 1983 initiative and does not impact goals established by the General Plan. The General Plan land use designation of the site was previously Low Density Residential, now recognized as Low Density Neighborhood, which allows for detached single-family units. The proposed project with the Variance does not involve the addition of another dwelling unit or a subdivision of land; therefore, the project is consistent with the General Plan.

c. Not constitute a grant of special privileges inconsistent with the limitations on other properties in the vicinity and in the same zoning district; and

SPMC Section 36.340.050(C)— Height Limitations.

The granting of the Variance to exceed the maximum height of a single-family hillside development would not constitute a grant of special privileges that are inconsistent with the limitations on other properties in the vicinity and in the same zoning district, as other existing properties in the hillside neighborhood exceed the limitations due to the implementation of the hillside development standards.

If the project were to meet the height limitations, the proposed garage and home would need to further cut into the hillside and remove the driveway and the guest parking space. In fact, granting the Variance to accommodate the driveway and guest parking is preferable for the preservation and enjoyment of property rights possessed by other property owners in the same vicinity and zoning district.

Thus, the approval of the Variance for height would not constitute a grant of special privileges that are inconsistent with the limitations on other properties in the vicinity and in the same zoning district.

SPMC Section 36.340.050(C)(5)— Downhill Building Walls.

The granting of the Variance for the downhill building wall requirements does not constitute a grant of special privileges inconsistent with the limitations on other properties in the vicinity and in the same zoning district, as other parcels are developed with downhill walls that exceed 15 feet without the required 10 foot increments from the lower level downhill facing wall either due to the year built or issuance of a Variance.

If the project were to comply with the 10-foot stepback requirement for each floor, the proposed house would have to further encroach onto the existing

building height limitations or potentially propose additional Variances for an increase in maximum FAR and siting restrictions against the silhouette of the sky.

As such, the requested Variance to allow the deviation of the downhill building wall standard will not set a precedent for the existing neighborhood.

SPMC Section 36.220.040 – Front Yard Setback.

The granting of this Variance creates the opportunity for the property owner to build a home that minimizes the height and massing impacts to surrounding properties. This property cannot provide those benefits without the Variance based on the specific site characteristics of an extremely steep slope and irregular shape lot. The steep slope along with the required front yard setback naturally forces the massing of the development away from the hillside - the height limitations further restrict the proposed development creating an unnecessary hardship and unreasonable regulation which makes it impractical to require compliance with the development standards. The existing site characteristics and development standards does not permit the reasonable development of the property in such a way that surrounding properties are able to enjoy.

- d. Not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity and zoning district in which the property is located.**

SPMC 36.340.050(C)— Height Limitations.

Conditions of Approval will mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

The Variance for an additional height of 5 feet for the garage will not impact the view of surrounding properties because it is substantially lower than properties above and complies with the ridgeline setback. As such, the project, with the requested Variance for building height, would not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or

injurious to the property or improvements in the vicinity and zoning districts in which the property is located.

SPMC Section 36.340.050 (C)(5)— Downhill Building Walls.

Conditions of Approval will mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

As such, the project, with the requested Variance for downhill building wall requirements, would not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity and zoning districts in which the property is located.

SPMC Section 36.220.040 – Front Yard Setback.

Conditions of Approval will mitigate any potential construction impact during construction. The recommended conditions including, but not limited to, requiring the applicant to submit a construction management plan, advanced notice for any street closures, and prohibiting overnight storage of materials or equipment within the public right-of-way. The temporary construction activities would not unreasonably interfere with the use and enjoyment of the neighboring, existing, or future developments, and will not create adverse pedestrian or traffic hazards. Since the proposed project is located within the Southwest Monterey Hills area, an additional condition was added to ensure that the applicant abides by construction regulations. The conditions of approval for process and procedures of construction have been carefully considered, and the proposed work will be limited to the project site and associated improvement of the public right-of-way on Peterson Avenue.

The Variance for a reduced front yard setback of 6 inches will not impact surrounding properties because the front property line is separated by the street curb by an approximately 7-foot shoulder. As such, the project, with the requested Variance for front yard setback requirements, would not be materially detrimental to the public convenience, health, interest, safety, or welfare of the City, or injurious to the property or improvements in the vicinity

and zoning districts in which the property is located.

- 3. The proposed project would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.**

SPMC 36.340.050(C)— Height Limitations.

The project has been designed to fit the existing contour lines of the terrain as recommended by the SPMC. The subject property is surrounded by existing single-family dwellings with a mix of large, multi-story homes with a variety of architectural styles. The proposed modern architectural style will be compatible with the existing neighborhood.

The requested Variance to permit the garage to exceed the 28-foot height limitation will allow the garage to maintain the required 10 foot front yard setback and provide one off-street guest parking space in compliance with the SPMC. The development would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

SPMC Section 36.340.050 (C)(5)— Downhill Building Walls

The project has been designed to fit the existing contour lines of the terrain as recommended by the SPMC. The subject property is surrounded by other existing single-family dwellings that do not meet the downhill building wall requirements and were built prior to the adoption of the City's Hillside Development Standards. As a result, some of the properties in the vicinity do not meet the downhill building wall requirements

The requested Variance to allow deviation from the downhill building wall standards will be compatible with the surrounding neighborhood. The architectural style of the neighborhood surrounding the project site is mixed with various architectural styles including minimalist architectural designs, same as the proposed. The development would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

SPMC Section 36.220.040 – Front Yard Setback.

The subject property is surrounded by existing single-family dwellings with a mix of large, multi-story homes with a variety of architectural styles. The modern architectural style will be compatible with the existing neighborhood.

By reducing the front yard setback, the project can shift closer into the hillside thus reducing its outward projection and bringing the massing of the development more in line with the existing slope and height regulations. This will also result in a project that visually does not adversely impact surrounding properties. The development

would be compatible with the existing aesthetics, character, and scale of the surrounding neighborhood, and considers impacts on neighboring properties.

SECTION 6: RECORD OF PROCEEDING

The documents and other materials that constitute the record of the proceedings upon which the Planning Commission's decision is based, which include, but are not limited to, the staff reports, as well as all materials that support the staff reports for the proposed project, are located in the Community Development Department of the City of South Pasadena at 1414 Mission Street, South Pasadena, CA 91030. The custodian of these documents is the City Clerk of the City of South Pasadena.

SECTION 7: DETERMINATION

Based upon the findings outlined in Sections 2-5 above and provided during the public hearing, the Planning Commission of the City of South Pasadena hereby approves Project No. 2571-VAR/HDP/DRX/TRP and the applications for a Hillside Development Permit, Design Review Permit, Variance and Tree Removal Permit to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant property located on Peterson Avenue (APN: 5308-031-042), subject to the Conditions of Approval that are attached hereto as "Attachment 1".

SECTION 8: APPEAL

Any interested person may appeal this decision or any portion of this decision to the City Council. Pursuant to the South Pasadena Municipal Code, any such appeal must be filed with the City, in writing, and with appropriate appeal fee, no later than fifteen (15) days, following the date of the Planning Commission's final action.

SECTION 9: CERTIFICATION OF THE RESOLUTION

The Secretary shall certify that the foregoing Resolution was adopted by the Planning Commission of the City of South Pasadena at a duly noticed regular meeting held on the 10th day of December, 2024.

PASSED, APPROVED, AND ADOPTED this 10th day of December, 2024 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Lisa Padilla, Chair

ATTEST:

Mark Gallatin, Secretary to the Planning Commission

EXHIBIT "A"
CONDITIONS OF APPROVAL
PROJECT NO. 2571-VAR/HDP/DRX/TRP
Peterson Avenue (APN: 5308-031-042)

The following approvals are granted as described below and as shown on the development plans submitted to and approved by the Planning Commission on December 10, 2024:

1. Three (3) Variances (VAR) to deviate from development standards to allow the following:
 - a. A Variance to exceed the maximum height of 28 feet and provide 33 feet (South Pasadena Municipal Code Section 36.340.050 Subsection (C), and;
 - b. A Variance from the downhill building walls requirements providing a step-back of less than 10 feet varying from 3 feet and 8 inches to 8 feet and 3 inches (South Pasadena Municipal Code Section 36.340.050 Subsection (C)(5) in conjunction with;
 - c. A Variance from the front yard setback requirement and provide a 6 inch front setback (South Pasadena Municipal Code Section 36.220.040)
2. A Hillside Development Permit (HDP) to construct a new 2,732 square-foot single-family dwelling with an attached 495 square-foot garage at a vacant hillside property.
3. A Design Review Permit (DRX) for the review of the design aspects of the proposed development; and,
4. A Tree Removal Permit (TRP) for the removal of two (2) trees.

Note: As a convenience to the applicant, the development requirements from applicable Departments/Agencies are listed herein. These requirements list what the applicant will be required to comply with in order to receive a Building Permit, a Certificate of Occupancy, or other Department-issued entitlement.

PLANNING DIVISION:

- P1. Approval by the Planning Commission does not constitute a building permit or authorization to begin any construction. An appropriate permit issued by the South Pasadena Building Division must be obtained prior to construction, enlargement, relocation, conversion or demolition of any building or structure on any of the properties involved with the project.
- P2. This Design Review and Hillside Development Permit and Variance and all rights hereunder shall terminate within twelve (12) months of the effective date of the Design Review and Hillside Development Permit unless otherwise conditioned and/or unless action is taken to secure Building Permits and maintain active Building Permits with the Building Division beginning with the submittal of the plans for Plan Check review.
- P3. All other requirements of any law, ordinance, or regulation of the State of California, City of South Pasadena, and any other government entity shall be complied with.
- P4. Compliance with and execution of all conditions listed herein shall be necessary prior to

obtaining any occupancy inspection clearance and/or prior to obtaining any occupancy clearance.

- P5. Any changes to the proposed project shall be submitted for review and approval to the Planning Division.
- P6. The applicant and each successor in interest to the property which is the subject of this project approval, shall defend, indemnify and hold harmless the City of South Pasadena and its agents, officers and employees from any claim, action or proceeding against the City or its agents, officers or employees to attack, set aside, void or annul any approval of the City, City Council or Planning Commission concerning this approval. In the event of any claim or lawsuit, the applicant and/or successor shall submit a deposit in such amount as the City reasonably determines necessary to protect the City from exposure to fees, costs or liability with respect to such claim or lawsuit.
- P7. The construction site and the surrounding area shall be kept free of all loose materials resembling trash and debris in excess of that material used for immediate construction purposes. Such excess may include, but is not limited to: the accumulation of debris, garbage, lumber, scrap metal, concrete, asphalt, piles of earth, salvage materials, abandoned or discarded furniture, appliances or other household fixtures.
- P8. The applicant shall sign the Southwest Monterey Hills Construction Regulations Affidavit prior to submitting a Building Permit Application with the Building Division.
- P9. The hours of construction shall be limited to the following: 8:00 am and 7:00 pm Monday through Friday, 9:00 am and 7:00 pm Saturday, and construction on Sundays limited to 10:00 am to 6:00 pm.
- P10. During construction, the clearing, grading, earth moving, or excavation operations that cause excessive fugitive dust emissions shall be controlled by regular water or other dust preventive measures using the following procedures:
- a. All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice daily with complete coverage, preferable in the late morning and after work is done for the day;
 - b. All material transported on-site or off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust;
 - c. The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust; and
 - d. Visible dust beyond the property line emanating from the project shall be prevented to the maximum extent feasible.
- P11. The applicant shall submit final landscape and irrigation plans showing compliance with state law and the City's Water Efficient Landscape Ordinance (SMPC Section 35.50), for approval by the Community Development Director. The final landscape plans shall provide, but not limited, to the following:
- a. Screening of all above ground equipment from public view.
 - b. Incorporating Tree Removal Permit (TRP) conditions, as recommended by the Department of Public Works.

c. Using California Native plants.

- P12. The applicant shall install all landscaping and irrigation per the approved final landscape plans pursuant to the City's Water Efficient Landscape Ordinance (SPMC Section 35.50). The applicant shall provide documentations as required under SPMC Section 35.50, which shall include:
- a. A Certification of Completion certifying that landscape and irrigation have been installed per the approved final landscape plans and complies with the City Water Efficient Landscape Ordinance.
 - b. A Landscape Irrigation Audit Report from a certified landscape irrigation auditor shall be submitted to the City. The landscape irrigation audit shall not be conducted by the person who designed the landscape plans or installed the landscape irrigation.
- P13. The construction plan shall show that all lighting on the site will be directed downward and shielded to prevent off-lighting on adjacent properties.
- P14. A construction sign with contact information for the contractor shall be clearly posted on-site during construction.
- P15. Any proposed revision to the approved plans shall require review and approval by the Community Development Department prior to construction. The Community Development Department may refer the proposed revision to the Planning Commission or Planning Commission Chair for approval.

BUILDING DIVISION:

- B1. The second sheet of building plans is to list all conditions of approval and to include a copy of the Planning Decision letter. This information shall be incorporated into the plans prior to the first submittal for plan check.
- B2. Plans prepared in compliance with the code in effect shall be submitted to Building Division for review prior to permit issuance.
- B3. Prior to the application of a building or grading permit, a preliminary Geotechnical report that specifically identifies and proposes mitigation measures for any soils or geological problems that may affect site stability or structural integrity shall be approved by the Building Official or his/her designee. The applicant shall submit and pay a separate review fee for the soils report prior submitting building and grading plans for review. Approval letter of the geotechnical report review shall be copied and pasted on the first sheet of building and grading plans.
- B4. School Developmental Fees shall be paid to the School District prior to the issuance of the building permit.
- B5. Fees shall be paid to the County of Los Angeles Sanitation District prior to issuance of the building permit.
- B6. Park Impact Fee to be paid at the time of permit issuance.

- B7. Per Chapter 16A of the City of South Pasadena Municipal Code, Growth fee to be paid at the time of permit issuance.
- B8. A separate address required. An application to assign address and unit numbers shall be filed with Public Works Department prior to plan check submittal.
- B9. In accordance with paragraph 5538(b) of the California Business and Professions Code, plans are to be prepared and stamped by a licensed architect.
- B10. Structural calculations prepared under the direction of an architect, civil engineer or structural engineer shall be provided.
- B11. The lateral-force-resisting system for a new hillside building at and below the base level diaphragm on slopes steeper than one unit vertical in three units horizontal (33.3%) comply with Section 1613.6 of the Los Angeles Building Code.
- B12. The interior doors shall have minimum clearances complying with the Age-in-Place requirements per Section R327.1.3 of the Residential Code. At least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches, measured with the door positioned at an angle of 90 degrees from the closed position; or, in the case of a two- or three-story single family dwelling, on the second or third floor of the dwelling if a bathroom or bedroom is not located on the entry level.
- B13. A geotechnical and soils investigation report is required, the duties of the soils engineer of record, as indicated on the first sheet of the approved plans, shall include the following:
 - a. Observation of cleared areas and benches prepared to receive fill;
 - b. Observation of the removal of all unsuitable soils and other materials;
 - c. The approval of soils to be used as fill material;
 - d. Inspection of compaction and placement of fill;
 - e. The testing of compacted fills; and
 - f. The inspection of review of drainage devices.
- B14. The owner shall retain the soils engineer preparing the Preliminary Soils and/or Geotechnical Investigation accepted by the City for observation of all grading, site preparation, and compaction testing. Observation and testing shall not be performed by other soils and/or geotechnical engineer unless the subsequent soils and/or geotechnical engineer submits and has accepted by the Building Division, a new Preliminary Soils and/or Geotechnical Investigation.
- B15. A grading and drainage plan shall be approved prior to issuance of the building permit. The grading and drainage plan shall indicate how all storm drainage including contributory drainage from adjacent lots is carried to the public way or drainage structure approved to receive storm water.

- B16. Preliminary MS4 Project Application (MS4-1 FORM) completed by Engineer of Record shall be copied on the first sheet of Building Plans and on the first sheet of Grading Plans. The form can be found at the following link <https://www.dropbox.com/scl/fi/xliqonam5j4jro5oklnw4/MS4-Permit-LID-Determination-Form.pdf?rlkey=zr7tu632u2staheexj6vqvsvg&dl=0>
- B17. The property shall be surveyed, and the boundaries marked by a land surveyor licensed by the State of California.
- B18. Foundation inspection will not be made until the excavation has been surveyed and the setbacks determined to be in accordance with the approved plans by a land surveyor licensed by the State of California. THIS NOTE IS TO BE PLACED ON THE FOUNDATION PLAN IN A PROMINENT LOCATION.
- B19. Project shall comply with the CalGreen Residential mandatory requirements.
- B20. All fire sprinkler hangers must be designed, and their location approved by an engineer or an architect. Calculations must be provided indicating that the hangers are designed to carry the tributary weight of the water filled pipe plus a 250-pound point load. A plan indication this information must be stamped by the engineer or the architect and submitted for approval prior to issuance of the building permit.
- B21. Separate plan review and permit is required for fire sprinklers.

PUBLIC WORKS DEPARTMENT:

- PW 1. The applicant shall obtain City approval for any modifications or revisions to the approval of this project. Deviations not identified on the plans may not be approved by the City, potentially resulting for the project to be redesigned/resubmitted.
- PW 2. The applicant shall pay all applicable City fees including Public Works Department plan review fee and permit fees per the current adopted Master Fee Schedule, which can be found on the City's website. This includes all costs incurred by the Public Works Department for the use of professional services or consultants in the review, investigation, and/or plan check of the public improvement plans. The applicant shall provide receipts of all applicable fees paid prior to submitting plans for review.
- PW 3. The applicant shall identify all existing on-site easements. Any conflict with and/or presence of existing easements must be addressed. The applicant shall provide a Title Report, with effective date within the last 60 days, to verify the presence of easements.
- PW 4. Peterson Avenue shall be photographed and video recorded before the start of construction and after construction for assessing the damage caused to the street by construction related activity. The applicant will be responsible to restore the public right-of-way to its original condition and to the satisfaction of the City Engineer. These video recordings and photographs shall be submitted to the City before the project approval and immediately upon completion of the project.

- PW 5. Prior to issuance of a permit, the applicant shall perform a video inspection of the existing sewer lateral for obstructions and remove any obstructions observed. Provide a copy of the inspection video of the cleared pipe for review.
- PW 6. The applicant shall pay all applicable City sewer and/or water capacity charges per SPMC Section 16B.3.
- PW 7. The applicant shall submit the proposed sewage flow calculations to the City. The proposed sewage flow from the property will be used to create a Hydraulic Analysis Report to determine if the sewer outlet has adequate capacity for the proposed sewage flow from the property. The developer shall be responsible for all sewer improvements to provide adequate capacity for the proposed sewage flow. The applicant shall pay for the cost to create a Hydraulic Analysis Report.
- PW 8. The applicant shall provide a copy of a will-serve letter and receipt for the sewer connection fee from the Los Angeles County Sanitation District (LACSD). A copy of the receipt for any fees to be paid must be submitted before permit issuance.
- PW 9. The applicant shall contact the City of South Pasadena Water Operations Manager, Victor Magana, VMagana@SouthPasadenaCA.gov for the fire flow test. The applicant shall submit water demand calculations to the City for potable water and fire (if applicable). The calculations will be used to verify the adequacy of the existing water/determine the size of the meter connection for the proposed structure and Fire Department approved fire sprinkler system (if applicable). The applicant shall coordinate with the Water Operations Manager the size, location and the associated fee for the installation of a new water meter connection.
- PW 10. The applicant shall provide clearance letter from utility companies for any proposed relocation of utility lines that encroach on the properties prior to obtaining permits for the project.
- PW 11. Separate improvement plans for underground utilities (i.e. water, sewer, electrical, telecommunications, etc.) to be placed in the public right-of-way or easement that will be owned and maintained by other entities shall be reviewed by the City prior to Utility Agency approval. The City shall have a place on the title sheet to accept the plans with a statement: "The City's acceptance is limited to the placement of utilities relative to public infrastructure clearances, uses, and future plans within the right-of-way.
- PW 12. Separate street improvement plans for all asphalt, concrete or other improvements within the public right-of-way shall be submitted and approved by the City. All proposed improvements shall conform to the Standards Plans and Standard Specifications for Public Works Construction and be prepared by a CA licensed civil engineer.
- PW 13. The applicant shall bring the existing parkway on Peterson Avenue up to current standards per SPMC Section 31.48. The applicant shall submit a parkway landscape plan for review and the landscape design shall conform to the Model Water Efficient Landscape Ordinance (MWELo) as stipulated in SPMC Chapter 35, Article III.

- PW 14. The applicant shall provide a detailed drainage and grading plan signed and stamped by a CA licensed civil engineer for improvements within the public right-of-way.
- PW 15. The applicant shall provide an erosion control plan for improvements within the public right-of-way, showing dust control techniques to be implemented during project construction which shall include, but not be limited to, use of appropriate BMPs, plans for daily watering of the construction site, limitations on construction hours, and adherence to standard construction practices such as watering of inactive and perimeter areas.
- PW 16. If applicable, the applicant shall provide a copy of the Notice of Intent (NOI), a Waste Discharge Identification Number (WDID), and a Storm Water Pollution Prevention Plan (SWPPP) developed by a certified Qualified SWPPP Developer (QSD) per SPMC Section 23.12(b). Provide a copy of the approved plan from the Building & Safety Department. The applicant shall submit a Stormwater Pollution Prevention Plan (SWPPP) and file a Notice of Intent with the State Water Quality Control Board. A Waste Discharge Identification Number (WDID#) must be obtained prior to any construction work onsite.
- PW 17. Provide an arborist report and clear site plan of what trees are being removed. Submit a design narrative with the arborist report explaining why certain trees are being removed and what alternative options were considered to preserve the existing trees.
- PW 18. Provide a preconstruction survey for nesting birds performed by a Designated Biologist no more than 30 days prior to the start of project activities. All native migratory non-game birds, including raptors, and their active nests are protected from “take” by Sections 3503, 3503.5, and 3513 of the California Fish and Game Code and the Migratory Bird Treaty Act (MBTA). If active nests are found, the applicant shall provide a Nesting Bird Management Plan (NBMP) prepared by the Designated Biologist.
- PW 19. Show all existing and proposed trees, including size and species, and indicate their disposition. If any trees are to be removed, apply for a tree removal permit with the Public Works Department per City Ordinance No. 2328 amending Section 34.10 of SPMC. See SPMC Section 34.12 for the required information and process for the trees that are proposed to be removed and/or impacted during construction. Replacement trees shall be planted per SPMC Section 34.12-5. If existing trees are to remain on site, the applicant shall note on the plans methods of protecting existing trees during construction.
- PW 20. The applicant shall provide a Construction Management Plan to the Public Works Department for review and approval prior to issuance of permits. The Construction Management Plan shall include, but not be limited to, types of proposed construction activities, an on-site staging plan, haul route, construction schedule for major activities (i.e. demolition, grading, material delivery, etc.), and shall indicate a contractor parking location. All vehicles including workers’ vehicles shall not be parked near the construction site. Provide a shuttle service if necessary.
- PW 21. The applicant shall provide a traffic sight distance study prepared by a CA licensed civil engineer for vehicular ingress and egress from the proposed driveway entrance. The applicant shall be responsible for implementing safety measures based on the sight distance study.

- PW 22. The applicant shall apply for a change of address permit for the proposed development.
- PW 23. The applicant shall provide a covenant for unconditional and indefinite maintenance of any private improvements within the public right-of-way. This covenant shall be reviewed and approved by the Public Works Department and the City Attorney and a fully executed covenant, in recordable form, shall be provided to the City prior to obtaining a permit.
- PW 24. The applicant shall include the following information on the plans:
- The 24-hour emergency contact number for the applicant and contact information of all utility agencies involved/impacted/potentially impacted by this project on the title sheet of the plans.
 - The location, grade, and dimensions of all existing conditions and proposed improvements within the public right-of-way, including, but not limited to, curb and gutter, sidewalk, driveway, traffic striping, signage, trees, utilities, pavement and other features.
 - The location of all existing utilities on adjacent street(s), as well as the location and size of all existing or proposed utilities serving the property. Show all utility points of connection (POC).
 - Show the location and area of trench sections for any proposed sewer and water line connections within the public right-of-way. Provide a trench restoration detail per City standards if any new utility connections are proposed.
 - A trench restoration detail per City standards for proposed utility connections.
 - All utility poles adjacent to the properties and note to "PROTECT-IN-PLACE".
- PW 25. The applicant shall add the following notes on the plans:
- The applicant shall bring the existing parkway on Peterson Avenue up to current standards per SPMC Section 31.48.
 - The applicant shall replace all broken, damaged, or out-of-grade curb and gutter, sidewalk and driveway approaches, and repaint all curb markings along the perimeter of the property to the satisfaction of the City Engineer regardless of when or how such condition originally occurred per SPMC Section 31.54. All improvements within the public right-of-way shall conform to the current Standard Specifications for Public Works Construction (SSPWC) and Standard Plans for Public Works Construction (SPPWC).
 - i. The applicant shall install new 4" thick sidewalk with maximum cross slope of 2% conforming to the current Standard Plans for Public Works Construction (SPPWC) Std Plan 112-2. Concrete shall be class 520-C-2500 and shall conform to the current Standard Specifications for Public Works Construction (SSPWC).
 - ii. The applicant shall remove and replace the existing driveway approach with/install a new driveway approach conforming to the current Standard Plans for Public Works Construction (SPPWC) Std Plan 110-2, Type B. Concrete shall be class 520-C-2500 and shall conform to the current Standard Specifications for Public Works Construction (SSPWC). The applicant shall verify the width with the Community Development Department and the actual limits of concrete removal with the Public Works Department.

- iii. The applicant shall remove and replace/install new curb and gutter conforming to the current Standard Plans for Public Works Construction (SPPWC) Std Plan 120-3, Type A2-6 and A2-8. Concrete shall be class 520-C-2500 and shall conform to the current Standard Specifications for Public Works Construction (SSPWC). The applicant shall verify the actual limits of concrete removal with the Public Works Department.
- The applicant shall grind and repave the existing asphalt street fronting the property to a minimum depth of 1.5". The applicant shall verify the actual limits of paving with the Public Works Department depending on the condition of the existing pavement adjacent to the property Asphalt shall be C2 PG 64-10 and shall conform to the current Standard Specifications for Public Works Construction (SSPWC). Any pre-existing pavement markings and traffic striping shall be restored in accordance to the latest editions of the California Manual on Uniform Traffic Control Devices (CA MUTCD), Caltrans standards, and to the satisfaction of the City Engineer. All manholes and/or utility covers shall be adjusted within the limits of paving and to grade after paving has been completed.
 - The proposed building structure shall not be constructed within critical root zone area of any trees. For native and protected species, use the tree trunk's diameter measured at breast height (DBH) (X5) as the minimum critical root mass. For non-native and protected species, use the tree's DBH (X3) as the minimum critical root mass.
 - Any construction activity that may require roadway or lane closures where two-way traffic cannot be accommodated will require a traffic control plan prepared by a CA licensed civil or traffic engineer or a C-31 licensed contractor to be submitted for review. Safe pedestrian access, including ADA and bicycle, must be maintained at all times. All street closures will require an encroachment permit from the Public Works Department. Street closures are only allowed between 8:30 am-2 pm for Monterey Hills. Whenever there will be a street closure exceeding thirty minutes in duration, the applicant shall provide written notification about the street closure to all impacted businesses and residents at least 48 hours in advance of the street closure.
 - The applicant shall post temporary "No Parking " signs along the entire length of the property prior to the start of any construction. The temporary "No Parking" signs shall be covered at the end of each working day and uncovered at the start of the following working day prior to any construction activity.
 - The applicant shall place a minimum of two Portable Changeable Message Signs (PCMS) are required to be placed in advance of the project site.
 - The applicant shall be responsible for posting a project sign at the entrance to the project site displaying the City's construction hours per SPMC Section 19A.13. The project sign shall be 24" x 36" and made of durable weather-resistant material. The applicant shall provide a 24-hour emergency contact number for the designated contact who will be responsible for maintaining the public right-of-way during the all stages of construction until the project is complete.
 - No overnight storage of materials or equipment within the public right-of-way shall be permitted.

- Temporary bins (low boy), if used, shall be “roll off” style to be provided by Athens Services. Athens Services has an exclusive agreement with the City for the provision of trash removal services: only Athens dumpsters can be used. Any dumpsters placed on the roadway shall require a protective barrier underneath (such as plywood) to protect the pavement. The applicant shall obtain dumpster permit from the Public Works Department.
- The applicant shall obtain oversize/overload permits from the Public Works Department for any oversized equipment used during the stages of construction, including, but not limited to: demolition; clearing and grubbing; grading; material disposal; drilling for piles and/or caissons; trenching for footings; excavation for retaining walls; core sampling of soils; etc.
- The applicant shall obtain an encroachment permit from the Public Works Department for any work proposed within the public right-of-way.

FIRE DEPARTMENT:

- FD1. Required Code References: Current South Pasadena Municipal Code (SPMC); 2022 California Fire Code (CFC); 2022 California Building Code and NFPA standards.
- FD2. The applicant shall provide the Code Editions referenced for current project at time of submittal.
- FD3. (CFC 903.1) General. Automatic Sprinkler systems shall comply with this section.
- FD4. (CFC 903.2) Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Section 903.2.1 through 903.2.12.
- FD5. (CFC 903.2.8) Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.
- FD6. Fire Alarm is required. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with sections 907.1 through 902.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.
- FD7. Fire Sprinklers are required. Submit plans to City for approval.
- FD8. Fire sprinklers shall not be able to shut off unless the domestic line to the property is shut off. There shall be no other means to turn off water to the sprinkler system. Ensure this sprinkler system is installed by an approved C-16 licensed contractor. Provide a set of drawing of the sprinkler system to the Fire Department prior to beginning of work.
- FD9. (CFC 903.3.5) Water Supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with Health and Safety Code Section 13114.7
- FD10. (CFC 507.1) Required water supply. An approved water supply capable of supplying the required

fire flow for fire protection shall be provide to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

- FD11. (CFC 507.3) Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method or Appendix B.
- FD12. The applicant shall provide a Water Flow Test from the City of South Pasadena Water Department along with fire sprinkler plans at time of submittal
- FD13. Address Identification. New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Where required by the fire code official, address numbers shall be provided in additional approved locations to facilitate emergency response. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall be a minimum of 4 inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm). Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address numbers shall be maintained.
- FD14. Notwithstanding anything else in this code, or any other code incorporated, herein, by reference any new roof shall be of Class "A" roof material.
- FD15. Groups R-2, R-2.1, R-3, R-3.1, and R-4. Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-2.1, R-3, R-3.1 and R-4 regardless of occupant load at all of the following locations:
- a. On the Ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms;
 - b. In each room used for sleeping purposes.
 - c. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
 - d. In a Group R-3.1 occupancy, in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens.
- FD16. Interconnection. Where more than one smoke alarm is requiring to be install within an individual dwelling unit or sleeping unit in Group R-1, R-2, R-3, R-3.1, or R-4, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed (CFC 907.2.11.3).
- FD17. Where required for new construction, an approved carbon monoxide alarm shall be installed in dwelling units and in sleeping units within which fuel-burning appliances are installed; and in dwelling units that have attached garages.
- FD18. Power Supply. For new construction, required carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery back-up. Alarm wiring shall be directly connected to the

permanent building wiring without a disconnecting switch other than as required for overcurrent protection (CBC 420.4.1.1).

- FD19. Interconnection. Where more than one carbon monoxide alarm is required to be installed within the dwelling unit or within a sleeping unit, the alarm shall be interconnected in a manner that activation of one alarm shall activate all of the alarms in the individual unit.
- FD20. Exception. Interconnection is not required in existing dwelling units or within sleeping units where repairs do not result in the removal of wall and ceiling finishes, there is no access by means of attic, basement or crawl space, and no previous method for interconnection existed.
- FD21. (CFC 903.2.18) Group U private garages and carports accessory to Group R-3 occupancies. Carports with habitable space above and attached garages, accessory to Group R-3 occupancies, shall be protected by residential fire sprinklers in accordance with this section. Residential fire sprinklers shall be connected to, and installed in accordance with, and automatic residential fire sprinkler system that complies with Section R313 of the California Residential Code or with NFPA 13D. Fire sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a minimum density of 0.05 /ft² (2.04 mm/min) over the area of the garage and/or carport, but not to exceed two sprinklers for hydraulic calculation purposes. Garage doors shall not be considered obstructions with respect to sprinkler placement.
- FD22. Chapter 49 Requirements Wildland Urban Interface Fire. Section 4901 General.
- FD23. 4901.3 General Scope. The mitigation of conditions where a wildfire burning in vegetative fuels may readily transmit fire to building and threaten to destroy life, overwhelm fire suppression capabilities, or result in large property losses shall comply with this Chapter.
- FD24. This residence is in the City of South Pasadena High Risk Fire Area. "High risk fire area" is defined as those properties located south of Monterey Road, extending top the city border, and west of Meridian Avenue, extending to the city border.
- FD25. Buildings under construction shall meet the condition of "Chapter 33 Fire Safety During Construction and Demolition" of the 2022 California Fire Code. Structures under construction, alteration or demolition, shall be provide with no less than one 2A10BC fire extinguisher as follows:
- 1) At each stairway on all floor levels where combustibles materials have accumulated.
 - 2) In every storage and construction shed.
 - 3) Where special hazards exist included, but not limited to, storage and use of combustible and flammable liquids.
- FD26. A set of plans must remain on the job site at all times. Appointment for inspections can be made two days in advance of required inspection by calling the Fire Department at (626) 403-7302.
- FD27. The applicant shall contact the water department for new meter or meter upgrade by contacting Public Works at (626) 403-7240.
- FD28. The City of South Pasadena Fire Department reserves the right to change or otherwise modify requirements based upon receiving additional project information or other unforeseen circumstances.

ATTACHMENT 2

Architectural Drawings

WANG'S RESIDENCE

Peterson Avenue South Pasadena, APN 5308-031-042

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:
WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

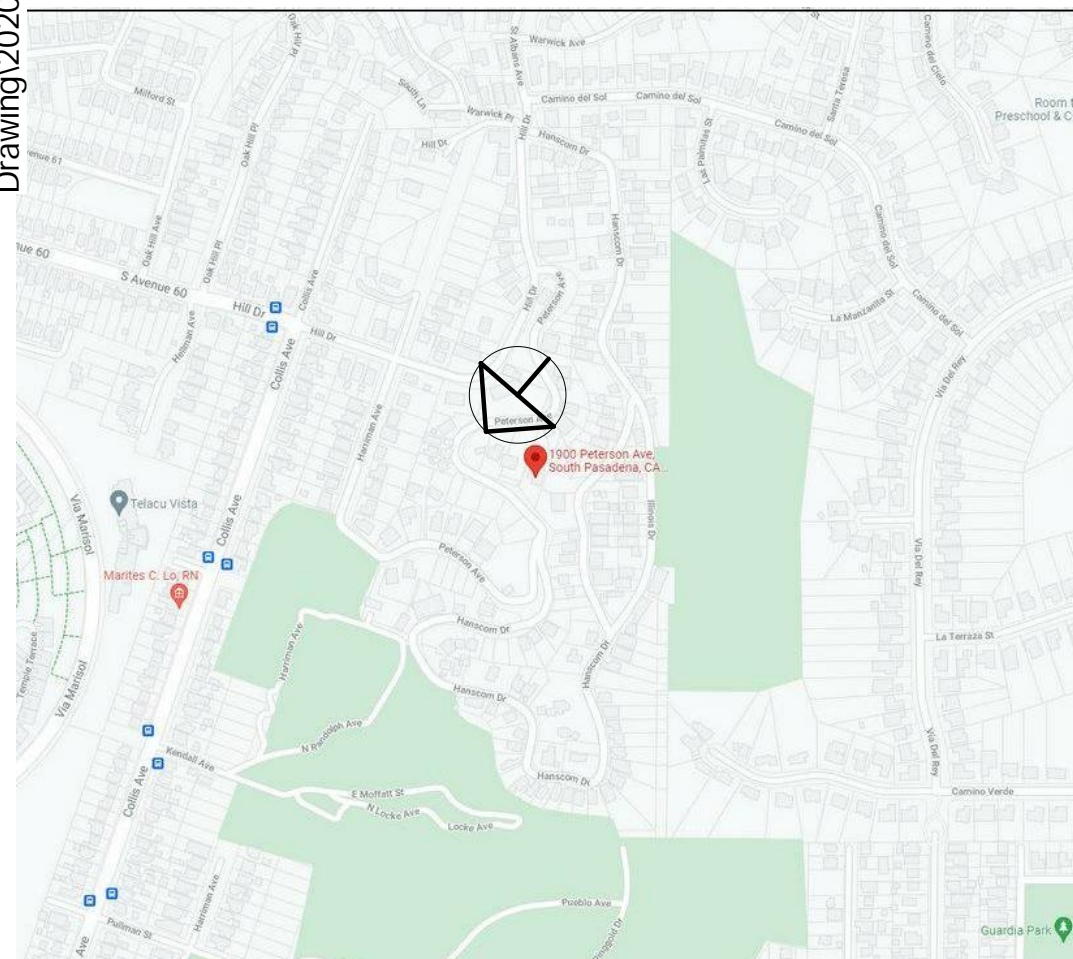
Owner:
Ken Wang
818.679.0622

BUILDING DATA

PROJECT: NEW CUSTOM HOUSE
APN 5308-031-042 PETERSON AVE. SOUTH PASADENA
ASSESSOR PARCEL NO.: 5308-031-042
LOT SIZE: 8,755 SQ. F.T.
ZONING: RS
OCCUPANCY GROUP: R-3/ U
TYPE OF CONSTRUCTION: V-B
BUILDING HEIGHT / STORY: SEE SHEET A301 & A302 FOR HEIGHT LIMITS
FLOOR AREA:
STREET LEVEL AREA: 723 SQ. FT.
MIDDLE LEVEL AREA: 1,026 SQ. FT.
LOWER LEVEL AREA: 983 SQ. FT.
TOTAL LIVING FLOOR AREA: = 2,732 SQ. FT.
2- CAR GARAGE/STORAGE: 495 SQ. FT.
DECK AREA:
UPPER LEVEL ROOF DECK: 328 SQ. FT.
MIDDLE LEVEL ROOF DECK: 835 SQ. FT.
LOWER LEVEL WOOD DECK: 156 SQ. FT.
TOTAL DECK AREA: 1,319 SQ. FT.
FLOOR AREA RATIO:
2,732 SQ. FT. / 8,755 SQ. FT.
= 31 % < 35 %
LOT COVERAGE: (SEE BLD'G. FOOTPRINT BREAKDOWN ON SHT. A-100)
2,438 SQ. FT. / 8,755 SQ. FT.
= 28 % < 40 %
BUILDING SETBACK:
FRONTYARD SETBACK: REQUIRED: 10'. PROVIDED: 6"
SIDEYARD SETBACK: REQUIRED: 7'. PROVIDED: 7'-6".
REARYARD SETBACK: REQUIRED: 20'. PROVIDED: 78'-6".
DRIVEWAY SLOPE: 5% MAX. SLOPE



VICINITY MAP



SHEET INDEX

A-001	Title Sheet	A-601	Schedules
A-100	Site Plan	A-700	Material Board
A-100a	Isonometric & Perspective view	A-701	Material Specification
A-100b	Survey & Tree Removal Plan	A-702	Material Specification
A-100c	Retaining Wall & Conceptual Grading Plan	A-703	Material Specification
A-101	Upper Level Plan		
A-102	Middle Level Plan		
A-103	Lower Level Plan		
A-104	Roof Plan		
A-201	West & South Elevation		
A-202	East & North Elevation		
A-301	Sections		
A-302	Section		
A-303	Section		

Title Sheet

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A001

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:
WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:
Ken Wang
818.679.0622

LOT WIDTH CALCULATION:

AVERAGE WIDTH OF LOT: $8,755 \text{ sq. ft.} / 124'-6" = 70.48'$
10% OF AVERAGE WIDTH: $10\% (70.48) = 7.04'$
SIDE YARD REQUIRED WIDTH: $7.04'$ MAX.
SIDE YARD PROVIDED WIDTH: $7.50'$

FRONT YARD LANDSCAPE CALCULATION:

FRONT YARD SETBACK AREA: 1,449 sq. ft.
NEW DRIVEWAY / WALKWAY AREA: 449 sq. ft.
MAXIMUM HARDSCAPE AREA ALLOWED: 45%
 $449 \text{ sq. ft.} / 1,449 \text{ sq. ft.} = 31\% < 45\%$

BUILDING FOOTPRINT AT EACH LEVEL :

LEVEL "A" = 1,312 sq. ft.
LEVEL "B" = 357 sq. ft.
LEVEL "C" = 769 sq. ft.
TOTAL AREA = 2,438 sq. ft.

Site Plan

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A100



Date: 12/5/2024 11:23:39 AM
 File: C:\The Architect Group\Projects\2021\12103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2020\Front Yard Variance_Plan V14.rvt
 ENGINEER Kenneth

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:
WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:
Ken Wang
818.679.0622



③ ISO VIEW SOUTH EAST

① EAST PERSPECTIVE



④ ISO VIEW NORTH WEST

② ISO VIEW SOUTH WEST

File: C:\The Architect Group\Projects\2021\2103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2020\Front Yard Variance_Plan V14.rvt

Date: 12/5/2024 11:23:48 AM

ISOs and Views

Scale:	1/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

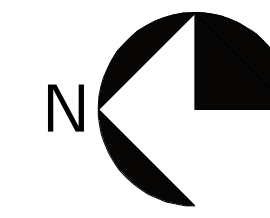
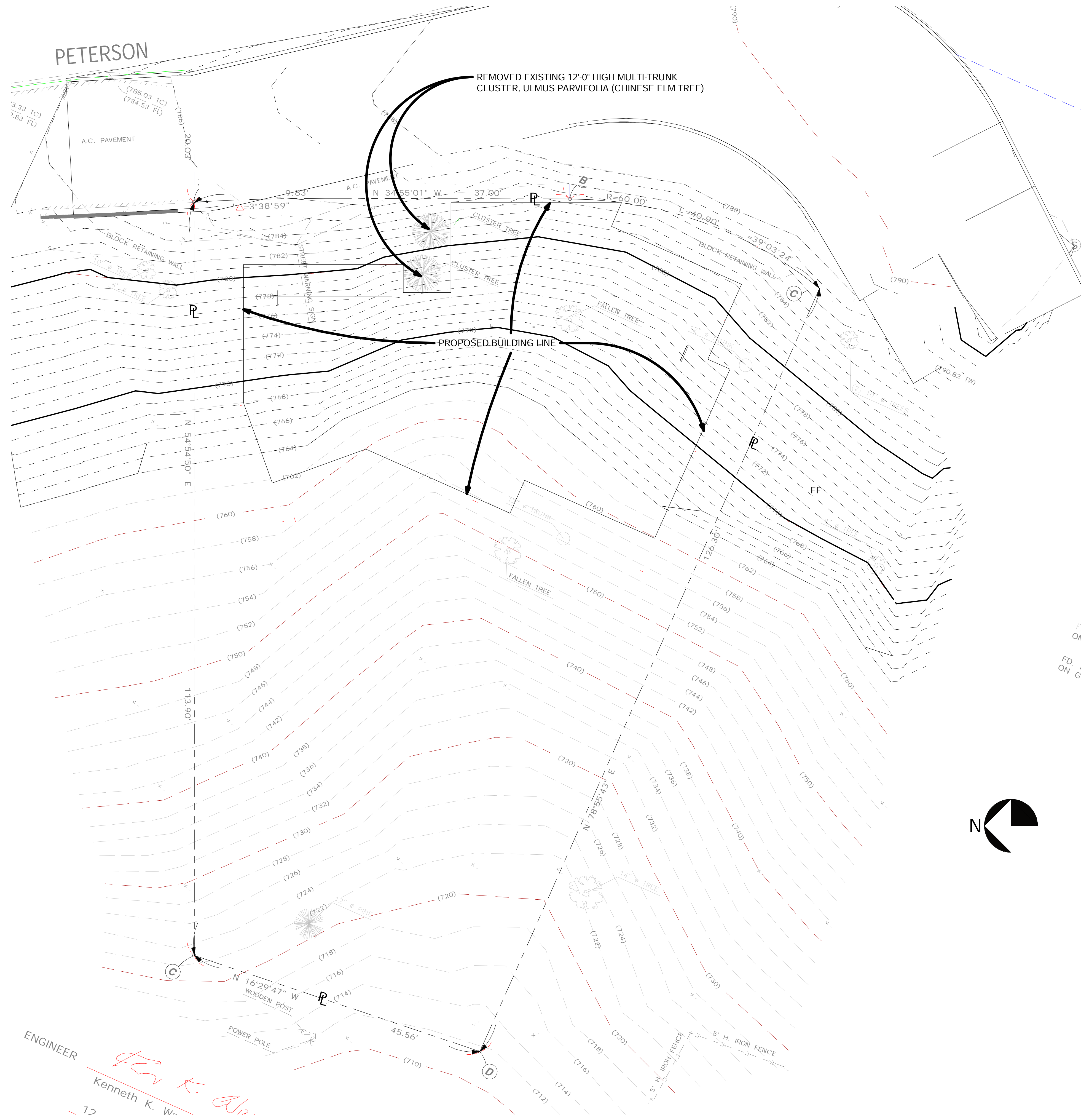
A100a

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:
WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:
Ken Wang
818.679.0622



ENGINEER
Kenneth K. Wang
Kenneth K. Wang

Survey & Tree Removal Plan

Scale:	1/8" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A100b

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project: **WANG'S RESIDENCE**
APN 5308-31-042
Peterson Avenue, South Pasadena

Owner: **Ken Wang**
818.679.0622

LEGEND

- (744) EXISTING CONTOUR TO REMAIN
- - - (744) EXIST'G CONTOUR TO BE REVISED
- 744 NEW CONTOUR
- — — PROPERTY LINE
- - - BUILDING LINE
- DRAINAGE DIRECTION
- ▬ FOUNDATION WALLS
- ▬ NON-RETAINING BUILDING EXTERIOR WALLS
- NEW CAISSON
- (E) EXISTING ELEVATION
- F.F. FINISH FLOOR
- F.S. FINISH SURFACE
- T.O.W. TOP OF WALL

Retaining Wall & Conceptual Grading Plan

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A100c

LEGEND:

AREAS TO BE REMEDIATED TO THE ORIGINAL SLOPE AND VEGETATION (7,170 SQ. FT.)

NATURAL STATE DESCRIPTION:

Sec 36.350.050 (F).Natural state. A minimum of 25 percent of the lot area plus the percentage figure of the average slope must be remediated to its natural state in terms of slope and vegetation

AVERAGE SLOPE CALCULATION

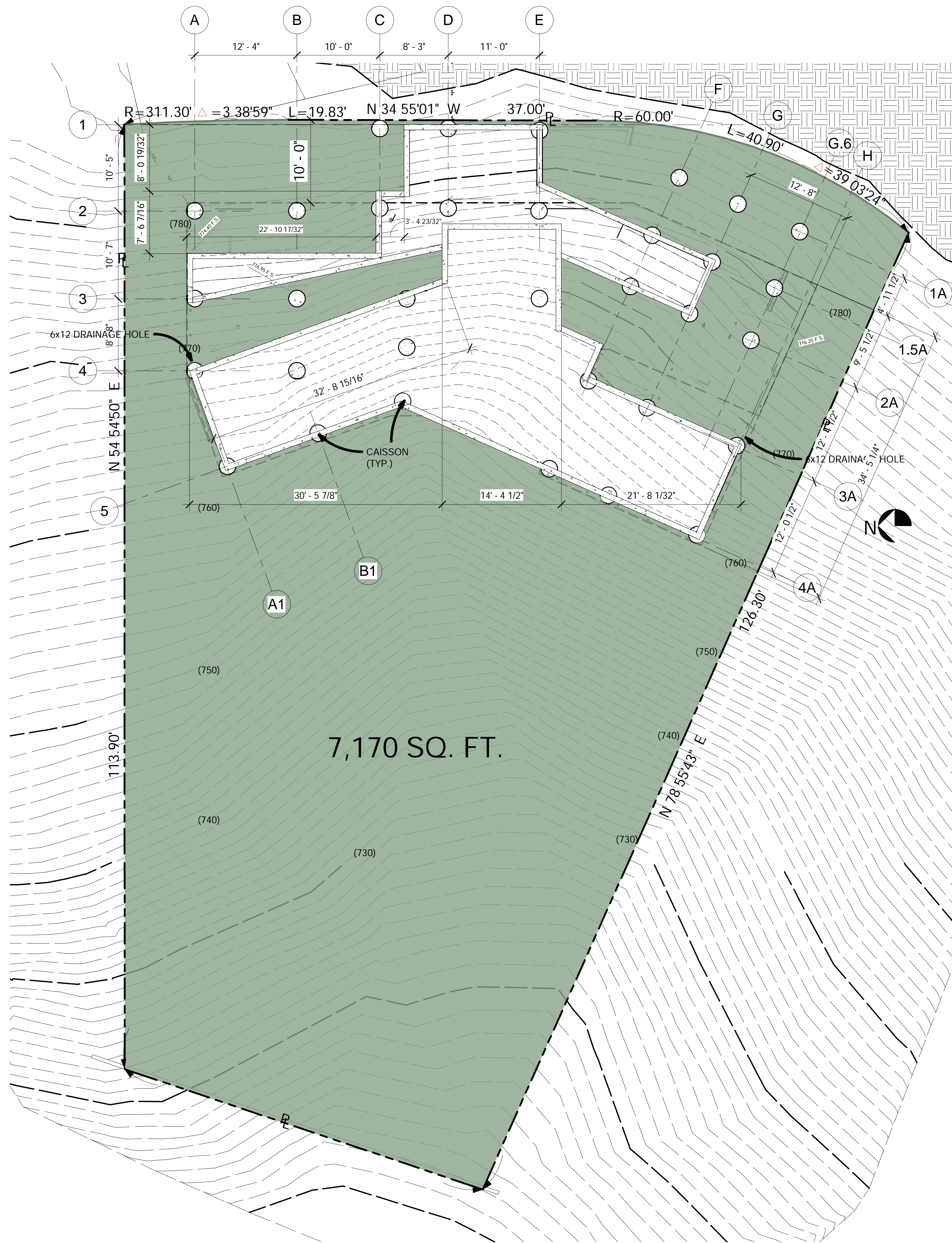
AVERAGE SLOPE FORMULAS $S = \frac{100 (I \times L)}{A}$

AVERAGE SLOPE % $S = \frac{100 (10' \times 477')}{8,755 \text{ SQ. FT.}} = 54.48$

$25\% + 54.48\% = 79.48\%$

PERCENTAGE PROVIDED:

$7,170 \text{ sq. ft.} / 8,755 \text{ sq. ft.} = 81.89\% > 79.48\%$



Date: 12/5/2024 11:23:49 AM
 File: C:\The Architect Group\Projects\2021\12103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2020\Front Yard Variance_Plan V14.rvt

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

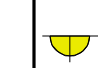
Owner:

Ken Wang
818.679.0622


EXTERIOR WALL LIGHT LEGEND

 EXTERIOR WALL LIGHT, TWILIGHT WS-W5516 BY MODERN FORMS, COLOR: BLACK



 EXTERIOR WALL LIGHT, MAGLEV WS-W24110 BY MODERN FORMS, COLOR: WHITE



 EXTERIOR CEILING LIGHT, 8" TALL LED OUTDOOR LIGHT BY WESTINGHOUSE, COLOR: BLACK



Street Level Floor Plan

Scale: 1/4" = 1'-0"

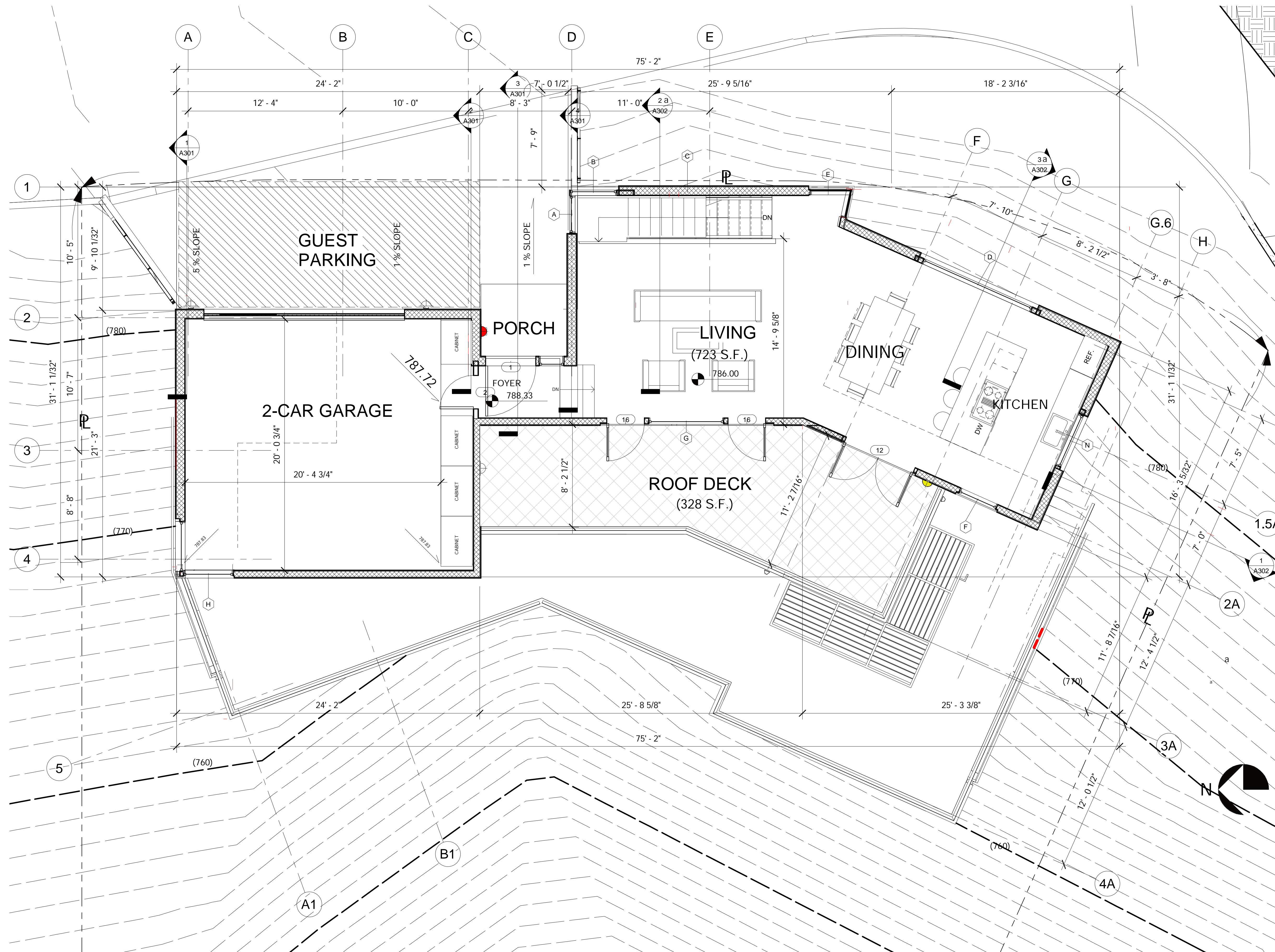
Drawn: Author

Checked: Checker

Date: November 22, 2024

Job No. 1006

A101



Date: 12/5/2024 11:23:50 AM File: C:\The Architect Group\Projects\2021\103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2020\Front Yard Variance_Plan V14.rvt

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena


Owner:

Ken Wang
818.679.0622


EXTERIOR WALL LIGHT LEGEND

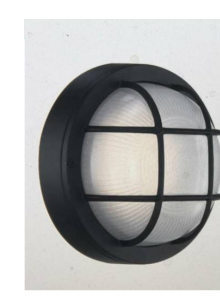
 EXTERIOR WALL LIGHT, TWILIGHT WS-W5516 BY MODERN FORMS, COLOR: BLACK



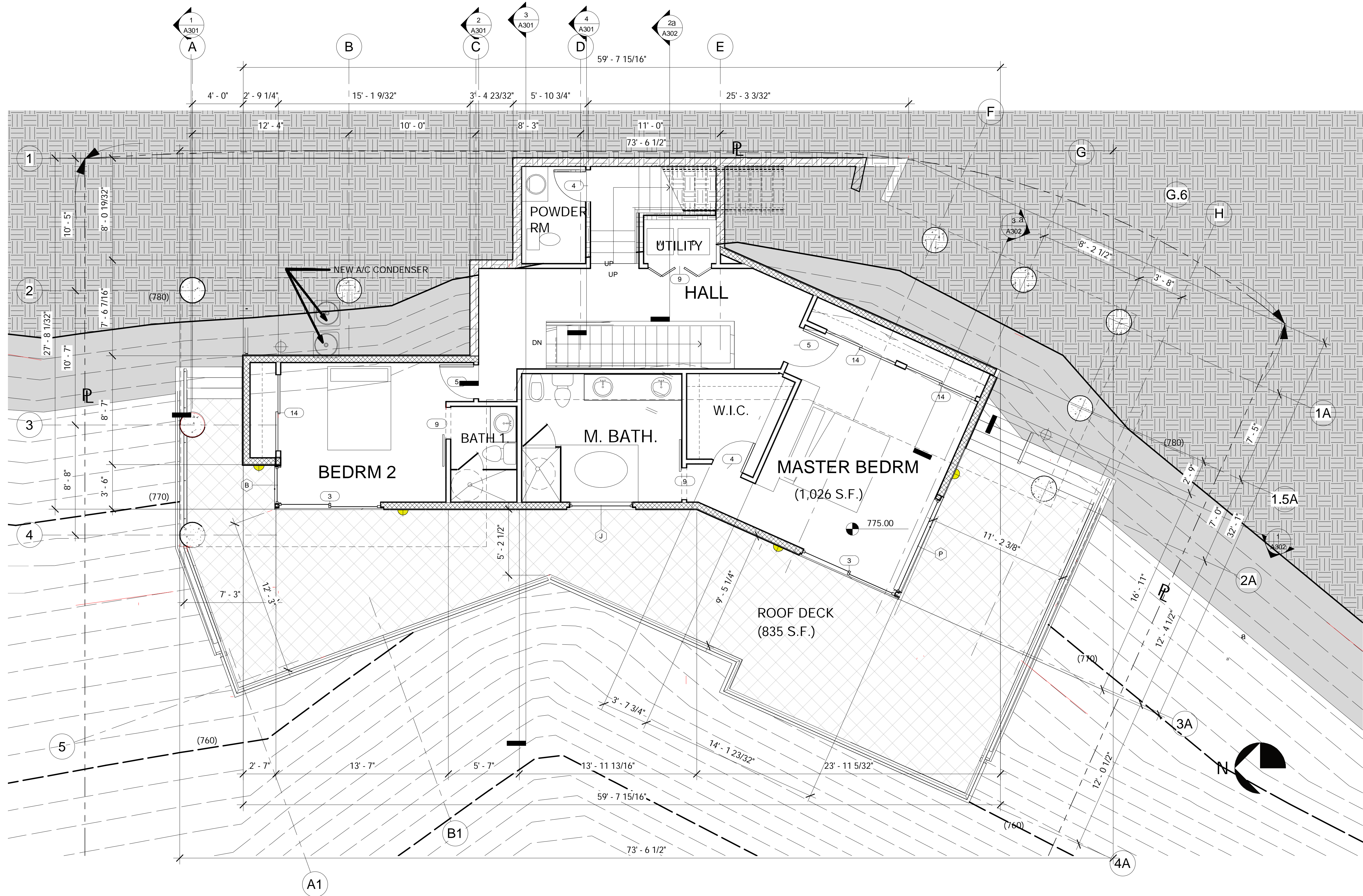
 EXTERIOR WALL LIGHT, MAGLEV WS-W24110 BY MODERN FORMS, COLOR: WHITE



 EXTERIOR CEILING LIGHT, 8" TALL LED OUTDOOR LIGHT BY WESTINGHOUSE, COLOR: BLACK



Date: 12/5/2024 11:23:51 AM File: C:\The Architect Group\Projects\2021\103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2020\Front Yard Variance_Plan V14.rvt



Middle Level Floor Plan

Scale:	1/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A102

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622

EXTERIOR WALL LIGHT LEGEND

EXTERIOR WALL LIGHT, TWILIGHT WS-W5516 BY MODERN FORMS, COLOR: BLACK



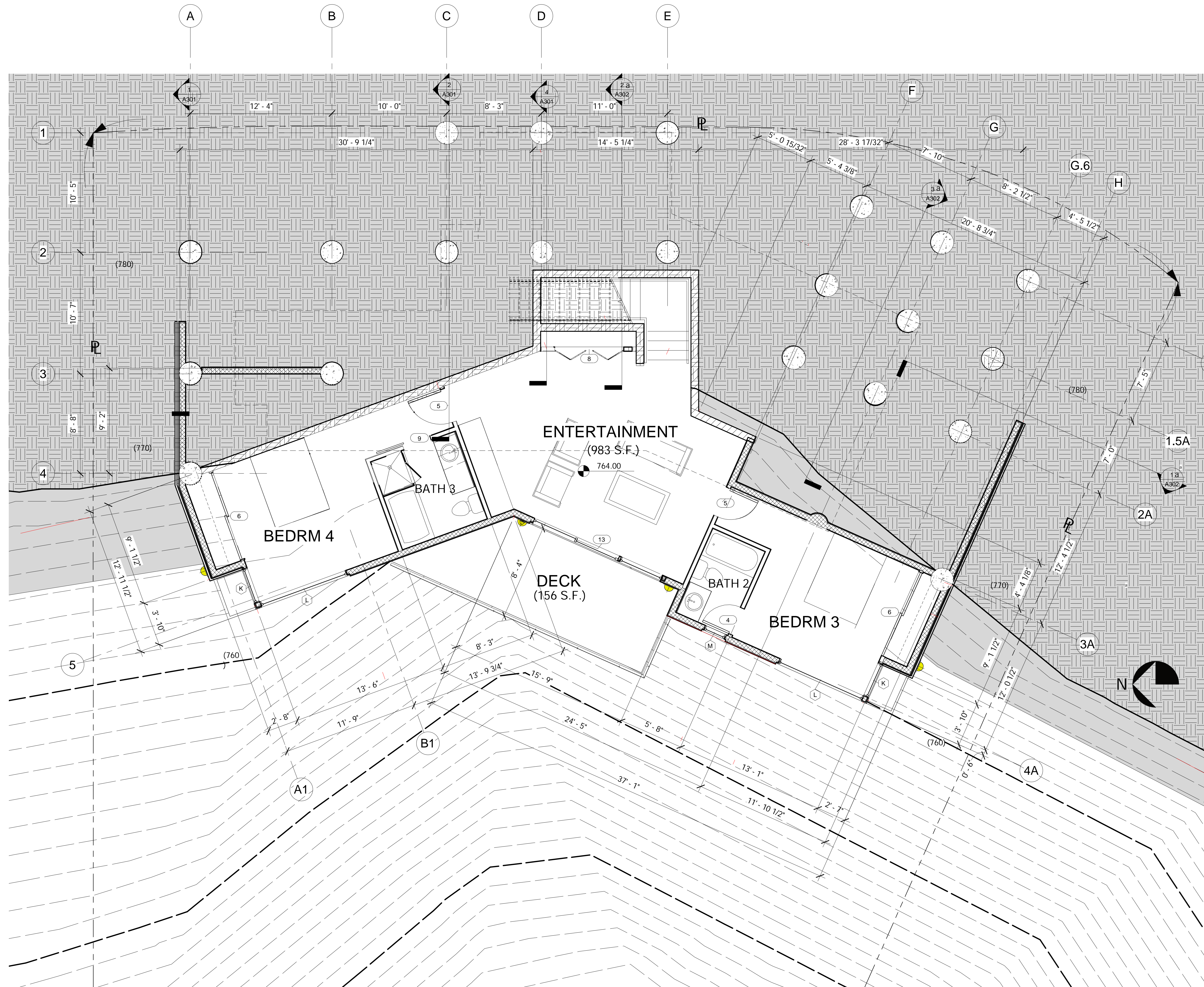
EXTERIOR WALL LIGHT, MAGLEV WS-W24110 BY MODERN FORMS, COLOR: WHITE



EXTERIOR CEILING LIGHT, 8" TALL LED OUTDOOR LIGHT BY WESTINGHOUSE, COLOR: BLACK



Date: 12/5/2024 11:23:52 AM
File: C:\The Architect Group\Projects\2021\12103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2020\Front Yard Variance_Plan V14.rvt



Lower Level Floor Plan

Scale:	1/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A103

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

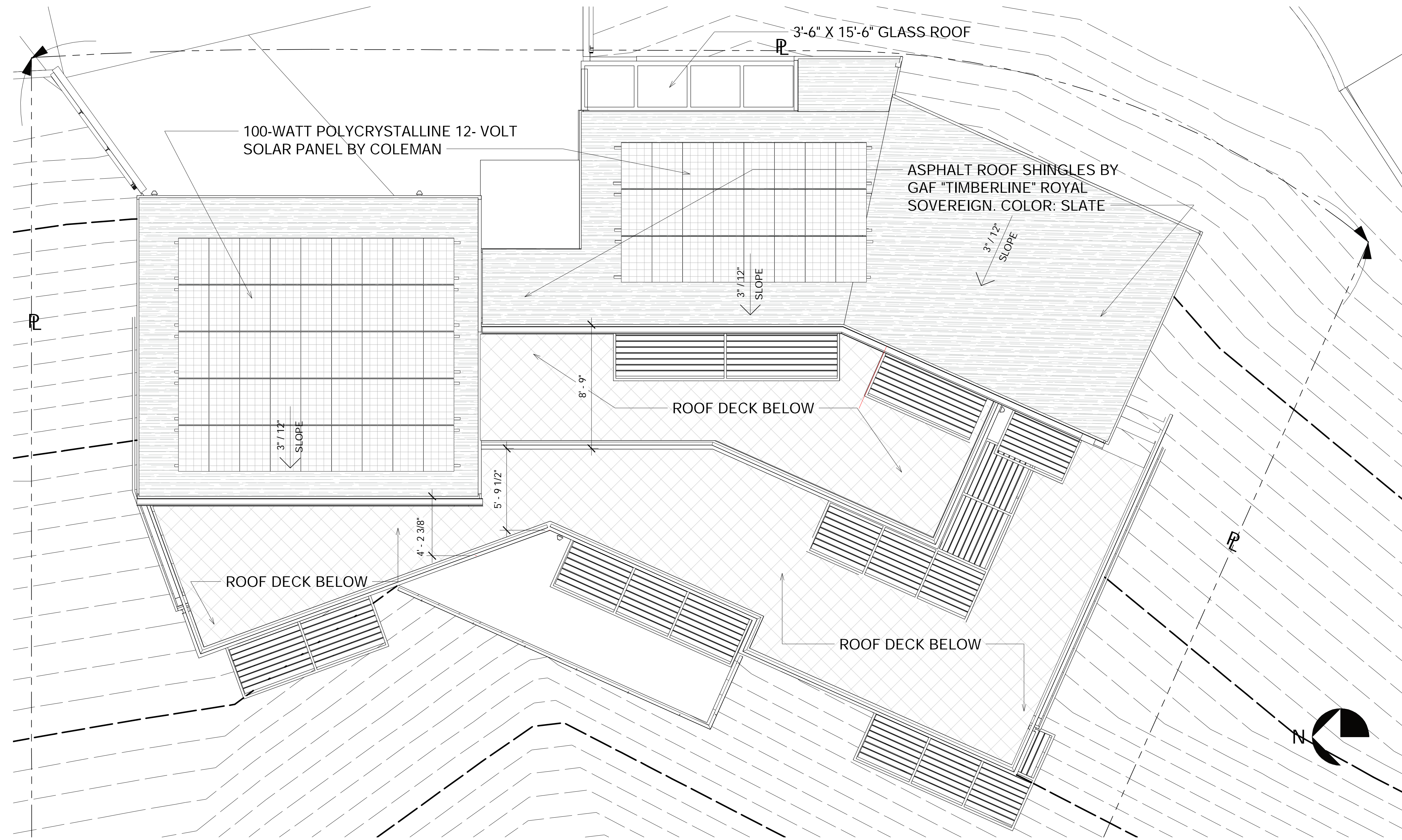
Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622



Roof Plan

Scale:	1/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A104

Revisions	By	Revisions	By

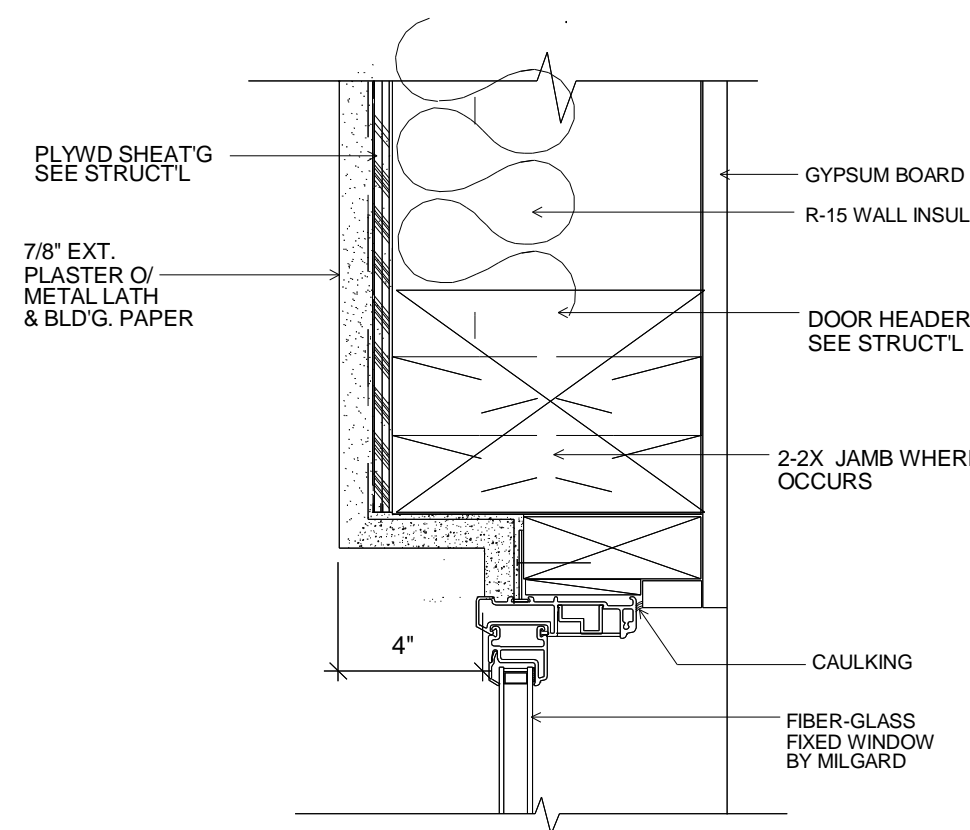
COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:
WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

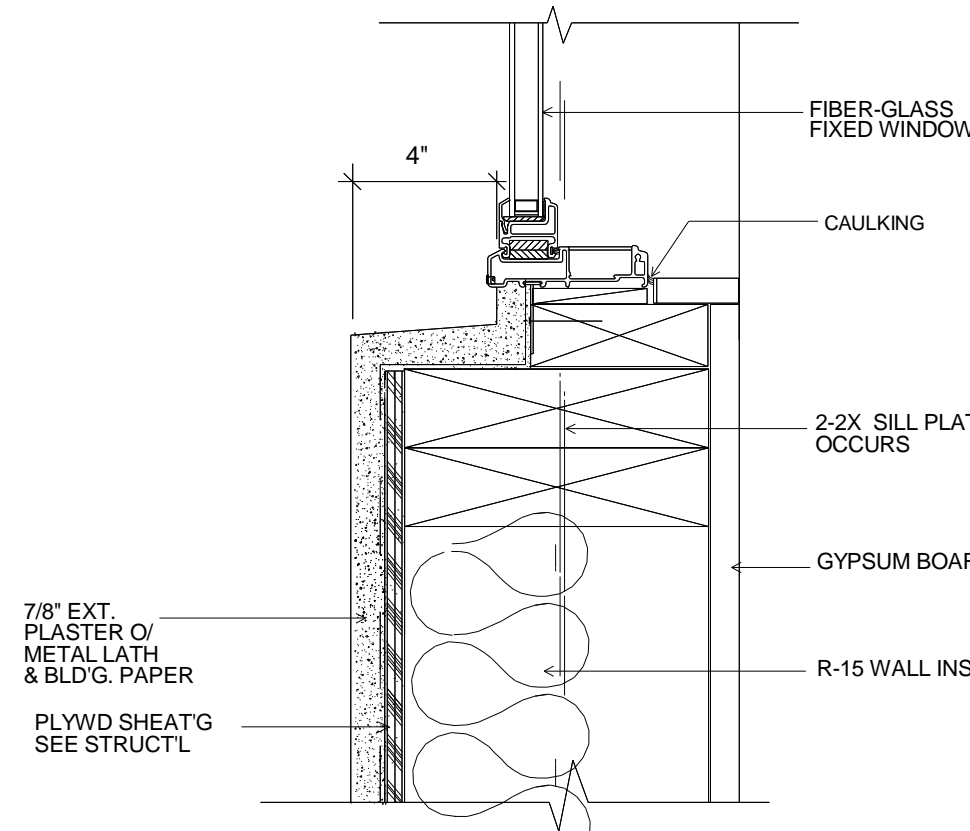
Owner:
Ken Wang
818.679.0622



1 East Elevation
3/16" = 1'-0"



3 Window Head
1/4" = 1'-0"



4 Window Sill
1/4" = 1'-0"



2 South Elevation
3/16" = 1'-0"

ELEVATION FINISH NOTE

- 1 EXTERIOR STUCCO, (SUPER FINE FINISH), COLOR: X-16 SILVER GRAY (BY MERLEX STUCCO)
- 2 COMPOSITE HORIZONTAL SIDING 6" PROFILE BY RESYSTA. COLOR: C26 RUST
- 3 STONE VENEER BY CORONADO STONE, EASTERN MOUNTAIN LEDGE PATTERN., COLOR: CARMEL MOUNTAIN
- 4 MILGARD FIBERGLASS WINDOW, ULTRA SERIES, COLOR: BARK
- 5 MILGARD FIBERGLASS PATIO SLIDING DOOR, ULTRA SERIES, COLOR: BARK
- 6 3'-6" HIGH HORIZONTAL STEEL PLATE GUARDRAIL, PAINTED FINISH, COLOR: BANK VAULT DE6383 BY DUNN EDWARDS
- 7 ASPHALT ROOF SHINGLE BY GAF "TIMBERLINE" ROYAL SOVEREIGN. COLOR: SLATE
- 8 ENTRY DOOR IN SWING DOOR SINGLE PANEL WITH SIDELITE 48 X 96 DOOR MODEL GD-PVT-A3 1SL18 48X96 BY GLENVIEW DOORS. COLOR: MAHOGANY WOOD DARK MAHOGANY FINISH
- 9 MODERN WOOD GARAGE DOOR BY EMILIO GARAGE DOOR ENGINEERED MAHOGANY, STAIN GRADE WITH FROSTED GLASS. COLOR: SEMI-TRANSPARENT HICKORY BY GENERAL FINISH
- 10 2'-0" DIA. CAISSON, EXPOSED CONCRETE FINISH
- 11 EXTERIOR STUCCO, (SUPER FINE FINISH), COLOR: P-2090 THUNDER SKY (BY MERLEX STUCCO)
- 12 EXTERIOR WALL LIGHT, TWILIGHT WS-W5516 BY MODERN FORMS, COLOR: BLACK
- 13 EXTERIOR WALL LIGHT, MAGLEV WS-W24110 BY MODERN FORMS, COLOR: WHITE
- 14 6" HIGH X 4'-0" DEEP ALUMINUM LOUVER SUNSHADE BY ARCHITECTURAL LOUVERS MODEL H6JP
- 15 100-WATT POLYCRYSTALLINE 12- VOLT SOLAR PANEL BY COLEMAN

East & South Elevations

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A201

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622

ELEVATION FINISH NOTE

- 1 EXTERIOR STUCCO, (SUPER FINE FINISH), COLOR: X-16 SILVER GRAY (BY MERLEX STUCCO)
- 2 COMPOSITE HORIZONTAL SIDING 6" PROFILE BY RESYSTA. COLOR: C26 RUST
- 3 STONE VENEER BY CORONADO STONE, EASTERN MOUNTAIN LEDGE PATTERN., COLOR: CARMEL MOUNTAIN
- 4 MILGARD FIBERGLASS WINDOW, ULTRA SERIES, COLOR: BARK
- 5 MILGARD FIBERGLASS PATIO SLIDING DOOR, ULTRA SERIES, COLOR: BARK
- 6 3'-6" HIGH HORIZONTAL STEEL PLATE GUARDRAIL, PAINTED FINISH, COLOR: BANK VAULT DE6383 BY DUNN EDWARDS
- 7 ASPHALT ROOF SHINGLE BY GAF "TIMBERLINE" ROYAL SOVEREIGN. COLOR: SLATE
- 8 ENTRY DOOR IN SWING DOOR SINGLE PANEL WITH SIDELITE 48 X 96 DOOR MODEL GD-PVT-A3 1SL18 48X96 BY GLENVIEW DOORS. COLOR: MAHOGANY WOOD DARK MAHOGANY FINISH
- 9 MODERN WOOD GARAGE DOOR BY EMILIO GARAGE DOOR ENGINEERED MAHOGANY, STAIN GRADE WITH FROSTED GLASS. COLOR: SEMI-TRANSPARENT HICKORY BY GENERAL FINISH
- 10 2'-0" DIA. CAISSON, EXPOSED CONCRETE FINISH
- 11 EXTERIOR STUCCO, (SUPER FINE FINISH), COLOR: P-2090 THUNDER SKY (BY MERLEX STUCCO)
- 12 EXTERIOR WALL LIGHT, TWILIGHT WS-W5516 BY MODERN FORMS, COLOR: BLACK
- 13 EXTERIOR WALL LIGHT, MAGLEV WS-W24110 BY MODERN FORMS, COLOR: WHITE
- 14 6" HIGH X 4'-0" DEEP ALUMINUM LOUVER SUNSHADE BY ARCHITECTURAL LOUVERS MODEL H6JP
- 15 100-WATT POLYCRYSTALLINE 12- VOLT SOLAR PANEL BY COLEMAN



1 West Elevation
3/16" = 1'-0"



2 North Elevation
3/16" = 1'-0"

West & North Elevations

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A202

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

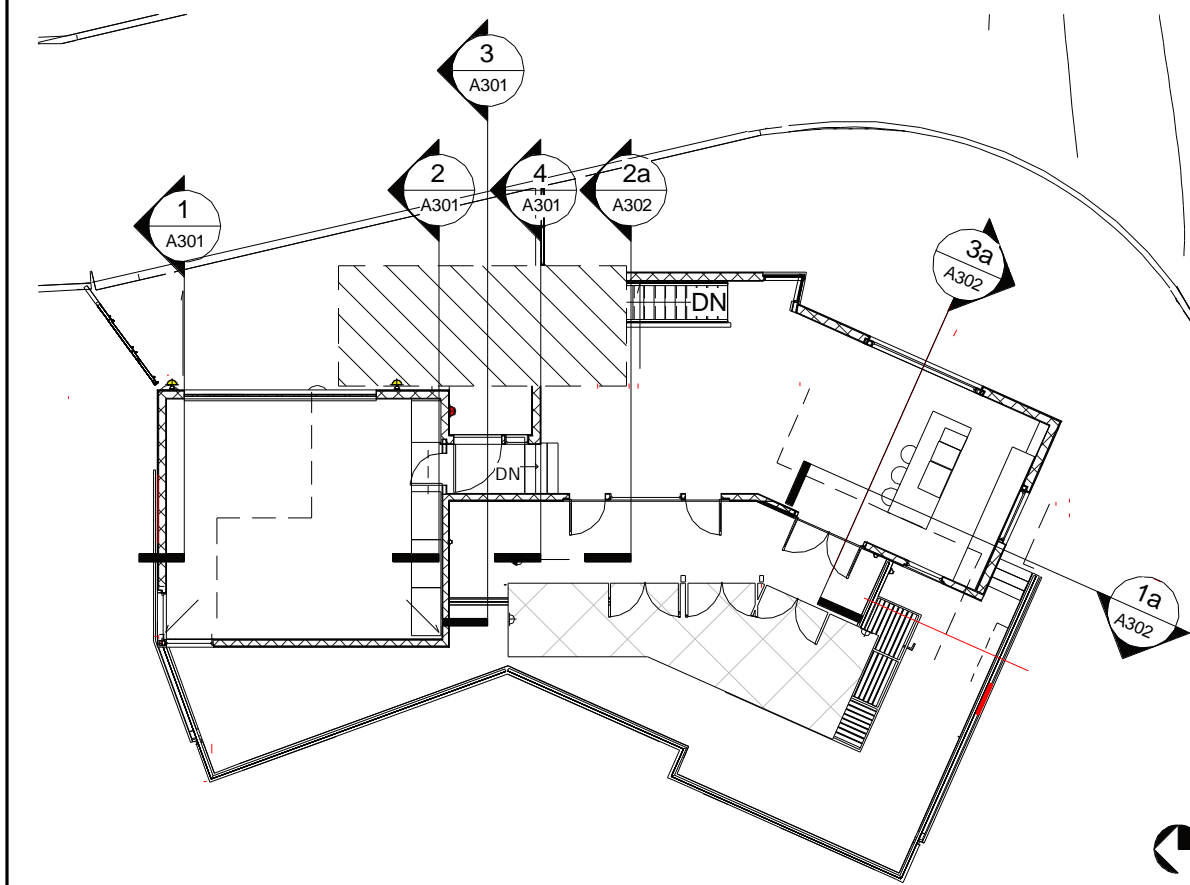
Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622

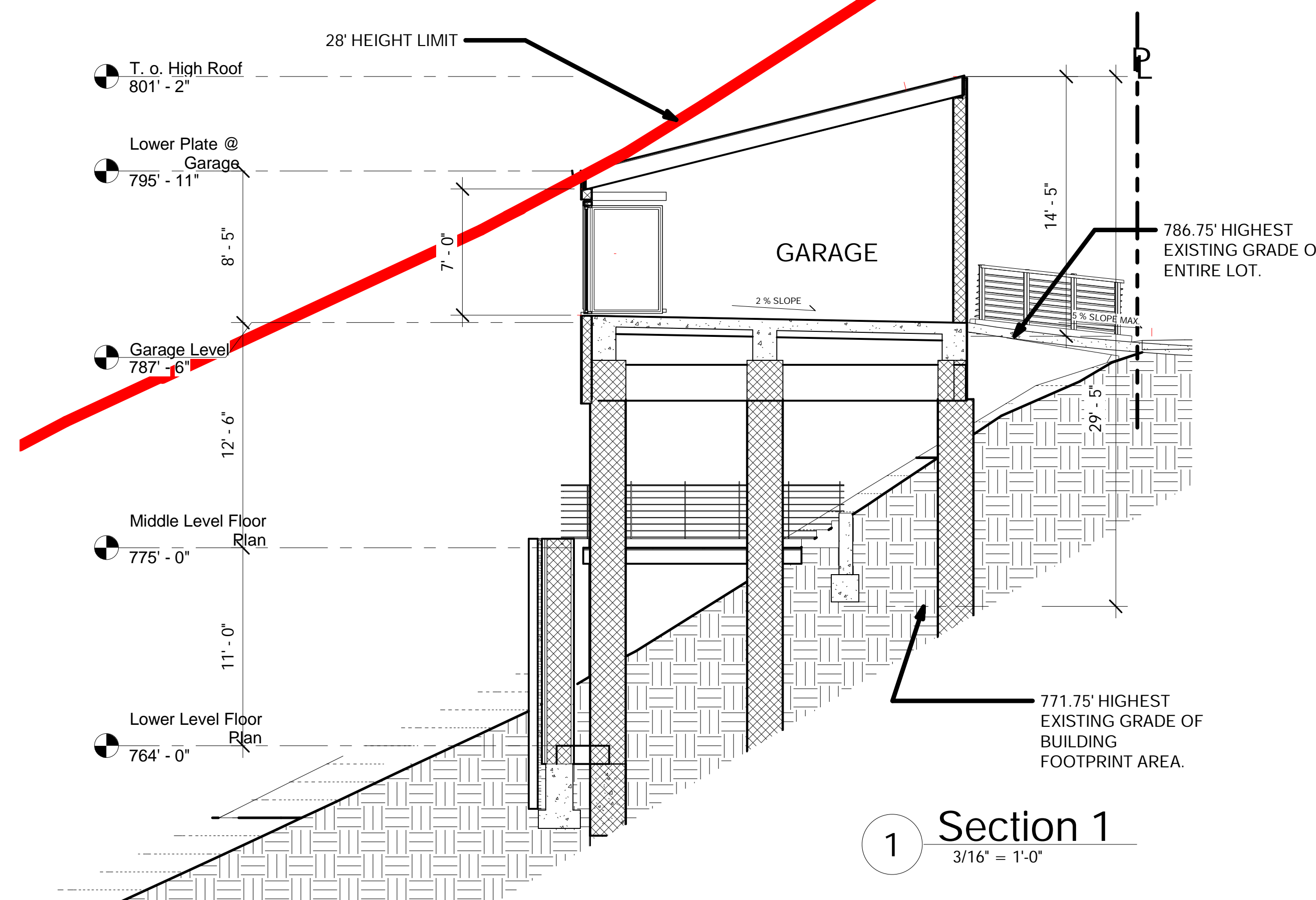


5 Key Plan 1
1/16" = 1'-0"

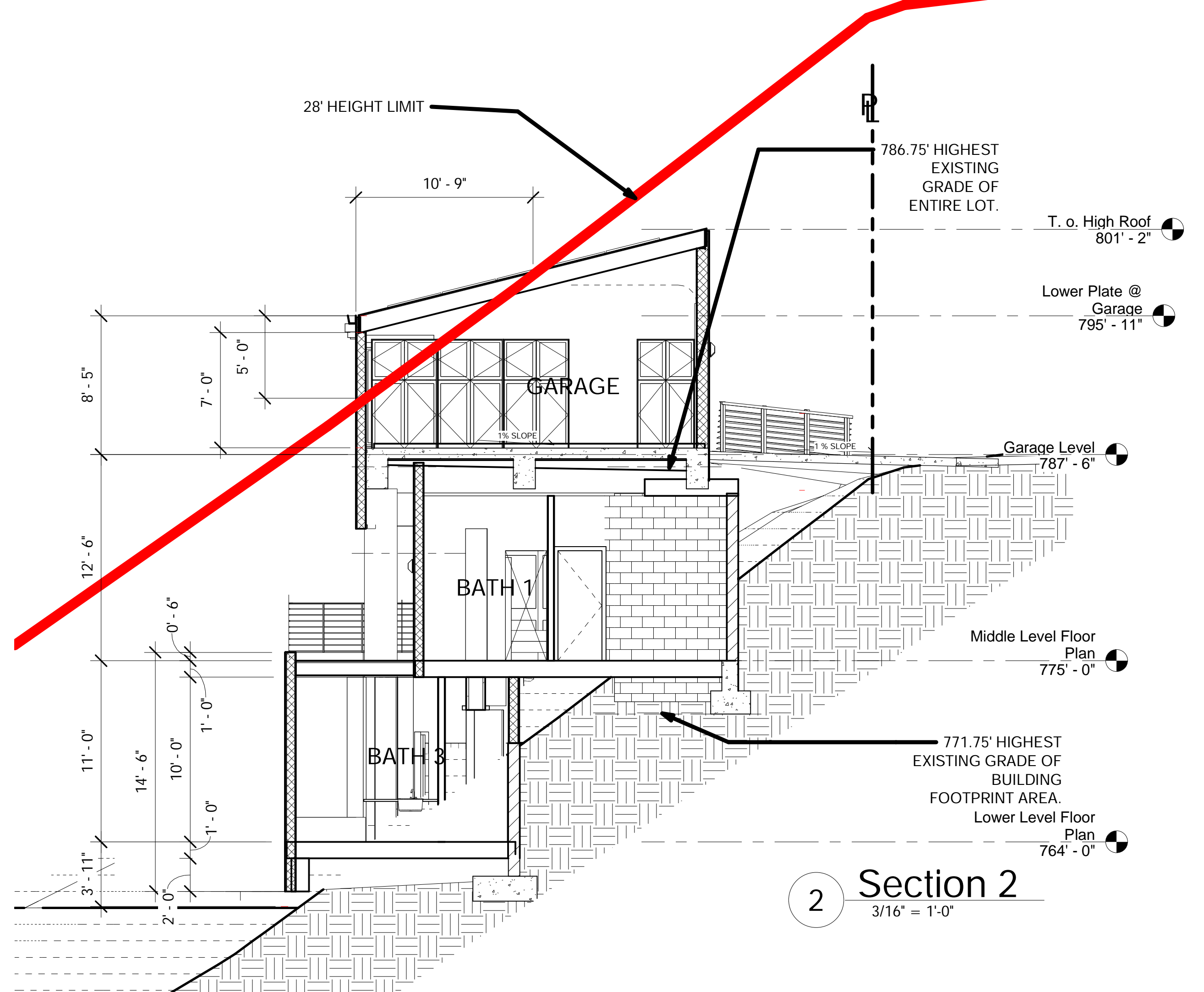
Sections

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.:	1006

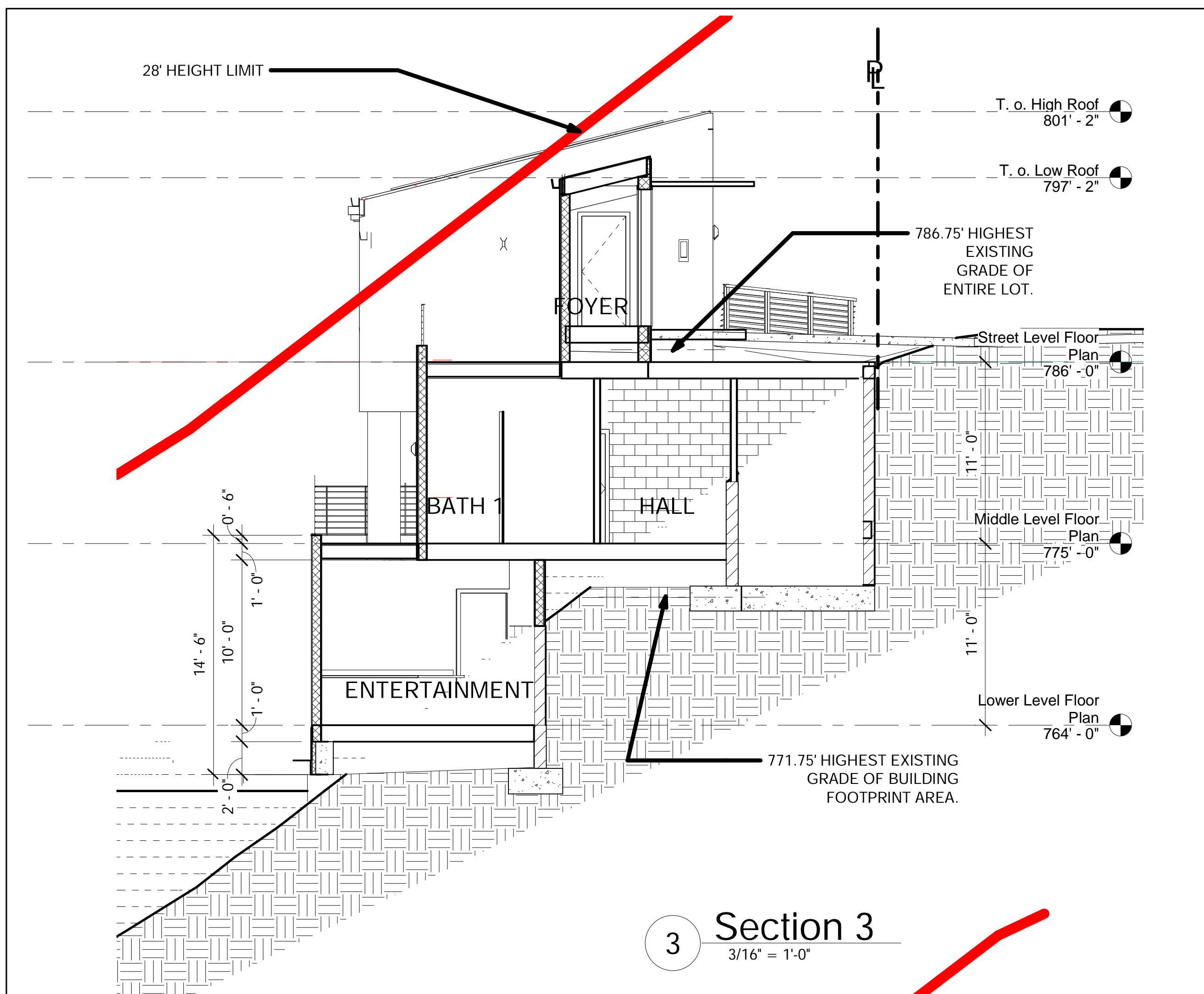
A301



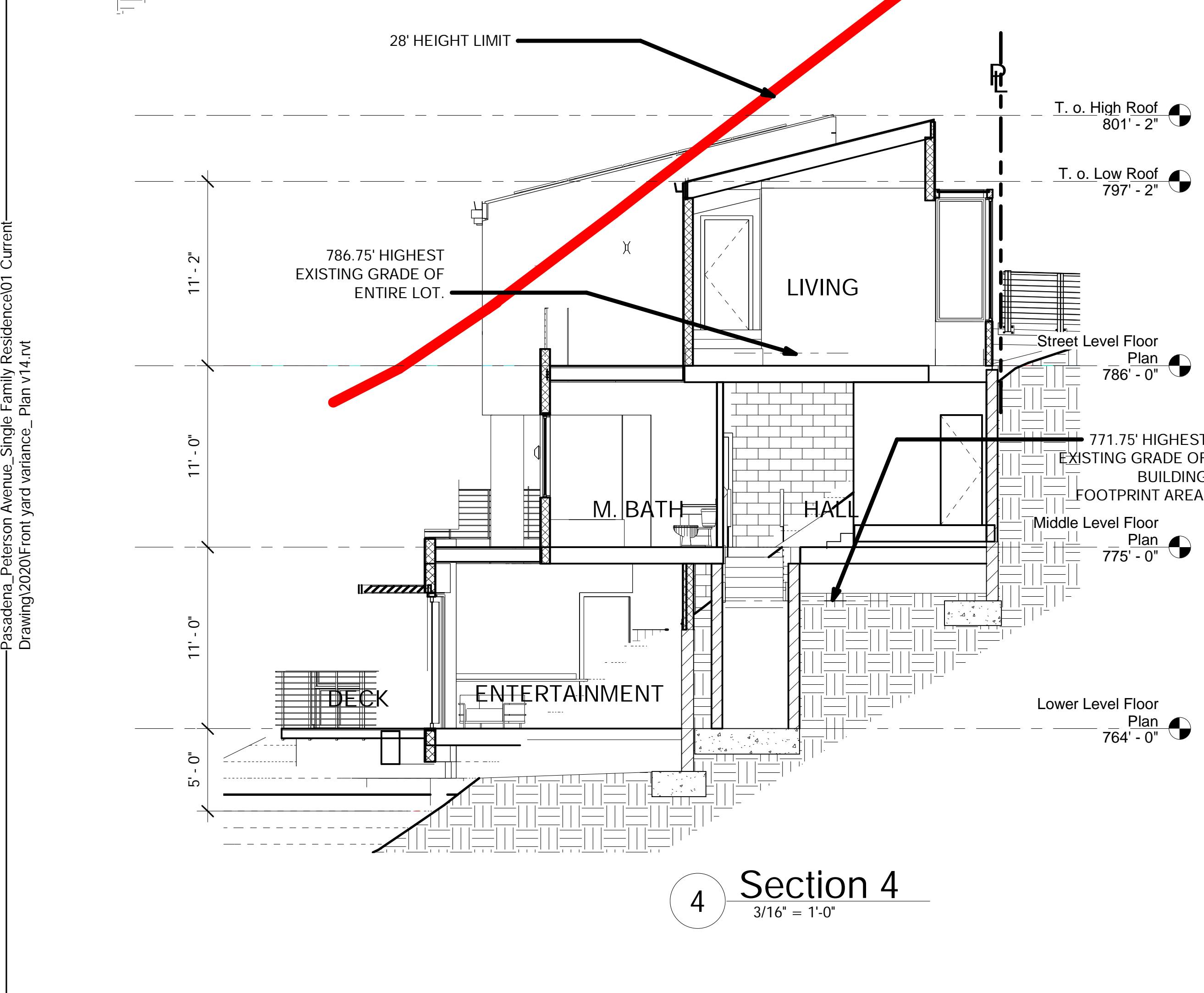
1 Section 1
3/16" = 1'-0"



2 Section 2
3/16" = 1'-0"



3 Section 3
3/16" = 1'-0"



4 Section 4
3/16" = 1'-0"

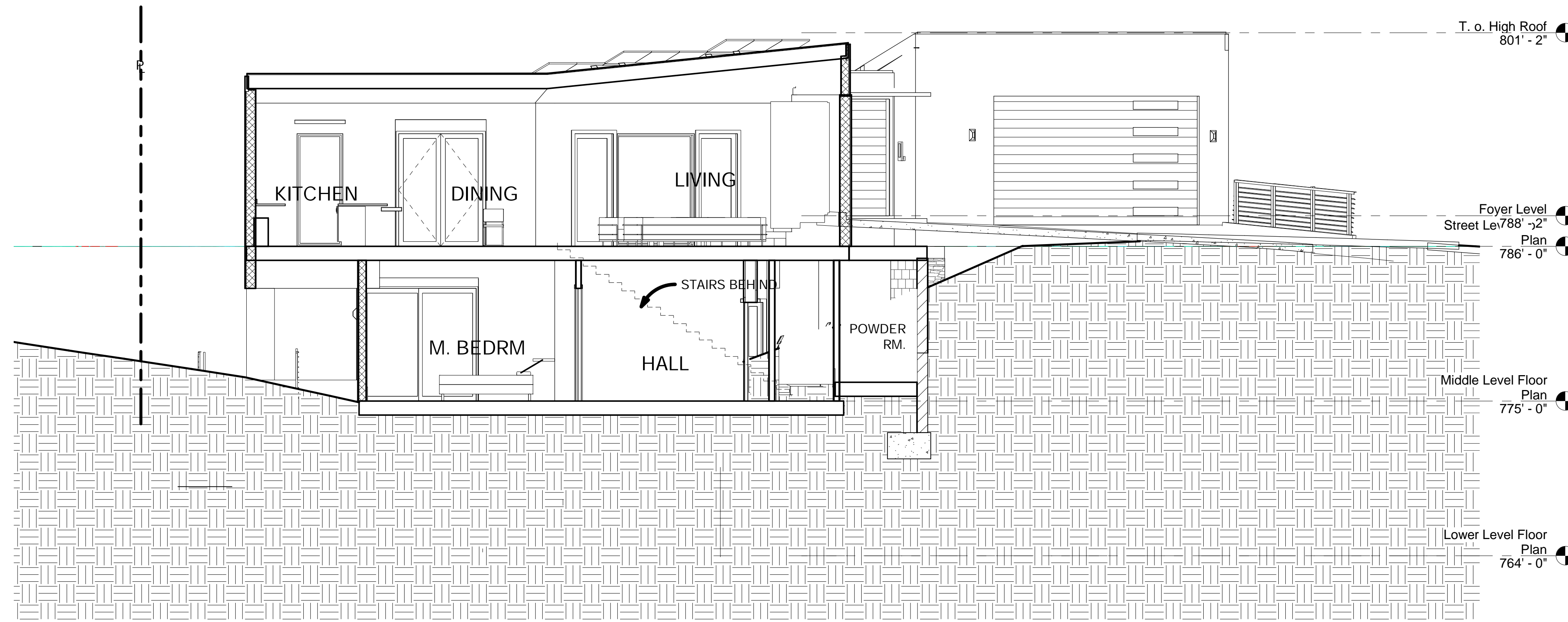
Date: 12/5/2024 11:24:15 AM
File: C:\The Architect Group\Projects\2021\2103_South Pasadena_Peterson Avenue_Single Family Residence\01 Current Drawing\2024\Front Yard Variance_Plan V14.rvt

Revisions	By	Revisions	By

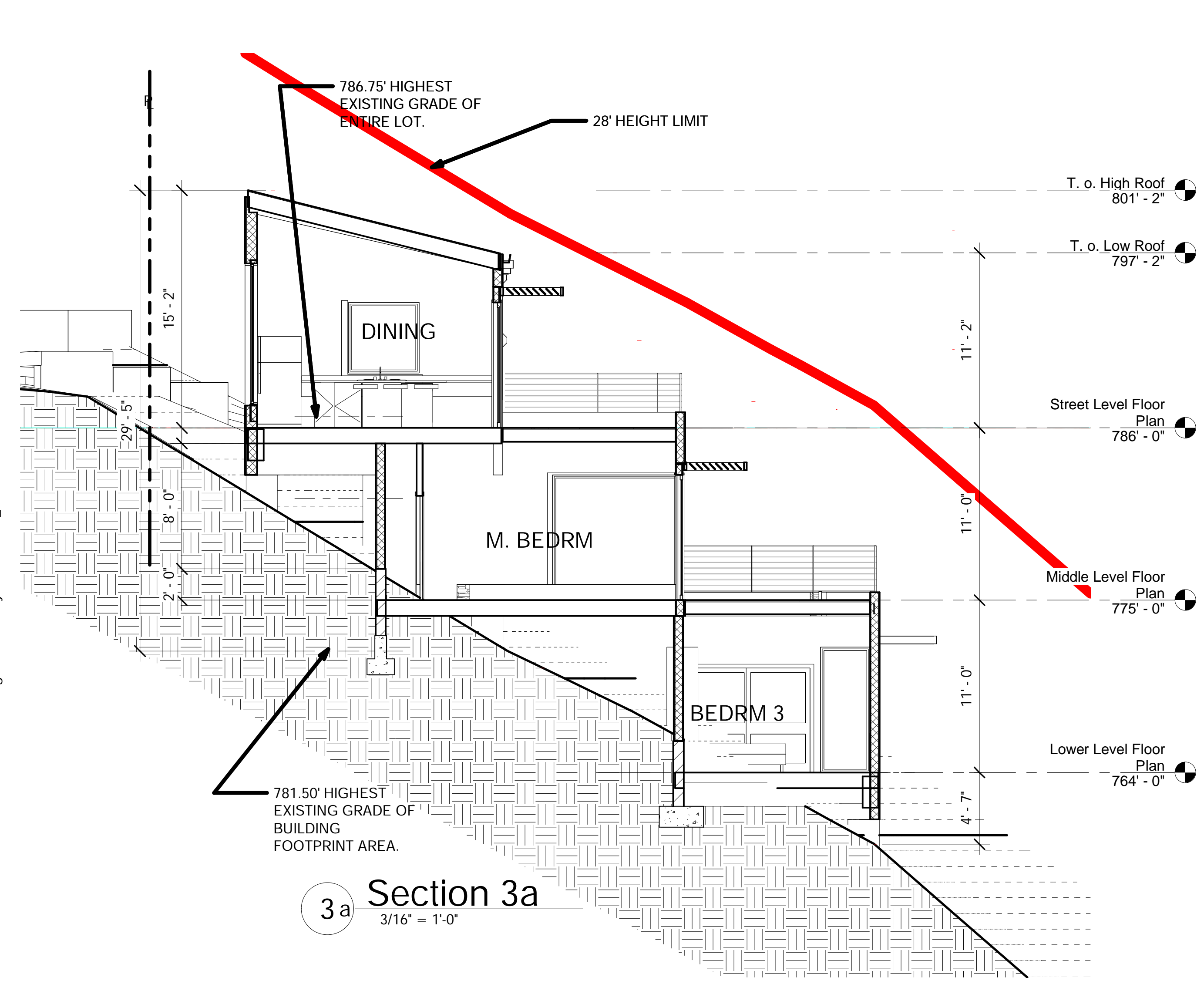
COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:
WANG'S RESIDENCE
APN 5308-031-042
Peterson Avenue, South Pasadena

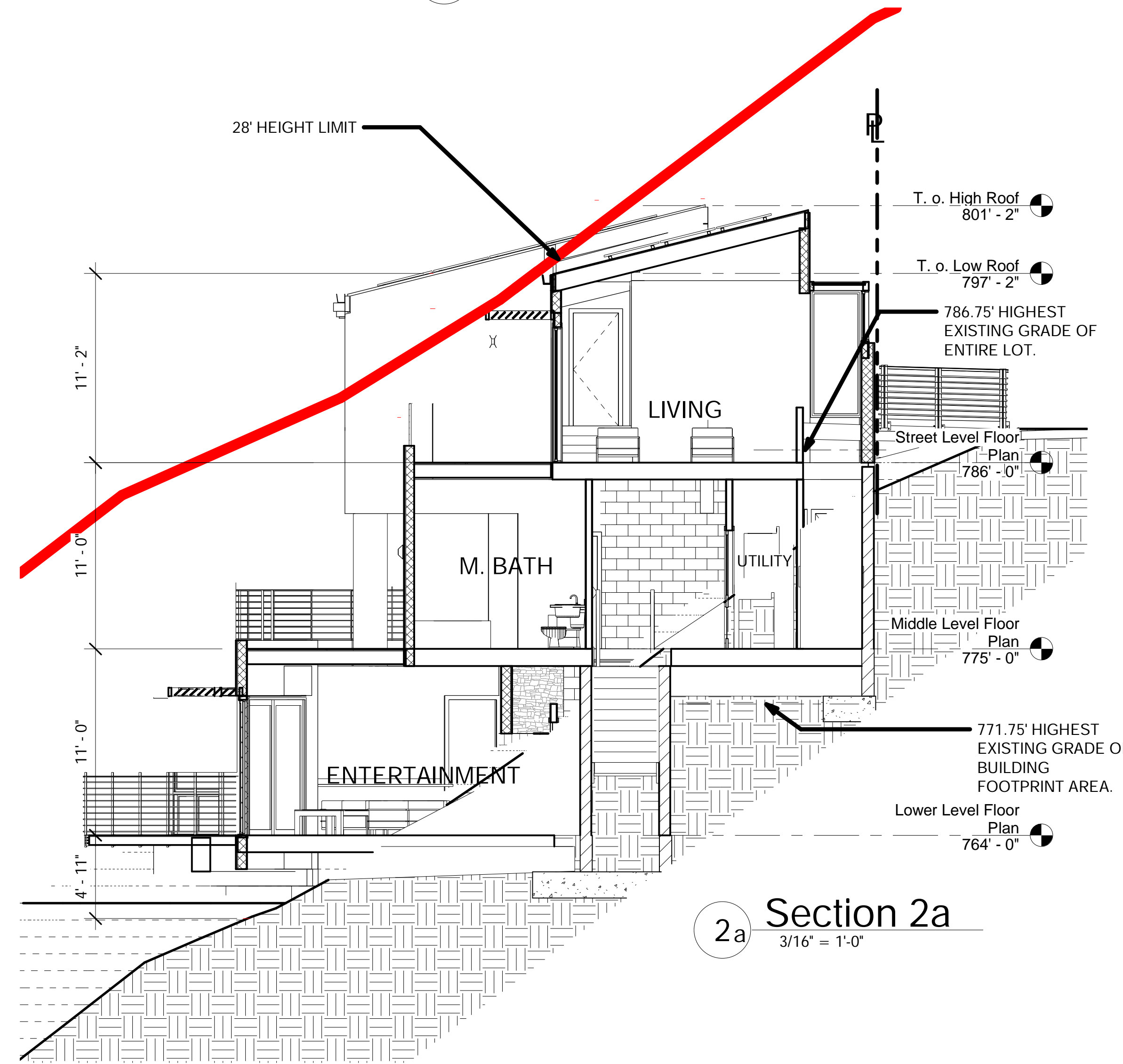
Owner:
Ken Wang
818.679.0622



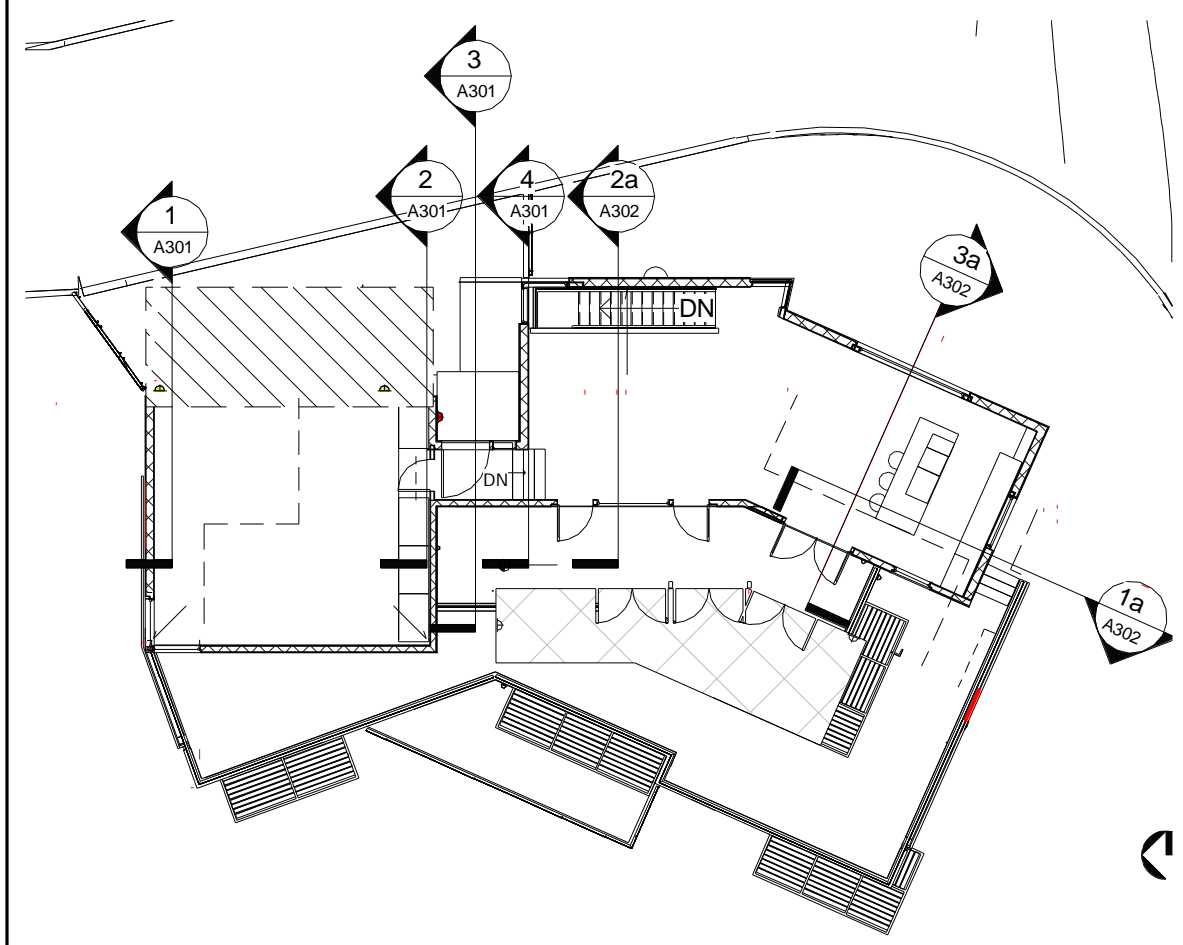
1a Section 1a
3/16" = 1'-0"



3a Section 3a
3/16" = 1'-0"



2a Section 2a
3/16" = 1'-0"



4 Key Plan 1.
1/16" = 1'-0"

Section

Scale:	As indicated
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A302

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

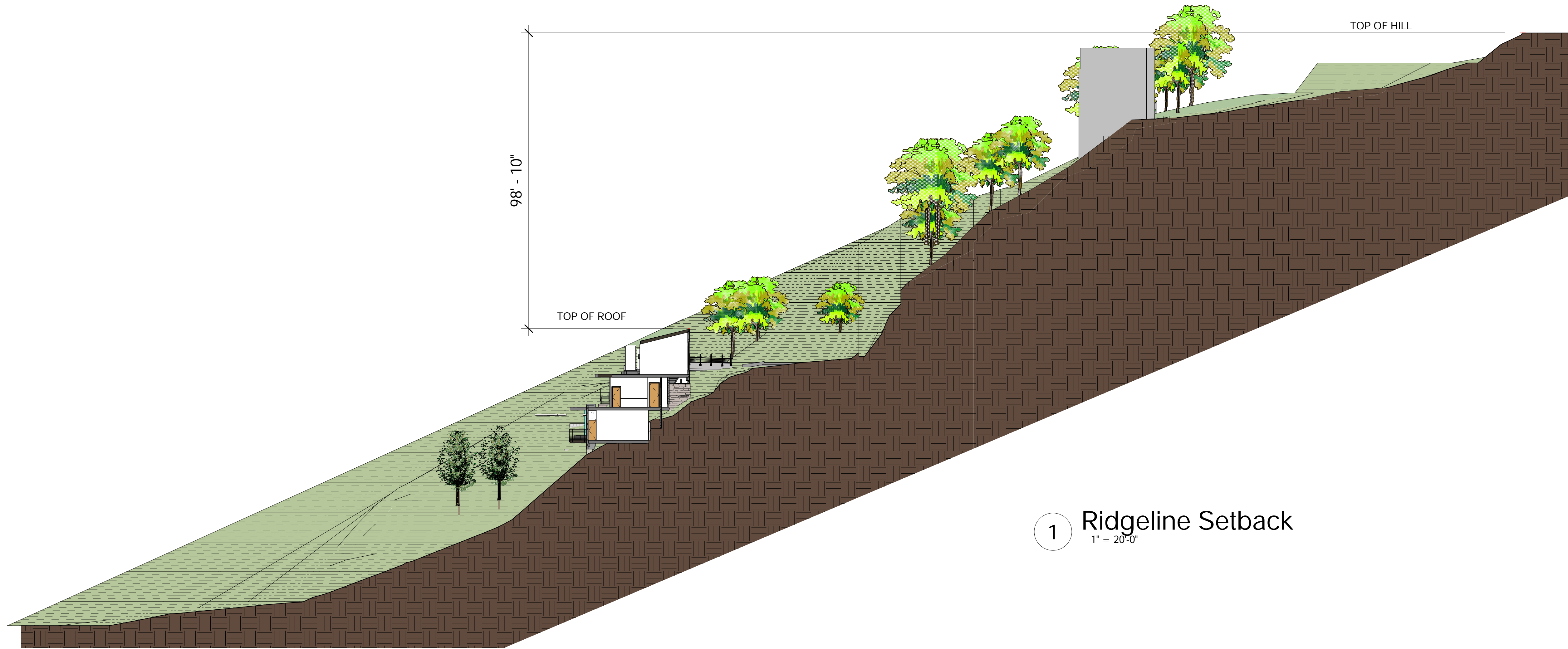
Project:

WANG'S RESIDENCE

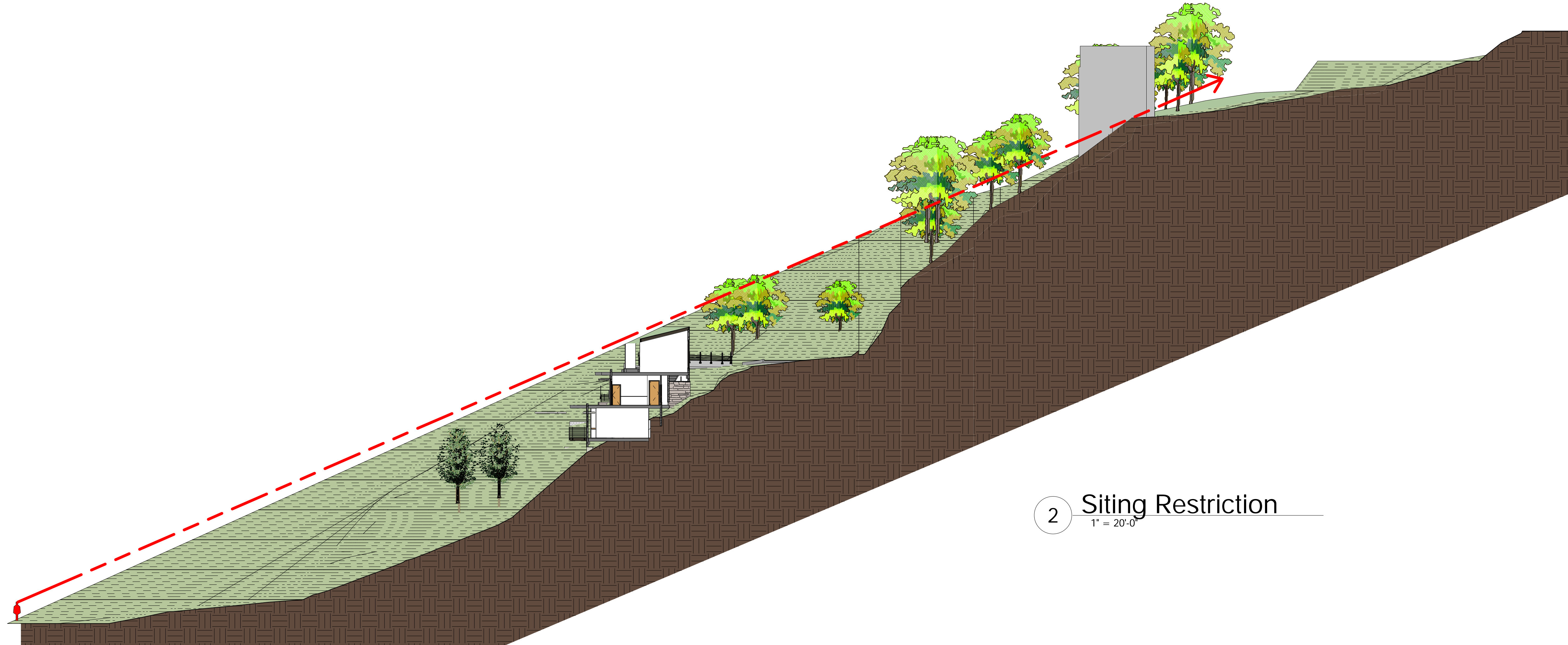
APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622



1 Ridgeline Setback
1" = 20'-0"



2 Siting Restriction
1" = 20'-0"

Ridgeline Setback & Siting Restriction

Scale:	1" = 20'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A303

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622

ELEVATION FINISH NOTE

- 1 EXTERIOR STUCCO, (SUPER FINE FINISH), COLOR: X-16 SILVER GRAY (BY MERLEX STUCCO)
- 2 COMPOSITE HORIZONTAL SIDING 6" PROFILE BY RESYSTA. COLOR: C26 RUST
- 3 STONE VENEER BY CORONADO STONE, EASTERN MOUNTAIN LEDGE PATTERN, COLOR: CARMEL MOUNTAIN
- 4 MILGARD FIBERGLASS WINDOW, ULTRA SERIES, COLOR: BARK
- 5 MILGARD FIBERGLASS PATIO SLIDING DOOR, ULTRA SERIES, COLOR: BARK
- 6 3'-6" HIGH HORIZONTAL STEEL PLATE GUARDRAIL, PAINTED FINISH, COLOR: BANK VAULT DE6383 BY DUNN EDWARDS
- 7 ASPHALT ROOF SHINGLE BY GAF "TIMBERLINE" ROYAL SOVEREIGN. COLOR: SLATE
- 8 ENTRY DOOR IN SWING DOOR SINGLE PANEL WITH SIDELITE 48 X 96 DOOR MODEL GD-PVT-A3 1SL18 48X96 BY GLENVIEW DOORS. COLOR: MAHOGANY WOOD DARK MAHOGANY FINISH
- 9 MODERN WOOD GARAGE DOOR BY EMILIO GARAGE DOOR ENGINEERED MAHOGANY, STAIN GRADE WITH FROSTED GLASS. COLOR: SEMI-TRANSPARENT HICKORY BY GENERAL FINISH
- 10 2'-0" DIA. CAISSON, EXPOSED CONCRETE FINISH
- 11 EXTERIOR STUCCO, (SUPER FINE FINISH), COLOR: P-2090 THUNDER SKY (BY MERLEX STUCCO)
- 12 EXTERIOR WALL LIGHT, TWILIGHT WS-W5516 BY MODERN FORMS, COLOR: BLACK
- 13 EXTERIOR WALL LIGHT, MAGLEV WS-W24110 BY MODERN FORMS, COLOR: WHITE
- 14 6" HIGH X 4'-0" DEEP ALUMINUM LOUVER SHUNSHADE BY ARCHITECTURAL LOUVERS MODEL H6JP
- 15 100-WATT POLYCRYSTALLINE 12- VOLT SOLAR PANEL BY COLEMAN

Material Board

Scale:	1/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A700

2

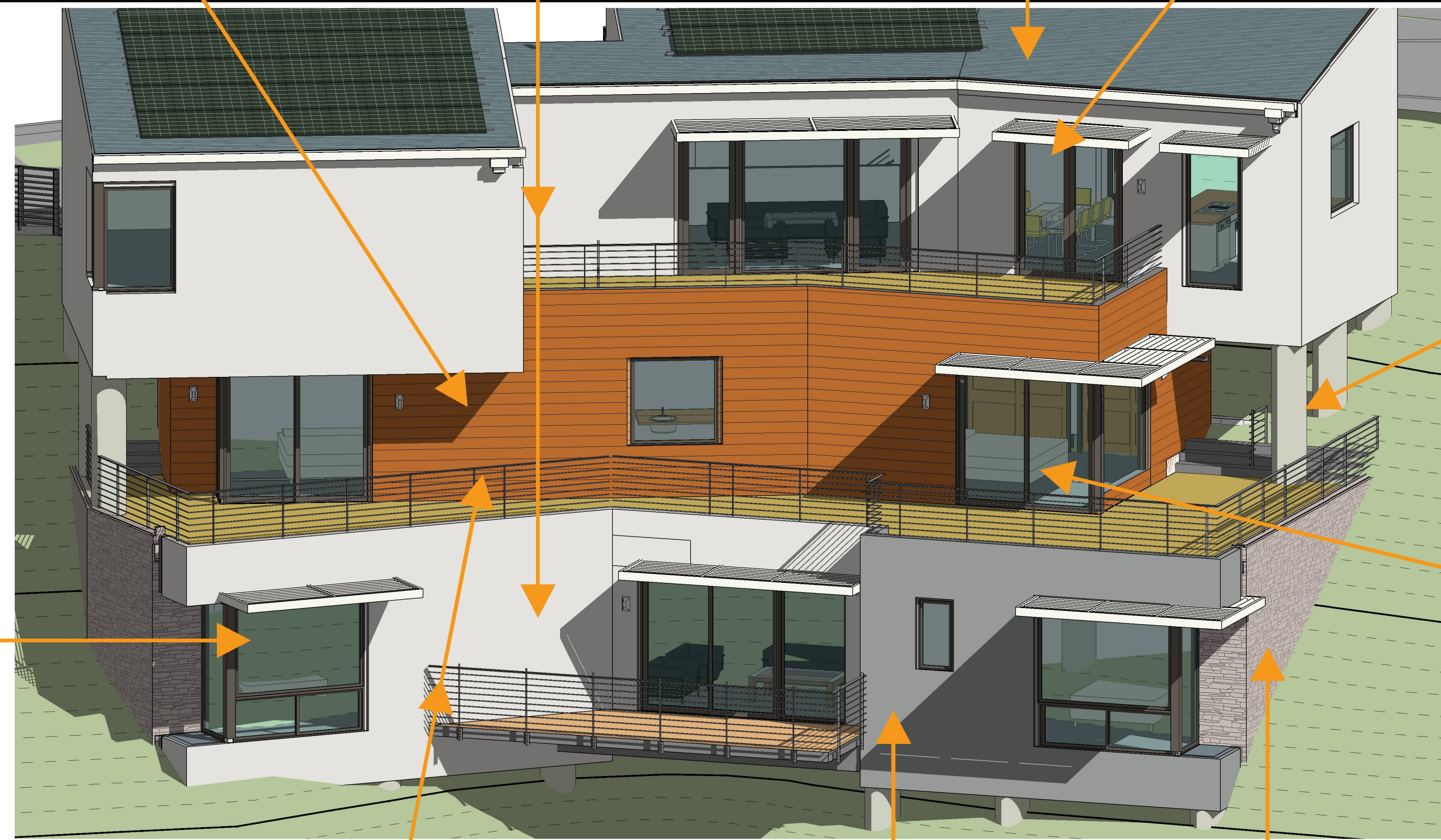
1

7

14



9



10



4



5



6

11

3



Ultra™ Series | C650 Fiberglass Windows & Patio Doors
Architectural Manual

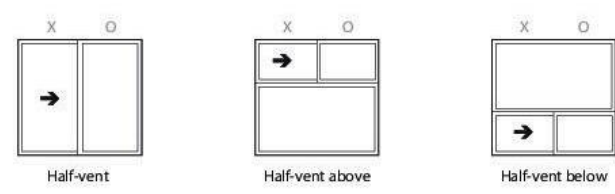
Frame Colors

Exterior Frame Colors - Choose white or color-matched interiors



Horizontal Sliding Window

Configurations



Minimum/Maximum Sizes

- HALF-VENT
- Min 2'1" Max 6'6"
- HALF-VENT ABOVE
- Min 2'2" Max 6'6"
- HALF-VENT BELOW

Ultra™ Series
Performance Ratings

Window Type	Series	Test		Report Number	Structural Class	Air Infiltration (ft³/min)	Water - Test (ft³/hr)		Min		Max					
		Area (ft²)	Depth (in)				W/15	W/30	Height (ft)	Height (ft)	Height (ft)	Height (ft)				
Half Vent	6960	-	-	310-2265	IC-PS-30	0.1	4.5	2	0	1	4	6	0	6	0	
Double Vent	13060	48	52	52009-053	HS4-C25	0.02	3.75	5	0	1	4	12	12	0	6	0
Half Vent Below / Above	3110	-	-	-	-	-	-	2	0	2	4	6	0	6	0	24
Double Vent Below / Above	-	-	-	-	-	-	-	5	0	2	4	10	0	6	0	24
Single Hang	2810	net 57 x 32	C	310-3264	IC-PS-30	0.1	4.5	1	6	2	0	12	4	9	7	8
Double Single Hang	-	-	-	-	-	-	-	3	0	2	0	12	8	0	7	6
Triple Single Hang	-	-	-	-	-	-	-	4	6	2	0	12	9	0	7	6
Picture Window	3310	8060	-	52006-197	FW-HC-50	0.01	12	1	0	1	0	8	0	6	0	-
Picture Window	3313	8060	-	52006-197	FW-HC-50	0.01	12	1	0	1	0	8	0	6	0	-
Ordnance	-	-	-	197-quad	FW-HC-50	-	-	2	0	2	0	-	6	0	6	0
Picture Window	3371	net 72 x 72	-	310-2159	FW-HC-40	0.08	6	1	0	1	0	-	6	0	6	0

Ultra™ Series | C650 Windows and Doors
Acoustical Ratings

Operating Style	Series Numbers	Glass 1	Glass 2	Spacer		STC	OITC	Test Date	Test Number
				Intercept or Cardinal	Foam or Dura****				
horizontal slider	3110	1/8	1/8	-	-	29	23	10/30/99	TL98-379
		1/8	3/16	-	-	-	-	-	-
		1/8	5/32	-	-	33	27	4/22/99	TL99-370
		3/16	1/8	-	-	-	-	-	-
		5/32	1/8	-	-	-	-	-	-
		1/8	1/4	-	-	33	28	4/22/99	TL99-168
		1/8	3/8	-	-	-	-	-	-
		1/8	LAM	-	-	35	28	10/30/99	TL98-378
		LAM	1/8	-	-	-	-	-	-
		3/16	3/16	-	-	-	-	-	-
size tested 6040	-	5/32	5/32	-	-	-	-	-	not tested
		3/16	5/32	-	-	-	-	-	-
		5/32	3/16	-	-	-	-	-	-
		5/32	3/16	-	-	-	-	-	-

Ultra™ Series | C650 Windows and Doors
Acoustical Ratings

Operating Style	Series Numbers	Glass 1	Glass 2	Spacer		STC	OITC	Test Date	Test Number
				Intercept or Cardinal	Foam or Dura****				
picture window (slider pw)	3371	1/8	1/8	-	-	-	-	-	not tested
		1/8	3/16	-	-	-	-	-	-
		1/8	5/32	-	-	-	-	-	not tested
		3/16	1/8	-	-	-	-	-	not tested
		5/32	1/8	-	-	-	-	-	not tested
		1/8	1/4	-	-	-	-	-	not tested
		1/8	LAM	-	-	-	-	-	not tested
		LAM	1/8	-	-	-	-	-	not tested
		3/16	3/16	-	-	-	-	-	not tested
		5/32	5/32	-	-	-	-	-	not tested
		3/16	5/32	-	-	-	-	-	not tested
		5/32	3/16	-	-	-	-	-	not tested
		3/16	1/4	-	-	-	-	-	not tested
		1/4	1/4	-	-	-	-	-	not tested
LAM	LAM	-	-	-	-	-	not tested		



SPECIFICATION SHEET

Item Number 6113900
Dimmable LED Wall Fixture Textured White
Finish White Glass

Specifications

- Height: 7.75"
- Diameter: 7.75"
- Back Plate: D: 7.75"
- Includes 12 Watt Integrated LED
- Hours: 50000
- Life (years): 45.6
- Fixture Lumens: 1100
- Kelvin: 3000
- Equivalent Incandescent Wattage: 75W



Installation

Refer to instruction manual for installation and additional warnings. Consult a qualified electrician if unsure how to proceed.

Warranty Information - 5 Year Limited Warranty

This Westinghouse Lighting Fixture is warranted against defects in material and workmanship for a period of Five Years from purchase date.

Specifications are subject to change without notice, please visit www.westinghouselighting.com for latest information.

Westinghouse and Westinghouse are trademarks of Westinghouse Electric Corporation. Used under license by Westinghouse Lighting. All Rights Reserved.

Model 6113900



Project: _____

Location: _____

Fixture Type: _____

Catalog Number: _____

AVAILABLE FINISHES:



Twilight

WS-W5516

PRODUCT DESCRIPTION

Warning light of day. Indirect LED illumination gives the illusion of twilight. Glare free illumination with ambient and down lighting for safety, security and architectural accent.

FEATURES

- ACLED driverless technology
- Up and down illumination

SPECIFICATIONS

Rated Life

54000 Hours

Standards

ETL, cETL, Wet Location Listed, IP65, Title 24 JAB: 2019 Compliant

Input

120 VAC, 50/60Hz

Dimming

ELV

Color Temp

3000K

CRI

90

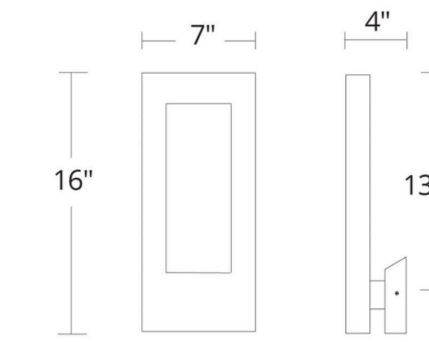
Construction

Aluminum hardware

REPLACEMENT PARTS

RPL-GLA-5516-01 - Side Glass

RPL-GLA-5516-02 - Bottom Glass



WS-W5516

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-W5516 10"	3000K	Black	23W	912	729
	3000K	Bronze	23W	912	637

Example: WS-W5516-BZ

For custom requests please contact custom@modernforms.com

ModernForms.com | Phone: (866) 810-6615 | Fax: (800) 526-2585
Central Distribution Center: 1500 Distribution Ct., Lithia Springs, GA 30122
Western Distribution Center: 1750 Archibald Avenue, Ontario, CA 91760

MODERN FORMS

LED OUTDOOR LIGHT_BY WESTINGHOUSE



800.545.0367
www.glenviewdoorscalifornia.com



GD-PVT-A3 1SL18 48X96

FRONT DOOR • MODERN EURO TECHNOLOGY • PIVOT COLLECTION • CUSTOM

Shown in Oak Wood Veneer with Light-Loft Finish • External Dimensions: 69-3/4 x 99-1/2"

TWILIGHT_BY MODERN FORMS

Project: _____

Location: _____

Fixture Type: _____

Catalog Number: _____

AVAILABLE FINISHES:



Maglev

WS-W24110

PRODUCT DESCRIPTION

An ultra-functional balanced sconce. This LED wall luminaire employs an etched glass diffuser that delivers interest generating bidirectional illumination. ADA compliance allows usage in high traffic, hospitality and light commercial spaces. 3 CCT's available for customized selection. Mounts in all orientations.

FEATURES

- ACLED driverless technology
- Up and down illumination
- Built in color temperature adjustability. Switch from 3000K/3500K/4000K

SPECIFICATIONS

Rated Life

54000 Hours

Standards

ETL, cETL, Wet Location Listed, IP65, Title 24 JAB: 2019 Compliant

Input

120 VAC, 50/60Hz

Dimming

ELV, 100-10%, TRIAC, 100-10%

Mounting

Can be mounted on wall in all orientations

Color Temp

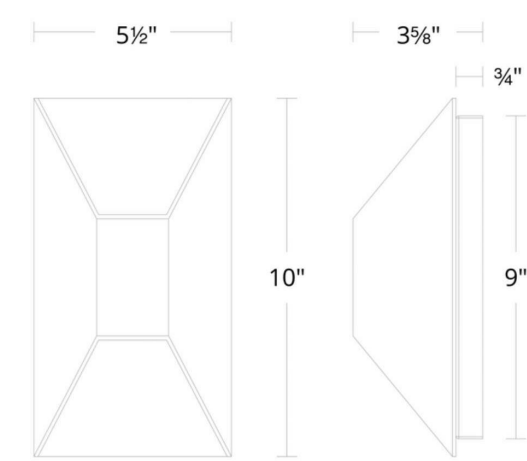
4000K, 3500K, 3000K

CRI

90

Construction

Extruded aluminum body with etched glass diffuser



WS-W24110

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-W24110 10"	3000K	AL Brushed Aluminum	15.3W	632	472
		BK Black	15.3W	632	472
		BZ Bronze	15.3W	632	472
	3500K	AL Brushed Aluminum	15.3W	710	472
		BK Black	15.3W	710	472
		BZ Bronze	15.3W	710	472
	4000K	AL Brushed Aluminum	15.3W	710	472
		BK Black	15.3W	710	472
		BZ Bronze	15.3W	710	472
	4000K	AL Brushed Aluminum	15.3W	641	472
		BK Black	15.3W	641	472
		WT White	15.3W	641	472

Example: WS-W24110-40-WT

For custom requests please contact custom@modernforms.com

ModernForms.com | Phone: (866) 810-6615 | Fax: (800) 526-2585
Central Distribution Center: 1500 Distribution Ct., Lithia Springs, GA 30122
Western Distribution Center: 1750 Archibald Avenue, Ontario, CA 91760

MODERN FORMS

MAGLEV_BY MODERN FORMS



235 E MAIN STREET SUITE 200
ALHAMBRA CALIFORNIA 91801
TEL 626-570-9989 FAX 626-570-8104
EMAIL ARCHITECTHGROUP@MSN.COM

Revisions	By	Revisions	By

COPYRIGHT STIPULATION All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

Owner:

Ken Wang
818.679.0622

Lights Specification, Window & Door Specification

Scale:	3/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A701

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project: **WANG'S RESIDENCE**
APN 5308-031-042
Peterson Avenue, South Pasadena

Owner: **Ken Wang**
818.679.0622

1. StormGuard Film-Surfaced Leak Barrier
2. Shingle-Mate Roof Deck Protection
3. WeatherBlocker Premium Starter Strip Shingles
4. GAF Roof Shingles Royal Sovereign
5. Master Flow Pivot Pipe Boot Flashing
6. TimberTex Premium Ridge Cap Shingles

GAF Roof Shingles Royal Sovereign Materials



EASTERN MOUNTAIN LEDGE®



Installation Specifications

CSI - 3 Part Spec available at www.CORONADO.com/ArchitecturalResources

Choices Specific to Eastern Mountain Ledge®

- Standard Colors:** Grey Quartzite, Chablis, Carmel Mountain, Huron, Dakota Brown, Provo Canyon Grey, Palmetto Blend, Coastal Brown, Madison County, Vista Pointe. Custom colors may be available for an upcharge.
- Grout Joint Width:** 1/2" Grout Joint or Drystack
- Grouting Options:** Deep Raked, Drystack, Full Brushed or Full Tooled
- Grout Joint Color:** Natural Grey, Natural Off-White or Complementary Color
- Accessories:** Corners, Complementary Tiles, Wall Caps, Post Caps and more. (See Accessories section of binder)

Special Installation Notes

- Pattern:** Do not install stones vertically. Blend the stone on the wall from several different boxes to ensure proper color and size variation. See catalog photos for recommended installation pattern.
- Chalk Lines:** Should be used by installer to ensure a straight and level pattern.
- Vertical Joints:** Should be no higher than 4" to 6" on average.
- Horizontal Joints:** Should not exceed 6' to 8'.
- Sealing:** Not required. However, if installed on an exterior exposed to excessive water from runoff or improper drainage, we suggest the product be sealed in that particular area to protect it from staining or spalling during freeze-thaw cycles.
- Freeze-Thaw:** When installing stone in a freeze-thaw environment, extra care should be taken to ensure a full coverage of mortar on the back of each stone, which will prevent water pooling behind the stone after it has been installed.
- Drystack:** A polymer-modified mortar should be used for all drystack applications.
- Installation Info:** Download Coronado's latest installation instructions at www.coronado.com for information on mortar and installation recommendations.

Profile Properties

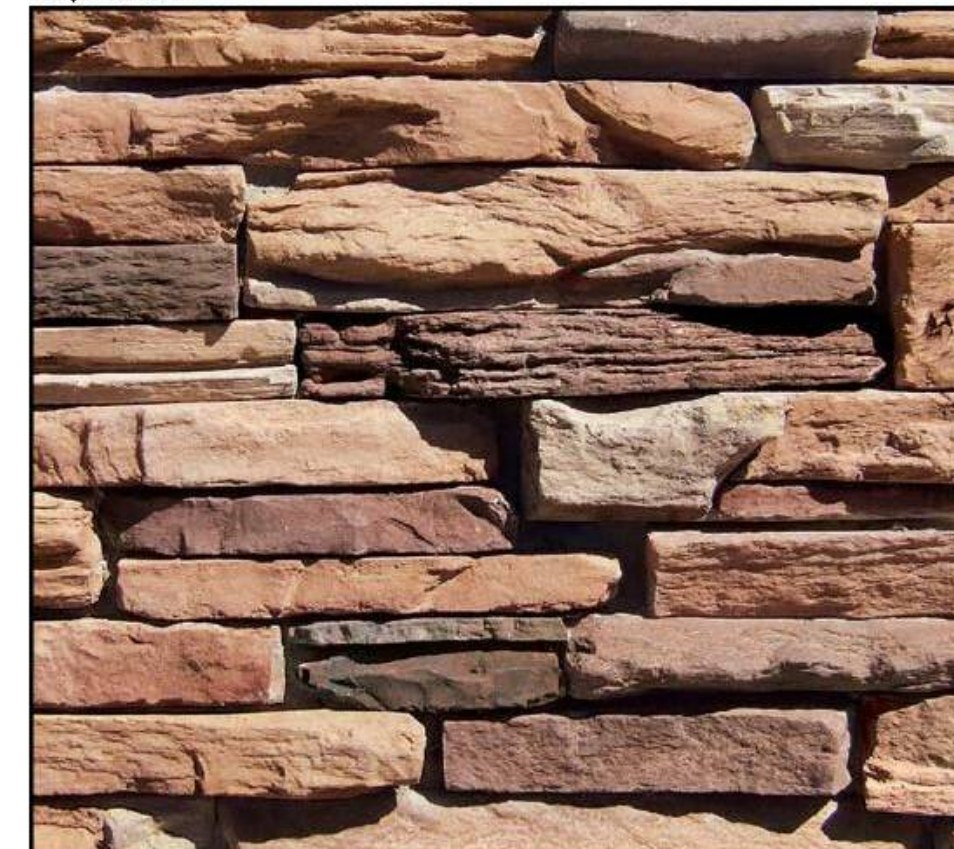
- Size:** Stone sizes range from 1" to 5" in height and up to 22" in length. Corner returns range from 2" to 12" (nominal). Eastern Mountain Ledge® contains a small percentage of panels for a fast and easy installation.
- Thickness:** 1" to 3" (nominal).
- Weight:** 7 to 10 lbs. per square foot.
- Packaging:** Available in big boxes (100 sq ft Flats or 100 In ft Corners) or Dura-Paks (12.5 sq ft Flats or 12.5 In ft Corners). When purchasing Eastern Mountain Ledge®, coverage is based on installation with tightly-fitted joints. (Note: Square Footage and Linear Footage quantities may vary per region)

Drystack



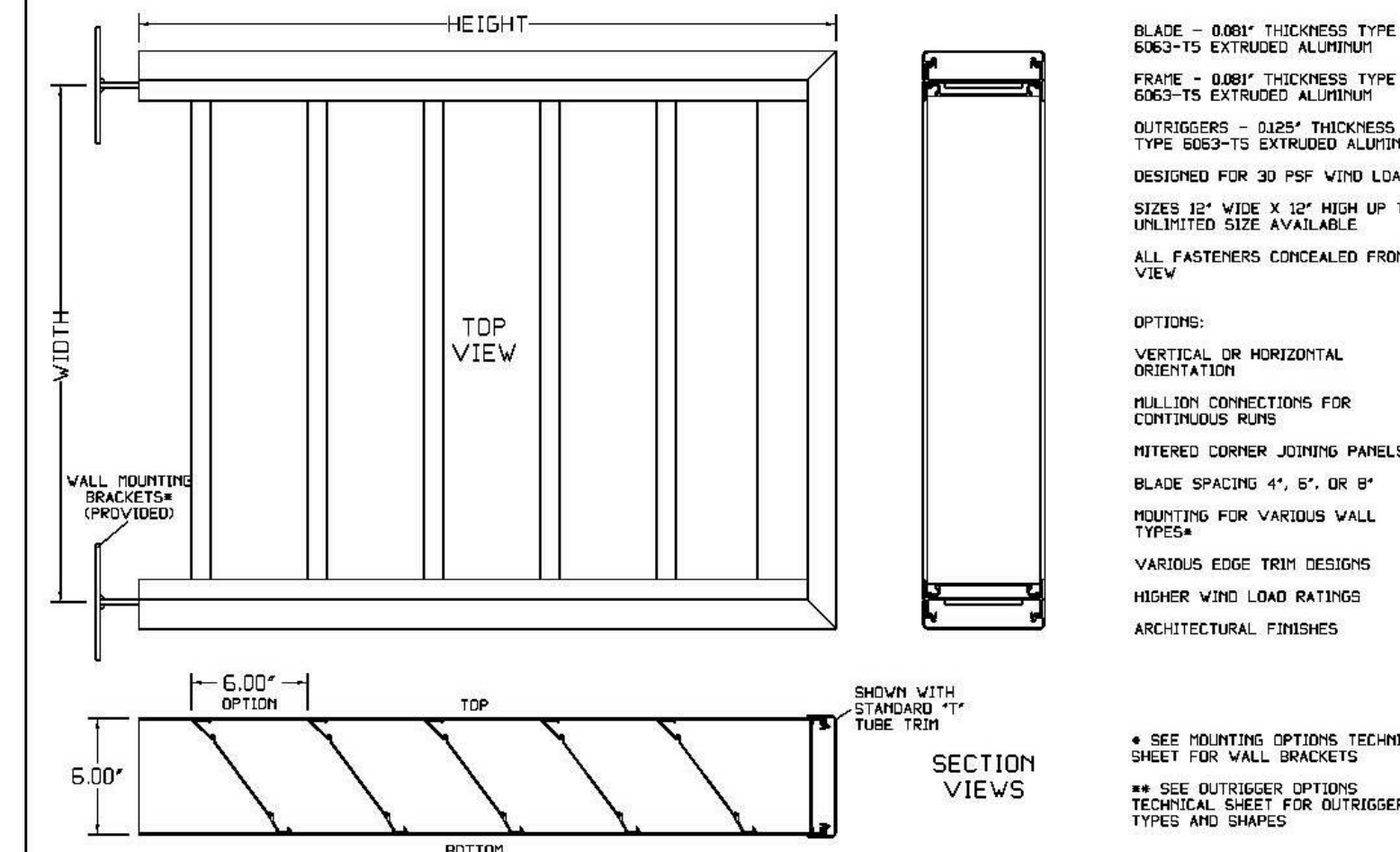
EASTERN MOUNTAIN LEDGE® COLOR: CHABLIS

Drystack



EASTERN MOUNTAIN LEDGE® COLOR: CARMEL MTN.

H6JP - 6" DEEP 35 DEGREE HP STANDARD J BLADE EXTRUDED ALUMINUM STATIONARY SUN SHADE



CONSTRUCTION	TRIM	OUTRIGGER	BLADE SPACING
STANDARD			
OPTION			4" 6" 8" SELECT ONE

ARCHITECTURAL O.U.V.E.R.S 266 W Mitchell Ave - Cincinnati, OH 45232 PH: (888) 568-8371 Fax: (888) 568-8370	PROJECT	
	CONTRACTOR	
	ARCHITECT	
DRAWN BY: JRR	DATE: 11/19	DRAWING TYPE: TECHNICAL SHEET
		DRAWING TITLE: H6JP

Material Specs.

Scale:	1/4" = 1'-0"
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.	1006

A702

SECTION 3 - Scope of Delivery

NO.	PRODUCT NAME AND SPECIFICATION	ISOMETRIC VIEW	FRONT VIEW
1	RESCPH120412 ½" x 4" x 12' Hollow Siding Profile		
2	RESCPH120612 ½" x 6" x 12' Hollow Siding Profile		
3	RESSHTC10 ¾" x 1 ½" Siding Hat Channel Mill Finish		
4	RESSHTC10P ¾" x 1 ½" Siding Hat Channel Punched Mill Finish		
5	RESSJM10 5/8" x 1" J Mold		
6	RESSOC10 5/8" x 1" Outside Corner Mold		
7	RESSIC10 5/8" x 1" Inside Corner Mold		
8	RESSHM10 5/8" x 1" H Mold		
9	RESSJS10 Starter J-Strip		
10	RESCPS25 1" TECC Shoulder Stainless Steel Screw		

Table 1.1 "Scope of Delivery"

NOTE: Table above shows products commonly used for wall siding. To view a complete list of products, please refer to our Resysta brochure or visit our web site www.resystausa.com

1. Introduction

Resysta is an extremely durable, timber look-alike, decking material. It is resistant to damage from the sun, rain, frost and even salt water. Unlike wood, it requires minimal maintenance and is highly resistant to pests, mold and cracks. Unlike other composite materials, it closely resembles the look and feel of natural wood, with a smooth surface finish. Resysta meets most of the future environmentally sustainable material requirements concerning recycled and fully recyclable materials. Resysta is used for its architectural aesthetic, and not for structural support.

SECTION 1 - Material Components

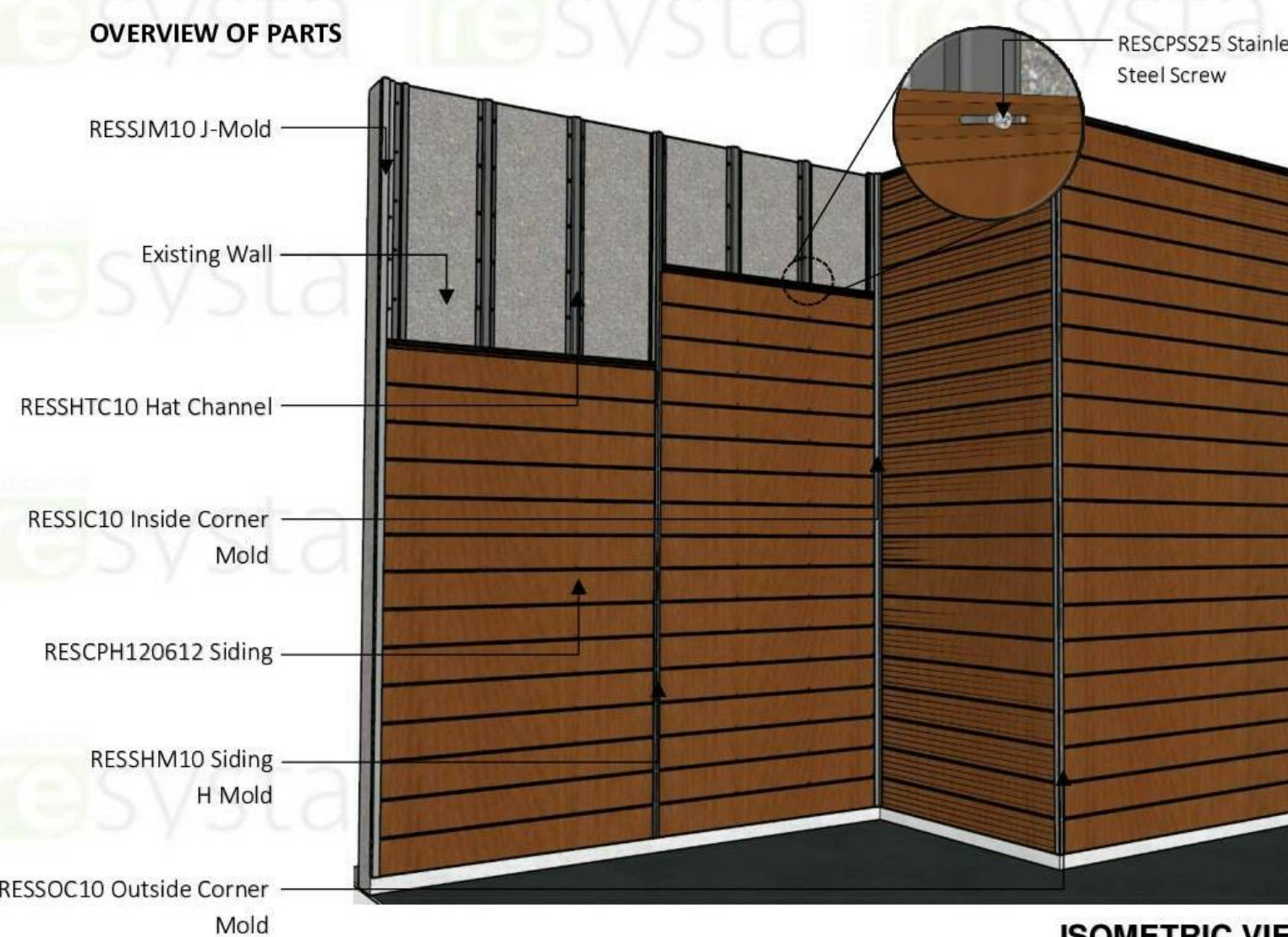
A combination of these three basic raw material make up the simple components that create Resysta. This innovative materials offers designers and architects new creative horizons to utilize its compelling and unique appearance.



Approx. 60% RICE HUSK + Approx. 22% COMMON SALT + Approx. 18% MINERAL OIL = RESYSTA

SECTION 2 - Basics

OVERVIEW OF PARTS



ISOMETRIC VIEW
BASIC PARTS OF SIDING BOARD

235 E MAIN STREET SUITE 200
ALHAMBRA CALIFORNIA 91801
TEL 626-570-9989 FAX 626-570-8104
EMAIL ARCHITECTHGROUP@MSN.COM

Revisions	By	Revisions	By

COPYRIGHT STIPULATION: All information contained herein is provided under the protection of U.S. and international laws. The information is provided for use with the subject project only. Reproduction for other purposes is not permitted without written consent from The Architect Group.

Project:

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

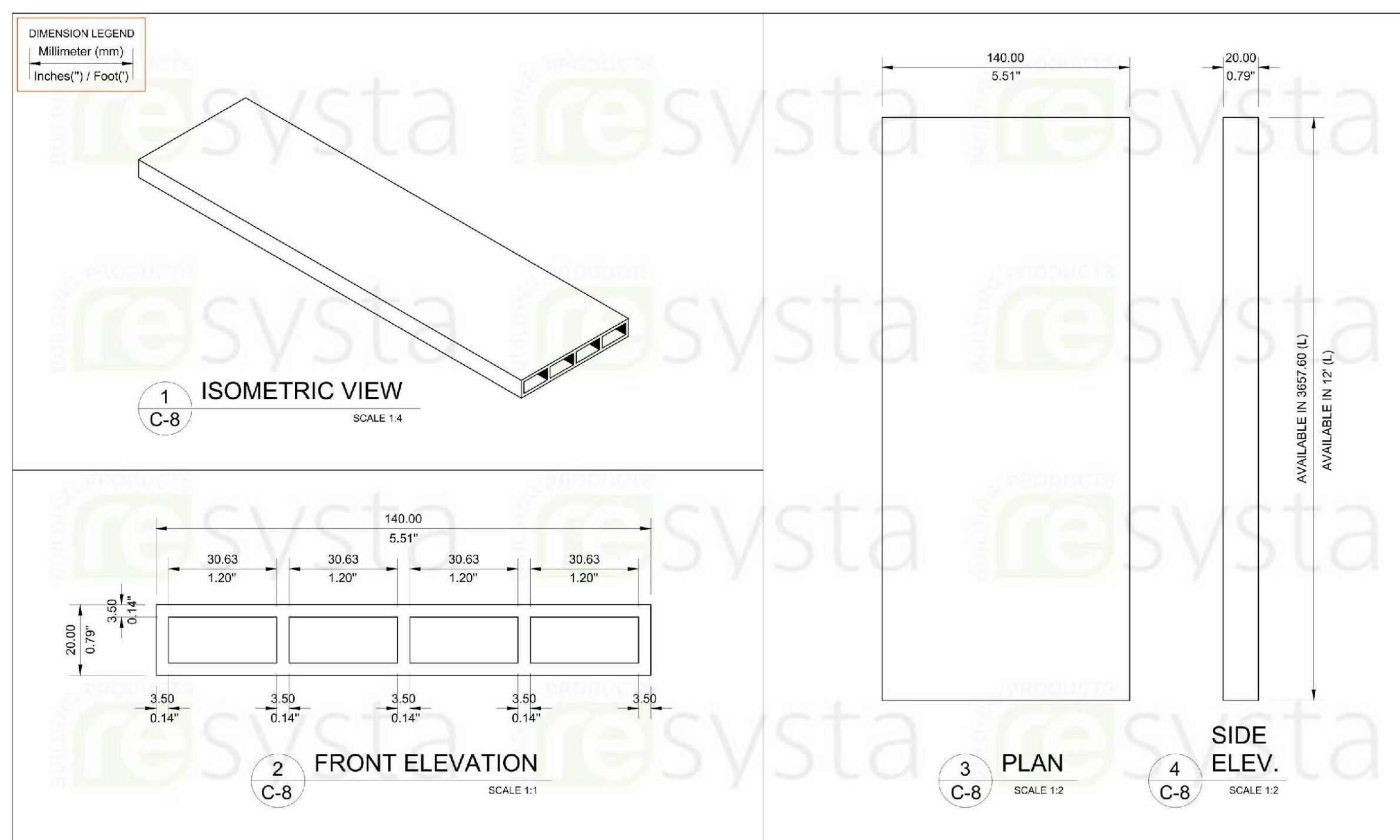
Owner:

Ken Wang
818.679.0622

Material Specs.

Scale:	
Drawn:	Author
Checked:	Checker
Date:	November 22, 2024
Job No.:	1006

A703



NOTE: THIS DRAWING AND ALL DIMENSIONS OF SERVICE IS THE PROPERTY OF RESYSTA AND AS SUCH MUST NOT BE REPRODUCED OR COPIED IN PART OR IN WHOLE WITHOUT THE PERMISSION OF THE AUTHOR.

FAÇADE CLADDING 4CH
RECP340612

DATE:	10/12/22	SCALE:	C-8	REVISION:	0	PROJECT:	USA
DESIGNED BY:	M.T.C.	CHECKED BY:	C.R.F.	DATE:	10/12/22	SCALE:	C-8
TECHNICAL DRAWING SPECIFICATION		ISOMETRIC VIEW		FRONT ELEVATION		PLAN	
SIDE ELEVATION							

ATTACHMENT 3

Site Images

Site Images Map

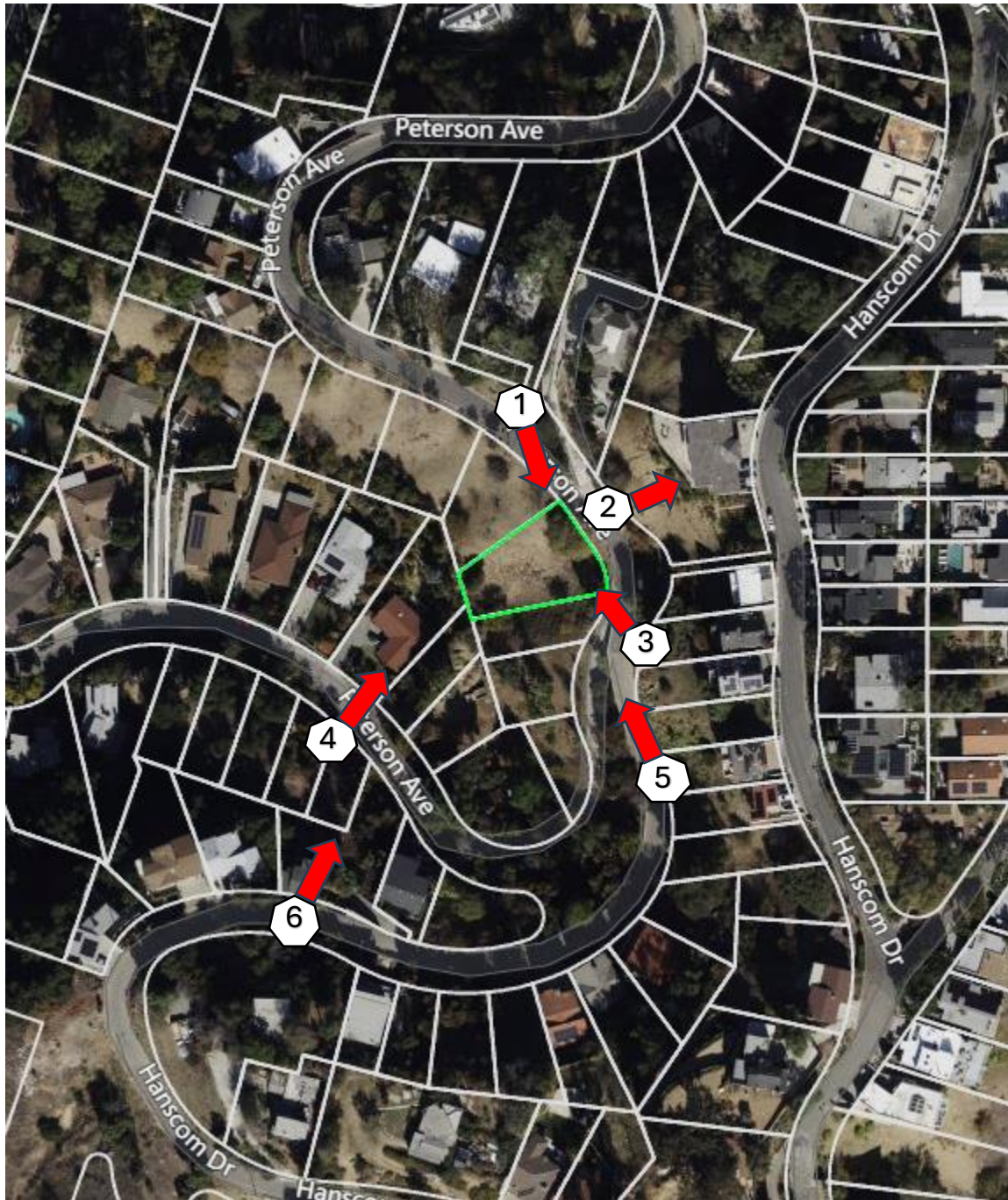


Image 1



Image 2

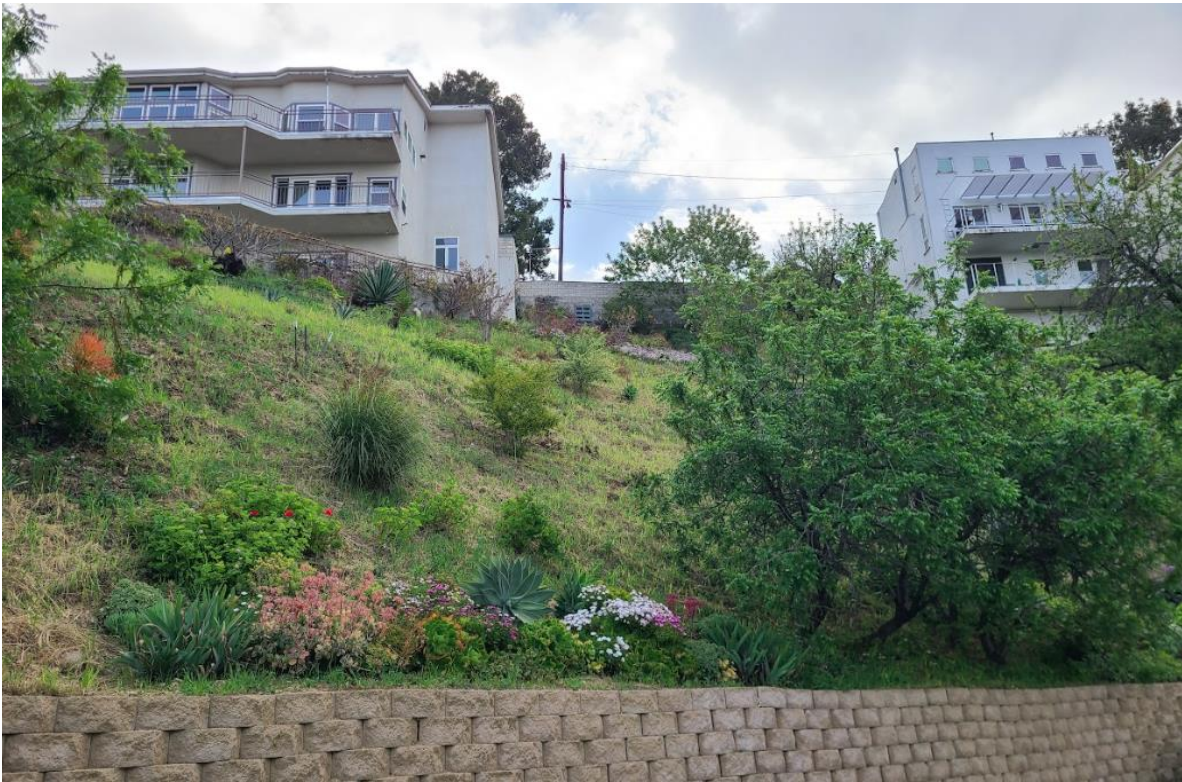


Image 3



Image 4



Image 5



Image 4

ATTACHMENT 4

Neighborhood Images

HOUSES IN THE PROJECT VICINITY



LA County | County of Los Angeles. Bu

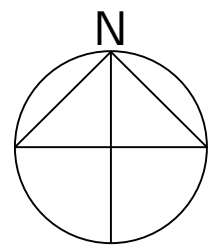
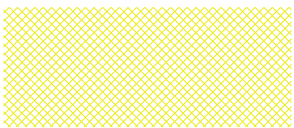
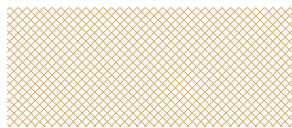


PHOTO MAP LEGEND



PROJECT SITE



VACANT LOT

PM-1



235 E MAIN STREET SUITE 200
ALHAMBRA CALIFORNIA 91801
TEL 626-570-9989 FAX 626-570-8104
EMAIL ARCHITECTGROUP@MSN.COM

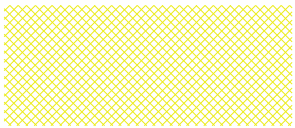
WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

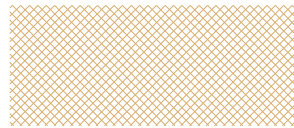
HOUSES IN THE PROJECT VICINITY



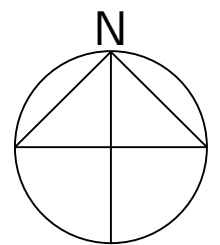
PHOTO MAP LEGEND



PROJECT SITE



VACANT LOT



PM-2



235 E MAIN STREET SUITE 200
ALHAMBRA CALIFORNIA 91801
TEL 626-570-9989 FAX 626-570-8104
EMAIL ARCHITECTGROUP@MSN.COM

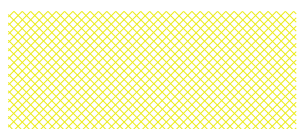
WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena

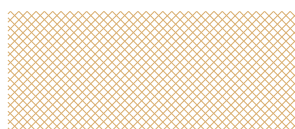
HOUSES IN THE PROJECT VICINITY



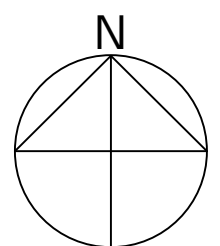
PHOTO MAP LEGEND



PROJECT SITE



VACANT LOT



PM-3



235 E MAIN STREET SUITE 200
ALHAMBRA CALIFORNIA 91801
TEL 626-570-9989 FAX 626-570-8104
EMAIL ARCHITECTGROUP@MSN.COM

WANG'S RESIDENCE

APN 5308-031-042
Peterson Avenue, South Pasadena



115 Peterson Avenue



117 Peterson Avenue



136 Peterson Avenue



156 Peterson Avenue



149 Peterson Avenue



149 Peterson Avenue



1811 Peterson Avenue



1811, 1815, 1817, 1821 Peterson Avenue



1824 Peterson Avenue



1832 Peterson Avenue



1878 Peterson Avenue



1878 Peterson Avenue



1883 Peterson Avenue



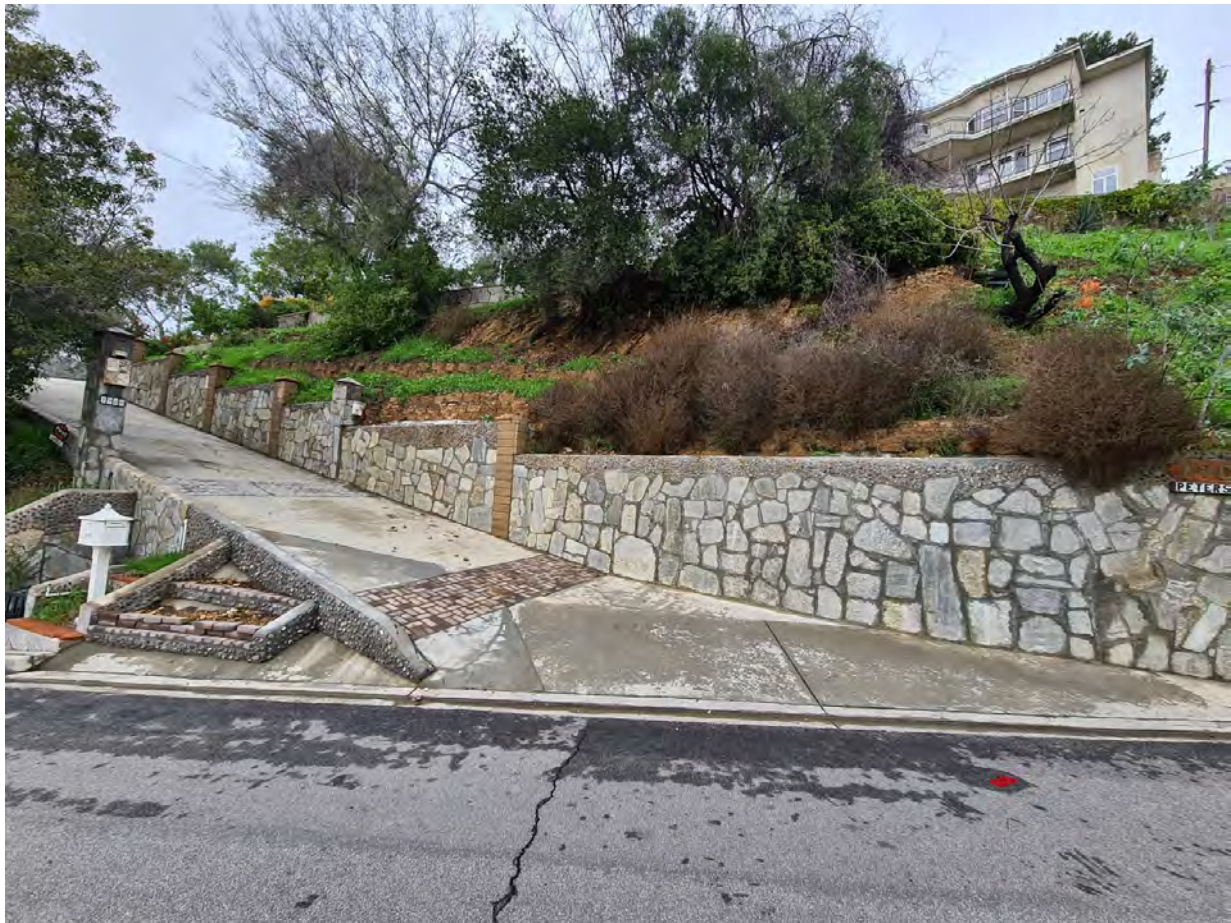
1883 Peterson Avenue



1871 Peterson Avenue



1883 Peterson Avenue



1900 Peterson Avenue



1742 Hill Drive



1703 Hanscom Drive



1711 Hanscom Drive



1723 Hill Drive



1725 Hill Drive



1727 Hanscom Drive



1727 Hanscom Drive



1905 Hanscom Drive



1937 Hanscom Drive



1923 Hanscom Drive



1923 Hanscom Drive



2066 Hanscom Drive



2076 Hanscom Drive



2072 Hanscom Drive



2072 Hanscom Drive



2075 Hanscom Drive



2075, 2077 Hanscom Drive



2080 Hanscom Drive



2080 Hanscom Drive



2084 Hanscom Drive



2083 Hanscom Drive



2089 Hanscom Drive



2106 Hanscom Drive



2114 Hanscom Drive



2115 Hanscom Drive



21108 Hanscom Drive



2083 Hanscom Drive



2135, 2141 Hanscom Drive



2141, 2145 Hanscom Drive



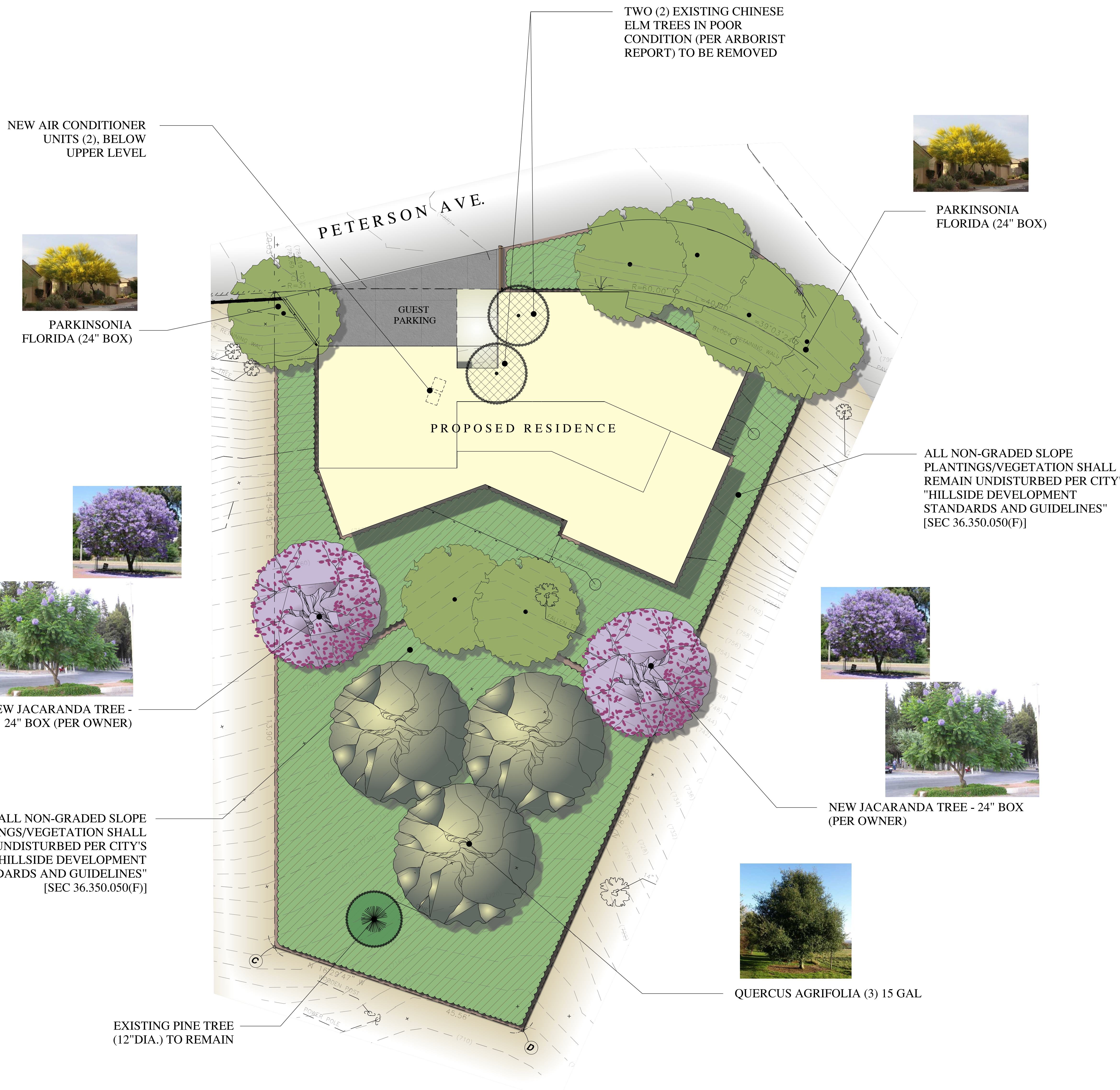
2100 Hanscom Drive



2100 Hanscom Drive

ATTACHMENT 5

Landscape Plan



PARKINSONIA FLORIDA (24" BOX)



PARKINSONIA FLORIDA (24" BOX)



NEW JACARANDA TREE - 24" BOX (PER OWNER)



NEW JACARANDA TREE - 24" BOX (PER OWNER)



QUERCUS AGRIFOLIA (3) 15 GAL

IRRIGATION & PLANTING NOTES:

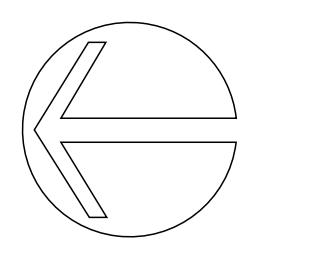
1. ALL LANDSCAPE AREAS SHALL RECEIVE A WATER CONSCIOUS AUTOMATIC IRRIGATION SYSTEM. DRIP IRRIGATION SHALL BE UTILIZED WHERE EVER APPROPRIATE.
2. ALL ON - SITE PLANTING AND IRRIGATION SHALL BE MAINTAINED TO ENSURE WATER EFFICIENCY AND HEALTH APPEARANCE.
3. ALL UNSIGHTLY SITE APPARATUS SHALL BE SCREENED WITH 5 GALLON SHRUBS OR GREATER (BACK FLOW PREVENTERS, TRANSFORMERS, GAS METERS, AC UNITS ETC.)
4. THE CRITERIA OF CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE WILL BE CALCULATED & PROVIDED TO ASSURE COMPLIANCE OF EFFICIENT USE OF WATER WITHIN THE NEW DESIGNED LANDSCAPE PLAN

FRONTYARD HARDSCAPE NOTE:

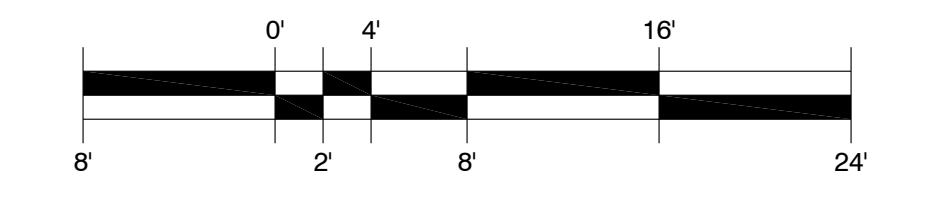
PERMEABLE : 1,000 SQ.FT.
NON-PERMEABLE : 449 SQ.FT.

PLANTING LEGEND

SYM.	BOTANICAL NAME	COMMON NAME	SIZE	W.U.	P.F.	QTY	COMMENTS
TREES:							
	JACARANDA MIMOSIFOLIA	JACARANDA	24" BOX	M	0.5	2	-
	QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GAL	M	0.5	3	-
	PARKINSONIA FLORIDA	BLUE PALO VERDE	24" BOX	L	0.2	7	-
SHRUBS:							
	EXISTING VEGETATION TO REMAIN PROTECTED, IN PLACE						



SCALE: 1/8" = 1'-0"



PROJECT # 22.39 DATE SEP 19, 2024

ATTACHMENT 6

Tentative Tree Removal Approval Letter



CITY OF SOUTH PASADENA

1414 MISSION, SOUTH PASADENA, CA 91030

TEL: 626.403.7241 • FAX: 626.403-7240

WWW.SOUTHPASADENACA.GOV

March 26, 2024

Ken Wang
Peterson Avenue (d308-031-042)
South Pasadena, CA 91030

Re: Tree Removal/Replacement Application

After reviewing your application, it has been determined to grant you a tentative approval for the removal of two (2) non-native, Chinese Elm (70", 22") trees located on the property subject to the following conditions:

1. The tree removal permit will be granted upon approval of the building permit, as per the South Pasadena Municipal Code (SPMC) Chapter 34.10(a)(5). A tree removal permit must be obtained prior to scheduling any work to remove or transplant a tree. This tentative approval is **exclusively** for the tree removal process and is not to be construed as Project approval.
2. Based on the size of the trees and species, the applicant is required to replace (16) sixteen trees and plant them on the property or on City property prior to project final.
- 3). As per the SPMC 34.10(a)(5), a deposit in the amount of \$6,784 (\$424 per tree) for the required replacement trees, in an amount sufficient to cover the cost of all required replacement trees, as determined by the city's arborist.

If you have any questions, please feel free to contact me at 626-403-7240.

Sincerely,

Leaonna DeWitt

Leaonna DeWitt
Public Works Assistant

cc: H. Ted Gerber, Public Works Director
Catrina Peguero, Public Works Operations Manager



ATTACHMENT 7

Preliminary Geotechnical Investigation Report



GeoMat Testing Laboratories, Inc.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

November 23, 2021

Project No.: 21242-01

TO: Mr. Ken Wang
147 Palatine Drive
Alhambra, California 91801

SUBJECT: Preliminary Geotechnical Investigation Report, Proposed New Residence, APN 5308-031-042 Peterson Avenue, South Pasadena, California

In accordance with your authorization, GeoMat Testing Laboratories, Inc. (GeoMat) is pleased to present our Preliminary Geotechnical Investigation Report for the proposed single-family residence at APN 5308-031-042 Peterson Avenue, South Pasadena, California. The accompanying report presents a summary of our findings, recommendations, and limitation of work for the proposed site development.

The primary purpose of this investigation and report is to provide an evaluation of the existing geotechnical conditions at the site as they relate to the design and construction of the proposed development. More specifically, this investigation was to address geotechnical conditions for the preliminary design of the foundation for the proposed residence.

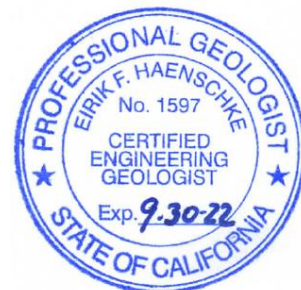
Based on the results of our investigation, the proposed development is feasible from a geotechnical standpoint and it is our professional opinion that the proposed development will not be subject to a hazard from settlement, slippage, or landslide, provided the recommendations of this report are incorporated into the proposed development. It is also our opinion that the proposed development will not adversely affect the geologic stability of the site or adjacent properties provided the recommendations contained in this report are incorporated into the proposed construction.

We appreciate the opportunity to assist you and look forward to future projects. If you should have any questions regarding this report, please do not hesitate to call our office. We appreciate this opportunity to be of service.

Submitted for GeoMat Testing Laboratories, Inc.



Haytham Nabilsi, GE 2375
Project Engineer



Eirik Haenschke, CEG 1597
Engineering Geologist

Distribution: (3) Addressee

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 EXISTING SITE CONDITIONS	1
1.2 PROPOSED DEVELOPMENT	1
1.3 FIELD WORK.....	1
1.4 LABORATORY TESTING.....	1
2.0 GEOTECHNICAL CONDITIONS	2
2.1 SUBSURFACE CONDITIONS	2
2.2 GROUNDWATER	2
2.3 EXPANSIVE SOIL.....	3
2.4 CORROSIVE SOIL	3
2.5 SEISMIC DESIGN PARAMETERS	3
2.6 REGIONAL GEOLOGY	4
2.7 REGIONAL FAULTING AND SEISMIC HAZARDS	4
2.8 SLOPE STABILITY	4
3.0 TENTATIVE RECOMMENDATIONS.....	6
3.1 SITE PREPARATION	6
3.2 EARTHWORK RECOMMENDATIONS	6
3.3 TEMPORARY EXCAVATIONS	7
3.4 TEMPORARY SHORING	8
3.5 DEEP FOUNDATION RECOMMENDATIONS	9
3.6 SLABS-ON-GRADE.....	10
3.7 RETAINING WALLS	11
3.8 SLOPE PROTECTION AND MAINTENANCE.....	13
3.9 SITE DRAINAGE	13
4.0 ADDITIONAL SERVICES.....	15
5.0 GEOTECHNICAL RISK.....	16
6.0 LIMITATION OF INVESTIGATION	16

ATTACHMENTS:

Figure 1	Site Location Map
Figure 2	Regional Geologic Map
Figure 3	Regional Fault Map
Figure 4	Regional Geologic Hazards Map
Plate 1	Geologic Site Map
Plate 2	Geologic Cross Sections A-A'
Plate 3	Geologic Cross Sections B-B'
Plate 4	Retaining Wall Surcharge Detail
Plate 5	Typical Retaining Wall Drainage Detail

APPENDIX:

Appendix A	Selected References
Appendix B	Geotechnical Borehole Logs
Appendix C	Laboratory Test Results
Appendix D	2019 CBC Seismic Design Parameters
Appendix E	Slope Stability Analysis
Appendix F	General Earthwork and Grading Specifications
Appendix G	Slope Maintenance Guidelines

1.0 INTRODUCTION

1.1 EXISTING SITE CONDITIONS

The subject site is located on the west side of the Hanscom Drive and Peterson Avenue intersection in South Pasadena, California. Access on site is from Peterson Avenue which is a paved road with existing concrete curb and gutter improvements. The geographical relationship of the site and surrounding vicinity is shown on the Site Location Map, Figure 1.

The site is undeveloped consisting mostly of light seasonal grasses and several mature trees. The site is located on a westerly facing slope with gradients generally ranging between 1.2H:1V to 1.8H:1V for a total relief onsite equal to 74 feet.

1.2 PROPOSED DEVELOPMENT

We understand that the site is proposed for the development of a single-family residence. It is anticipated that the structure will consist of two to three levels and be supported on deep caisson foundations, retaining walls, and concrete slab-on-grade. We also assume continuous wall loads are not expected to exceed 2 kips per linear foot and isolated column loads of up to 18 kips.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. GeoMat should be contacted to determine the necessity for review and possible revision of this report.

1.3 FIELD WORK

On October 11, 2021 four exploratory test pits were excavated on the site to observe the nature and condition of the onsite soils and bedrock, and to retrieve undisturbed and bulk samples for laboratory testing. The test pits ranged in depth from approximately 5' to 12' and were logged in the field by our certified engineering geologist. Locations of the exploratory test pits are presented on Plate 1 and detailed logs of the exploratory test pits are presented in Appendix B of this report.

1.4 LABORATORY TESTING

Laboratory tests were performed on selected soil samples. The tests consisted primarily of the following:

- Moisture Content (ASTM D2216)
- Dry Density (ASTM D2937)
- Sieve Analysis (ASTM C136)
- Direct Shear (ASTM D3080)
- Expansion Index (ASTM D4829)
- Soluble Sulfate Content (Extinction/Turbidimetric Method)

The soil classifications are in conformance with the Unified Soil Classifications System (USCS), as outlined in the Classification and Symbols Chart (Appendix B). A summary of our laboratory testing, ASTM designation, and graphical presentation of test results is presented in Appendix C.

2.0 GEOTECHNICAL CONDITIONS

2.1 SUBSURFACE CONDITIONS

Detailed logs of the exploratory excavations are presented in Appendix B of this report. The earth materials encountered within the exploratory excavations are generally described below. The distribution of soil and bedrock, and bedding structure in the subsurface are illustrated on Geologic Cross Sections A-A', included as Plate 2 and 3. The generalized subsurface profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations of samples. Actual soil transitions may vary and are probably more erratic.

2.1.1 Artificial Fill

Artificial (man-placed) fill soils associated with grading for Peterson Road construction appear to have involved filling a pre-existing topographic gully, which traversed westerly to southwesterly through the subject lot from the inside curvature of Peterson Road. Fill soils were encountered beneath the upper portion of the lot to depths ranging up to 12'+ in TP-2 and 9'+ in TP-4, which were positioned over the former gully alignment. The fill consisted of sandy silt to silty sand with numerous siltstone fragments, was generally firm to medium dense in consistency, and dry to slightly moist at the time of subsurface exploration. An interval of minor caving was noted within TP-2 at a depth range of 5' to 7', where the fill consisted predominantly of siltstone fragments with little soil matrix.

2.1.2 Colluvium

Natural colluvial soils were encountered in test pits TP-1 and TP-3, beneath the surface and/or any fill present, and overlying bedrock. The colluvium layer was approximately 2'6" to 3'6" thick where encountered, and consisted of dark brown sandy clayey silt with siltstone fragments.

2.1.3 Bedrock

Native bedrock consisting of tan sandstone and gray siltstone was encountered in the lower portions of test pits TP-1 and TP-3, beneath the colluvium, to the total depths explored. The bedrock was well indurated and well bedded. Bedding structure observed in TP-1 and TP-3, and in isolated outcrops near the lower western limits of the site, exhibited strikes bearing N80E to N85E and dipped 35° to 55° northwesterly. The bedding structure is anticipated to be generally neutral with respect to overall stability of the westerly-descending slope.

2.2 GROUNDWATER

No seepage or ground water was encountered within any of the test pit excavations to the total depth explored of 12' beneath the surface. Due to the elevation of the site with respect to natural drainage courses, regional ground water is not expected to be a significant factor during construction of the proposed project.

Please note that the potential for rain or irrigation water locally seeping through from elevated areas and showing up near grades cannot be precluded. Our experience indicates that surface or near-surface groundwater conditions can develop in areas where groundwater conditions did not exist prior to site development, especially in areas where a substantial increase in surface water infiltration results from landscape irrigation. Fluctuations in perched water elevations are likely to occur in the future due to variations in precipitation, temperature, consumptive uses, and other factors including mounding of perched water over bedrock or natural soil. Mitigation for nuisance shallow seeps moving from elevated lower areas will be needed if encountered. These mitigations may include subdrains, horizontal drains, toe drains, french drains, heel drains or other devices.

2.3 EXPANSIVE SOIL

Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade.

Based on laboratory testing, the upper foundation soil onsite is expected to have a medium expansion potential (EI=51), as defined in ASTM D4829. This would require verification subsequent to completion of new footing excavations.

2.4 CORROSIVE SOIL

To preliminarily assess the sulfate exposure of concrete in contact with the site soils, a representative soil sample was tested for water-soluble sulfate content. The test results suggest the site soils have a negligible potential for sulfate attack (0.0375 percent) based on commonly accepted criteria. We recommend following the procedures provided in ACI 318-19, Section 19.3, Table 19.3.2.1 for exposure “S0”. We recommend Type II cement for all concrete work in contact with soil.

Ferrous metal pipes should be protected from potential corrosion by bituminous coating, etc. We recommend that all utility pipes be nonmetallic and/or corrosion resistant. Recommendations should be verified by soluble sulfate and corrosion testing of soil samples obtained from specific locations at the completion of rough grading.

2.5 SEISMIC DESIGN PARAMETERS

Based on current standards, the proposed development is expected to be designed in accordance with the requirements of the 2019 California Building Code (CBC). The 2019 California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height.

Based on the soils encountered in the exploratory borehole within the subject site and with consideration of the geologic units mapped in the area, it is our opinion that the site soil profile corresponds to Site Class C in accordance with Section 1613.2.2 of the California Building Code (CBC 2019) and Chapter 20 of ASCE/SEI 7-16.

We have downloaded the seismic design parameters in accordance with the provisions of the current California Building Code (CBC, 2019) and ASCE/SEI 7-16 Standard using the Structural Engineers Association of California, OSHPD Seismic Design Maps Web Application (<https://seismicmaps.org>). The mapped seismic parameters are attached to this report in Appendix D.

Parameter	ASCE 7-16	2019 CBC	Coefficient	Value
0.2-second Period MCE	Figure 22-1	Figure 1613.2.1(1)	S _S	2.108
1.0-second Period MCE _R	Figure 22-2	Figure 1613.2.1(2)	S ₁	0.726
Soil Site Class	Figure 20.3-1	Section 1613.2.2	Site Class	C
Site Coefficient	Figure 11.4-1	Section 1613.2.3(1)	F _a	1.200
Site Coefficient	Figure 11.4-2	Section 1613.2.3(2)	F _v	1.400
Adjusted MCE Spectral Response Parameters	Equation 11.4-1	Equation 16-36	S _{MS}	2.529
	Equation 11.4-2	Equation 16-37	S _{M1}	1.017
Design Spectral Acceleration Parameters	Equation 11.4-3	Equation 16-38	S _{DS}	1.686
	Equation 11.4-4	Equation 16-39	S _{D1}	0.678

2.6 REGIONAL GEOLOGY

The subject property consists of an undeveloped residential lot situated on a slope descending westerly from Peterson Road, in the city of South Pasadena. According to published geologic mapping (Dibblee, 1989, Figure 2) the lot is underlain by siltstone, siliceous shale and sandstone bedrock of the Monterey Formation, of Miocene geologic age. Bedding structure within the bedrock is indicated to dip northerly to northeasterly at inclinations of 21°.

2.7 REGIONAL FAULTING AND SEISMIC HAZARDS

There are no mapped active or potentially active faults with surface expression that trend through or are adjacent to the subject property based on the references cited. The site does not lie within a designated Alquist-Priolo Earthquake Fault Zone (CDMG, 2000).

According to the Fault Activity Map of California (2010), the closest Holocene-active fault system to the site is the Raymond fault zone, located approximately 1 mile north of subject property (Figure 3). The Hollywood-Raymond fault system, capable of producing an M6.5 earthquake, extends along the southern edge of the Santa Monica Mountains, coalescing with the active Malibu Coast fault to the west. Portions of the Santa Monica-Hollywood fault trace are indicated to be Holocene-active and are designated as Alquist-Priolo Earthquake Fault Zones (CDMG, 2000 and 2014).

According to the Fault Activity Map of California (2010), the site also lies approximately 8 miles southwest of the Sierra Madre fault zone, capable of producing an M6-7 earthquake (Figure 3).

Based on the Seismic Hazard Zone Report for the Los Angeles 7.5-Minute Quadrangle (1998), peak ground accelerations anticipated at the site are reported to be 0.50g for firm rock conditions, with a 10% probability of being exceeded in 50 years. The estimated ground shaking is derived from statewide seismic hazard evaluation released cooperatively by the California Division of Mines and Geology and United States Geological Survey based on long-term slip rate, maximum earthquake magnitude and rupture geometry, and historical seismicity associated with known fault sources in the site vicinity.

The subject site, as is the case with most of the tectonically-active Southern California area, will be periodically subject to moderate to intense earthquake-induced ground shaking from nearby faults. Considerable damage can occur to the site and structural improvements during a strong seismic event. Neither the location nor magnitude of earthquakes can accurately be predicted at this time.

2.7.1 Secondary Seismic Hazards

According to the Seismic Hazard Zones Map (see Figure 4) published by the State of California, Division of Mines and Geology, Los Angeles Quadrangle (1998), the site **is not** indicated to lie within a zone of potential seismic liquefaction hazard. Additionally, the site **is not** indicated to lie within a zone considered to be potentially susceptible to seismically-induced slope failure.

2.8 SLOPE STABILITY

The stability of the slope configuration at the subject site was evaluated by analyzing the elevations obtained from the Slope Analysis Survey, prepared by Matthew P. Arrington, PLS (dated April 7, 2021) as depicted on our Geologic Site Map on Plate 1 and in our Geotechnical Cross Sections on Plates 2 and 3.

2.8.1 Soil Strength Parameters

The bedrock and soil materials onsite will be modeled utilizing ultimate shear strength parameters. The shear strength parameters for the existing bedrock used in the stability analyses were based on laboratory test results of relatively undisturbed soil samples obtained from the onsite material. The following table summarizes the parameters used in the stability analysis.

Analysis Type	Material	Strength Parameter	Friction Angle (°)	Cohesion (psf)	Unit Weight (pcf)
Surficial/Global	Soil	Ultimate Strength	$\phi = 28$	C = 274	$\gamma = 120$
Global	Bedrock	Ultimate Strength	$\phi = 37$	C = 435	$\gamma = 120$

2.8.2 Surficial Stability

Surficial stability of the slope was analyzed for the onsite slope assuming an infinite 1H:1V slope with seepage parallel to the slope surface and consistent subsoil profile. The failure plane for this case is parallel to the surface of slope and the limit equilibrium method can be applied readily. The following factor of safety is derived from a homogeneous c- ϕ soil based on effective stress analysis. The results of the analyses indicate that the existing slopes have a minimum factor of safety of 1.50 for surficial stability under static condition.

$$\text{Factor of Safety} = \frac{C + H \cdot \gamma_b \cdot \cos^2(\beta) \tan(\phi)}{\gamma_{\text{sat}} \cdot H \cdot \sin(\beta) \cos(\beta)}$$

Where:

H =	4 feet	(saturation zone)
γ_b =	58 pcf	(buoyant soil unit weight)
γ_{sat} =	130 pcf	(saturated soil unit weight)
β =	33.7 °	(slope angle)

2.8.3 Global Stability Analysis

Global stability analysis was performed on the easterly facing slope to evaluate the probable static and dynamic gross stability of the proposed slope configuration. The stability of the slope conditions was analyzed using Bishop's method of slices through the software program Geostase (Gregory Geotechnical v.30.31).

Our analyses indicate that the proposed slope has a minimum factor of safety of 1.53 and 1.11 under static and pseudo-static conditions, respectively. Based on our field observation and slope stability analyses, the existing slopes are considered stable. The results of the slope stability analyses are provided in Appendix E of this report.

Continuing stability of the slope will greatly depend on controlling the water, proper planting and maintaining the drainage for proper functioning. Drainage control measures recommended in this report and the project civil engineer should be implemented during site development.

3.0 TENTATIVE RECOMMENDATIONS

3.1 SITE PREPARATION

3.1.1 Option 1: Grading Option

All debris, undocumented fill, abandoned utility lines, roots, irrigation appurtenances, underground structures, deleterious materials, etc., should be removed and hauled offsite. Cavities created during site clearance should be backfilled in a controlled manner.

The existing artificial fill onsite is not considered suitable for support of new footings, floor slabs on grade, driveways, hardscape/flatwork, or other exterior site improvements. The existing fill soils should be completely removed and replaced as properly compacted fill to provide support for the proposed slabs, driveway, hardscape, etc.

It is anticipated that the fill removal excavations will need to utilize shoring and/or slot cuts along Peterson Avenue to prevent undermining of the roadway. Additionally, the installation of canyon subdrain(s) will likely be required due to the local topography and subsurface geologic conditions.

This option would also require all existing onsite “non-conforming” slopes to be brought up to the current local governing Building Code standards with retaining walls and grading. The grading will likely consist of a fill slope constructed with a keyway and retaining wall along the western property line and benching into competent native soil as you work up the slope.

Fill to be placed on ground steeper than 5H:1V should be provided at the toe with at least two feet deep keyway. The keyway should be at least one equipment width inclined at rate of two percent inward. All keyways should be observed prior to starting fill slope construction. As fill progresses upslope, graded fill should be benched into competent bedrock. All slopes should be compacted to at least 90 percent of the maximum dry density; to the outer slope face.

We recommend overfilling the slopes and then trimming back to expose compacted engineered fill or backrolling slope face at grade with heavy equipment. It is recommended that all slopes be planted subsequent to construction. As a minimum, Slope Maintenance Guidelines for Homeowners presented in Appendix G should be followed for this purpose.

3.1.2 Option 2: No Grading Option

As an alternative to the excavation and recompaction of the existing fill soils, the proposed residence may be supported on a structural slab and pile foundations extending through the fill and into the underlying bedrock.

This option is only viable if the governing Building Department permits and the owner accepts the risk of some settlement and greater than normal future maintenance on all site improvements that are not supported on pier foundations (concrete hardscape and flatwork improvements, etc.).

3.2 EARTHWORK RECOMMENDATIONS

The following recommendations are provided regarding aspects of the anticipated earthwork construction. These recommendations should be considered subject to revision based on additional geotechnical evaluation of the conditions observed by the Geotechnical Engineer during grading operations. All grading should be performed in accordance with our General Earthwork and Grading Specifications presented in Appendix F except as modified within the text of this report.

3.2.1 Trench Backfill

All utility trench backfill should be mechanically compacted to the minimum requirements of at least 90 percent relative compaction. Onsite soils derived from trench excavations can be used as trench backfill except for deleterious materials. Soils with sand equivalent greater than 30 may be utilized for pipe bedding and shading. Pipe bedding should be required to provide uniform support for piping. Excavated material from footing trenches should not be placed in slab-on-grade areas unless properly compacted and tested.

3.2.2 Compacted Fills/Imported Soils

Any soil to be placed as fill, whether presently onsite or import, should be approved by the soil engineer or his representative prior to their placement. All onsite soils to be used as fill should be cleansed of any roots, or other deleterious materials. Rocks larger than 8-inches in diameter should be removed from soil to be used as compacted fill.

All fills should be placed in 6- to 8-inch loose lifts, thoroughly watered, or aerated to near optimum moisture content, mixed and compacted to at least 90 or 95 percent relative compaction depending on the material (subgrade soil or aggregate base) and application (pavement subgrade, building pad, etc.). This is relative to the maximum dry density determined by ASTM D1557 Test Method.

Any imported soils should be sandy (preferably USCS "SM" or "SW", and very low in expansion potential) and approved by the soil engineer. The soil engineer or his representative should observe the placement of all fill and take sufficient tests to verify the moisture content and the uniformity and degree of compaction obtained.

3.3 TEMPORARY EXCAVATIONS

All excavation slopes and shoring systems should meet the minimum requirements of the Occupational Safety and Health (OSHA) Standards. Maintaining safe and stable slopes on excavations is the responsibility of the contractor and will depend on the nature of the soil conditions encountered and his method of excavation. Excavations during construction should be carried out in such a manner that failure or ground movement will not occur. The contractor should perform any additional studies deemed necessary to supplement the information contained in this report for the purpose of planning and executing his excavation plan.

3.3.1 Cal/OSHA Soil Type

The subsurface material expected to be encountered during site development may be classified as "Soil Type B" per the California Occupational Safety and Health Administration (Cal/OSHA). However, the exposed excavation conditions should be verified by the project engineering geologist during site excavations.

3.3.2 Excavation Characteristics

The site is underlain by relatively shallow very dense sandstone bedrock which should be expected to exhibit difficult excavation resistance for smaller excavating equipment like rubber tire backhoes.

3.3.3 Safe Un-Surcharged Vertical Cuts

Temporary un-surcharged excavations of 4 feet high may be made at a vertical gradient for short periods of time. Temporary un-surcharged excavations greater than 4 feet may be trimmed back at 1H:1V gradients to a maximum height of 12 feet. Exposed excavation conditions should be verified by the project geotechnical engineer during construction. No excavations should take place without the direct supervision of the project geotechnical engineer. If potentially unstable soil conditions are encountered, modifications of slope ratios for temporary cuts may be required.

3.3.4 Excavation Setbacks

No excavations should be conducted, without special considerations, along property lines, public right-of-ways, or existing foundations, where the excavation depth will encroach within the “zone of influence”. The “zone of influence” of the existing footings, property lines, or public right-of-way may be assumed to be below a 45-degree line projected down from the bottom edge of the footing, property line, or right-of-way.

3.4 TEMPORARY SHORING

Where there is not sufficient space for sloped embankments, temporary shoring consisting of steel soldier piles placed in drilled holes and backfilled with concrete may be utilized.

3.4.1 Lateral Pressures

For design of cantilevered shoring, a triangular distribution of lateral earth pressure may be used. It may be assumed that the retained soils, with a level surface behind the cantilevered shoring, will exert a lateral pressure equal to that developed by a fluid with the density of 30 pounds per cubic foot.

For the design of braced shoring, we recommend a rectangular distribution of lateral earth pressures with the maximum pressure equal to $28H$ in pounds per square foot, where H is the height of the shoring in feet. The distribution given is made assuming that the soils behind the shoring are dewatered.

3.4.2 Surcharge Loading

Any surcharge (live or dead load) located within a 1(H):1(V) plane drawn up from the bottom of the excavation should be added to the lateral earth pressures. As a minimum, a 2-foot uniform soil surcharge, i.e., 240 psf, is recommended to be included to account for nominal construction surcharge. The contribution of this vertical uniform surcharge to lateral loading on the shoring may be calculated by multiplying the surcharge by the coefficient of lateral earth pressure ($K_a = 0.33$ for cantilever shoring and $K_o = 0.50$ for Braced shoring).

3.4.3 Soldier Piles

All soldier piles should extend to a sufficient depth below the excavation bottom to provide the required lateral resistance. We recommend the required embedment depths be calculated based on the principles of force and moment equilibrium.

For the design of soldier piles spaced at least two diameters on centers, the allowable lateral bearing value (passive value) of the soils below the level of excavation may be assumed to be 600 pounds per square foot per foot of depth at the excavated surface, up to a maximum of 6000 pounds per square foot.

To develop full lateral resistance, provisions should be taken to assure firm contact between the soldier piles and undisturbed bedrock material. The concrete placed in the soldier pile excavations may be a lean-mix concrete. However, the concrete used in that portion of the soldier pile that is below the planned excavated level should provide sufficient strength to adequately transfer the imposed loads to the surrounding materials.

In addition, provided that the portion of the soldier piles below the excavated level is backfilled with structural concrete, the soldier piles below the excavated level may be used to resist downward loads. For resisting the downward loads, the frictional resistance between the concrete soldier piles and the soils below the excavated level may be taken equal to 700 pounds per square foot.

3.4.4 Lagging

Continuous lagging will be required between the soldier piles. The soldier piles should be designed for the full anticipated lateral pressure. However, the pressure on the lagging will be lower due to arching in the soils. We recommend that the lagging be designed for the recommended active earth pressure but limited to a maximum value of 400 pounds per square foot. The pressure distribution for the lagging may be assumed to be semi-circular, where the pressure at the soldier pile is zero, and the pressure at the center is 400 pounds per square foot.

3.4.5 Deflection

It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that the deflection be minimized to prevent damage to existing structures and adjacent improvements. The allowable deflection is dependent on many factors, such as the presence of structures and utilities, and will be assessed and designed by the project shoring engineer.

3.4.6 Monitoring

Some means of monitoring the performance of the shoring system is recommended. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all the soldier piles. In addition, we recommend that the adjacent sidewalks, streets and nearby buildings be surveyed for horizontal and vertical locations. Also, a careful survey of existing cracks and offsets in the nearby buildings would be prudent and recorded; photographic records should be made to document the pre-construction conditions of the nearby existing buildings.

3.5 **DEEP FOUNDATION RECOMMENDATIONS**

Caisson foundations (Drilled Piers) should be at least 30 inches in diameter and embedded at least 10 feet into competent bedrock. The caisson diameter and embedment depth recommendations presented in this report are considered the minimum necessary for the soil conditions present at the foundation level and are not intended to supersede the design of the project structural engineer or criteria of the governing agencies for the project. Minimum foundation setback should be per the current building code.

3.5.1 Axial Capacity

The axial load capacity of caissons should be designed as friction piles with no end bearing. An allowable skin friction value of 700 psf may be utilized for the portion of the pile embedded in competent bedrock. Single pile uplift capacity may be taken as 50% of the allowable downward capacity. The allowable downward capacity and allowable uplift capacity may be increased by one-third when considering transient wind or seismic loads.

3.5.2 Lateral Resistance

An allowable passive earth pressure, for the sides of piles poured against competent bedrock, may be computed as an equivalent fluid having a density of 300 pounds per cubic foot with a maximum earth pressure of 3000 pounds per square foot. The allowable capacity may be doubled for isolated caissons/piles spaced more than two diameters apart. These allowable capacities may be increased by one-third when considering transient loads such as wind or seismic forces. The lateral deflection of the pier should be limited to 1/2-inch maximum under combined service level shear and moment loadings.

3.5.3 Caisson Settlement

Following the above recommended design parameters, the total estimated settlement of piers should not exceed 1/2-inch and differential settlement should not exceed 1/8-inch per adjacent piers.

3.5.4 Additional Recommendations

If necessary, a continuous grade beam foundation may be placed across the top of the caisson foundations and the appropriate span between caissons should be determined by a qualified structural engineer.

The compressive and tensile strength of piers should be checked to verify the structural capacity of the pier. Reinforcement of piers should be verified and specified by the structural engineer for vertical and lateral loading. Minimum reinforcement of 1% is recommended.

3.5.5 Caisson Installation

The following recommendations are based upon tentative analysis of the geotechnical conditions at the project site and our understanding of the project. The project civil and structural engineers may require additional installation criteria based on other factors (type of pile, structural design, method of construction, etc.).

- The geotechnical engineer should provide full time observation during excavation and installation of all piers to observe subsurface conditions, and to document penetration into load supporting materials.
- The concrete mix design to be used in the pier construction should be established and approved by the structural engineer prior to the time of construction. Compression tests should be performed on samples of the concrete in accordance with applicable codes or requirements of the structural engineer. Inspection by qualified personnel should be provided during the concrete batching and during placement of pier steel and concrete.
- Piers located within three pier diameters of each other should be drilled and filled alternately so that concrete is permitted to set before drilling an adjacent pier. The time for initial set of the concrete will depend on the design mix and should be determined in the field at the time of construction. No fewer than 4 hours should be allowed for the concrete to set before drilling for an adjacent pier.
- No pier hole should be left open overnight. Since the exact pier installation process is not known at this time, it is important for GeoMat to be consulted relative to recommendations for placement criteria to aid in maintaining the integrity of the pier during placement.
- The bottoms of pier excavations should be relatively clean of loose soils and debris prior to placement of concrete. Any water encountered should be pumped from the boreholes prior to the placement of concrete, or placement of concrete should be by use of a tremie or pump line such that the water is displaced during the concrete placement. The volume of concrete placed should be measured to compare with the design volume.
- Installed piers should not be more than two percent (2%) from the plumb position.

3.6 **SLABS-ON-GRADE**

For the “No Grading” option, slabs will need to be designed as floating slabs without soil support. For the “Grading” option, slabs-on-grade should be supported on at least 12 inches of compacted fill bearing on competent bedrock or engineered fill. Slabs-on-grade should be at least 5-inches thick and reinforced with at least No. 4 bars at 12-inches on-center both ways, properly centered in mid thickness of slabs. The structural engineer should design the actual slab thickness and reinforcement based on structural load requirements.

3.6.1 Modulus of Subgrade Reaction

A coefficient of vertical subgrade reaction (K_v) of 130 psi/in may be assumed for compacted fill. The modulus of subgrade reaction was estimated based on the NAVFAC 7.1 design charts. This value is for a small loaded area (1 sq. ft or less) such as for wheel loads or point loads and should be adjusted for larger loaded areas, as necessary.

3.6.2 Capillary Break & Vapor Membrane

If vinyl or other moisture-sensitive floor coverings are planned, we recommend that the floor slab in those areas be underlain by a vapor membrane and capillary break consisting of a minimum 10-mil vapor-retarding membrane over a 4-inch thick layer of clean sand. The 4-inch thick layer of sand should be placed between the subgrade soil and the membrane to decrease the possibility of damage to the membrane. This recommendation meets the requirements laid out in the 2019 California Green Building Standards Code.

3.6.3 Slab Curling Precautions

A low-slump concrete should be used to minimize possible curling of the slab. Additionally, a layer of sand may be placed over the vapor retarding membrane to reduce slab curling. If this sand bedding is used, care should be taken during the placement of the concrete to prevent displacement of the sand. However, the need for sand and/or the thickness of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview.

3.6.4 Subgrade Exposure

Construction activities and exposure to the environment can cause deterioration of the prepared subgrade. Therefore, we recommend that our field representative observe the condition of the final subgrade soils immediately prior to slab-on-grade construction, and, if necessary, perform further density and moisture content tests to determine the suitability of the final prepared subgrade.

Additionally, the slab subgrade should be moisture conditioned to 2 to 4 percent above the optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to placing the vapor retarding membrane.

3.7 **RETAINING WALLS**

3.7.1 Shallow Foundations

The proposed retaining walls may be supported on conventional shallow foundation systems deriving support in compacted fill or native bedrock. Shallow and deep foundations should meet the minimum foundation-slope setback requirements of the current building code. All foundation excavations must be observed and approved by the Geotechnical Engineer's representative, prior to placing steel reinforcement or concrete.

Spread, continuous, or pad-type foundations carried at least 24-inches below the lowest adjacent grade may be designed to impose a net dead-plus-live load pressure of 2000 psf. A one-third increase may be used for wind or seismic loads.

Resistance to lateral footing will be provided by passive earth pressure and base friction. For footings bearing against firm native material, passive earth pressure may be considered to be developed at a rate of 220 psf per foot of depth to a maximum of 2000 psf, for compacted soil. Base friction may be computed at 0.40 times the normal load. If passive earth pressure and friction are combined to provide required resistance to lateral forces, the value of the passive pressure should be reduced to two-thirds the value.

The onsite soils below the foundation depth have relatively high strengths and will not be subject to significant stress increases from foundations of the new structure. Therefore, estimated total long-term static and seismic settlement between similarly loaded adjacent foundation systems should not exceed 1-inch. The structures should be designed to tolerate a differential settlement on the order of 1/2-inch over a 30-foot span.

Footing reinforcement should be determined by the structural engineer; however, minimum reinforcement should be at least two No. 4 reinforcing bars, top and bottom. Reinforcement and size recommendations presented in this report are considered the minimum necessary for the soil conditions present at the foundation level and are not intended to supersede the design of the project structural engineer or criteria of the governing agencies for the project.

3.7.2 Lateral Earth Pressures

The following lateral earth pressures and soil parameters may be used for the design of retaining walls with free draining compacted backfills. If passive earth pressure and friction are combined to provide required resistance to lateral forces, the value of the passive pressure should be reduced to two-thirds the following recommendations.

Lateral Earth Pressure Condition	Soil Backfill Condition	Equivalent Fluid Pressure (pcf)
Active Case (Drained)*	Level	43
	2H:1V	78
At-Rest Case (Drained)	Level	64
	2H:1V	92
Unit Soil Weight	120 pcf	

3.7.3 Seismic Earth Pressure

Retaining walls exceeding 6 feet in height shall be designed to resist the additional earth pressure caused by seismic ground shaking. A seismic load of 33 pcf should be used for design of walls that support more than 6 feet of backfill in accordance with Section 1803.5.12 of the 2019 CBC. This incremental pseudo-static pressure was calculated using the methods recommended in NAVFAC 7.2 and a horizontal coefficient equal to one-half of two-thirds PGA_M .

The seismic load is applied as an equivalent fluid pressure along the height of the wall and the calculated loads result in a maximum load exerted at the base of the wall and zero at the top of the wall. When using the load combination equations from the building code, the seismic earth pressure should be combined with the lateral active earth pressure for analyses of restrained basement walls under seismic loading conditions.

3.7.4 Surcharge Loading

Retaining walls should also be designed to resist any lateral surcharges due to the traffic, nearby buildings, construction loads, etc. Surcharge loads within a 1H:1V plane extending up from the base of the wall should be included in the design lateral pressures by multiplying the associated lateral earth pressure coefficient (see table above) with the applied surcharge load. This surcharge load should be applied as a uniform load along the height of the wall. Additional static lateral pressures due to other surcharge loadings in the vicinity of the wall can be estimated using the guidelines provided in Plate 4.

3.7.5 Waterproofing

The backfilled side of all retaining walls should be coated with an approved waterproofing compound or covered with a similar material to inhibit migration of moisture through the walls. It is recommended that the waterproofing system should be inspected and approved by the project civil engineer. The use of a water-stop should be considered for all concrete joints. We recommend contacting a waterproofing professional/consultant for specific recommendations for placement, sealing and protection of below grade walls.

3.7.6 Drainage and Backfill

We recommend drainage for retaining walls to be provided in accordance with Plate 5 of this report. The backdrain pipe should be connected to a system of closed pipe(s) (non-perforated) that lead to the storm runoff discharge facilities. Wall backdrain must be observed by the geotechnical engineer prior to wall backfill.

The above earth pressures assume that sufficient drainage will be provided behind the walls to prevent the build-up of hydrostatic pressures from surface and subsurface water infiltration. Back-cut distance for conventional retaining walls should be at least 18 inches to facilitate compaction. All retaining wall backfill must be compacted to at least 90 percent relative compaction (ASTM D-1557), utilizing equipment that will not damage the wall. Maximum precautions should be taken when placing drainage materials and during backfilling. Onsite soils may be used as backfill.

3.8 SLOPE PROTECTION AND MAINTENANCE

Proper slope protection and maintenance should help minimize erosion and improve the stability of the existing slopes. As a minimum the slope maintenance guidelines presented in Appendix G of this report should be followed. Additional precautions are:

- Any additional slope planting should be provided by a qualified landscape architect. GeoMat Testing Laboratories, Inc. strongly recommends that erosion and borrowing rodent control measures should be maintained.
- It is critical to provide periodic maintenance and repair of all slopes and drainage systems. Drainage system inlets, outlets, and spillways should be periodically inspected and cleaned of soil and debris.
- It is recommended that all project landscaping be provided with automatic sprinkler shutoffs in order to help prevent over-saturation of slope faces and help mitigate surficial slope instability problems. Leaks in the irrigation system should be fixed without delay.
- The slopes should be periodically inspected for evidence of cracking, erosion, and burrowing animals. Any problems should be repaired immediately.

3.9 SITE DRAINAGE

Adequate lot surface drainage is a very important factor in reducing the likelihood of adverse performance of foundations, hardscape, and slopes. Surface drainage should be sufficient to prevent ponding of water anywhere on a lot, and especially near structures and tops of slopes. Lot surface drainage should be carefully taken into consideration during fine grading, landscaping, and building construction. Therefore, care should be taken that future landscaping or construction activities do not create adverse drainage conditions.

Positive site drainage within common areas should be provided and maintained at all times. Drainage should not flow uncontrolled down any descending slope. Water should be directed away from foundations and not allowed to pond and/or seep into the ground. In general, the area within 5 feet around a structure should slope away from the structure. We recommend that unpaved lawn and landscape areas have a minimum gradient of 2 percent sloping away from structures, and whenever possible, should be above adjacent paved areas. Consideration should be given to avoiding construction of planters adjacent to structures.

Planters around the site should be provided with drainage. Planters adjacent to foundation, if constructed, should be provided with sealed bottom. Onsite drainage should be directed to approve drainage collection devices, per the civil engineer recommendations. Location of drainage devices should be in accordance with the design civil engineer's drainage and erosion control recommendations.

Pad drainage should be directed toward the street or other approved area(s). Although not a geotechnical requirement, roof gutters, downspouts, or other appropriate, means may be utilized to control roof drainage. Downspouts, or drainage devices, should outlet a minimum of 5 feet from structures or into a subsurface drainage system. Areas of seepage may develop due to irrigation or heavy rainfall, and should be anticipated. Minimizing irrigation will lessen this potential. If areas of nuisance seepage develop, recommendations such as subdrains, French drains, etc., for minimizing this effect could be provided upon request.

4.0 ADDITIONAL SERVICES

Plan Review

The recommendations provided in this report are based on preliminary design information and subsurface conditions as interpreted from an exploratory borehole drilled at the site. We should be retained to review the final project plans prior to construction. Our preliminary conclusions and recommendations must also be reviewed and verified during footing excavations, and revised accordingly if exposed geotechnical conditions vary from our preliminary findings and interpretations.

Additional Observation and/or Testing

GeoMat Testing Laboratories, Inc. should observe and/or test at the following stages of construction.

- During construction excavations and shoring installation.
- During footing excavation and prior to placement of footing materials.
- Following slab subgrade saturation for moisture testing.
- During all trench and wall backfills.
- When any unusual conditions are encountered.

5.0 GEOTECHNICAL RISK

The concept of risk is an important aspect of the geotechnical evaluation. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. The analytical tools which geotechnical engineers use are generally empirical and must be used in conjunction with engineering judgment and experience. Therefore, the solutions and recommendations presented in the geotechnical evaluation should not be considered risk-free and, more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as planned.

The engineering recommendations presented in the preceding sections constitute GeoMat Testing Laboratories professional estimate of those measures that are necessary for the proposed development to perform according to the proposed design based on the information generated and referenced during this evaluation, and GeoMat Testing Laboratories experience in working with these conditions.

6.0 LIMITATION OF INVESTIGATION

This report was prepared for the exclusive use on the new construction. The use by others, or for the purposes other than intended, is at the user's sole risk.

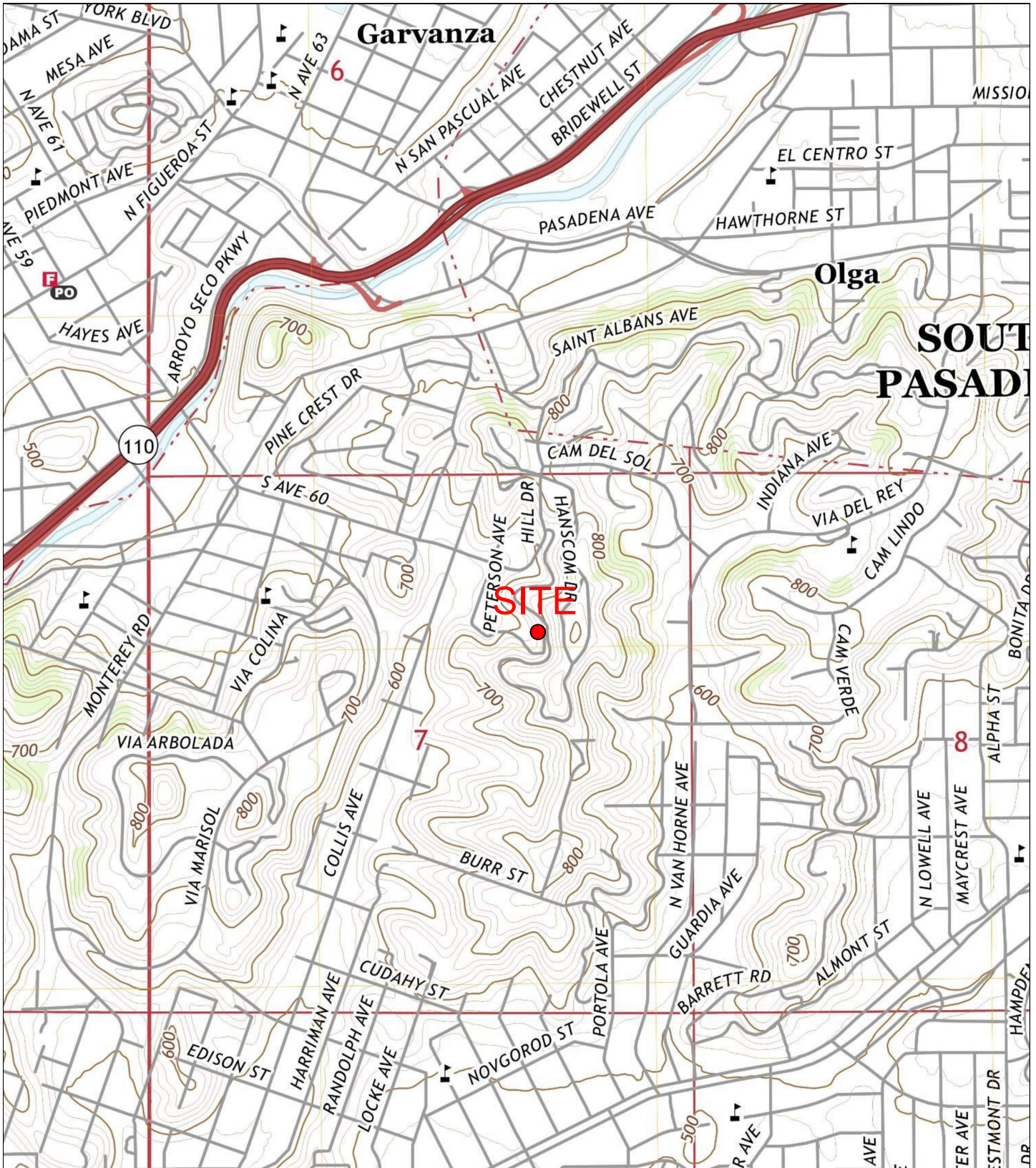
Our investigation was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable Geotechnical Engineers practicing in this or similar locations within the limitations of scope, schedule, and budget. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

The field and laboratory test data are believed representative of the site; however, soil conditions can vary significantly. As in most projects, conditions revealed during construction may be at variance with preliminary findings. If this condition occurs, the possible variations must be evaluated by the Project Geotechnical Engineer and adjusted as required or alternate design recommended.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the engineer for the development and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractor carry out such recommendations in the field.

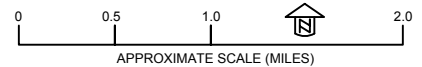
This firm does not practice or consult in the field of safety engineering. We do not direct the contractor's operations, and we cannot be responsible for other than our own personnel on the site; therefore, the safety of others is the responsibility of the contractor. The contractor should notify the owner if he considers any of the recommended actions presented herein to be unsafe.

The findings, conclusions, and recommendations presented herein are based on our understanding of the proposed development and on subsurface conditions observed during our site work, and are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge.



USGS, THE NATIONAL MAP, US TOPO, LOS ANGELES, 2018

ALL LOCATIONS ARE APPROXIMATE



APPROXIMATE SCALE (MILES)



GeoMat Testing Laboratories, Inc.
9980 Indiana Avenue, Suite 14,
Riverside, California

DWN BY:	AM
CHK'D BY:	MN
DATUM:	--
PROJECTION:	--
SCALE:	1" = 1/4 MILE
REV. NO.:	--

PROJECT: PRELIMINARY SOIL INVESTIGATION REPORT
APN 5308-031-042
SOUTH PASADENA, CALIFORNIA

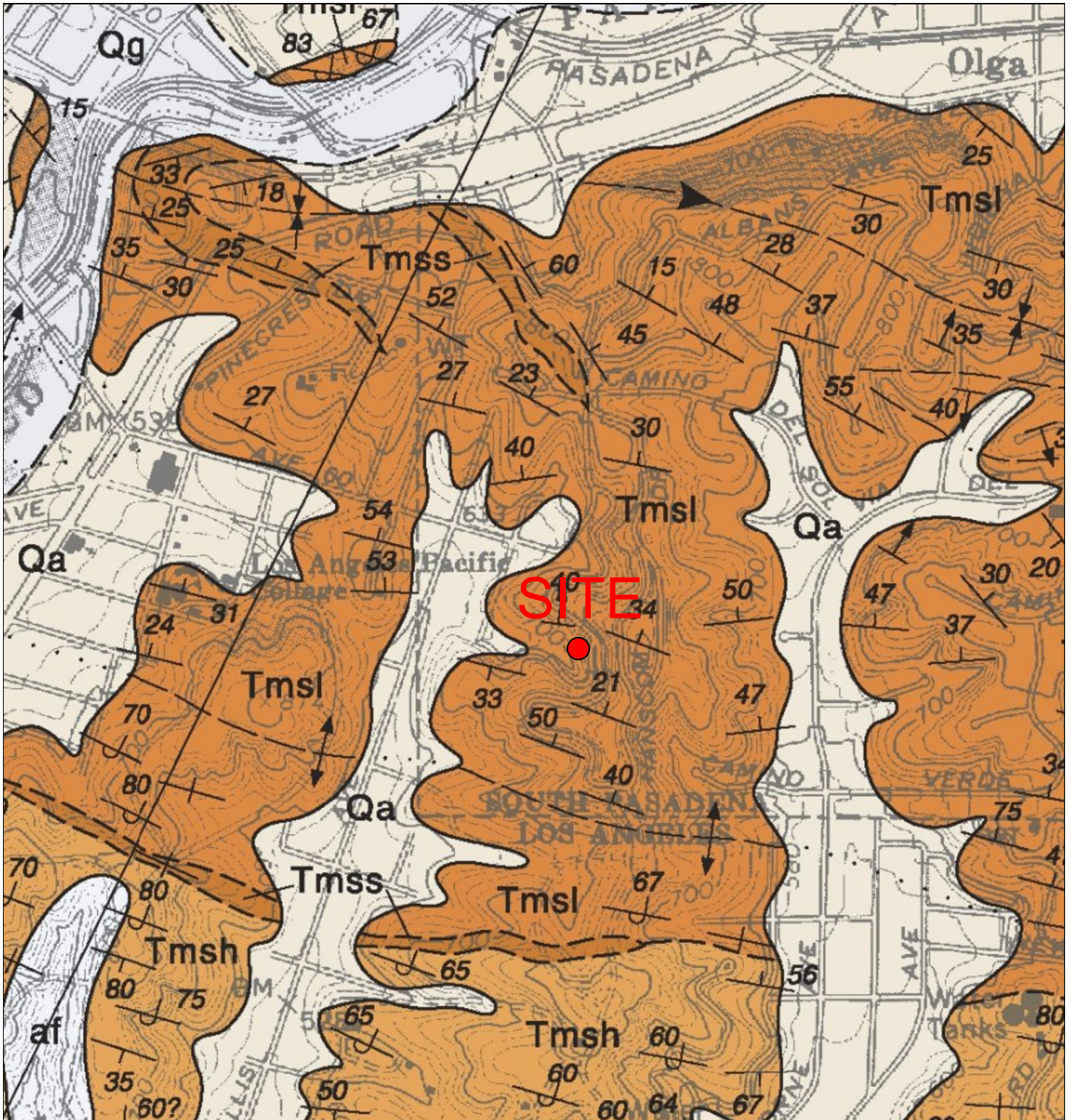
TITLE:

SITE LOCATION MAP

DATE: OCTOBER 2021

PROJECT NO.: 21242-01

FIGURE NO.: **Figure 1**



LEGEND:

Qa: younger alluvial floodplain deposits
 Qg: Alluvial clay and sand of valley areas
 af: Artificial fill
 Tmsl/Tmsh/Tmss: Monterey Formation

REFERENCE MAP:

Dibblee, T.W. and Ehrenspeck, H.E., ed., 1989, Geologic map of the Los Angeles quadrangle, Los Angeles County, California, Dibblee Geological Foundation, Dibblee Foundation Map DF-22, 1:24,000



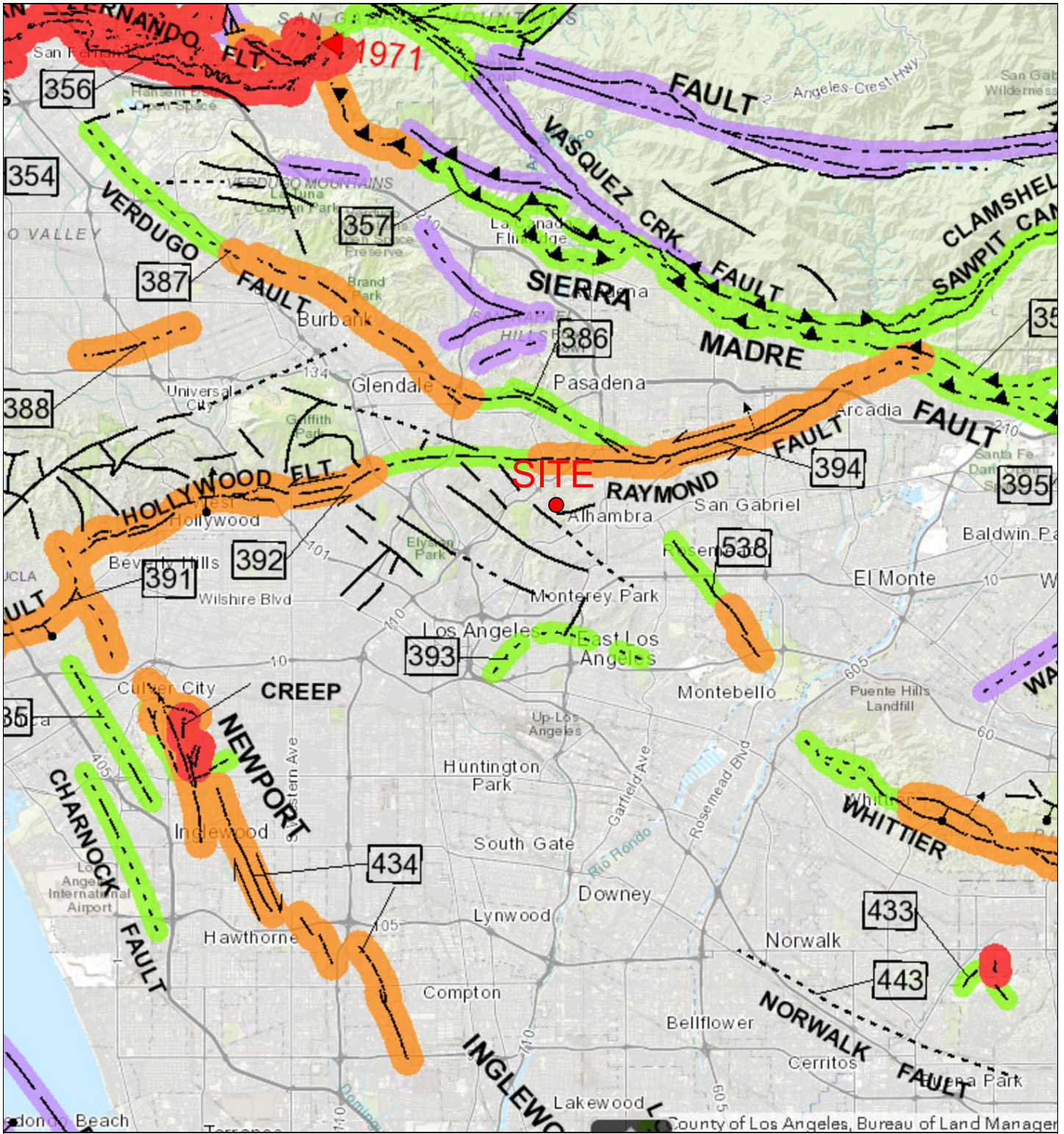
GeoMat Testing Laboratories, Inc.
 9980 Indiana Avenue, Suite 14,
 Riverside, California

DWN BY:	AM
CHKD BY:	MN
DATUM:	--
PROJECTION:	--
SCALE:	--
REV. NO.:	--

PROJECT: PRELIMINARY SOIL INVESTIGATION REPORT
 APN 5308-031-042
 SOUTH PASADENA, CALIFORNIA

TITLE:
REGIONAL GEOLOGIC MAP

DATE:	OCTOBER 2021
PROJECT NO.:	21242-01
FIGURE NO.:	Figure 2



FAULT EXPLANATION:

- Historic Fault Displacement
- Holocene Fault Displacement
- Evidence of Late Quaternary Fault Displacement
- Undivided Quaternary Faults

REFERENCES: Jennings, C.W. and Bryant, W.A., 2010, "Fault Activity Map of California," California Geological Survey, GDM-006, May 2010



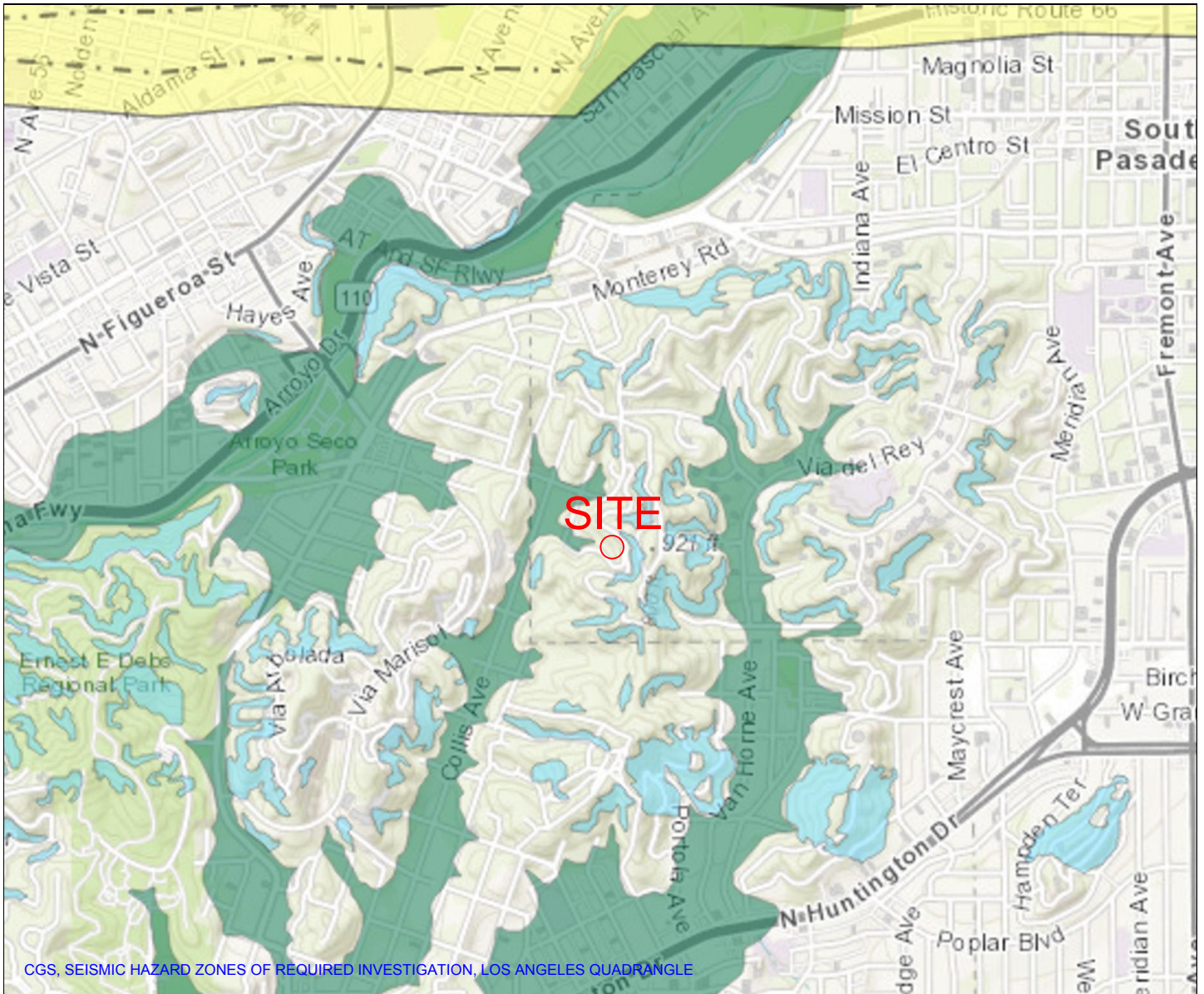
GeoMat Testing Laboratories, Inc.
9980 Indiana Avenue, Suite 14,
Riverside, California

DWN BY:	AM
CHK'D BY:	MN
DATUM:	--
PROJECTION:	--
SCALE:	--
REV. NO.:	--

PROJECT: PRELIMINARY SOIL INVESTIGATION REPORT
APN 5308-031-042
SOUTH PASADENA, CALIFORNIA


REGIONAL FAULT MAP


DATE:	OCTOBER 2021
PROJECT NO.:	21242-01
FIGURE NO.:	Figure 3





CGS, SEISMIC HAZARD ZONES OF REQUIRED INVESTIGATION, LOS ANGELES QUADRANGLE


MAP EXPLANATION


- 


Active Fault Traces
Faults considered to have been active during Holocene time and to have potential for surface rupture: Solid Line in Black or Red where Accurately Located; Long Dash in Black or Solid Line in Purple where Approximately Located; Short Dash in Black or Solid Line in Orange where Inferred; Dotted Line in Black or Solid Line in Rose where Concealed; Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake associated event or C for displacement caused by fault creep.
- 

Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.
- 

Overlap of Earthquake Fault Zone and Liquefaction Zone
Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone
- 

Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone
- 

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.
- 

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geologic, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2603(c) would be required.
- 

Overlapping Liquefaction and Earthquake-Induced Landslide Zones
Areas that lie within zones of required investigation for both liquefaction and earthquake-induced landslides.

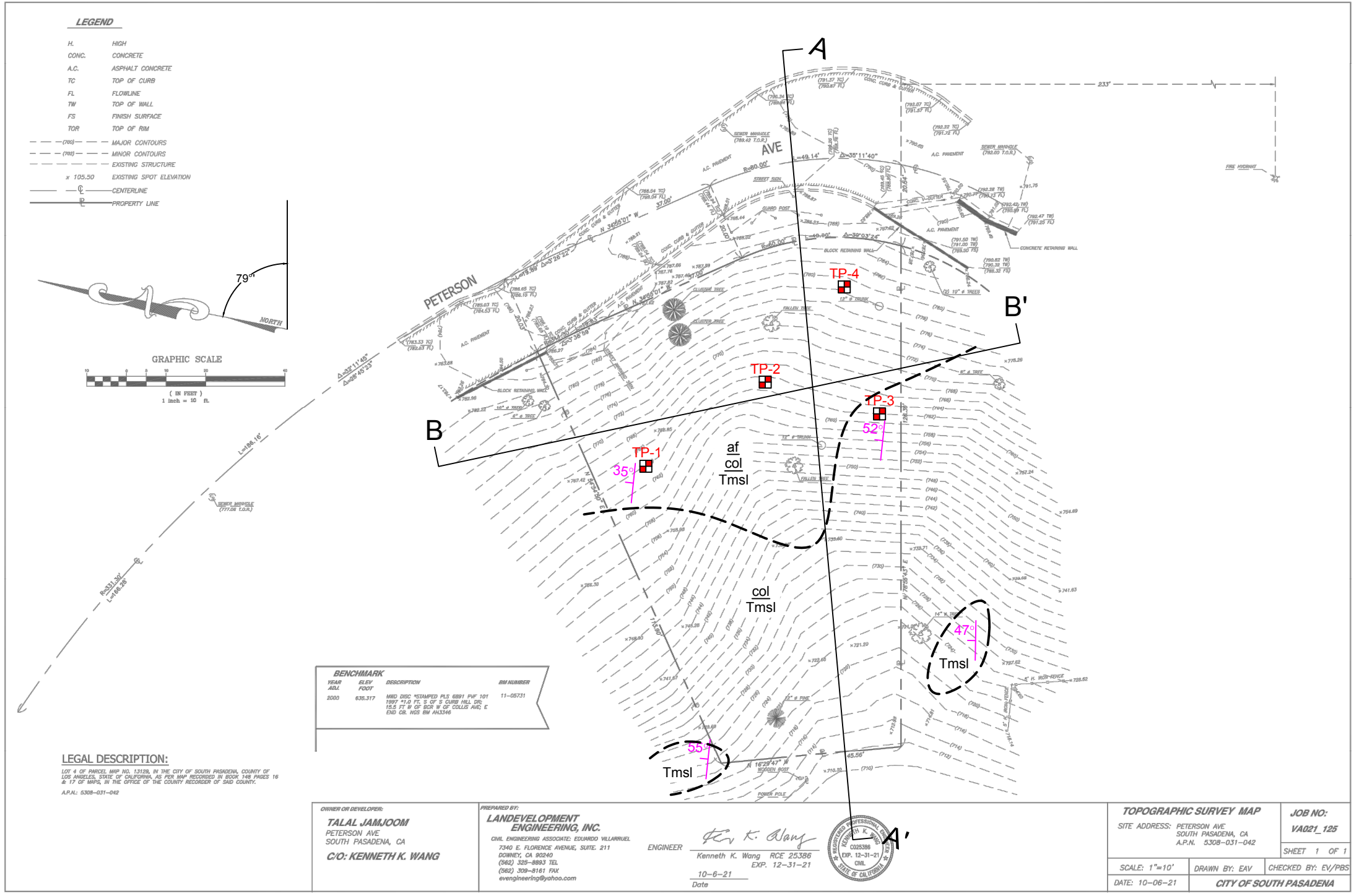


DWN BY:	AM
CHK'D BY:	MN
DATUM:	--
PROJECTION:	--
SCALE:	--
REV. NO.:	--

PROJECT: PRELIMINARY SOIL INVESTIGATION REPORT
APN 5308-031-042
SOUTH PASADENA, CALIFORNIA

GEOLOGIC HAZARD MAP

DATE:	OCTOBER 2021
PROJECT NO.:	21242-01
FIGURE NO.:	Figure 4



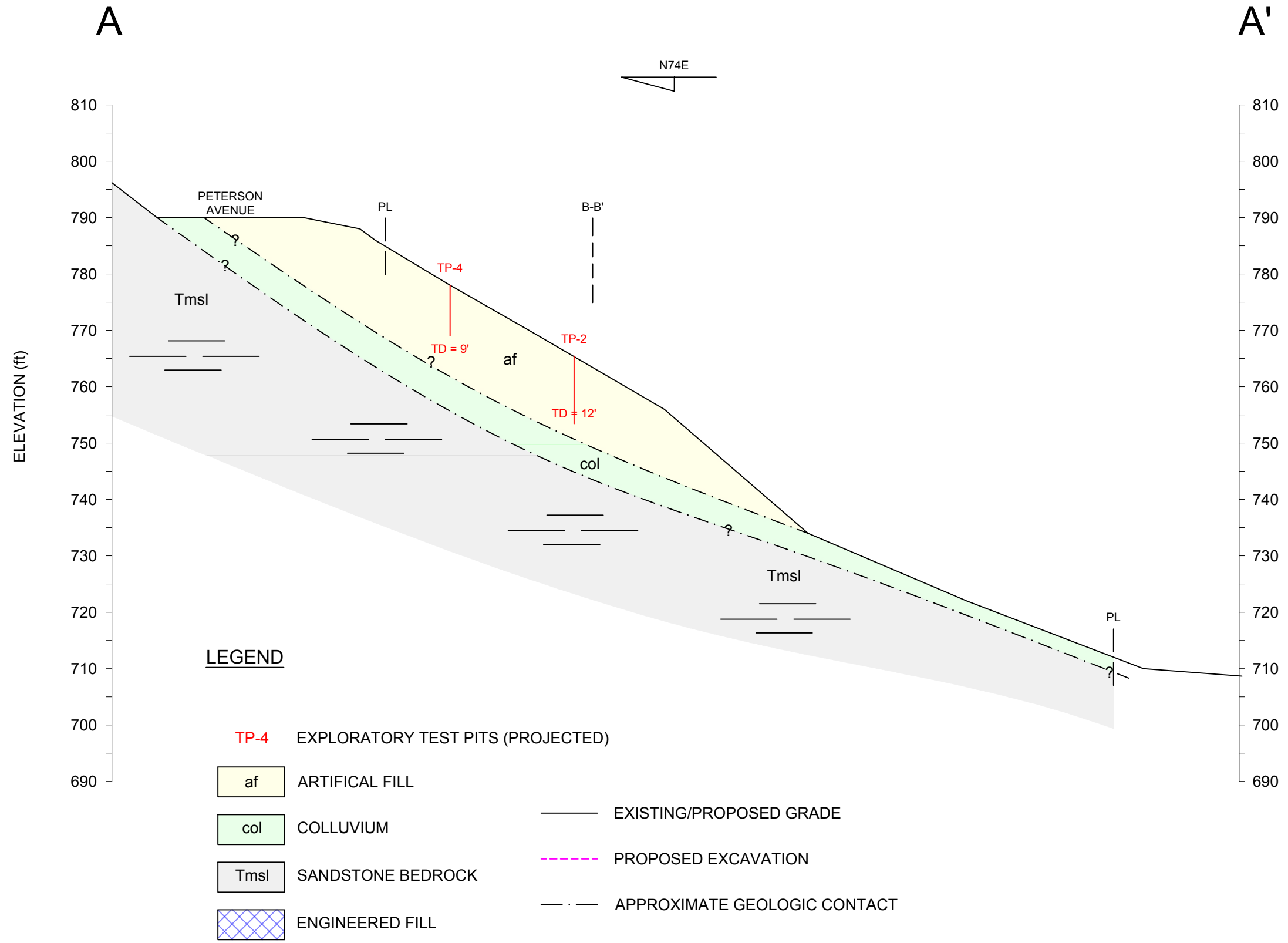
LEGEND:

- TP-4 EXPLORATORY TEST PIT
- A-A' CROSS SECTION
- APPROXIMATE STRIKE AND DIP OF BEDDING (FROM TEST PITS)
- af/col SHALLOW FILL AND COLLUVIUM/ OVER SANDSTONE BEDROCK
- Tmsl Tmsl

ALL LOCATIONS ARE APPROXIMATE

GEOLOGIC SITE MAP
 PRELIMINARY GEOTECHNICAL INVESTIGATION REPORT
 APN 5308-031-042
 SOUTH PASADENA, CALIFORNIA

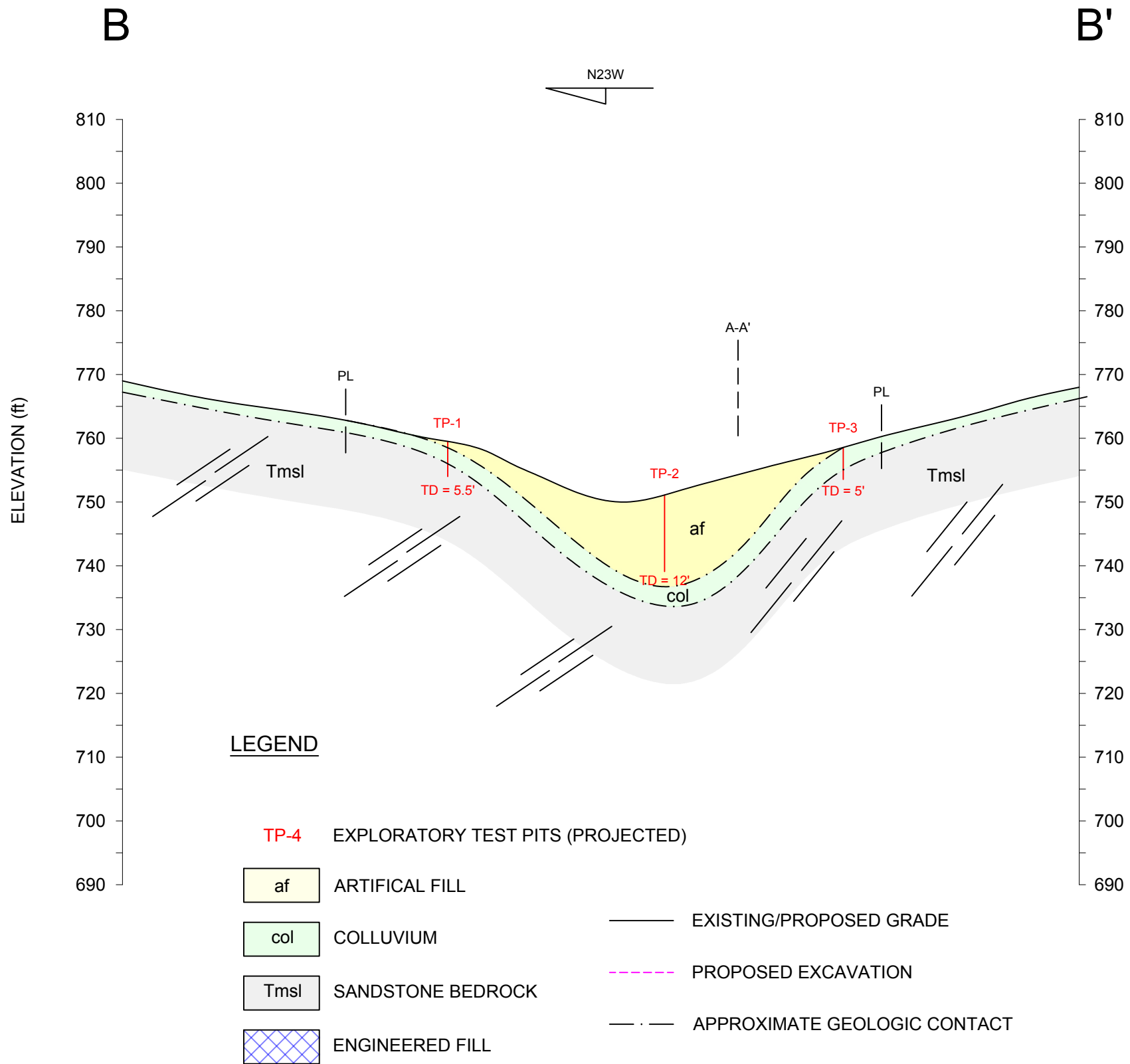
PREPARED BY: 	DATE: NOVEMBER 2021	PLATE 1
DRAWN BY: AM	CHECKED BY: HMN	
PROJECT NO.:21242-01	SCALE: 1" = 30' (11"x17")	
<p>GeoMat Testing Laboratories, Inc. 9980 Indiana Avenue, Suite 14, Riverside, California</p>		



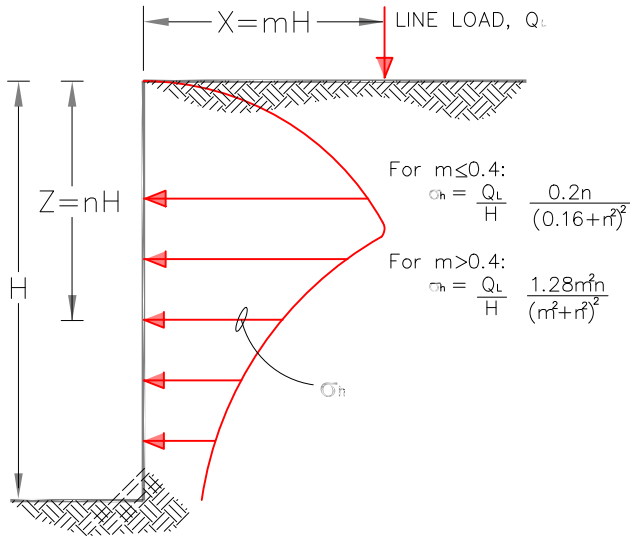
LEGEND

- TP-4 EXPLORATORY TEST PITS (PROJECTED)
- af ARTIFICIAL FILL
- col COLLUVIUM
- Tmsl SANDSTONE BEDROCK
- ENGINEERED FILL ENGINEERED FILL
- EXISTING/PROPOSED GRADE
- - - - - PROPOSED EXCAVATION
- · - · - · APPROXIMATE GEOLOGIC CONTACT

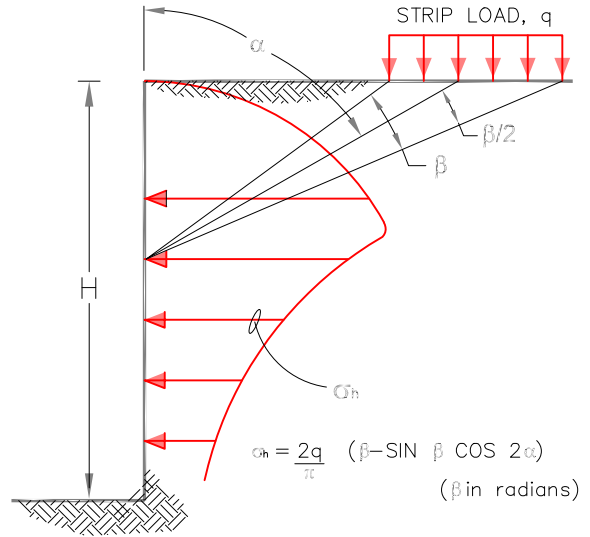
GEOLOGIC CROSS SECTION A-A'		
PRELIMINARY GEOTECHNICAL INVESTIGATION REPORT		
APN 5308-031-042		
SOUTH PASADENA, CALIFORNIA		
PREPARED BY:	DATE:	NOVEMBER 2021
GeoMat Testing Laboratories, Inc. <small>9980 Indiana Avenue, Suite 14, Riverside, California</small>	DRAWN BY:	AM
	CHECKED BY:	HMN
	PROJECT NO.:	21242-01
	SCALE:	1" = 20' (11"x17")



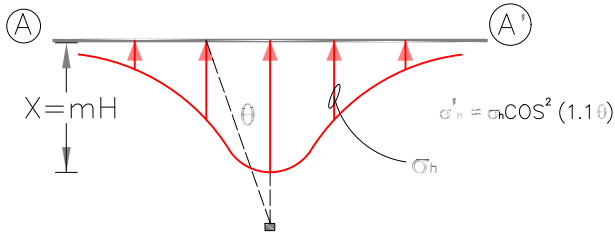
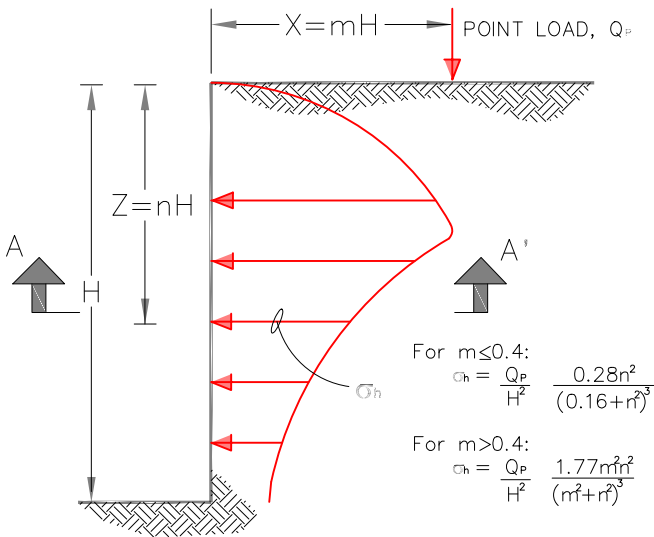
GEOLOGIC CROSS SECTION B-B'		
PRELIMINARY GEOTECHNICAL INVESTIGATION REPORT		
APN 5308-031-042		
SOUTH PASADENA, CALIFORNIA		
PREPARED BY:	DATE:	NOVEMBER 2021
GeoMat Testing Laboratories, Inc. <small>9980 Indiana Avenue, Suite 14, Riverside, California</small>	DRAWN BY:	AM
	CHECKED BY:	HMN
	PROJECT NO.:	21242-01
	SCALE:	1" = 20' (11"x17")
		PLATE 3



LINE LOAD PARALLEL TO WALL



STRIP LOAD PARALLEL TO WALL



DISTRIBUTION OF HORIZONTAL PRESSURES

VERTICAL POINT LOAD

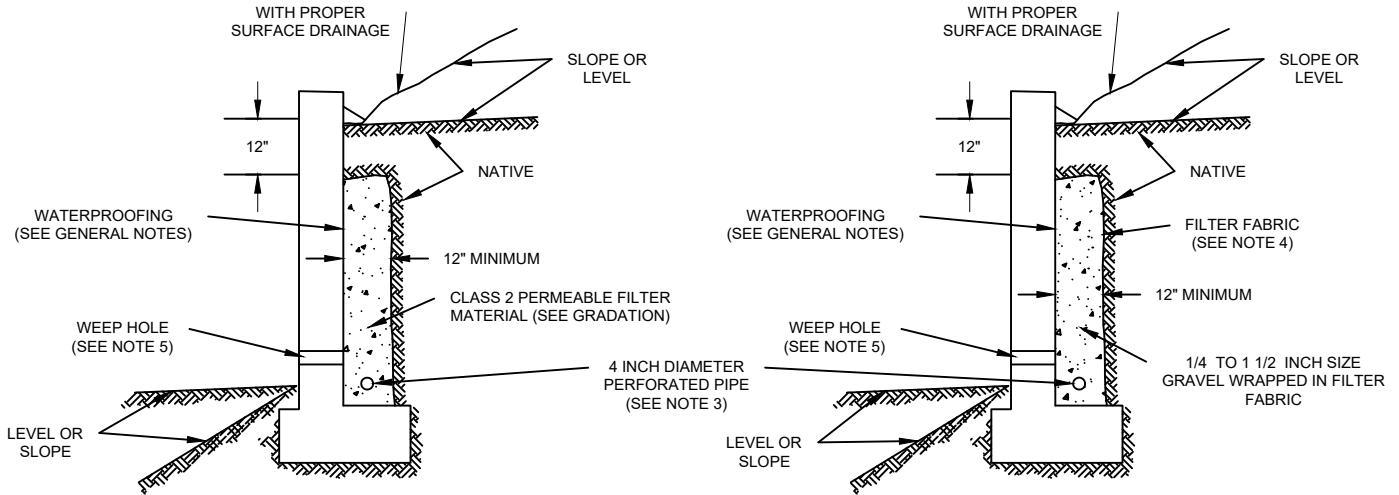
NOTES:

1. These guidelines apply to rigid walls with Poisson's ratio assumed to be 0.5 for backfill materials.
2. Lateral pressures from any combination of above loads may be determined by the principle of superposition.

PLATE 4 - RETAINING WALL SURCHARGE DETAIL

**OPTION 1: PIPE SURROUNDED WITH
CLASS 2 PERMEABLE MATERIAL**

**OPTION 2: GRAVEL WRAPPED
IN FILTER FABRIC**



Class 2 Filter Permeable Material Gradation
Per Caltrans Specifications

Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

GENERAL NOTES:

- *Waterproofing should be provided where moisture nuisance problem through the wall is undesirable.
- *Water proofing of the walls is not under the purview of the geotechnical engineer.
- *All drains should have a gradient of 1 percent minimum.
- *Outlet portion of the subdrain should have a 4-inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding).
- *Other subdrain backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

Notes:

- 1) Sand should have a sand equivalent of 30 or greater and may be densified by water jetting.
- 2) 1 Cu. ft. per ft. of 1/4 - to 1 1/2 -inch size gravel wrapped in filter fabric
- 3) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8 -inch in diameter placed at the ends of a 120-degree arc in two rows at 3-inch on center (staggered).
- 4) Filter Fabric should be Mirafi 140NC or approved equivalent.
- 5) Weephole should be 3-inch minimum diameter and provided at 10-foot maximum intervals. If exposure is permitted, weepholes should be located 12-inches above finished grade. If exposure is not permitted, such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to be discharged through the curb face or equivalent should be provided. For a basement-type wall, a proper subdrain outlet system should be provided.
- 6) Retaining wall plans should be reviewed and approved by the geotechnical engineer.
- 7) Walls over six feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements.

PLATE 5 - RETAINING WALL BACKFILL AND SUBDRAIN DETAIL

APPENDIX A

SELECTED REFERENCES



GeoMat Testing Laboratories, Inc.
Geotechnical Engineering
Engineering Geology
Material Testing

Inland Empire
9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

Los Angeles
5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com

SELECTED REFERENCES

Dibblee, T.W. and Ehrenspeck, H.E., ed., 1989, Geologic map of the Los Angeles quadrangle, Los Angeles County, California, Dibblee Geological Foundation, Dibblee Foundation Map DF-22, 1:24,000

Los Angeles County, Parcel Profile Report, Interactive Webpage.

CDMG, Seismic Hazard Zone Report for the Los Angeles 7.5-Minute Quadrangle, Los Angeles County, California

CGS, Earthquake Zones of Required Investigation Map (EZRIM), Los Angeles Quadrangle

Jennings, Charles and Bryant, William, 2010, "Fault Activity Map of California," California Geological Survey, Map No. 6, California Data Map Series, scale 1:750,000.

USGS TopoView Interactive Webpage (<https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-107.53>)

Structural Engineers Association of California, OSHPD Seismic Design Maps Interactive Website (<https://seismicmaps.org/>)

Department of the Navy, Design Manual 7.01, Soil Mechanics, September 1986.

Department of the Navy, Design Manual 7.02, Foundation and Earth Structures, September 1986.

Department of the Army, US Army Corps of Engineers, Engineering and Design, Bearing Capacity of Soils, EM 1110-1-1905.

Foundation Design, D. Cudoto, Second Edition, 2000.

Robert Day, Geotechnical Engineer's Portable Handbook.

Robert Day, Geotechnical Foundation Handbook.

APPENDIX B

TEST PIT LOGS



GeoMat Testing Laboratories, Inc.

Geotechnical Engineering
Engineering Geology
Material Testing

Inland Empire

9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

Los Angeles

5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com

CONSISTENCY OF COHESIVE SOILS

Descriptor	Unconfined Compressive Strength (tsf)	Pocket Penetrometer (tsf)	Torvane (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	0.25 - 0.50	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	0.50 - 1.0	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	1.0 - 2.0	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	2.0 - 4.0	1.0 - 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS

Descriptor	SPT N60 - Value (blows / foot)
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE

Descriptor	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS

Descriptor	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE

Descriptor	Size	
Boulder	> 12 inches	
Cobble	3 to 12 inches	
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay	Passing No. 200 Sieve	

PLASTICITY OF FINE-GRAINED SOILS

Descriptor	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

SOIL CLASSIFICATION CHART

CEMENTATION	
Descriptor	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

MAJOR DIVISIONS		SYMBOLS		TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GP	POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		CLEAN SANDS (LITTLE OR NO FINES)	GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50	SM	SILTY SANDS, SAND - SILT MIXTURES	
		SC	CLAYEY SANDS, SAND - CLAY MIXTURES	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	
CH	INORGANIC CLAYS OF HIGH PLASTICITY			
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS			
HIGHLY ORGANIC SOILS		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

KEY TO LOG OF BORING

APPENDIX B



GeoMat Testing Laboratories, Inc.
9980 Indiana Avenue, Suite 14
Riverside, California 92503
(951) 688-5400

NOTE: Dual symbols are used to indicate gravels or sand with 5-12% fines and soils with fines classifying as CL-ML. Symbols separated by a slash indicate borderline soil classifications.

TEST PIT LOG

No. TP-1

VISUAL DESCRIPTION:

ENGINEERING PROPERTIES:

Depth	Moisture (%)	Dry Unit Wt (pcf)	Other
-------	--------------	-------------------	-------

0-1': FILL

Mottled tan-brown, sandy silt, slightly clayey, many weathered siltstone fragments, loose to firm, slightly moist.

1'-3'6": COLLUVIUM


Dark brown, sandy clayey silt, many very small siltstone fragments, slightly porous, dense, slightly moist.

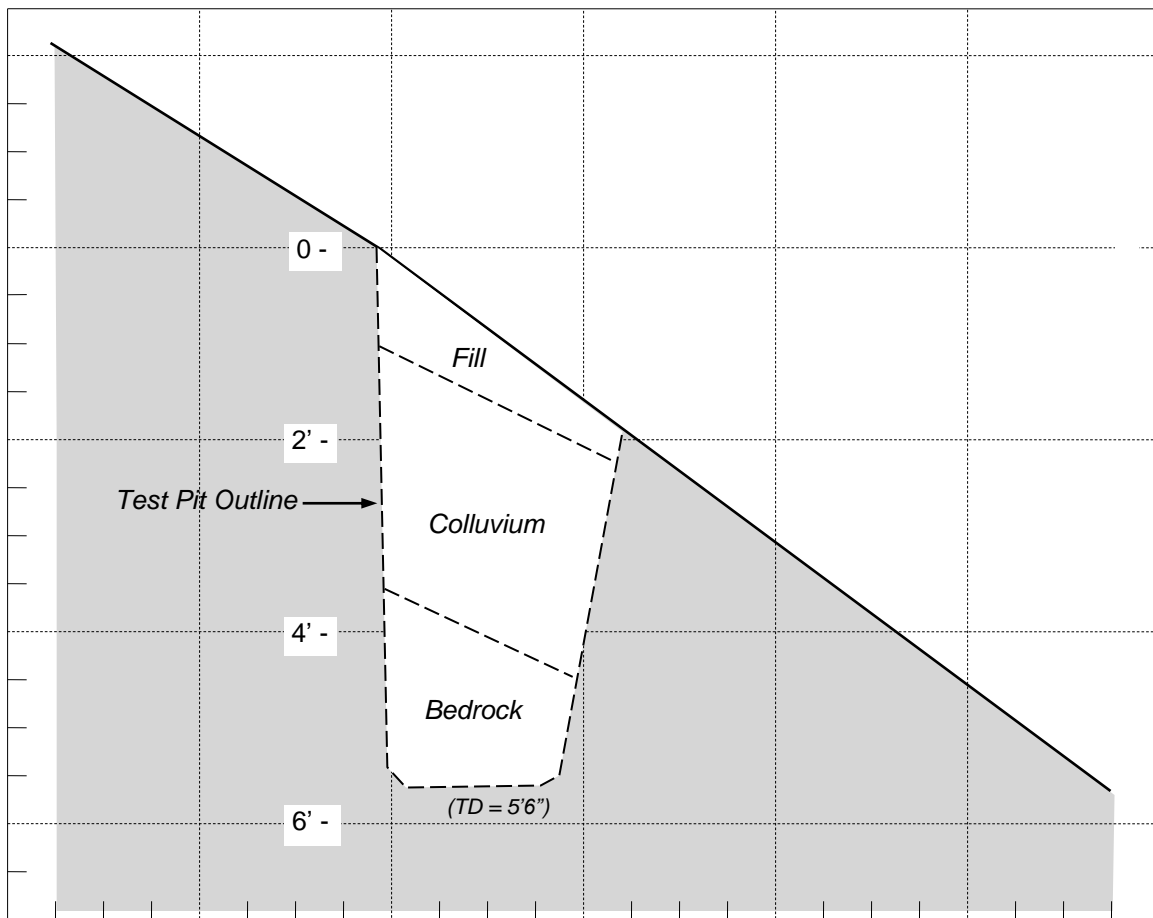
3'6"-5'6": BEDROCK

Tan-brown, fine sandstone with gray siltstone interbeds, well bedded, fractured, well indurated, slightly moist.

Bedding: N85E, 35NW

SKETCH:

Southwest 



PROJECT: APN 5308-031-042 Peterson Ave, South Pasadena PROJECT NO: 21242-01

DATE: 10-11-21

LOGGED BY: EFH



PLATE B-1

TEST PIT LOG

No. TP-2

VISUAL DESCRIPTION:

ENGINEERING PROPERTIES:

Depth	Moisture (%)	Dry Unit Wt (pcf)	Other
-------	--------------	-------------------	-------

0-12': FILL

0-3' Mottled grayish brown, sandy silt, slightly clayey, many small siltstone fragments, loose to firm, dry to slightly moist.

3'-5' Mottled tan-brown, sandy silt, many siltstone fragments, medium dense, slightly moist.

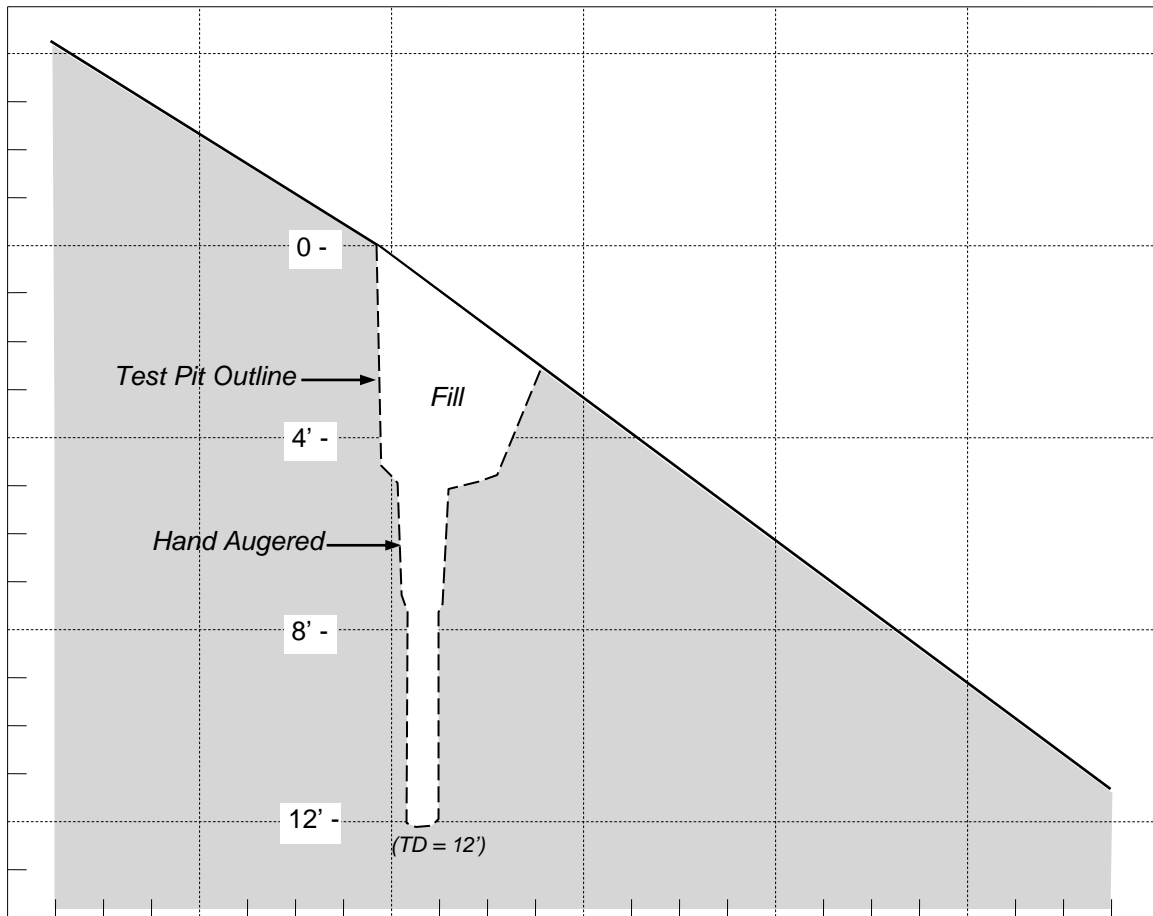
5'-7' Mottled tan-brown, predominant siltstone fragments, little soil matrix, **caving prone**, firm, slightly moist.

7'-12' Mottled tan-brown to dark brown, sandy silt, slightly clayey, many siltstone/sandstone fragments, medium dense to dense, slightly moist.

Refusal @ 12' depth with hand auger equipment.

SKETCH:

Southwest 



PROJECT: APN 5308-031-042 Peterson Ave, South Pasadena PROJECT NO: 21242-01

DATE: 10-11-21

LOGGED BY: EFH



PLATE B-2

TEST PIT LOG

No. TP-3

VISUAL DESCRIPTION:

ENGINEERING PROPERTIES:

Depth	Moisture (%)	Dry Unit Wt (pcf)	Other
-------	--------------	-------------------	-------

0-3'6": COLLUVIUM

Dark brown to tan-brown, sandy silt, slightly clayey, many small siltstone fragments (increasing with depth), firm to medium dense, slightly moist.

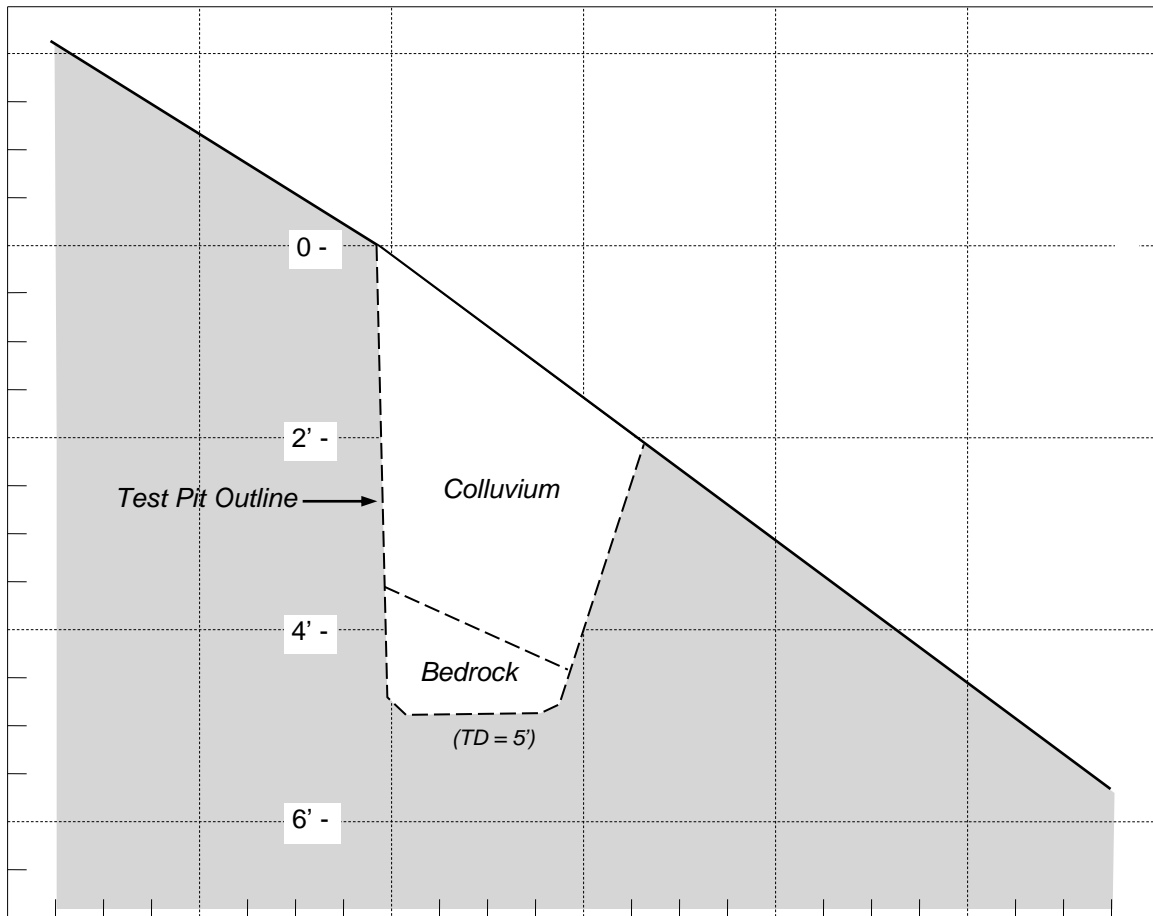
3'6"-5': BEDROCK

Interbedded tan-brown, fine sandstone and gray siltstone, well bedded, fractured, well indurated, slightly moist.

Bedding: N85E, 52NW

SKETCH:

Northwest



PROJECT: APN 5308-031-042 Peterson Ave, South Pasadena PROJECT NO: 21242-01

DATE: 10-11-21

LOGGED BY: EFH



PLATE B-3

TEST PIT LOG

No. TP-4

VISUAL DESCRIPTION:

ENGINEERING PROPERTIES:

Depth	Moisture (%)	Dry Unit Wt (pcf)	Other
-------	--------------	-------------------	-------

0-9': FILL

0-3' Mottled grayish brown, sandy silt, slightly clayey, many small siltstone fragments, loose to firm, dry to slightly moist.

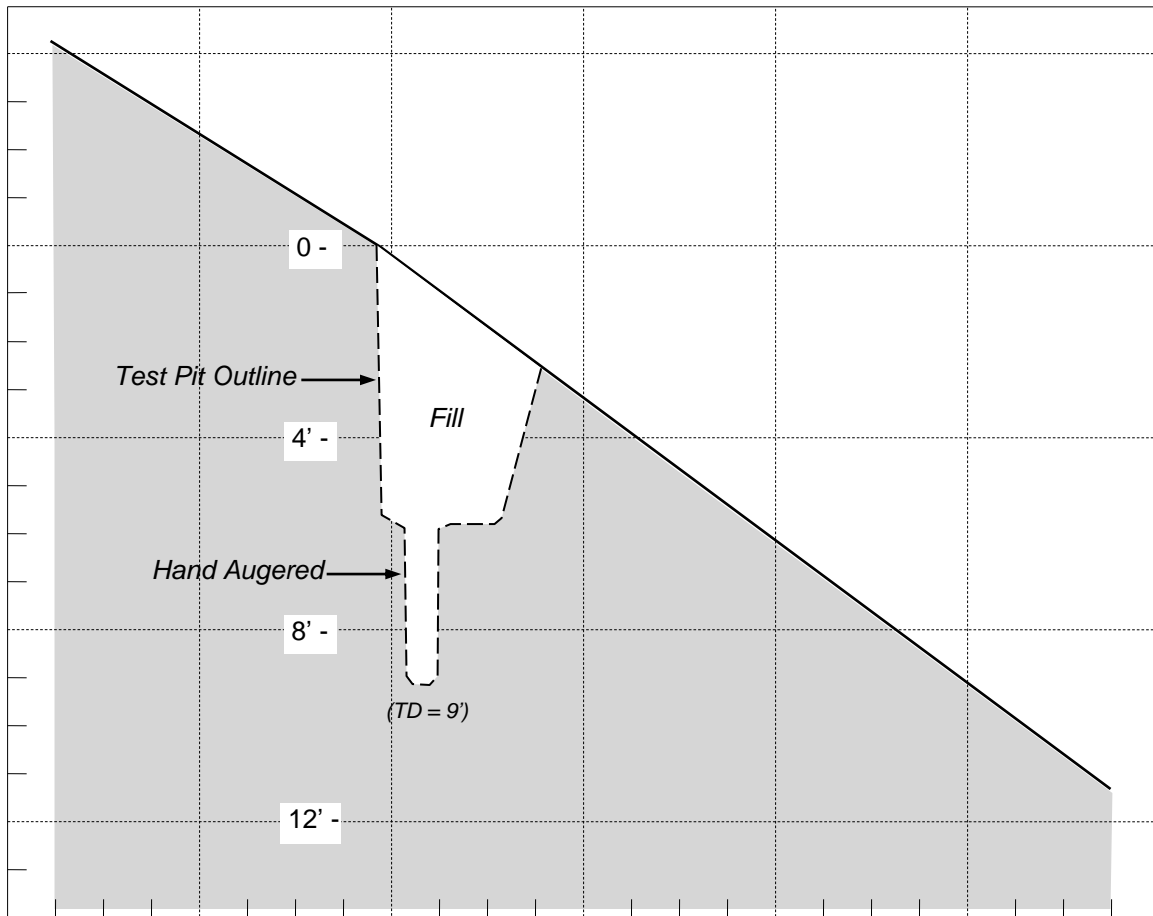
3'-6' Mottled tan-brown/dark brown, clayey sandy silt, many siltstone fragments, medium dense to dense, slightly moist.

6'-9' Mottled tan-brown, silty sand to sandy silt, many siltstone fragments, medium dense, slightly moist.

Refusal @ 9' depth with hand auger equipment.

SKETCH:

West 



PROJECT: APN 5308-031-042 Peterson Ave, South Pasadena PROJECT NO: 21242-01

DATE: 10-11-21

LOGGED BY: EFH



PLATE B-4

APPENDIX C

LABORATORY TESTING



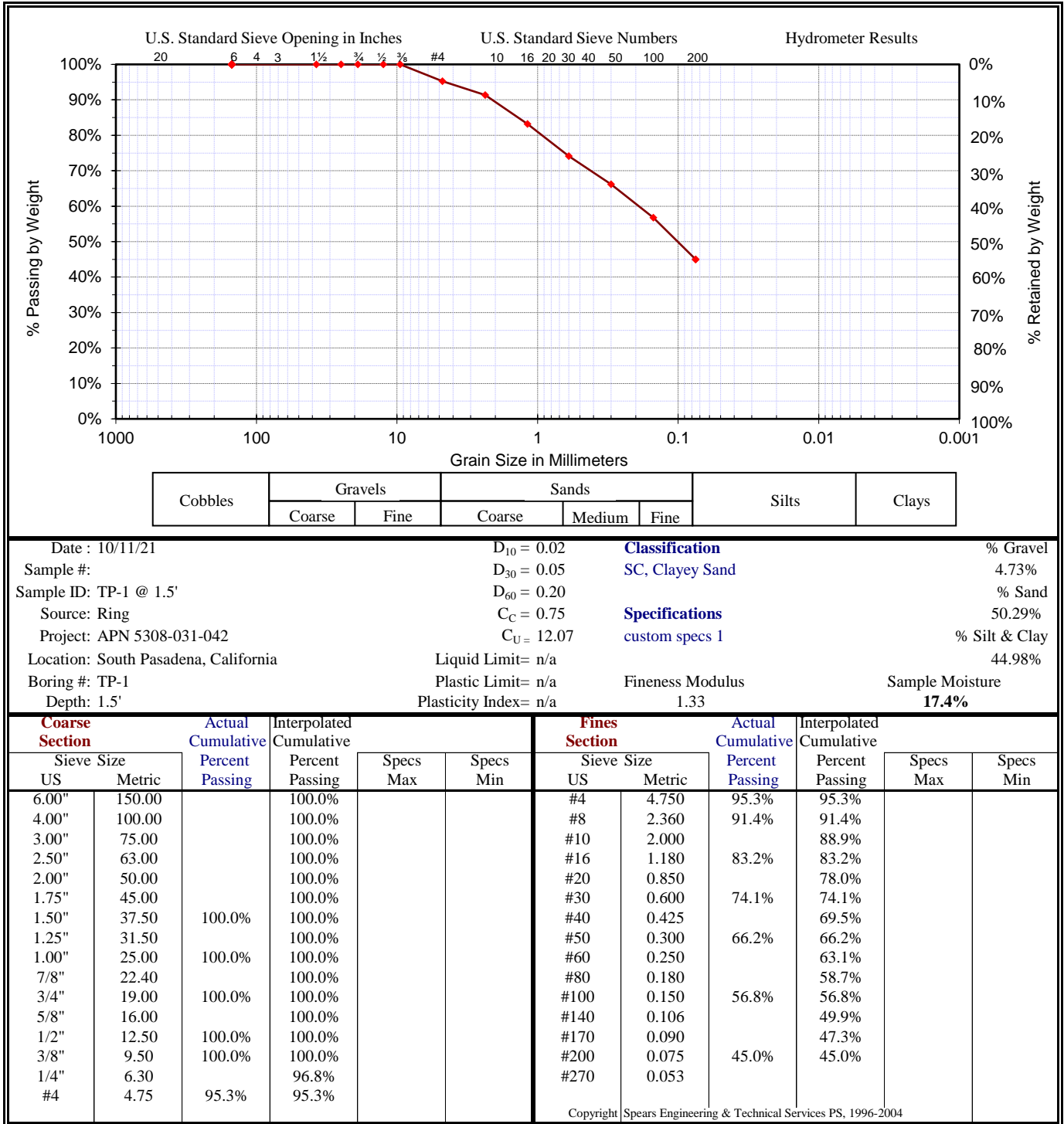
GeoMat Testing Laboratories, Inc.
Geotechnical Engineering
Engineering Geology
Material Testing

Inland Empire
9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

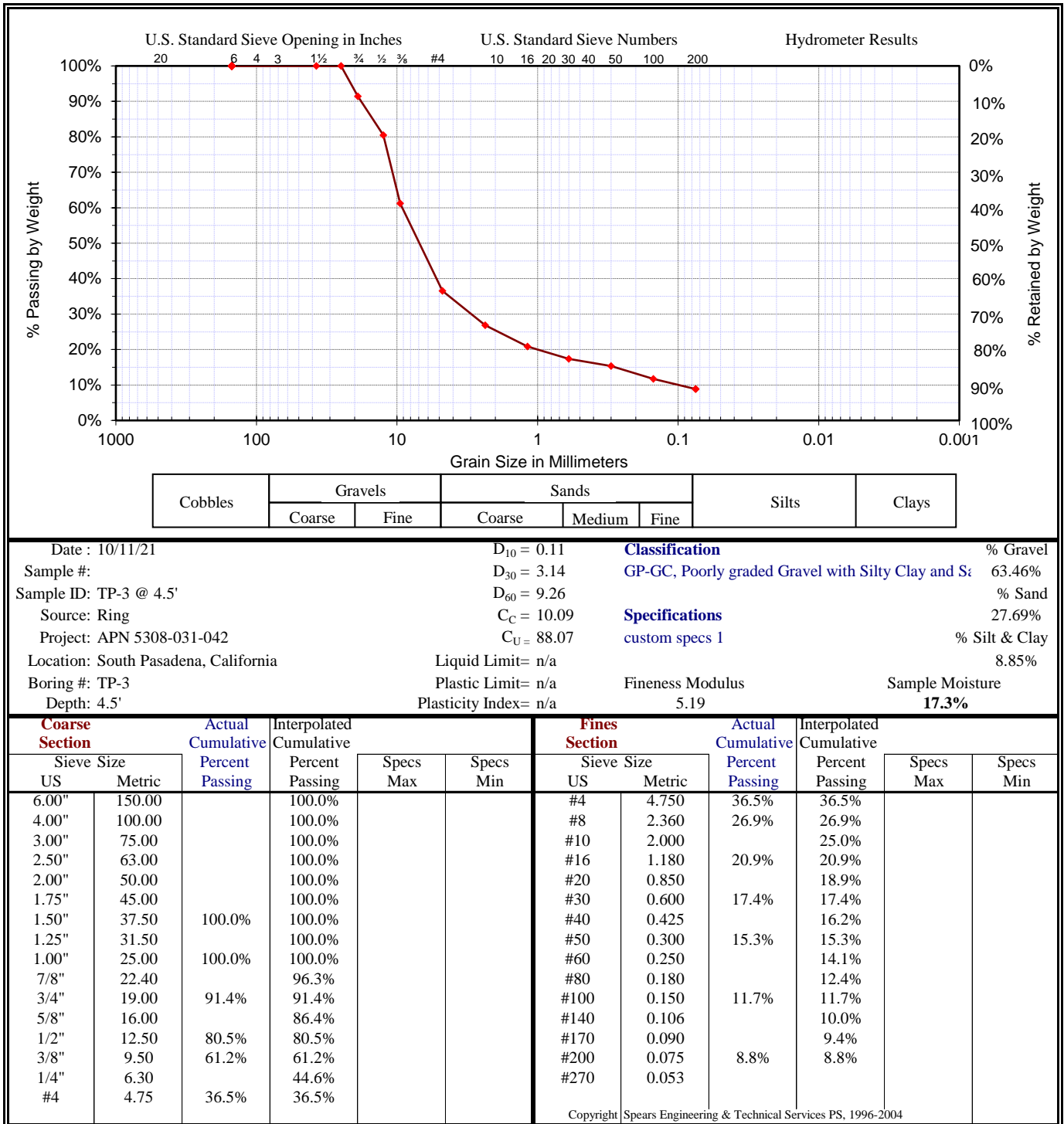
Los Angeles
5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com

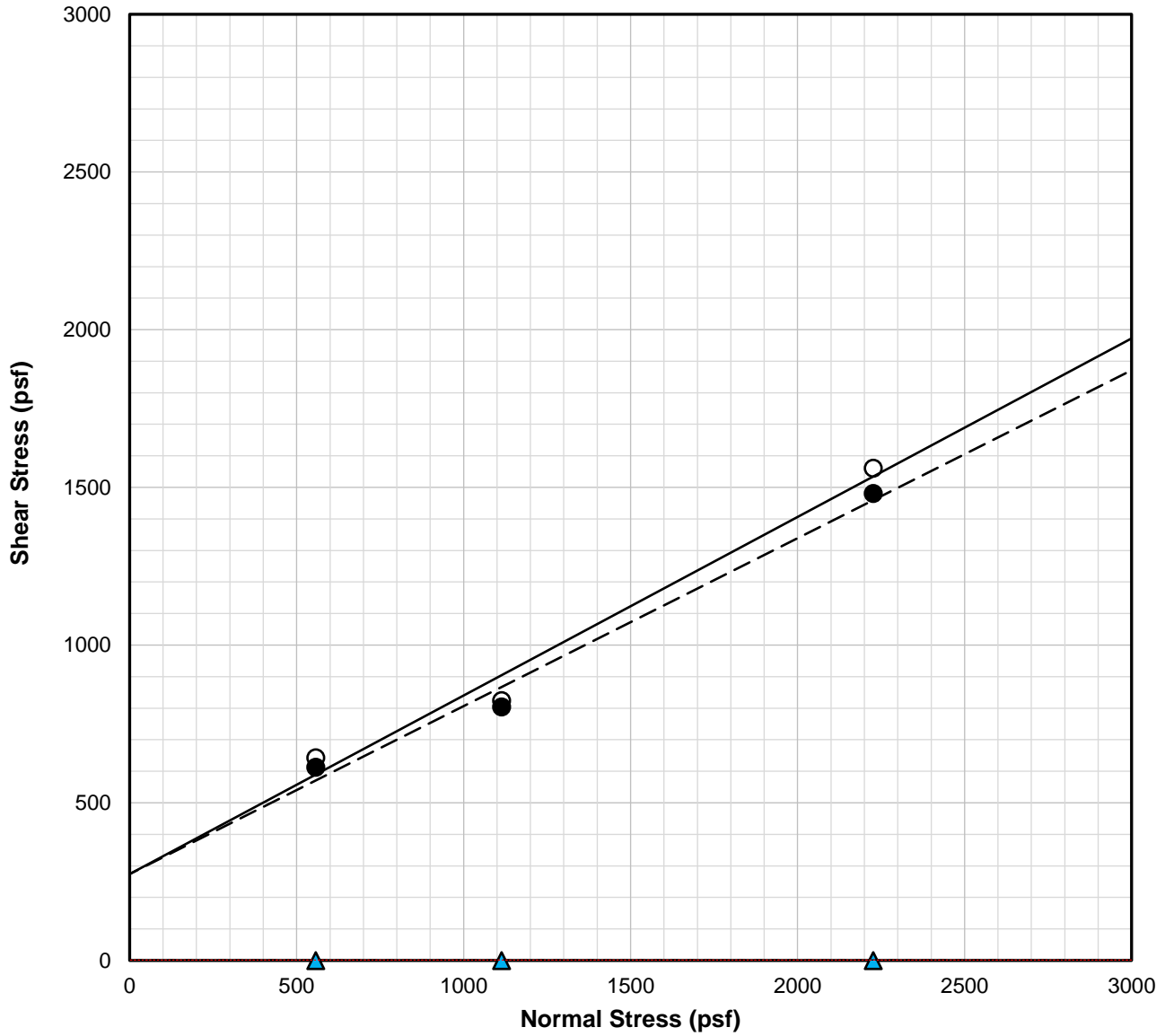
LABORATORY TEST RESULTS



LABORATORY TEST RESULTS



DIRECT SHEAR TEST RESULTS

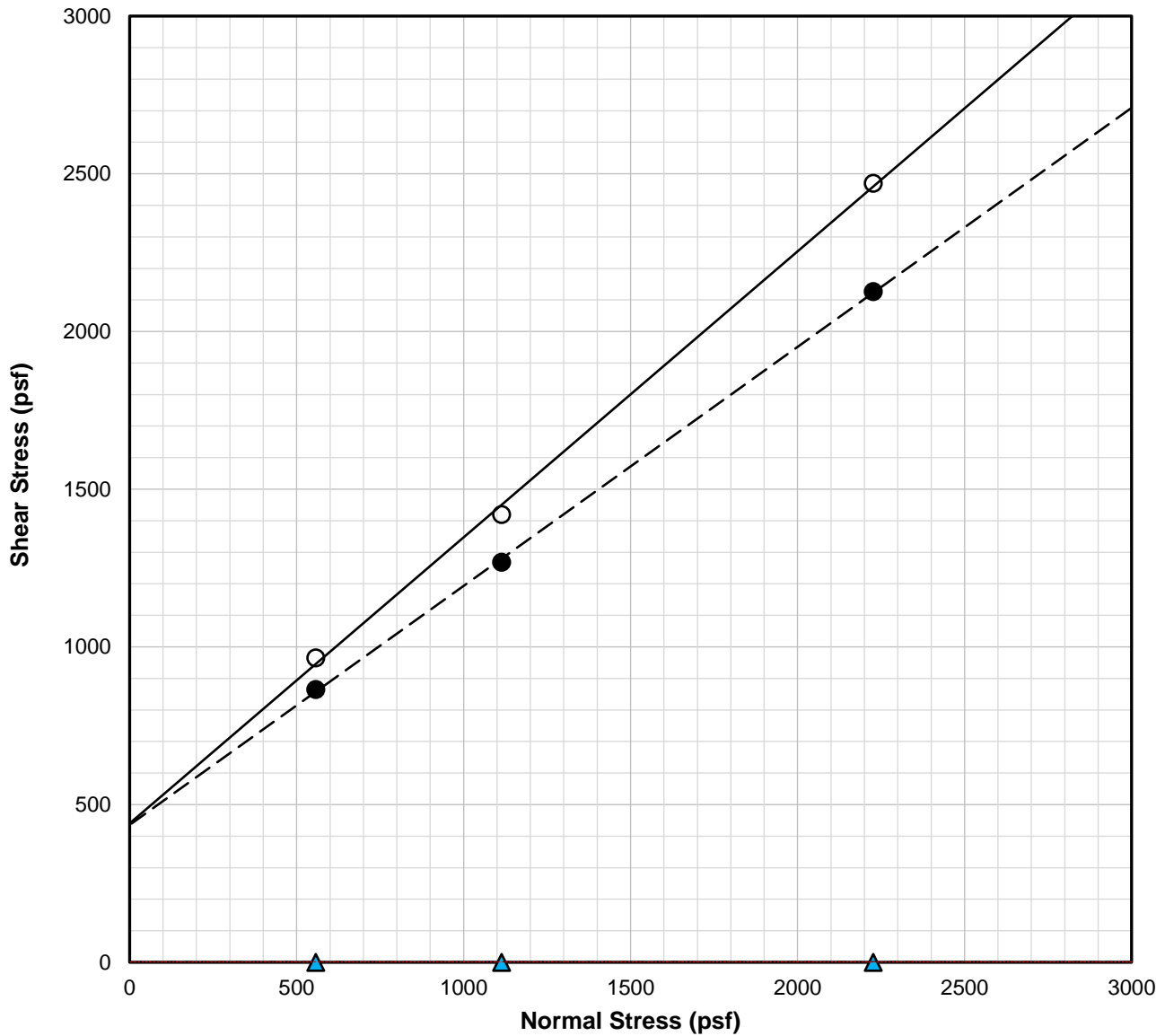


Sample	Symbol	Description	Soil Type [USCS]	Shear Strength	Friction Angle ϕ [degrees]	Cohesion c [psf]
TP-1 @ 1.5'	—○—	Natural Soil	SC	Peak	30	274
TP-1 @ 1.5'	--●--	Natural Soil	SC	Ultimate	28	274
TP-1 @ 1.5'	--▲--	Natural Soil	SC	*Residual	N/A	N/A

Sample Moisture [%]	Saturated Moisture [%]	Dry Unit Weight [pcf]	 GeoMat Testing Laboratories, Inc. 9980 Indiana Avenue, Suite 14 Riverside, California 92503
19.5	42.5	74.2	
Performed in General Accordance with ASTM D-3080			

*Residual shear strength results were determined from the lowest of the residual shears shown above.
 (Individual residual shear results plotted with red dashed line above)

DIRECT SHEAR TEST RESULTS



Sample	Symbol	Description	Soil Type [USCS]	Shear Strength	Friction Angle ϕ [degrees]	Cohesion c [psf]
TP-3 @ 4.5'	—○—	Sandstone Bedrock	SM	Peak	42	440
TP-3 @ 4.5'	--●--	Sandstone Bedrock	SM	Ultimate	37	435
TP-3 @ 4.5'	--▲--	Sandstone Bedrock	SM	*Residual	N/A	N/A

Sample Moisture [%]	Saturated Moisture [%]	Dry Unit Weight [pcf]
24.5	47.9	71.0

GeoMat Testing Laboratories, Inc.
 9980 Indiana Avenue, Suite 14
 Riverside, California 92503

*Residual shear strength results were determined from the lowest of the residual shears shown above.
 (Individual residual shear results plotted with red dashed line above)

EXPANSION INDEX TEST

(ASTM D4829)

BORING NUMBER
AND SAMPLE DEPTH: TP-2 @ 1-6'

SOIL TYPE (USCS): SC

CONFINING PRESSURE (psf): 144

INITIAL MOISTURE CONTENT (%): 17.8

FINAL MOISTURE CONTENT (%): 40.2

DRY DENSITY (pcf): 81.1

EXPANSION INDEX: 51

EXPANSION POTENTIAL: Medium

DATE TESTED: 10/26/2021

TESTED BY: AM



GeoMat Testing Laboratories, Inc.
9980 Indiana Ave, Suite 14
Riverside, California

PRELIMINARY SOIL INVESTIGATION REPORT
Proposed Single-Family Residence
APN 5308-031-042
South Pasadena, California

Project No. 21242-01
Checked: 10/26/2021
Checked by: HMN
Exhibit: Appendix C



GeoMat Testing Laboratories, Inc.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

SOLUBLE SULFATE AND CHLORIDE TEST RESULTS

Project Name	APN 5308-031-042, South Pasadena, CA	Test Date	10/25/2021
Project No.	21242-01	Date Sampled	10/11/2021
Project Location	APN 5308-031-042, South Pasadena, CA	Sampled By	EH
Location in Structure	TP-2 @ 1-6'	Sample Type	Bulk
Sampled Classification	SC	Tested By	AM

TESTING INFORMATION

Sample weight before drying _____
 Sample weight after drying _____
 Sample Weight Passing No. 10 Sieve _____
 Moisture (%) _____

Location	Mixing Ratio	Dilution Factor	Sulfate Reading (ppm)	Sulfate Content		Chloride Reading (ppm)	Chloride Content		pH
				(ppm)	(%)		(ppm)	(%)	
TP-2	3	1	125	375	0.0375				
			Average			Average			Average

ACI 318-19 Table 19.3.2.1 - Requirements for Concrete by Exposure Class

Exposure Class	Water-Soluble Sulfate (%)	Maximum w/cm	Minimum f'c (psi)	Cementitious Material (Types)			Calcium Chloride Admixture
				ASTM C150-	ASTM C595	ASTM C1157	
S0	<0.10	N/A	2500	No Type Restriction	No Type Restriction	No Type Restriction	No Restriction
S1	0.10 to 0.20	0.50	4000	II	Type IP, IS, or IT with (MS) Designation	MS	No Restriction
S2	0.20 to 2.00	0.45	4500	V	Type IP, IS, or IT with (HS) Designation	HS	Not Permitted
S3	Option 1	>2.00	4500	V + Pozzolan or Slag Cement	Type IP, IS, or IT with (HS) Designation + Pozzolan or Slag Cement	HS + Pozzolan or Slag Cement	Not Permitted
	Option 2	>2.00	5000	V	Types with (HS) designation	HS	Not Permitted
Exposure Class	Maximum w/cm	Minimum f'c (psi)	Maximum Water-Soluble Chloride ion (Cl ⁻) Content in Concrete, Percent by Wight of Cement		Additional Provisions		
			Nonprestressed Concrete	Prestressed Concrete			
C0	N/A	2500	1.00	0.06	None		
C1	N/A	2500	0.30	0.06	None		
C2	0.40	5000	0.15	0.06	Concrete Cover		

Caltrans classifies a site as corrosive to structural concrete as an area where soil and/or water contains >500pp chloride, >2000ppm sulfate, or has a pH <5.5. A minimum resistivity of less than 1000 ohm-cm indicates the potential for corrosive environment requiring testing for the above criteria.

The information in this form is not intended for corrosion engineering design. If corrosion is critical, a corrosion specialist should be contacted to provide further recommendations.

APPENDIX D

2019 CBC SEISMIC DESIGN PARAMETERS



GeoMat Testing Laboratories, Inc.
Geotechnical Engineering
Engineering Geology
Material Testing

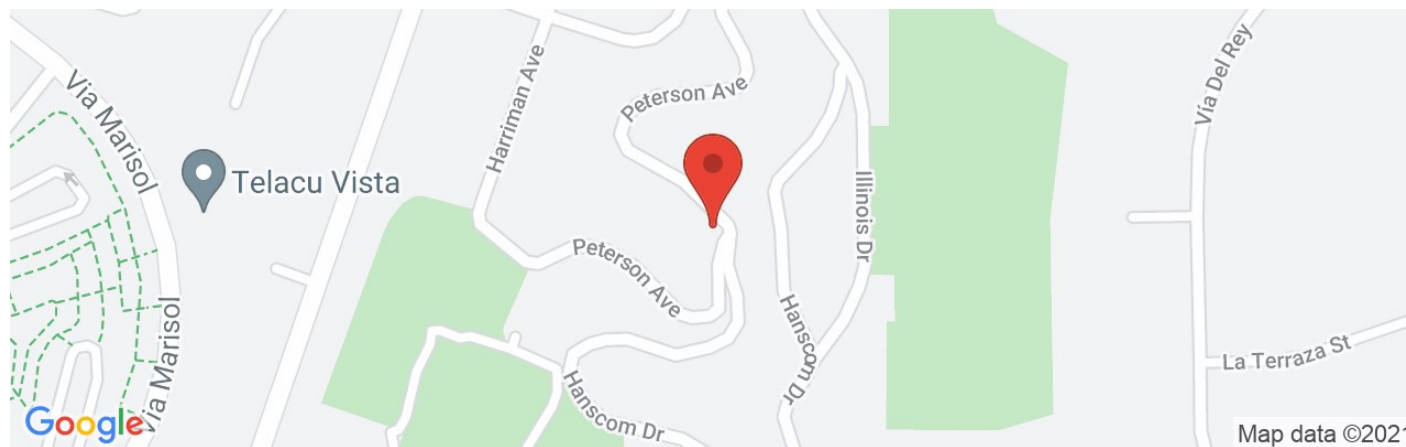
Inland Empire
9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

Los Angeles
5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com



Latitude, Longitude: 34.101790, -118.174402



Date	10/26/2021, 9:48:25 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	2.108	MCE_R ground motion. (for 0.2 second period)
S_1	0.726	MCE_R ground motion. (for 1.0s period)
S_{MS}	2.529	Site-modified spectral acceleration value
S_{M1}	1.017	Site-modified spectral acceleration value
S_{DS}	1.686	Numeric seismic design value at 0.2 second SA
S_{D1}	0.678	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.4	Site amplification factor at 1.0 second
PGA	0.917	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	1.1	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
$SsRT$	2.108	Probabilistic risk-targeted ground motion. (0.2 second)
$SsUH$	2.393	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.404	Factored deterministic acceleration value. (0.2 second)
$S1RT$	0.757	Probabilistic risk-targeted ground motion. (1.0 second)
$S1UH$	0.853	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
$S1D$	0.726	Factored deterministic acceleration value. (1.0 second)
PGA_d	0.957	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.881	Mapped value of the risk coefficient at short periods
C_{R1}	0.887	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

While the information presented on this website is believed to be correct, [SEAOC / OSHPD](#) and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in this web application should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. SEAOC / OSHPD do not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the seismic data provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the search results of this website.

APPENDIX E

SLOPE STABILITY ANALYSIS



GeoMat Testing Laboratories, Inc.
Geotechnical Engineering
Engineering Geology
Material Testing

Inland Empire
9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

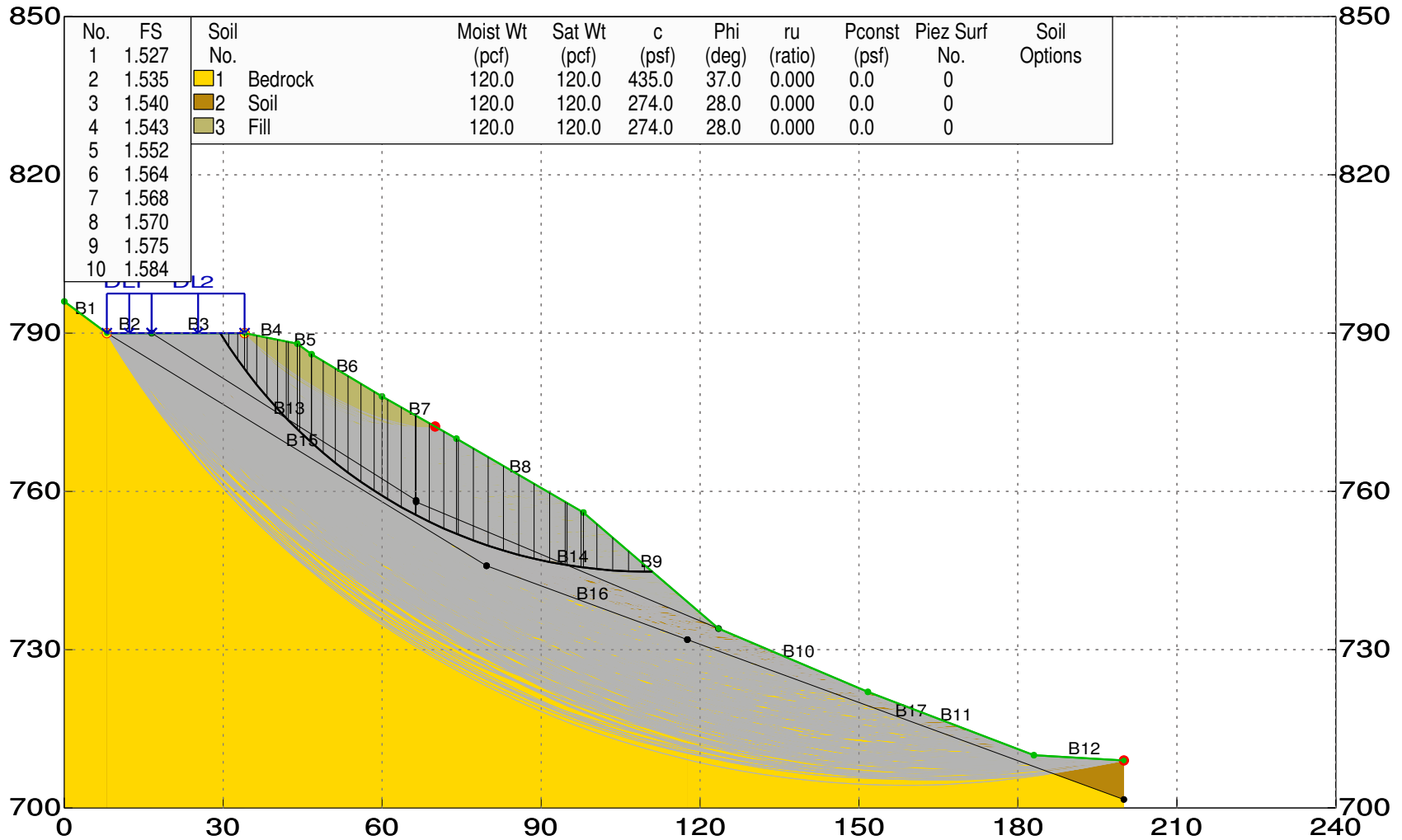
Los Angeles
5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com

APN 5308-031-042. Peterson Avenue Project No. 21242-01

GeoMat

\Static.gsd



GEOSTASE FS = 1.527

Spencer Method

*** GEOSTASE(R) ***

** GEOSTASE(R) (c)Copyright by Garry H. Gregory, Ph.D., P.E.,D.GE **

** Current Version 4.30.31-Double Precision, August 2019 **
(All Rights Reserved-Unauthorized Use Prohibited)

SLOPE STABILITY ANALYSIS SOFTWARE

Simplified Bishop, Simplified Janbu, or General Equilibrium (GE)

Options.

(Spencer, Morgenstern-Price, USACE, and Lowe & Karafiath)
Including Pier/Pile, Planar Reinf, Nail, Tieback, Line Loads
Applied Forces, Fiber-Reinforced Soil (FRS), Distributed Loads
Nonlinear Undrained Shear Strength, Curved Strength Envelope,
Anisotropic Strengths, Water Surfaces, 3-Stage Rapid Drawdown
2- or 3-Stage Pseudo-Static & Simplified Newmark Seismic Analyses.

Analysis Date: 11/ 24/ 2021
Analysis Time:
Analysis By: GeoMat

Input File Name: C:\Users\Abdullah\OneDrive - Geomat Testing
Laboratories\GeoMat Reports\ANNUAL REPORTS\2021 REPORTS\21242.South Pasadena Hanscom
Drive\Geostase\Static.gsd

Output File Name: C:\Users\Abdullah\OneDrive - Geomat Testing
Laboratories\GeoMat Reports\ANNUAL REPORTS\2021 REPORTS\21242.South Pasadena Hanscom
Drive\Geostase\Static.OUT

Unit System: English

PROJECT: APN 5308-031-042. Peterson Avenue

DESCRIPTION: Project No. 21242-01

BOUNDARY DATA

12 Surface Boundaries

17 Total Boundaries

Boundary No.	X - 1 (ft)	Y - 1 (ft)	X - 2 (ft)	Y - 2 (ft)	Soil Type Below Bnd
1	0.000	796.000	8.000	790.000	1
2	8.000	790.000	16.500	790.000	2
3	16.500	790.000	34.000	790.000	3
4	34.000	790.000	44.000	788.000	3
5	44.000	788.000	46.700	786.000	3
6	46.700	786.000	60.000	778.000	3
7	60.000	778.000	74.000	770.000	3
8	74.000	770.000	98.000	756.000	3
9	98.000	756.000	123.500	734.000	3
10	123.500	734.000	151.700	722.000	2
11	151.700	722.000	183.000	710.000	2
12	183.000	710.000	200.000	709.000	2
13	16.500	790.000	66.400	758.300	2
14	66.400	758.000	123.500	734.000	2
15	8.000	790.000	79.700	745.900	1
16	79.700	745.900	117.600	731.900	1
17	117.600	731.900	200.000	701.600	1

User Specified X-Origin = 0.000(ft)

User Specified Y-Origin = 700.000(ft)

MOHR-COULOMB SOIL PARAMETERS

3 Type(s) of Soil Defined

Soil Number	Moist Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Ratio (ru)	Pressure Constant (psf)
Water and Surface Option Description No.						
1 Bedrock	120.0	120.0	435.00	37.00	0.000	0.0
0 0						
2 Soil	120.0	120.0	274.00	28.00	0.000	0.0
0 0						
3 Fill	120.0	120.0	274.00	28.00	0.000	0.0
0 0						

Drained Shear Strength Reduction Factor applied after first stage = 1.0000

DISTRIBUTED LOAD(S)

2 Load(s) Specified

Load Stress No. (psf)	BND No. Deflection (deg from Vert)	X - 1 (ft)	Y - 1 (ft)	Stress (psf)	X - 2 (ft)	Y - 2 (ft)
1 200.000	2 0.00	8.000	790.000	200.000	16.500	790.000
2 200.000	3 0.00	16.500	790.000	200.000	34.000	790.000

NOTE - Load Stress Varies Linearly Within Specified Range.
For Multi-Stage Analysis, Refer to Detailed Output for Distributed Loads Applied to Each Stage.

TRIAL FAILURE SURFACE DATA

Circular Trial Failure Surfaces Have Been Generated Using A Random Procedure.

1000 Trial Surfaces Have Been Generated.

1000 Surfaces Generated at Increments of 0.3123(in) Equally Spaced Within the Start Range

Along The Specified Surface Between X = 8.00(ft)
and X = 34.00(ft)

Each Surface Enters within a Range Between X = 70.00(ft)
and X = 200.00(ft)

Unless XCLUDE Lines Were Specified, The Minimum Elevation To Which A Surface Extends Is Y = 700.00(ft)

Specified Maximum Radius = 10000.000(ft)

3.000(ft) Line Segments Were Used For Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation. The Angle Has Been Restricted Between The Angles Of -60.0 And -40.0 deg.

The Spencer Method Was Selected for FS Analysis.

Selected fx function = Constant (1.0)

SELECTED CONVERGENCE PARAMETERS FOR SPENCER METHOD:

Initial estimate of FS = 1.500

FS tolerance = 0.000001000

Initial estimate of theta(deg) = 15.00

Theta tolerance(radians) = 0.0001000

Minimum theta(deg) = -45.00 ; Maximum theta(deg) = 45.00

Theta convergence Step Factor = 5000.00

Maximum number of iterations = 50

Allowable negative side force = -1000.0(lbs)

Maximum force imbalance = 100.000000(lbs)

Maximum moment imbalance = 100.000000 (ft/lbs)

Selected Lambda Coefficient = 1.00

Specified Tension Crack Water Depth Factor = 0.000

Total Number of Trial Surfaces Attempted = 1000

WARNING! The Factor of Safety Calculation for one or More Trial Surfaces Did Not Converge in 50 Iterations.

Number of Trial Surfaces with Non-Converged FS = 255

Number of Trial Surfaces With Valid FS = 745

Percentage of Trial Surfaces With Non-Converged and/or Non-Valid FS Solutions of the Total Attempted = 25.5 %

Statistical Data On All Valid FS Values:

FS Max = 3.834 FS Min = 1.527 FS Ave = 2.164

Standard Deviation = 0.370 Coefficient of Variation = 17.08 %

Critical Surface is Sequence Number 667 of Those Analyzed.

*****BEGINNING OF DETAILED GEOSTASE OUTPUT FOR CRITICAL SURFACE FROM A SEARCH*****

BACK-CALCULATED CIRCULAR SURFACE PARAMETERS:

Circle Center At X = 110.081595(ft) ; Y = 839.303682(ft); and Radius = 94.514769(ft)

Circular Trial Failure Surface Generated With 34 Coordinate Points

Point No.	X-Coord. (ft)	Y-Coord. (ft)
1	29.445	790.000
2	31.051	787.466
3	32.736	784.984
4	34.499	782.556
5	36.338	780.186
6	38.251	777.875
7	40.237	775.627
8	42.293	773.442
9	44.417	771.324
10	46.608	769.274
11	48.863	767.295
12	51.179	765.388
13	53.554	763.556
14	55.987	761.800
15	58.474	760.122
16	61.013	758.524
17	63.601	757.008
18	66.236	755.574
19	68.916	754.225
20	71.637	752.961
21	74.396	751.785
22	77.192	750.696
23	80.021	749.697
24	82.880	748.788
25	85.766	747.970
26	88.677	747.245
27	91.609	746.612
28	94.560	746.072
29	97.527	745.626
30	100.506	745.275
31	103.495	745.019
32	106.491	744.857
33	109.490	744.791
34	110.976	744.805

Iter. No.	Theta (deg) (fx=1.0)	FS (Moment)	FS (Force)	Lambda	Delta FS
1	-15.0000	0.000000	1.490886	-0.268	0.1490886E+01
2	-19.9500	2.460124	1.507846	-0.363	0.9522787E+00
3	-18.0200	0.000000	1.501104	-0.325	0.1501104E+01
4	-19.2010	3.598683	1.505208	-0.348	0.2093475E+01
5	-18.5131	0.000000	1.502809	-0.335	0.1502809E+01
6	-18.8005	6.356912	1.503808	-0.340	0.4853103E+01
7	-18.5811	19.228150	1.503045	-0.336	0.1772511E+02

8	-18.8832	5.328459	1.504097	-0.342	0.3824362E+01
9	-18.9663	4.656350	1.504387	-0.344	0.3151964E+01
10	-19.3556	3.209428	1.505750	-0.351	0.1703678E+01
11	-19.8133	2.575293	1.507362	-0.360	0.1067931E+01
12	-20.5820	2.115333	1.510094	-0.376	0.6052385E+00
13	-21.5872	1.846080	1.513715	-0.396	0.3323648E+00
14	-22.8110	1.681279	1.518202	-0.421	0.1630774E+00
15	-23.9894	1.589707	1.522610	-0.445	0.6709688E-01
16	-24.8129	1.545487	1.525745	-0.462	0.1974139E-01
17	-25.1559	1.530235	1.527065	-0.470	0.3169797E-02
18	-25.2214	1.527496	1.527318	-0.471	0.1779044E-03
19	-25.2253	1.527335	1.527333	-0.471	0.1997693E-05
20	-25.2254	1.527333	1.527333	-0.471	0.2324391E-06

Factor Of Safety For The Preceding Specified Surface = 1.527
Theta (fx = 1.0) = -25.23 Deg Lambda = -0.471

The Spencer Method Has Been Selected For Analysis.

Selected fx function = Constant (1.0)

SELECTED CONVERGENCE PARAMETERS FOR ANALYSIS METHOD:

Initial estimate of FS = 1.500

FS tolerance = 0.000001000

Initial estimate of theta(deg) = 15.00

Theta tolerance(radians) = 0.0001000

Minimum theta(deg) = -45.00 ; Maximum theta(deg) = 45.00

Theta convergence Step Factor = 5000.00

Maximum number of iterations = 50

Maximum force imbalance = 100.000000(lbs)

Maximum moment imbalance(if Applicable) = 100.000000 (ft/lbs)

Selected Lambda Coefficient = 1.00

Tension Crack Water Force = 0.00(lbs)

Specified Tension Crack Water Depth Factor = 0.000

Depth of Tension Crack (zo) at Side of First Slice = 0.000(ft)

Depth of Water in Tension Crack = 0.000(ft)

Theoretical Tension Crack Depth = 7.600(ft)

NOTE: In Table 1 following, when a tension crack with water is present on
the first slice (right facing slope) or on the last slice (left facing slope),

the

"side force" in the tension crack is set equal to the water pressure resultant.

*** Table 1 - Line of Thrust(if applicable) and Slice Force Data

Vert. Shear Force(lbs)	Slice No.	X Coord.	Y Coord.	h/H	Side Force (lbs)	fx	Force Angle (Deg)
0.0	1	29.45	790.00	0.000	0.00	1.000	0.00
68.6	2	31.05	788.73	0.500	-161.07	1.000	-25.23
4.2	3	32.74	820.70	1.000+	-9.75	1.000	-25.23
-121.1	4	34.00	782.57	0.000-	284.09	1.000	-25.23
-163.1	5	34.50	782.45	0.000-	382.59	1.000	-25.23
-375.8	6	36.34	781.22	0.110	881.88	1.000	-25.23
-683.2	7	38.25	779.54	0.147	1603.06	1.000	-25.23
-1075.1	8	40.24	777.76	0.162	2522.53	1.000	-25.23
-1442.0	9	41.89	776.31	0.168	3383.66	1.000	-25.23
-1540.1	10	42.29	775.96	0.169	3613.77	1.000	-25.23
-1956.4	11	44.00	774.52	0.171	4590.45	1.000	-25.23
-2064.9	12	44.42	774.17	0.174	4845.24	1.000	-25.23
-2601.1	13	46.61	772.45	0.189	6103.34	1.000	-25.23
-2622.0	14	46.70	772.38	0.190	6152.42	1.000	-25.23
-3126.3	15	48.86	770.78	0.200	7335.58	1.000	-25.23
-3636.2	16	51.18	769.14	0.209	8532.08	1.000	-25.23
-4119.5	17	53.55	767.54	0.217	9666.17	1.000	-25.23
-4565.4	18	55.99	765.97	0.224	10712.27	1.000	-25.23
	19	58.47	764.45	0.230	11646.27	1.000	-25.23

-4963.4							
	20	60.00	763.55	0.233	12126.39	1.000	-25.23
-5168.0							
	21	61.01	762.96	0.235	12446.35	1.000	-25.23
-5304.4							
	22	63.60	761.51	0.238	13095.96	1.000	-25.23
-5581.2							
	23	66.24	760.11	0.240	13577.35	1.000	-25.23
-5786.4							
	24	66.40	760.03	0.241	13595.74	1.000	-25.23
-5794.2							
	25	68.92	758.75	0.242	13874.60	1.000	-25.23
-5913.1							
	26	71.64	757.43	0.243	13974.87	1.000	-25.23
-5955.8							
	27	74.00	756.35	0.244	13884.60	1.000	-25.23
-5917.3							
	28	74.40	756.17	0.244	13868.76	1.000	-25.23
-5910.6							
	29	77.19	754.95	0.244	13550.44	1.000	-25.23
-5774.9							
	30	80.02	753.79	0.244	13018.89	1.000	-25.23
-5548.4							
	31	82.88	752.67	0.242	12278.00	1.000	-25.23
-5232.6							
	32	85.77	751.61	0.240	11336.55	1.000	-25.23
-4831.4							
	33	88.68	750.61	0.237	10208.61	1.000	-25.23
-4350.7							
	34	91.61	749.66	0.232	8913.91	1.000	-25.23
-3798.9							
	35	94.56	748.77	0.226	7478.24	1.000	-25.23
-3187.1							
	36	94.90	748.68	0.226	7296.25	1.000	-25.23
-3109.5							
	37	97.53	747.96	0.219	5933.91	1.000	-25.23
-2528.9							
	38	98.00	747.84	0.217	5668.74	1.000	-25.23
-2415.9							
	39	100.51	747.21	0.226	4348.89	1.000	-25.23
-1853.4							
	40	103.50	746.53	0.242	2840.71	1.000	-25.23
-1210.7							
	41	106.49	745.91	0.276	1495.86	1.000	-25.23
-637.5							
	42	109.49	745.50	0.546	410.94	1.000	-25.23
-175.1							

NOTE: A value of 0.000- for h/H indicates that the line of thrust is at or below

the lower boundary of the sliding mass. A value of 1.000+ for h/H indicates that the line of thrust is at or above the upper boundary of the sliding mass.

Table 2 - Geometry Data on the 42 Slices

Slice Length No. (ft)	Width (ft)	Height (ft)	X-Cntr (ft)	Y-Cntr-Base (ft)	Y-Cntr-Top (ft)	Alpha (deg)	Beta (deg)	Base
1	1.61	1.27	30.25	788.73	790.00	-57.65	0.00	
3.00								
2	1.68	3.78	31.89	786.22	790.00	-55.83	0.00	
3.00								
3	1.26	5.89	33.37	784.11	790.00	-54.01	0.00	
2.15								
4	0.50	7.05	34.25	782.90	789.95	-54.01	-11.31	
0.85								
5	1.84	8.35	35.42	781.37	789.72	-52.19	-11.31	
3.00								
6	1.91	10.31	37.29	779.03	789.34	-50.37	-11.31	
3.00								
7	1.99	12.20	39.24	776.75	788.95	-48.55	-11.31	
3.00								
8	1.65	13.84	41.06	774.75	788.59	-46.74	-11.31	
2.41								
9	0.40	14.73	42.09	773.66	788.38	-46.74	-11.31	
0.59								
10	1.71	15.58	43.15	772.59	788.17	-44.92	-11.31	
2.41								
11	0.42	16.31	44.21	771.53	787.85	-44.92	-36.53	
0.59								
12	2.19	16.58	45.51	770.30	786.88	-43.10	-36.53	
3.00								
13	0.09	16.80	46.65	769.23	786.03	-41.28	-36.53	
0.12								
14	2.16	17.11	47.78	768.24	785.35	-41.28	-31.03	
2.88								
15	2.32	17.66	50.02	766.34	784.00	-39.46	-31.03	
3.00								
16	2.38	18.12	52.37	764.47	782.59	-37.64	-31.03	
3.00								
17	2.43	18.47	54.77	762.68	781.15	-35.82	-31.03	
3.00								
18	2.49	18.70	57.23	760.96	779.67	-34.00	-31.03	
3.00								
19	1.53	18.82	59.24	759.64	778.46	-32.19	-31.03	

1.80							
20	1.01	18.87	60.51	758.84	777.71	-32.19	-29.74
1.20							
21	2.59	18.92	62.31	757.77	776.68	-30.37	-29.74
3.00							
22	2.64	18.90	64.92	756.29	775.19	-28.55	-29.74
3.00							
23	0.16	18.86	66.32	755.53	774.39	-26.73	-29.74
0.18							
24	2.52	18.77	67.66	754.86	773.62	-26.73	-29.74
2.82							
25	2.72	18.53	70.28	753.59	772.13	-24.91	-29.74
3.00							
26	2.36	18.22	72.82	752.46	770.68	-23.09	-29.74
2.57							
27	0.40	18.02	74.20	751.87	769.88	-23.09	-30.26
0.43							
28	2.80	17.71	75.79	751.24	768.95	-21.27	-30.26
3.00							
29	2.83	17.12	78.61	750.20	767.31	-19.45	-30.26
3.00							
30	2.86	16.41	81.45	749.24	765.65	-17.64	-30.26
3.00							
31	2.89	15.60	84.32	748.38	763.98	-15.82	-30.26
3.00							
32	2.91	14.68	87.22	747.61	762.29	-14.00	-30.26
3.00							
33	2.93	13.66	90.14	746.93	760.58	-12.18	-30.26
3.00							
34	2.95	12.53	93.08	746.34	758.87	-10.36	-30.26
3.00							
35	0.34	11.86	94.73	746.05	757.91	-8.54	-30.26
0.34							
36	2.63	11.22	96.21	745.82	757.04	-8.54	-30.26
2.66							
37	0.47	10.54	97.76	745.60	756.14	-6.72	-30.26
0.48							
38	2.51	9.50	99.25	745.42	754.92	-6.72	-40.79
2.52							
39	2.99	7.40	102.00	745.15	752.55	-4.91	-40.79
3.00							
40	3.00	5.03	104.99	744.94	749.97	-3.09	-40.79
3.00							
41	3.00	2.56	107.99	744.82	747.38	-1.27	-40.79
3.00							
42	1.49	0.65	110.23	744.80	745.45	0.55	-40.79
1.49							

Table 2A - Coordinates of Slice Points Defining the Slip Surface

Point No.	X-Pt (ft)	Y-Pt (ft)
1	29.445445	790.000000
2	31.050820	787.465681
3	32.735818	784.983589
4	34.000000	783.242940
5	34.498742	782.556224
6	36.337815	780.186032
7	38.251184	777.875401
8	40.236922	775.626658
9	41.889537	773.870775
10	42.293029	773.442070
11	44.000000	771.740056
12	44.417432	771.323837
13	46.607992	769.274093
14	46.700000	769.193321
15	48.862501	767.294904
16	51.178687	765.388263
17	53.554219	763.556092
18	55.986701	761.800236
19	58.473684	760.122465
20	60.000000	759.161823
21	61.012661	758.524468
22	63.601075	757.007856
23	66.236319	755.574157
24	66.400000	755.491728
25	68.915736	754.224815
26	71.636627	752.961189
27	74.000000	751.953505
28	74.396252	751.784553
29	77.191829	750.696092
30	80.020543	749.696903
31	82.879543	748.787993
32	85.765949	747.970276
33	88.676853	747.244578
34	91.609322	746.611628
35	94.560402	746.072066
36	94.899855	746.021077
37	97.527119	745.626434
38	98.000000	745.570684
39	100.506485	745.275181
40	103.495498	745.018662
41	106.491146	744.857135
42	109.490412	744.790761
43	110.975968	744.805047

21	5875.4	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
22	5976.2	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
23	370.4	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
24	5665.2	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
25	6051.8	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
26	5166.7	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
27	856.6	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
28	5942.2	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
29	5810.1	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
30	5630.5	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
31	5403.1	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
32	5127.9	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
33	4805.2	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
34	4435.6	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
35	483.1	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
36	3536.8	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
37	598.1	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
38	2856.1	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
39	2654.7	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
40	1807.7	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
41	920.1	0.0	0.0	0.0	0.0	0.0	0.0
0.00							
42	115.5	0.0	0.0	0.0	0.0	0.0	0.0
0.00							

Table 3B - Center of Pressure of Distributed Loads On the 42 Slices
Only Applicable Slices Listed

Slice	X-Dload	Y-Dload	Dist-Load	Dload-Moment
-------	---------	---------	-----------	--------------

No.	(ft)	(ft)	(lbs)	(ft/lbs)
1	30.25	790.00	0.321075E+03	0.000000E+00
2	31.89	790.00	0.337000E+03	0.000000E+00
3	33.37	790.00	0.252836E+03	0.000000E+00
4	33.97	790.00	0.122967E+02	0.000000E+00
5	33.99	790.00	0.393494E+01	0.000000E+00
6	33.96	790.00	0.151975E+02	0.000000E+00
7	33.95	790.00	0.193802E+02	0.000000E+00
8	33.97	790.00	0.111624E+02	0.000000E+00
9	33.91	790.00	0.357776E+02	0.000000E+00
10	33.89	790.00	0.440755E+02	0.000000E+00
11	33.90	790.00	0.394327E+02	0.000000E+00
12	33.79	790.00	0.840307E+02	0.000000E+00
13	33.66	790.00	0.134449E+03	0.000000E+00
14	33.80	790.00	0.803190E+02	0.000000E+00
15	33.72	790.00	0.111597E+03	0.000000E+00
16	33.86	790.00	0.568128E+02	0.000000E+00
17	33.84	790.00	0.640994E+02	0.000000E+00

TOTAL WEIGHT OF SLIDING MASS = 132762.36(lbs)

EFFECTIVE WEIGHT OF SLIDING MASS = 132762.36(lbs)

TOTAL AREA OF SLIDING MASS = 1106.35(ft²)

TABLE 4 - SOIL STRENGTH & SOIL OPTIONS DATA ON THE 42 SLICES

Slice No.	Soil Type	Cohesion (psf)	Phi(Deg)	Options
1	3	274.00	28.00	
2	3	274.00	28.00	
3	3	274.00	28.00	
4	3	274.00	28.00	
5	3	274.00	28.00	
6	3	274.00	28.00	
7	3	274.00	28.00	
8	3	274.00	28.00	
9	2	274.00	28.00	
10	2	274.00	28.00	
11	2	274.00	28.00	
12	2	274.00	28.00	
13	2	274.00	28.00	
14	2	274.00	28.00	
15	2	274.00	28.00	
16	2	274.00	28.00	
17	2	274.00	28.00	
18	2	274.00	28.00	
19	2	274.00	28.00	
20	2	274.00	28.00	

21	2	274.00	28.00
22	2	274.00	28.00
23	2	274.00	28.00
24	2	274.00	28.00
25	2	274.00	28.00
26	2	274.00	28.00
27	2	274.00	28.00
28	2	274.00	28.00
29	2	274.00	28.00
30	2	274.00	28.00
31	2	274.00	28.00
32	2	274.00	28.00
33	2	274.00	28.00
34	2	274.00	28.00
35	2	274.00	28.00
36	3	274.00	28.00
37	3	274.00	28.00
38	3	274.00	28.00
39	3	274.00	28.00
40	3	274.00	28.00
41	3	274.00	28.00
42	3	274.00	28.00

SOIL OPTIONS:

A = ANISOTROPIC SHEAR STRENGTH

C = CURVED STRENGTH ENVELOPE (TANGENT PHI & C)

F = FIBER-REINFORCED SOIL (FRS)

M = INDEPENDENT MULTI-STAGE SHEAR STRENGTH

N = NONLINEAR UNDRAINED SHEAR STRENGTH

R = RAPID DRAWDOWN OR RAPID LOADING (SEISMIC) SHEAR STRENGTH

NOTE: Phi and C in Table 4 are modified values based on specified Soil Options (if any).

TABLE 5 - Total Base Stress Data on the 42 Slices

Slice No.	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Total Normal Stress (psf)	Total Vert. Stress (psf)	Total Stress
1	-57.65	30.25	3.00	72.03	352.06	
0.205						
2	-55.83	31.89	3.00	231.69	653.04	
0.355						
3	-54.01	33.37	2.15	378.77	906.41	
0.418						
4	-54.01	34.25	0.85	348.05	846.07	

0.411					
5	-52.19	35.42	3.00	451.80	1001.43
0.451					
6	-50.37	37.29	3.00	605.44	1237.25
0.489					
7	-48.55	39.24	3.00	762.80	1464.02
0.521					
8	-46.74	41.06	2.41	911.00	1660.64
0.549					
9	-46.74	42.09	0.59	973.35	1767.04
0.551					
10	-44.92	43.15	2.41	1074.02	1869.56
0.574					
11	-44.92	44.21	0.59	1127.30	1957.61
0.576					
12	-43.10	45.51	3.00	1189.54	1989.66
0.598					
13	-41.28	46.65	0.12	1249.41	2016.04
0.620					
14	-41.28	47.78	2.88	1272.96	2052.66
0.620					
15	-39.46	50.02	3.00	1361.36	2119.33
0.642					
16	-37.64	52.37	3.00	1444.62	2174.33
0.664					
17	-35.82	54.77	3.00	1521.08	2216.09
0.686					
18	-34.00	57.23	3.00	1590.05	2244.56
0.708					
19	-32.19	59.24	1.80	1649.61	2258.03
0.731					
20	-32.19	60.51	1.20	1654.11	2264.10
0.731					
21	-30.37	62.31	3.00	1709.17	2269.88
0.753					
22	-28.55	64.92	3.00	1759.16	2267.80
0.776					
23	-26.73	66.32	0.18	1807.66	2262.80
0.799					
24	-26.73	67.66	2.82	1798.93	2251.90
0.799					
25	-24.91	70.28	3.00	1829.40	2224.19
0.823					
26	-23.09	72.82	2.57	1851.16	2186.15
0.847					
27	-23.09	74.20	0.43	1830.66	2161.85
0.847					
28	-21.27	75.79	3.00	1853.08	2125.58
0.872					
29	-19.45	78.61	3.00	1843.95	2053.99

0.898						
30	-17.64	81.45	3.00	1821.25	1969.40	
0.925						
31	-15.82	84.32	3.00	1784.13	1871.91	
0.953						
32	-14.00	87.22	3.00	1731.73	1761.61	
0.983						
33	-12.18	90.14	3.00	1663.09	1638.61	
1.015						
34	-10.36	93.08	3.00	1577.18	1503.04	
1.049						
35	-8.54	94.73	0.34	1544.10	1423.30	
1.085						
36	-8.54	96.21	2.66	1463.71	1346.21	
1.087						
37	-6.72	97.76	0.48	1424.10	1264.72	
1.126						
38	-6.72	99.25	2.52	1289.83	1139.50	
1.132						
39	-4.91	102.00	3.00	1056.24	888.15	
1.189						
40	-3.09	104.99	3.00	770.62	603.44	
1.277						
41	-1.27	107.99	3.00	453.48	306.79	
1.478						
42	0.55	110.23	1.49	198.04	77.76	
2.547						

TABLE 5A - Total Base Force Data on the 42 Slices

Slice No.	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Total Normal Force (lbs)	Total Vert. Force (lbs)	Total Force
1	-57.65	30.25	3.00	216.09	565.19	
0.382						
2	-55.83	31.89	3.00	695.08	1100.38	
0.632						
3	-54.01	33.37	2.15	814.85	1145.86	
0.711						
4	-54.01	34.25	0.85	295.40	421.97	
0.700						
5	-52.19	35.42	3.00	1355.41	1841.70	
0.736						
6	-50.37	37.29	3.00	1816.31	2367.31	
0.767						
7	-48.55	39.24	3.00	2288.40	2907.16	

0.787					
8	-46.74	41.06	2.41	2196.67	2744.39
0.800					
9	-46.74	42.09	0.59	573.03	712.99
0.804					
10	-44.92	43.15	2.41	2588.95	3191.28
0.811					
11	-44.92	44.21	0.59	664.52	817.17
0.813					
12	-43.10	45.51	3.00	3568.61	4358.47
0.819					
13	-41.28	46.65	0.12	152.97	185.49
0.825					
14	-41.28	47.78	2.88	3663.03	4438.88
0.825					
15	-39.46	50.02	3.00	4084.09	4908.76
0.832					
16	-37.64	52.37	3.00	4333.87	5165.19
0.839					
17	-35.82	54.77	3.00	4563.24	5390.60
0.847					
18	-34.00	57.23	3.00	4770.16	5582.19
0.855					
19	-32.19	59.24	1.80	2975.02	3446.46
0.863					
20	-32.19	60.51	1.20	1979.20	2292.77
0.863					
21	-30.37	62.31	3.00	5127.52	5875.38
0.873					
22	-28.55	64.92	3.00	5277.48	5976.20
0.883					
23	-26.73	66.32	0.18	331.28	370.38
0.894					
24	-26.73	67.66	2.82	5067.11	5665.18
0.894					
25	-24.91	70.28	3.00	5488.19	6051.77
0.907					
26	-23.09	72.82	2.57	4756.06	5166.68
0.921					
27	-23.09	74.20	0.43	788.59	856.64
0.921					
28	-21.27	75.79	3.00	5559.25	5942.22
0.936					
29	-19.45	78.61	3.00	5531.85	5810.14
0.952					
30	-17.64	81.45	3.00	5463.74	5630.52
0.970					
31	-15.82	84.32	3.00	5352.40	5403.10
0.991					
32	-14.00	87.22	3.00	5195.19	5127.88

1.013						
33	-12.18	90.14	3.00	4989.26	4805.18	
1.038						
34	-10.36	93.08	3.00	4731.54	4435.59	
1.067						
35	-8.54	94.73	0.34	530.03	483.15	
1.097						
36	-8.54	96.21	2.66	3888.69	3536.84	
1.099						
37	-6.72	97.76	0.48	678.10	598.06	
1.134						
38	-6.72	99.25	2.52	3255.32	2856.14	
1.140						
39	-4.91	102.00	3.00	3168.71	2654.69	
1.194						
40	-3.09	104.99	3.00	2311.87	1807.69	
1.279						
41	-1.27	107.99	3.00	1360.45	920.13	
1.479						
42	0.55	110.23	1.49	294.21	115.51	
2.547						

TABLE 6 - Effective and Base Shear Stress Data on the 42 Slices

Slice Mobilized Stress *	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Effective Normal Stress (psf)	Available Shear Strength (psf)	Shear (psf)
1	-57.65	30.25	3.00	72.03	312.30	
204.47						
2	-55.83	31.89	3.00	231.69	397.19	
260.06						
3	-54.01	33.37	2.15	378.77	475.40	
311.26						
4	-54.01	34.25	0.85	348.05	459.06	
300.56						
5	-52.19	35.42	3.00	451.80	514.23	
336.68						
6	-50.37	37.29	3.00	605.44	595.92	
390.17						
7	-48.55	39.24	3.00	762.80	679.59	
444.95						
8	-46.74	41.06	2.41	911.00	758.39	
496.54						
9	-46.74	42.09	0.59	973.35	791.54	
518.25						
10	-44.92	43.15	2.41	1074.02	845.07	

553.30					
11	-44.92	44.21	0.59	1127.30	873.39
571.84					
12	-43.10	45.51	3.00	1189.54	906.49
593.51					
13	-41.28	46.65	0.12	1249.41	938.33
614.36					
14	-41.28	47.78	2.88	1272.96	950.84
622.55					
15	-39.46	50.02	3.00	1361.36	997.85
653.33					
16	-37.64	52.37	3.00	1444.62	1042.12
682.31					
17	-35.82	54.77	3.00	1521.08	1082.77
708.93					
18	-34.00	57.23	3.00	1590.05	1119.45
732.94					
19	-32.19	59.24	1.80	1649.61	1151.12
753.68					
20	-32.19	60.51	1.20	1654.11	1153.50
755.24					
21	-30.37	62.31	3.00	1709.17	1182.78
774.41					
22	-28.55	64.92	3.00	1759.16	1209.36
791.81					
23	-26.73	66.32	0.18	1807.66	1235.15
808.70					
24	-26.73	67.66	2.82	1798.93	1230.51
805.66					
25	-24.91	70.28	3.00	1829.40	1246.71
816.26					
26	-23.09	72.82	2.57	1851.16	1258.28
823.84					
27	-23.09	74.20	0.43	1830.66	1247.38
816.70					
28	-21.27	75.79	3.00	1853.08	1259.30
824.51					
29	-19.45	78.61	3.00	1843.95	1254.45
821.33					
30	-17.64	81.45	3.00	1821.25	1242.37
813.43					
31	-15.82	84.32	3.00	1784.13	1222.64
800.51					
32	-14.00	87.22	3.00	1731.73	1194.78
782.26					
33	-12.18	90.14	3.00	1663.09	1158.28
758.37					
34	-10.36	93.08	3.00	1577.18	1112.60
728.46					
35	-8.54	94.73	0.34	1544.10	1095.01

716.94					
36	-8.54	96.21	2.66	1463.71	1052.27
688.96					
37	-6.72	97.76	0.48	1424.10	1031.21
675.17					
38	-6.72	99.25	2.52	1289.83	959.81
628.42					
39	-4.91	102.00	3.00	1056.24	835.61
547.10					
40	-3.09	104.99	3.00	770.62	683.75
447.67					
41	-1.27	107.99	3.00	453.48	515.12
337.27					
42	0.55	110.23	1.49	198.04	379.30
248.34					

TABLE 6A - Effective and Base Shear Force Data on the 42 Slices

Slice Mobilized Force	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Effective Normal Force (lbs)	Available Shear Force (lbs)	Shear
1	-57.65	30.25	3.00	216.09	936.89	
613.42						
2	-55.83	31.89	3.00	695.08	1191.58	
780.17						
3	-54.01	33.37	2.15	814.85	1022.71	
669.61						
4	-54.01	34.25	0.85	295.40	389.61	
255.09						
5	-52.19	35.42	3.00	1355.41	1542.69	
1010.05						
6	-50.37	37.29	3.00	1816.31	1787.75	
1170.50						
7	-48.55	39.24	3.00	2288.40	2038.76	
1334.85						
8	-46.74	41.06	2.41	2196.67	1828.68	
1197.30						
9	-46.74	42.09	0.59	573.03	466.00	
305.11						
10	-44.92	43.15	2.41	2588.95	2037.05	
1333.73						
11	-44.92	44.21	0.59	664.52	514.85	
337.09						
12	-43.10	45.51	3.00	3568.61	2719.46	
1780.53						

13	-41.28	46.65	0.12	152.97	114.88
75.22					
14	-41.28	47.78	2.88	3663.03	2736.12
1791.44					
15	-39.46	50.02	3.00	4084.09	2993.55
1959.98					
16	-37.64	52.37	3.00	4333.87	3126.36
2046.94					
17	-35.82	54.77	3.00	4563.24	3248.32
2126.79					
18	-34.00	57.23	3.00	4770.16	3358.34
2198.82					
19	-32.19	59.24	1.80	2975.02	2075.99
1359.23					
20	-32.19	60.51	1.20	1979.20	1380.21
903.67					
21	-30.37	62.31	3.00	5127.52	3548.35
2323.23					
22	-28.55	64.92	3.00	5277.48	3628.09
2375.44					
23	-26.73	66.32	0.18	331.28	226.36
148.21					
24	-26.73	67.66	2.82	5067.11	3466.02
2269.32					
25	-24.91	70.28	3.00	5488.19	3740.12
2448.79					
26	-23.09	72.82	2.57	4756.06	3232.81
2116.64					
27	-23.09	74.20	0.43	788.59	537.33
351.81					
28	-21.27	75.79	3.00	5559.25	3777.91
2473.53					
29	-19.45	78.61	3.00	5531.85	3763.34
2463.99					
30	-17.64	81.45	3.00	5463.74	3727.12
2440.28					
31	-15.82	84.32	3.00	5352.40	3667.92
2401.52					
32	-14.00	87.22	3.00	5195.19	3584.33
2346.79					
33	-12.18	90.14	3.00	4989.26	3474.83
2275.10					
34	-10.36	93.08	3.00	4731.54	3337.81
2185.38					
35	-8.54	94.73	0.34	530.03	375.88
246.10					
36	-8.54	96.21	2.66	3888.69	2795.60
1830.38					
37	-6.72	97.76	0.48	678.10	491.02
321.49					

38	-6.72	99.25	2.52	3255.32	2422.42
1586.05					
39	-4.91	102.00	3.00	3168.71	2506.83
1641.31					
40	-3.09	104.99	3.00	2311.87	2051.25
1343.02					
41	-1.27	107.99	3.00	1360.45	1545.37
1011.81					
42	0.55	110.23	1.49	294.21	563.49
368.94					

Average Effective Normal Stress = 1259.0752(psf)
Average Available Shear Strength = 943.4621(psf)
Total Length of Failure Surface = 97.4856(ft)

SUM OF MOMENTS = $-0.225307E-01$ (ft/lbs); Imbalance (Fraction of Total Weight) = $-0.1697068E-06$
SUM OF FORCES = $-.207249E-04$ (lbs); Imbalance (Fraction of Total Weight) = $-0.1561052E-09$

Sum of Available Shear Forces = 91974.00(lbs)

Sum of Mobilized Shear Forces = 60218.68(lbs)

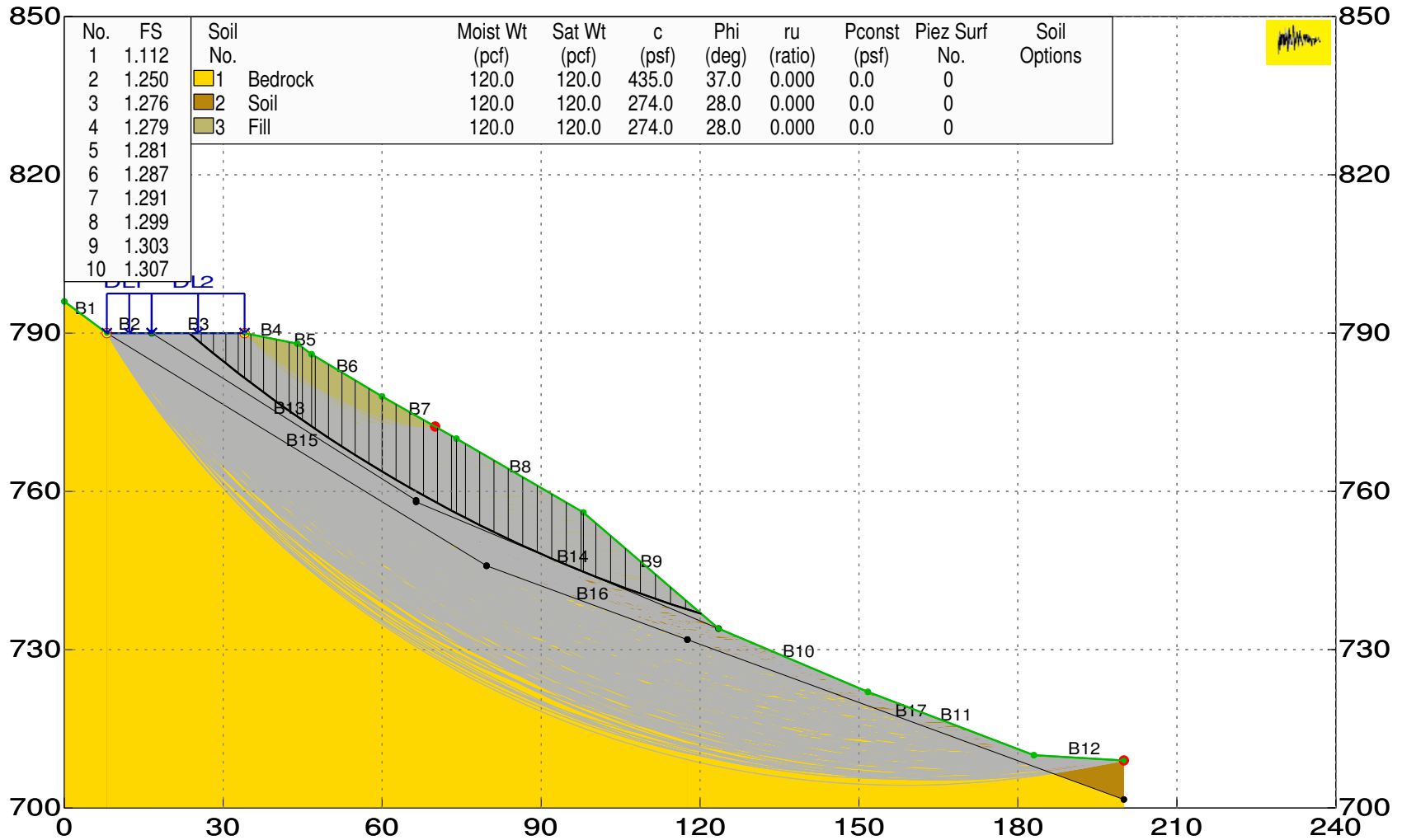
FS Balance Check: FS = 1.527333

**** END OF GEOSTASE OUTPUT ****

APN 5308-031-042. Peterson Avenue Project No. 21242-01

GeoMat

\Seismic.gsd



GEOSTASE FS = 1.112

Spencer Method

kh = 0.15000

*** GEOSTASE(R) ***

** GEOSTASE(R) (c)Copyright by Garry H. Gregory, Ph.D., P.E.,D.GE **

** Current Version 4.30.31-Double Precision, August 2019 **
(All Rights Reserved-Unauthorized Use Prohibited)

SLOPE STABILITY ANALYSIS SOFTWARE

Simplified Bishop, Simplified Janbu, or General Equilibrium (GE)

Options.

(Spencer, Morgenstern-Price, USACE, and Lowe & Karafiath)
Including Pier/Pile, Planar Reinf, Nail, Tieback, Line Loads
Applied Forces, Fiber-Reinforced Soil (FRS), Distributed Loads
Nonlinear Undrained Shear Strength, Curved Strength Envelope,
Anisotropic Strengths, Water Surfaces, 3-Stage Rapid Drawdown
2- or 3-Stage Pseudo-Static & Simplified Newmark Seismic Analyses.

Analysis Date: 11/ 24/ 2021
Analysis Time:
Analysis By: GeoMat

Input File Name: C:\Users\Abdullah\OneDrive - Geomat Testing
Laboratories\GeoMat Reports\ANNUAL REPORTS\2021 REPORTS\21242.South Pasadena Hanscom
Drive\Geostase\Seismic.gsd

Output File Name: C:\Users\Abdullah\OneDrive - Geomat Testing
Laboratories\GeoMat Reports\ANNUAL REPORTS\2021 REPORTS\21242.South Pasadena Hanscom
Drive\Geostase\Seismic.OUT

Unit System: English

PROJECT: APN 5308-031-042. Peterson Avenue

DESCRIPTION: Project No. 21242-01

BOUNDARY DATA

12 Surface Boundaries

17 Total Boundaries

Boundary No.	X - 1 (ft)	Y - 1 (ft)	X - 2 (ft)	Y - 2 (ft)	Soil Type Below Bnd
1	0.000	796.000	8.000	790.000	1
2	8.000	790.000	16.500	790.000	2
3	16.500	790.000	34.000	790.000	3
4	34.000	790.000	44.000	788.000	3
5	44.000	788.000	46.700	786.000	3
6	46.700	786.000	60.000	778.000	3
7	60.000	778.000	74.000	770.000	3
8	74.000	770.000	98.000	756.000	3
9	98.000	756.000	123.500	734.000	3
10	123.500	734.000	151.700	722.000	2
11	151.700	722.000	183.000	710.000	2
12	183.000	710.000	200.000	709.000	2
13	16.500	790.000	66.400	758.300	2
14	66.400	758.000	123.500	734.000	2
15	8.000	790.000	79.700	745.900	1
16	79.700	745.900	117.600	731.900	1
17	117.600	731.900	200.000	701.600	1

User Specified X-Origin = 0.000(ft)

User Specified Y-Origin = 700.000(ft)

MOHR-COULOMB SOIL PARAMETERS

3 Type(s) of Soil Defined

Soil Number	Moist Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Ratio (ru)	Pressure Constant (psf)
Water and Surface Option Description No.						
1 Bedrock	120.0	120.0	435.00	37.00	0.000	0.0
0 0						
2 Soil	120.0	120.0	274.00	28.00	0.000	0.0
0 0						
3 Fill	120.0	120.0	274.00	28.00	0.000	0.0
0 0						

Drained Shear Strength Reduction Factor applied after first stage = 1.0000

DISTRIBUTED LOAD(S)

2 Load(s) Specified

Load Stress No. (psf)	BND No. Deflection (deg from Vert)	X - 1 (ft)	Y - 1 (ft)	Stress (psf)	X - 2 (ft)	Y - 2 (ft)
1 200.000	2 0.00	8.000	790.000	200.000	16.500	790.000
2 200.000	3 0.00	16.500	790.000	200.000	34.000	790.000

NOTE - Load Stress Varies Linearly Within Specified Range.
For Multi-Stage Analysis, Refer to Detailed Output for Distributed Loads Applied to Each Stage.

SEISMIC (EARTHQUAKE) DATA

Specified Peak Ground Acceleration Coefficient (PGA) = 0.000(g)
Default Velocity = 0.000(ft) per second
Specified Horizontal Earthquake Coefficient (kh) = -.15000(g)
Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
(NOTE:Input Velocity = 0.0 will result in default Peak Velocity = 2 times(PGA) times 2.5 fps or 0.762 mps)
Specified Seismic Pore-Pressure Factor = 0.000
Horizontal Seismic Force is Applied at Center of Gravity of Slices

TRIAL FAILURE SURFACE DATA

Circular Trial Failure Surfaces Have Been Generated Using A Random Procedure.

1000 Trial Surfaces Have Been Generated.

1000 Surfaces Generated at Increments of 0.3123(in) Equally Spaced Within the Start Range

Along The Specified Surface Between X = 8.00(ft)
and X = 34.00(ft)

Each Surface Enters within a Range Between X = 70.00(ft)
and X = 200.00(ft)

Unless XCLUDE Lines Were Specified, The Minimum Elevation To Which A Surface Extends Is Y = 700.00(ft)

Specified Maximum Radius = 10000.000(ft)

3.000(ft) Line Segments Were Used For Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation.
The Angle Has Been Restricted Between The Angles Of -60.0
And -40.0 deg.

The Spencer Method Was Selected for FS Analysis.

Selected fx function = Constant (1.0)

SELECTED CONVERGENCE PARAMETERS FOR SPENCER METHOD:

Initial estimate of FS = 1.500

FS tolerance = 0.000001000

Initial estimate of theta(deg) = 15.00

Theta tolerance(radians) = 0.0001000

Minimum theta(deg) = -45.00 ; Maximum theta(deg) = 45.00

Theta convergence Step Factor = 5000.00

Maximum number of iterations = 50

Allowable negative side force = -1000.0(lbs)

Maximum force imbalance = 100.000000(lbs)

Maximum moment imbalance = 100.000000 (ft/lbs)

Selected Lambda Coefficient = 1.00

Specified Tension Crack Water Depth Factor = 0.000

Total Number of Trial Surfaces Attempted = 1000

WARNING! The Factor of Safety Calculation for one or More Trial Surfaces
Did Not Converge in 50 Iterations.

Number of Trial Surfaces with Non-Converged FS = 457

Number of Trial Surfaces With Valid FS = 543

Percentage of Trial Surfaces With Non-Converged and/or
Non-Valid FS Solutions of the Total Attempted = 45.7 %

Statistical Data On All Valid FS Values:

FS Max = 2.591 FS Min = 1.112 FS Ave = 1.656

Standard Deviation = 0.228 Coefficient of Variation = 13.78 %

Critical Surface is Sequence Number 405 of Those Analyzed.

*****BEGINNING OF DETAILED GEOSTASE OUTPUT FOR CRITICAL SURFACE FROM A SEARCH*****

BACK-CALCULATED CIRCULAR SURFACE PARAMETERS:

Circle Center At X = 201.239891(ft) ; Y = 998.482961(ft); and Radius = 273.940270(ft)

Circular Trial Failure Surface Generated With 39 Coordinate Points

Point No.	X-Coord. (ft)	Y-Coord. (ft)
1	23.538	790.000
2	25.831	788.066
3	28.146	786.158
4	30.482	784.275
5	32.838	782.418
6	35.214	780.587
7	37.610	778.782
8	40.026	777.003
9	42.461	775.251
10	44.915	773.525
11	47.388	771.827
12	49.880	770.156
13	52.389	768.512
14	54.916	766.896
15	57.461	765.307
16	60.023	763.747
17	62.603	762.214
18	65.198	760.710
19	67.810	759.234
20	70.438	757.788
21	73.082	756.370
22	75.741	754.981
23	78.415	753.621
24	81.104	752.291
25	83.808	750.990
26	86.525	749.719
27	89.256	748.477
28	92.001	747.266
29	94.758	746.085
30	97.529	744.934
31	100.312	743.813
32	103.107	742.723
33	105.913	741.664
34	108.731	740.635
35	111.561	739.638
36	114.401	738.671

37	117.251	737.736
38	120.112	736.831
39	120.276	736.782

Iter. No.	Theta (deg) (fx=1.0)	FS (Moment)	FS (Force)	Lambda	Delta FS
1	-15.0000	0.601492	1.099175	-0.268	0.4976820E+00
2	-19.9500	0.720606	1.101668	-0.363	0.3810615E+00
3	-36.1201	1.162119	1.108940	-0.730	0.5317885E-01
4	-34.1370	1.200636	1.107897	-0.678	0.9273822E-01
5	-38.7854	1.129019	1.110438	-0.804	0.1858153E-01
6	-39.9490	1.118513	1.111130	-0.838	0.7382786E-02
7	-40.7157	1.112497	1.111601	-0.861	0.8955964E-03
8	-40.8213	1.111716	1.111667	-0.864	0.4935607E-04
9	-40.8275	1.111671	1.111671	-0.864	0.1183174E-06

Factor Of Safety For The Preceding Specified Surface = 1.112
 Theta (fx = 1.0) = -40.83 Deg Lambda = -0.864

The Spencer Method Has Been Selected For Analysis.

Selected fx function = Constant (1.0)

SELECTED CONVERGENCE PARAMETERS FOR ANALYSIS METHOD:

Initial estimate of FS = 1.500

FS tolerance = 0.000001000

Initial estimate of theta(deg) = 15.00

Theta tolerance(radians) = 0.0001000

Minimum theta(deg) = -45.00 ; Maximum theta(deg) = 45.00

Theta convergence Step Factor = 5000.00

Maximum number of iterations = 50

Maximum force imbalance = 100.000000(lbs)

Maximum moment imbalance(if Applicable) = 100.000000 (ft/lbs)

Selected Lambda Coefficient = 1.00

Tension Crack Water Force = 0.00(lbs)

Specified Tension Crack Water Depth Factor = 0.000

Depth of Tension Crack (zo) at Side of First Slice = 0.000(ft)

Depth of Water in Tension Crack = 0.000(ft)

Theoretical Tension Crack Depth = 7.600(ft)

NOTE: In Table 1 following, when a tension crack with water is present on the first slice (right facing slope) or on the last slice (left facing slope), the "side force" in the tension crack is set equal to the water pressure resultant.

*** Table 1 - Line of Thrust(if applicable) and Slice Force Data

Vert. Shear Force(lbs)	Slice No.	X Coord.	Y Coord.	h/H	Side Force (lbs)	fx	Force Angle (Deg)
0.0	1	23.54	790.00	0.000	0.00	1.000	0.00
325.2	2	25.83	789.03	0.500	-497.44	1.000	-40.83
505.2	3	28.15	786.41	0.065	-772.70	1.000	-40.83
545.8	4	30.48	783.62	0.000-	-834.85	1.000	-40.83
453.3	5	32.84	779.64	0.000-	-693.36	1.000	-40.83
363.4	6	34.00	776.33	0.000-	-555.88	1.000	-40.83
276.7	7	35.21	770.98	0.000-	-423.20	1.000	-40.83
44.8	8	37.61	678.32	0.000-	-68.56	1.000	-40.83
-268.1	9	40.03	802.37	1.000+	410.12	1.000	-40.83
-656.0	10	42.46	789.83	1.000+	1003.35	1.000	-40.83
-931.9	11	44.00	786.54	0.894	1425.47	1.000	-40.83
-1105.8	12	44.92	785.04	0.835	1691.44	1.000	-40.83
-1422.7	13	46.70	782.81	0.767	2176.16	1.000	-40.83
-1544.6	14	47.39	782.05	0.743	2362.51	1.000	-40.83
-1966.7	15	49.88	779.64	0.681	3008.21	1.000	-40.83
-2374.4	16	52.39	777.50	0.639	3631.72	1.000	-40.83

-2763.5	17	54.92	775.51	0.608	4226.95	1.000	-40.83
-3130.3	18	57.46	773.61	0.584	4787.99	1.000	-40.83
-3467.9	19	60.00	771.79	0.564	5304.39	1.000	-40.83
-3471.1	20	60.02	771.77	0.564	5309.17	1.000	-40.83
-3784.6	21	62.60	769.99	0.544	5788.69	1.000	-40.83
-4069.5	22	65.20	768.24	0.526	6224.58	1.000	-40.83
-4322.6	23	67.81	766.53	0.510	6611.60	1.000	-40.83
-4540.4	24	70.44	764.85	0.495	6944.81	1.000	-40.83
-4720.0	25	73.08	763.19	0.482	7219.58	1.000	-40.83
-4768.6	26	74.00	762.63	0.477	7293.89	1.000	-40.83
-4858.3	27	75.74	761.55	0.469	7431.11	1.000	-40.83
-4951.7	28	78.42	759.94	0.458	7573.90	1.000	-40.83
-4997.8	29	81.10	758.35	0.446	7644.49	1.000	-40.83
-4994.9	30	83.81	756.77	0.435	7640.04	1.000	-40.83
-4941.4	31	86.52	755.22	0.424	7558.17	1.000	-40.83
-4836.0	32	89.26	753.69	0.413	7396.99	1.000	-40.83
-4677.9	33	92.00	752.18	0.401	7155.14	1.000	-40.83
-4466.5	34	94.76	750.69	0.390	6831.82	1.000	-40.83
-4201.8	35	97.53	749.24	0.379	6426.83	1.000	-40.83
-4148.9	36	98.00	749.00	0.378	6345.92	1.000	-40.83
-3876.8	37	100.31	747.79	0.390	5929.76	1.000	-40.83
-3482.2	38	103.11	746.32	0.405	5326.26	1.000	-40.83
-3023.8	39	105.91	744.82	0.420	4625.06	1.000	-40.83
-2508.2	40	108.73	743.30	0.436	3836.47	1.000	-40.83
-1943.1	41	111.56	741.74	0.451	2972.05	1.000	-40.83

-1336.7	42	114.40	740.16	0.468	2044.62	1.000	-40.83
-698.5	43	117.25	738.55	0.489	1068.32	1.000	-40.83
-38.4	44	120.11	736.96	1.000+	58.74	1.000	-40.83

NOTE: A value of 0.000- for h/H indicates that the line of thrust is at or below the lower boundary of the sliding mass. A value of 1.000+ for h/H indicates that the line of thrust is at or above the upper boundary of the sliding mass.

Table 2 - Geometry Data on the 44 Slices

Slice Length No. (ft)	Width (ft)	Height (ft)	X-Cntr (ft)	Y-Cntr-Base (ft)	Y-Cntr-Top (ft)	Alpha (deg)	Beta (deg)	Base
1 3.00	2.29	0.97	24.68	789.03	790.00	-40.13	0.00	
2 3.00	2.31	2.89	26.99	787.11	790.00	-39.50	0.00	
3 3.00	2.34	4.78	29.31	785.22	790.00	-38.87	0.00	
4 3.00	2.36	6.65	31.66	783.35	790.00	-38.25	0.00	
5 1.47	1.16	8.03	33.42	781.97	790.00	-37.62	0.00	
6 1.53	1.21	8.82	34.61	781.05	789.88	-37.62	-11.31	
7 3.00	2.40	9.83	36.41	779.68	789.52	-36.99	-11.31	
8 3.00	2.42	11.14	38.82	777.89	789.04	-36.36	-11.31	
9 3.00	2.44	12.42	41.24	776.13	788.55	-35.74	-11.31	
10 1.88	1.54	13.44	43.23	774.71	788.15	-35.11	-11.31	
11 1.12	0.92	13.81	44.46	773.85	787.66	-35.11	-36.53	
12 2.17	1.78	13.75	45.81	772.91	786.66	-34.48	-36.53	
13 0.83	0.69	13.73	47.04	772.06	785.79	-34.48	-31.03	
14 3.00	2.49	13.85	48.63	770.99	784.84	-33.85	-31.03	

15	2.51	14.00	51.13	769.33	783.33	-33.23	-31.03
3.00							
16	2.53	14.11	53.65	767.70	781.82	-32.60	-31.03
3.00							
17	2.54	14.19	56.19	766.10	780.29	-31.97	-31.03
3.00							
18	2.54	14.23	58.73	764.53	778.76	-31.34	-31.03
2.97							
19	0.02	14.24	60.01	763.75	777.99	-31.34	-29.74
0.03							
20	2.58	14.27	61.31	762.98	777.25	-30.72	-29.74
3.00							
21	2.60	14.31	63.90	761.46	775.77	-30.09	-29.74
3.00							
22	2.61	14.31	66.50	759.97	774.28	-29.46	-29.74
3.00							
23	2.63	14.28	69.12	758.51	772.79	-28.83	-29.74
3.00							
24	2.64	14.20	71.76	757.08	771.28	-28.21	-29.74
3.00							
25	0.92	14.13	73.54	756.13	770.26	-27.58	-29.74
1.04							
26	1.74	14.06	74.87	755.44	769.49	-27.58	-30.26
1.96							
27	2.67	13.90	77.08	754.30	768.20	-26.95	-30.26
3.00							
28	2.69	13.68	79.76	752.96	766.64	-26.32	-30.26
3.00							
29	2.70	13.43	82.46	751.64	765.07	-25.70	-30.26
3.00							
30	2.72	13.13	85.17	750.35	763.49	-25.07	-30.26
3.00							
31	2.73	12.80	87.89	749.10	761.90	-24.44	-30.26
3.00							
32	2.74	12.43	90.63	747.87	760.30	-23.82	-30.26
3.00							
33	2.76	12.02	93.38	746.68	758.70	-23.19	-30.26
3.00							
34	2.77	11.57	96.14	745.51	757.08	-22.56	-30.26
3.00							
35	0.47	11.30	97.76	744.84	756.14	-21.93	-30.26
0.51							
36	2.31	10.72	99.16	744.28	755.00	-21.93	-40.79
2.49							
37	2.79	9.53	101.71	743.27	752.80	-21.31	-40.79
3.00							
38	2.81	8.19	104.51	742.19	750.38	-20.68	-40.79
3.00							
39	2.82	6.81	107.32	741.15	747.96	-20.05	-40.79
3.00							

40	2.83	5.38	110.15	740.14	745.52	-19.42	-40.79
3.00							
41	2.84	3.92	112.98	739.15	743.08	-18.80	-40.79
3.00							
42	2.85	2.42	115.83	738.20	740.62	-18.17	-40.79
3.00							
43	2.86	0.87	118.68	737.28	738.16	-17.54	-40.79
3.00							
44	0.16	0.05	120.19	736.81	736.85	-16.91	-40.79
0.17							

Table 2A - Coordinates of Slice Points Defining the Slip Surface

Point No.	X-Pt (ft)	Y-Pt (ft)
1	23.537538	790.000000
2	25.831317	788.066461
3	28.146134	786.158156
4	30.481710	784.275317
5	32.837764	782.418167
6	34.000000	781.522501
7	35.214016	780.586930
8	37.610179	778.781826
9	40.025967	777.003070
10	42.461089	775.250877
11	44.000000	774.168932
12	44.915253	773.525456
13	46.700000	772.299659
14	47.388166	771.827015
15	49.879530	770.155756
16	52.389047	768.511881
17	54.916415	766.895587
18	57.461333	765.307067
19	60.000000	763.760821
20	60.023494	763.746512
21	62.602591	762.214109
22	65.198315	760.710042
23	67.810354	759.234492
24	70.438396	757.787634
25	73.082125	756.369644
26	74.000000	755.890201
27	75.741224	754.980690
28	78.415374	753.620940
29	81.104255	752.290556
30	83.807543	750.989698
31	86.524916	749.718523
32	89.256046	748.477181

33	92.000606	747.265824
34	94.758268	746.084595
35	97.528700	744.933636
36	98.000000	744.743862
37	100.311570	743.813086
38	103.106545	742.723078
39	105.913289	741.663744
40	108.731465	740.635210
41	111.560736	739.637601
42	114.400763	738.671034
43	117.251204	737.735628
44	120.111718	736.831493
45	120.275912	736.781566

Table 3 - Force and Pore Pressure Data On The 44 Slices (Excluding Reinforcement)

Distributed Slice No. (lbs)	Weight (lbs)	Ubeta	Ubeta	Ualpha	Pore Pressure (psf)	Earthquake Force		Load
		Force Top (lbs)	Stress Top (psf)	Force Bot (lbs)		Hor (lbs)	Ver (lbs)	
1	266.1	0.0	0.0	0.0	0.0	-39.9	0.0	
458.76								
2	802.1	0.0	0.0	0.0	0.0	-120.3	0.0	
462.96								
3	1340.6	0.0	0.0	0.0	0.0	-201.1	0.0	
467.12								
4	1881.1	0.0	0.0	0.0	0.0	-282.2	0.0	
471.21								
5	1119.9	0.0	0.0	0.0	0.0	-168.0	0.0	
232.45								
6	1285.5	0.0	0.0	0.0	0.0	-192.8	0.0	
0.00								
7	2827.4	0.0	0.0	0.0	0.0	-424.1	0.0	
0.00								
8	3230.6	0.0	0.0	0.0	0.0	-484.6	0.0	
0.00								
9	3630.6	0.0	0.0	0.0	0.0	-544.6	0.0	
0.00								
10	2482.7	0.0	0.0	0.0	0.0	-372.4	0.0	
0.00								
11	1517.2	0.0	0.0	0.0	0.0	-227.6	0.0	
0.00								
12	2944.5	0.0	0.0	0.0	0.0	-441.7	0.0	
0.00								
13	1133.8	0.0	0.0	0.0	0.0	-170.1	0.0	

0.00							
14	4139.3	0.0	0.0	0.0	0.0	-620.9	0.0
0.00							
15	4215.7	0.0	0.0	0.0	0.0	-632.4	0.0
0.00							
16	4280.6	0.0	0.0	0.0	0.0	-642.1	0.0
0.00							
17	4333.8	0.0	0.0	0.0	0.0	-650.1	0.0
0.00							
18	4334.9	0.0	0.0	0.0	0.0	-650.2	0.0
0.00							
19	40.1	0.0	0.0	0.0	0.0	-6.0	0.0
0.00							
20	4416.3	0.0	0.0	0.0	0.0	-662.4	0.0
0.00							
21	4457.1	0.0	0.0	0.0	0.0	-668.6	0.0
0.00							
22	4485.7	0.0	0.0	0.0	0.0	-672.9	0.0
0.00							
23	4501.8	0.0	0.0	0.0	0.0	-675.3	0.0
0.00							
24	4505.3	0.0	0.0	0.0	0.0	-675.8	0.0
0.00							
25	1556.6	0.0	0.0	0.0	0.0	-233.5	0.0
0.00							
26	2937.1	0.0	0.0	0.0	0.0	-440.6	0.0
0.00							
27	4461.6	0.0	0.0	0.0	0.0	-669.2	0.0
0.00							
28	4415.5	0.0	0.0	0.0	0.0	-662.3	0.0
0.00							
29	4355.7	0.0	0.0	0.0	0.0	-653.4	0.0
0.00							
30	4282.2	0.0	0.0	0.0	0.0	-642.3	0.0
0.00							
31	4194.8	0.0	0.0	0.0	0.0	-629.2	0.0
0.00							
32	4093.3	0.0	0.0	0.0	0.0	-614.0	0.0
0.00							
33	3977.7	0.0	0.0	0.0	0.0	-596.7	0.0
0.00							
34	3847.7	0.0	0.0	0.0	0.0	-577.2	0.0
0.00							
35	639.0	0.0	0.0	0.0	0.0	-95.9	0.0
0.00							
36	2974.8	0.0	0.0	0.0	0.0	-446.2	0.0
0.00							
37	3197.0	0.0	0.0	0.0	0.0	-479.5	0.0
0.00							
38	2758.5	0.0	0.0	0.0	0.0	-413.8	0.0

0.00							
39	2302.2	0.0	0.0	0.0	0.0	-345.3	0.0
0.00							
40	1828.1	0.0	0.0	0.0	0.0	-274.2	0.0
0.00							
41	1336.3	0.0	0.0	0.0	0.0	-200.4	0.0
0.00							
42	826.9	0.0	0.0	0.0	0.0	-124.0	0.0
0.00							
43	299.9	0.0	0.0	0.0	0.0	-45.0	0.0
0.00							
44	0.9	0.0	0.0	0.0	0.0	-0.1	0.0
0.00							

Table 3B - Center of Pressure of Distributed Loads On the 44 Slices
Only Applicable Slices Listed

Slice No.	X-Dload (ft)	Y-Dload (ft)	Dist-Load (lbs)	Dload-Moment (ft/lbs)
1	24.68	790.00	0.458756E+03	0.000000E+00
2	26.99	790.00	0.462963E+03	0.000000E+00
3	29.31	790.00	0.467115E+03	0.000000E+00
4	31.66	790.00	0.471211E+03	0.000000E+00
5	33.42	790.00	0.232447E+03	0.000000E+00
6	33.96	790.00	0.151975E+02	0.000000E+00
7	33.95	790.00	0.193802E+02	0.000000E+00
8	33.97	790.00	0.111624E+02	0.000000E+00
9	33.91	790.00	0.357776E+02	0.000000E+00
10	33.89	790.00	0.440755E+02	0.000000E+00
11	33.90	790.00	0.394327E+02	0.000000E+00
12	33.79	790.00	0.840307E+02	0.000000E+00
13	33.66	790.00	0.134449E+03	0.000000E+00
14	33.80	790.00	0.803190E+02	0.000000E+00
15	33.72	790.00	0.111597E+03	0.000000E+00
16	33.86	790.00	0.568128E+02	0.000000E+00
17	33.84	790.00	0.640994E+02	0.000000E+00

TOTAL WEIGHT OF SLIDING MASS = 122458.63(lbs)

EFFECTIVE WEIGHT OF SLIDING MASS = 122458.63(lbs)

TOTAL AREA OF SLIDING MASS = 1020.49(ft²)

TABLE 4 - SOIL STRENGTH & SOIL OPTIONS DATA ON THE 44 SLICES

Slice No.	Soil Type	Cohesion (psf)	Phi(Deg)	Options
1	3	274.00	28.00	

2	3	274.00	28.00
3	3	274.00	28.00
4	3	274.00	28.00
5	3	274.00	28.00
6	3	274.00	28.00
7	3	274.00	28.00
8	3	274.00	28.00
9	3	274.00	28.00
10	3	274.00	28.00
11	3	274.00	28.00
12	3	274.00	28.00
13	3	274.00	28.00
14	3	274.00	28.00
15	3	274.00	28.00
16	3	274.00	28.00
17	3	274.00	28.00
18	3	274.00	28.00
19	3	274.00	28.00
20	3	274.00	28.00
21	3	274.00	28.00
22	3	274.00	28.00
23	3	274.00	28.00
24	3	274.00	28.00
25	3	274.00	28.00
26	3	274.00	28.00
27	3	274.00	28.00
28	3	274.00	28.00
29	3	274.00	28.00
30	3	274.00	28.00
31	3	274.00	28.00
32	3	274.00	28.00
33	3	274.00	28.00
34	3	274.00	28.00
35	3	274.00	28.00
36	3	274.00	28.00
37	3	274.00	28.00
38	3	274.00	28.00
39	3	274.00	28.00
40	3	274.00	28.00
41	3	274.00	28.00
42	3	274.00	28.00
43	3	274.00	28.00
44	3	274.00	28.00

SOIL OPTIONS:

A = ANISOTROPIC SHEAR STRENGTH

C = CURVED STRENGTH ENVELOPE (TANGENT PHI & C)

F = FIBER-REINFORCED SOIL (FRS)

M = INDEPENDENT MULTI-STAGE SHEAR STRENGTH

N = NONLINEAR UNDRAINED SHEAR STRENGTH

R = RAPID DRAWDOWN OR RAPID LOADING (SEISMIC) SHEAR STRENGTH
 NOTE: Phi and C in Table 4 are modified values based on specified
 Soil Options (if any).

TABLE 5 - Total Base Stress Data on the 44 Slices

Slice No.	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Total Normal Stress (psf)	Total Vert. Stress (psf)	Total Stress
1 0.564	-40.13	24.68	3.00	178.19	316.01	
2 0.553	-39.50	26.99	3.00	302.00	546.52	
3 0.553	-38.87	29.31	3.00	427.75	773.99	
4 0.556	-38.25	31.66	3.00	555.44	998.39	
5 0.563	-37.62	33.42	1.47	654.89	1163.56	
6 0.550	-37.62	34.61	1.53	582.69	1058.87	
7 0.559	-36.99	36.41	3.00	659.81	1179.98	
8 0.568	-36.36	38.82	3.00	758.96	1337.27	
9 0.576	-35.74	41.24	3.00	858.75	1490.92	
10 0.585	-35.11	43.23	1.88	943.41	1613.28	
11 0.584	-35.11	44.46	1.12	968.65	1657.66	
12 0.594	-34.48	45.81	2.17	980.78	1649.82	
13 0.595	-34.48	47.04	0.83	979.48	1647.56	
14 0.605	-33.85	48.63	3.00	1004.40	1661.45	
15 0.615	-33.23	51.13	3.00	1032.49	1679.87	
16 0.625	-32.60	53.65	3.00	1058.37	1693.70	
17 0.635	-31.97	56.19	3.00	1081.94	1702.93	
18 0.646	-31.34	58.73	2.97	1103.09	1707.55	

19	-31.34	60.01	0.03	1103.83	1708.75
0.646					
20	-30.72	61.31	3.00	1124.70	1712.33
0.657					
21	-30.09	63.90	3.00	1146.69	1717.09
0.668					
22	-29.46	66.50	3.00	1166.13	1717.32
0.679					
23	-28.83	69.12	3.00	1182.92	1713.00
0.691					
24	-28.21	71.76	3.00	1196.94	1704.15
0.702					
25	-27.58	73.54	1.04	1211.52	1695.88
0.714					
26	-27.58	74.87	1.96	1205.39	1686.80
0.715					
27	-26.95	77.08	3.00	1213.14	1668.42
0.727					
28	-26.32	79.76	3.00	1215.39	1642.12
0.740					
29	-25.70	82.46	3.00	1214.26	1611.27
0.754					
30	-25.07	85.17	3.00	1209.62	1575.87
0.768					
31	-24.44	87.89	3.00	1201.32	1535.92
0.782					
32	-23.82	90.63	3.00	1189.21	1491.44
0.797					
33	-23.19	93.38	3.00	1173.14	1442.41
0.813					
34	-22.56	96.14	3.00	1152.94	1388.86
0.830					
35	-21.93	97.76	0.51	1147.79	1355.85
0.847					
36	-21.93	99.16	2.49	1094.58	1286.93
0.851					
37	-21.31	101.71	3.00	1001.98	1143.83
0.876					
38	-20.68	104.51	3.00	892.09	982.82
0.908					
39	-20.05	107.32	3.00	774.68	816.92
0.948					
40	-19.42	110.15	3.00	649.46	646.15
1.005					
41	-18.80	112.98	3.00	516.13	470.53
1.097					
42	-18.17	115.83	3.00	374.37	290.09
1.291					
43	-17.54	118.68	3.00	223.84	104.83
2.135					

44 -16.91 120.19 0.17 143.54 5.50
 26.079

TABLE 5A - Total Base Force Data on the 44 Slices

Slice No.	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Total Normal Force (lbs)	Total Vert. Force (lbs)	Total Force
1	-40.13	24.68	3.00	534.56	724.86	
0.737						
2	-39.50	26.99	3.00	905.99	1265.10	
0.716						
3	-38.87	29.31	3.00	1283.26	1807.72	
0.710						
4	-38.25	31.66	3.00	1666.31	2352.26	
0.708						
5	-37.62	33.42	1.47	960.93	1352.33	
0.711						
6	-37.62	34.61	1.53	893.08	1285.48	
0.695						
7	-36.99	36.41	3.00	1979.42	2827.43	
0.700						
8	-36.36	38.82	3.00	2276.89	3230.57	
0.705						
9	-35.74	41.24	3.00	2576.25	3630.57	
0.710						
10	-35.11	43.23	1.88	1774.74	2482.69	
0.715						
11	-35.11	44.46	1.12	1083.75	1517.18	
0.714						
12	-34.48	45.81	2.17	2123.54	2944.50	
0.721						
13	-34.48	47.04	0.83	817.71	1133.80	
0.721						
14	-33.85	48.63	3.00	3013.20	4139.27	
0.728						
15	-33.23	51.13	3.00	3097.46	4215.67	
0.735						
16	-32.60	53.65	3.00	3175.10	4280.61	
0.742						
17	-31.97	56.19	3.00	3245.82	4333.82	
0.749						
18	-31.34	58.73	2.97	3278.91	4334.90	
0.756						
19	-31.34	60.01	0.03	30.36	40.14	
0.756						

20	-30.72	61.31	3.00	3374.10	4416.25
0.764					
21	-30.09	63.90	3.00	3440.06	4457.10
0.772					
22	-29.46	66.50	3.00	3498.40	4485.70
0.780					
23	-28.83	69.12	3.00	3548.76	4501.84
0.788					
24	-28.21	71.76	3.00	3590.81	4505.30
0.797					
25	-27.58	73.54	1.04	1254.59	1556.61
0.806					
26	-27.58	74.87	1.96	2367.93	2937.10
0.806					
27	-26.95	77.08	3.00	3639.43	4461.61
0.816					
28	-26.32	79.76	3.00	3646.17	4415.47
0.826					
29	-25.70	82.46	3.00	3642.79	4355.73
0.836					
30	-25.07	85.17	3.00	3628.86	4282.23
0.847					
31	-24.44	87.89	3.00	3603.96	4194.81
0.859					
32	-23.82	90.63	3.00	3567.64	4093.34
0.872					
33	-23.19	93.38	3.00	3519.42	3977.69
0.885					
34	-22.56	96.14	3.00	3458.82	3847.75
0.899					
35	-21.93	97.76	0.51	583.16	639.01
0.913					
36	-21.93	99.16	2.49	2727.61	2974.82
0.917					
37	-21.31	101.71	3.00	3005.93	3196.99
0.940					
38	-20.68	104.51	3.00	2676.27	2758.53
0.970					
39	-20.05	107.32	3.00	2324.04	2302.23
1.009					
40	-19.42	110.15	3.00	1948.39	1828.14
1.066					
41	-18.80	112.98	3.00	1548.39	1336.33
1.159					
42	-18.17	115.83	3.00	1123.10	826.88
1.358					
43	-17.54	118.68	3.00	671.51	299.88
2.239					
44	-16.91	120.19	0.17	24.63	0.90
27.258					

TABLE 6 - Effective and Base Shear Stress Data on the 44 Slices

Slice Mobilized No. Stress *	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Effective Normal Stress (psf)	Available Shear Strength (psf)	Shear (psf)
1 331.70	-40.13	24.68	3.00	178.19	368.74	
2 390.92	-39.50	26.99	3.00	302.00	434.57	
3 451.07	-38.87	29.31	3.00	427.75	501.44	
4 512.14	-38.25	31.66	3.00	555.44	569.33	
5 559.71	-37.62	33.42	1.47	654.89	622.21	
6 525.18	-37.62	34.61	1.53	582.69	583.82	
7 562.06	-36.99	36.41	3.00	659.81	624.83	
8 609.49	-36.36	38.82	3.00	758.96	677.55	
9 657.21	-35.74	41.24	3.00	858.75	730.61	
10 697.71	-35.11	43.23	1.88	943.41	775.62	
11 709.78	-35.11	44.46	1.12	968.65	789.04	
12 715.58	-34.48	45.81	2.17	980.78	795.49	
13 714.96	-34.48	47.04	0.83	979.48	794.80	
14 726.88	-33.85	48.63	3.00	1004.40	808.05	
15 740.31	-33.23	51.13	3.00	1032.49	822.98	
16 752.69	-32.60	53.65	3.00	1058.37	836.74	
17 763.96	-31.97	56.19	3.00	1081.94	849.28	
18 774.08	-31.34	58.73	2.97	1103.09	860.52	
19 774.44	-31.34	60.01	0.03	1103.83	860.92	
20 784.42	-30.72	61.31	3.00	1124.70	872.01	

21	-30.09	63.90	3.00	1146.69	883.70
794.93					
22	-29.46	66.50	3.00	1166.13	894.04
804.23					
23	-28.83	69.12	3.00	1182.92	902.97
812.26					
24	-28.21	71.76	3.00	1196.94	910.42
818.97					
25	-27.58	73.54	1.04	1211.52	918.18
825.94					
26	-27.58	74.87	1.96	1205.39	914.92
823.01					
27	-26.95	77.08	3.00	1213.14	919.04
826.72					
28	-26.32	79.76	3.00	1215.39	920.23
827.79					
29	-25.70	82.46	3.00	1214.26	919.63
827.25					
30	-25.07	85.17	3.00	1209.62	917.17
825.03					
31	-24.44	87.89	3.00	1201.32	912.75
821.06					
32	-23.82	90.63	3.00	1189.21	906.32
815.27					
33	-23.19	93.38	3.00	1173.14	897.77
807.59					
34	-22.56	96.14	3.00	1152.94	887.03
797.92					
35	-21.93	97.76	0.51	1147.79	884.29
795.46					
36	-21.93	99.16	2.49	1094.58	856.00
770.01					
37	-21.31	101.71	3.00	1001.98	806.76
725.72					
38	-20.68	104.51	3.00	892.09	748.33
673.16					
39	-20.05	107.32	3.00	774.68	685.90
617.00					
40	-19.42	110.15	3.00	649.46	619.33
557.11					
41	-18.80	112.98	3.00	516.13	548.43
493.34					
42	-18.17	115.83	3.00	374.37	473.05
425.53					
43	-17.54	118.68	3.00	223.84	393.02
353.54					
44	-16.91	120.19	0.17	143.54	350.32
315.13					

TABLE 6A - Effective and Base Shear Force Data on the 44 Slices

Slice Mobilized Force No. * (lbs)	Alpha (deg)	X-Coord. Slice Cntr (ft)	Base Leng. (ft)	Effective Normal Force (lbs)	Available Shear Force (lbs)	Shear
1 995.11	-40.13	24.68	3.00	534.56	1106.23	
2 1172.76	-39.50	26.99	3.00	905.99	1303.72	
3 1353.21	-38.87	29.31	3.00	1283.26	1504.32	
4 1536.42	-38.25	31.66	3.00	1666.31	1707.99	
5 821.27	-37.62	33.42	1.47	960.93	912.98	
6 804.93	-37.62	34.61	1.53	893.08	894.82	
7 1686.18	-36.99	36.41	3.00	1979.42	1874.48	
8 1828.46	-36.36	38.82	3.00	2276.89	2032.64	
9 1971.64	-35.74	41.24	3.00	2576.25	2191.82	
10 1312.52	-35.11	43.23	1.88	1774.74	1459.09	
11 794.11	-35.11	44.46	1.12	1083.75	882.79	
12 1549.34	-34.48	45.81	2.17	2123.54	1722.36	
13 596.88	-34.48	47.04	0.83	817.71	663.53	
14 2180.63	-33.85	48.63	3.00	3013.20	2424.15	
15 2220.94	-33.23	51.13	3.00	3097.46	2468.95	
16 2258.07	-32.60	53.65	3.00	3175.10	2510.23	
17 2291.89	-31.97	56.19	3.00	3245.82	2547.83	
18 2300.94	-31.34	58.73	2.97	3278.91	2557.89	
19 21.30	-31.34	60.01	0.03	30.36	23.68	
20 2353.25	-30.72	61.31	3.00	3374.10	2616.04	
21	-30.09	63.90	3.00	3440.06	2651.11	

2384.80					
22	-29.46	66.50	3.00	3498.40	2682.13
2412.70					
23	-28.83	69.12	3.00	3548.76	2708.91
2436.79					
24	-28.21	71.76	3.00	3590.81	2731.27
2456.90					
25	-27.58	73.54	1.04	1254.59	950.82
855.30					
26	-27.58	74.87	1.96	2367.93	1797.31
1616.76					
27	-26.95	77.08	3.00	3639.43	2757.12
2480.16					
28	-26.32	79.76	3.00	3646.17	2760.70
2483.38					
29	-25.70	82.46	3.00	3642.79	2758.90
2481.76					
30	-25.07	85.17	3.00	3628.86	2751.50
2475.10					
31	-24.44	87.89	3.00	3603.96	2738.26
2463.19					
32	-23.82	90.63	3.00	3567.64	2718.95
2445.82					
33	-23.19	93.38	3.00	3519.42	2693.31
2422.76					
34	-22.56	96.14	3.00	3458.82	2661.09
2393.77					
35	-21.93	97.76	0.51	583.16	449.28
404.15					
36	-21.93	99.16	2.49	2727.61	2133.08
1918.81					
37	-21.31	101.71	3.00	3005.93	2420.28
2177.16					
38	-20.68	104.51	3.00	2676.27	2245.00
2019.48					
39	-20.05	107.32	3.00	2324.04	2057.71
1851.01					
40	-19.42	110.15	3.00	1948.39	1857.98
1671.34					
41	-18.80	112.98	3.00	1548.39	1645.30
1480.02					
42	-18.17	115.83	3.00	1123.10	1419.16
1276.60					
43	-17.54	118.68	3.00	671.51	1179.05
1060.61					
44	-16.91	120.19	0.17	24.63	60.12
54.08					

Average Effective Normal Stress = 909.6931(psf)
Average Available Shear Strength = 757.6924(psf)

Total Length of Failure Surface = 111.1716(ft)

SUM OF MOMENTS = -0.520267E+00 (ft/lbs); Imbalance (Fraction of Total Weight) =
-0.4248515E-05

SUM OF FORCES = -.486491E-03 (lbs); Imbalance (Fraction of Total Weight) =
-0.3972698E-08

Sum of Available Shear Forces = 84233.89(lbs)

Sum of Mobilized Shear Forces = 75772.33(lbs)

FS Balance Check: FS = 1.111671

**** END OF GEOSTASE OUTPUT ****

APPENDIX F

GENERAL EARTHWORK AND GRADING SPECIFICATIONS



GeoMat Testing Laboratories, Inc.
Geotechnical Engineering
Engineering Geology
Material Testing

Inland Empire
9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

Los Angeles
5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com

TABLE OF CONTENT

	Page
GENERAL	I
DEFINITION OF TERMS	I
OBLIGATIONS OF PARTIES	III
SITE PREPARATION	IV
SITE PROTECTION	IV
EXCAVATIONS	V
Unsuitable Materials	V
Cut Slopes.....	V
Pad Areas	V
COMPACTED FILL.....	VI
Placement	VI
Moisture	VII
Fill Material.....	VII
Fill Slopes.....	VIII
Off-Site Fill	VIII
DRAINAGE	IX
STAKING	IX
SLOPE MAINTENANCE.....	IX
Landscape Plants	IX
Irrigation	IX
Maintenance.....	IX
Repairs.....	X
TRENCH BACKFILL.....	X
STATUS OF GRADING	X

GENERAL

The guidelines contained herein and the standard details attached hereto represent this firm's standard recommendation for grading and other associated operations on construction projects. These guidelines should be considered a portion of the project specifications.

All plates attached hereto shall be considered as part of these guidelines.

The Contractor should not vary from these guidelines without prior recommendation by the Geotechnical Consultant and the approval of the Client or his authorized representative. Recommendation by the Geotechnical Consultant and/or Client should not be considered to preclude requirements for the approval by the controlling agency prior to the execution of any changes.

These Standard Grading Guidelines and Standard Details may be modified and/or superseded by recommendations contained in the text of the preliminary Geotechnical Report and/or subsequent reports.

If disputes arise out of the interpretation of these grading guidelines or standard details, the Geotechnical Consultant shall provide the governing interpretation.

DEFINITION OF TERMS

ALLUVIUM

Unconsolidated soil deposits resulting from flow of water, including sediments deposited in river beds, canyons, flood plains, lakes, fans and estuaries.

AS-GRADED (AS-BUILT): The surface and subsurface conditions at completion of grading.

BACKCUT: A temporary construction slope at the rear of earth retaining structures such as buttresses, shear keys, stabilization fills or retaining walls.

BACKDRAIN: Generally a pipe and gravel or similar drainage system placed behind earth retaining structures such as buttresses, stabilization fills, and retaining walls.

BEDROCK: Relatively undisturbed formational rock, more or less solid, either at the surface or beneath superficial deposits of soil.

BENCH: A relatively level step and near vertical rise excavated into sloping ground on which fill is to be placed.

BORROW (Import): Any fill material hauled to the project site from off-site areas.

BUTTRESS FILL: A fill mass, the configuration of which is designed by engineering calculations to retain slope conditions containing adverse geologic features. A buttress is generally specified by minimum key width and depth and by maximum backcut angle. A buttress normally contains a back-drainage system.

CIVIL ENGINEER: The Registered Civil Engineer or consulting firm responsible for preparation of the grading plans, surveying and verifying as-graded topographic conditions.

CLIENT: The Developer or his authorized representative who is chiefly in charge of the project. He shall have the responsibility of reviewing the findings and recommendations made by the Geotechnical Consultant and shall authorize the Contractor and/or other consultants to perform work and/or provide services.

COLLUVIUM: Generally loose deposits usually found near the base of slopes and brought there chiefly by gravity through slow continuous downhill creep (also see Slope Wash).

COMPACTION : Densification of man-placed fill by mechanical means.

CONTRACTOR – A person or company under contract or otherwise retained by the Client to perform demolition, grading and other site improvements.

DEBRIS: All products of clearing, grubbing, demolition, and contaminated soil materials unsuitable for reuse as compacted fill, and/or any other material so designated by the Geotechnical Consultant.

ENGINEERING GEOLOGIST: A Geologist holding a valid certificate of registration in the specialty of Engineering Geology.

ENGINEERED FILL: A fill of which the Geotechnical Consultant or his representative, during grading, has made sufficient tests to enable him to conclude that the fill has been placed in substantial compliance with the recommendations of the Geotechnical Consultant and the governing agency requirements.

EROSION: The wearing away of ground surface as a result of the movement of wind, water, and/or ice.

EXCAVATION: The mechanical removal of earth materials.

EXISTING GRADE: The ground surface configuration prior to grading.

FILL: Any deposits of soil, rock, soil-rock blends or other similar materials placed by man.

FINISH GRADE: The ground surface configuration at which time the surface elevations conform to the approved plan.

GEOFABRIC: Any engineering textile utilized in geotechnical applications including subgrade stabilization and filtering.

GEOLOGIST: A representative of the Geotechnical Consultant educated and trained in the field of geology.

GEOTECHNICAL CONSULTANT: The Geotechnical Engineering and Engineering Geology consulting firm retained to provide technical services for the project. For the purpose of these specifications, observations by the Geotechnical Consultant include observations by the Soil Engineer, Geotechnical Engineer, Engineering Geologist and those performed by persons employed by and responsible to the Geotechnical Consultants.

GEOTECHNICAL ENGINEER: A licensed Geotechnical Engineer or Civil Engineer who applies scientific methods, engineering principles and professional experience to the acquisition, interpretation and use of knowledge of materials of the earth's crust for the evaluation of engineering problems. Geotechnical Engineering encompasses many of the engineering aspects of soil mechanics, rock mechanics, geology, geophysics, hydrology and related sciences.

GRADING: Any operation consisting of excavation, filling or combinations thereof and associated operations.

LANDSIDE DEBRIS: Material, generally porous and of low density, produced from instability of natural or man-made slopes.

MAXIMUM DENSITY: Standard laboratory test for maximum dry unit weight. Unless otherwise specified, the maximum dry unit weight shall be determined in accordance with ASTM Method of Test D 1557-91.

OPTIMUM MOISTURE – Soil moisture content at the test maximum density.

RELATIVE COMPACTION: The degree of compaction (expressed as a percentage) of dry unit weight of a material as compared to the maximum dry unit weight of the material.

ROUGH GRADE: The ground surface configuration at which time the surface elevations approximately conform to the approved plan.

SITE: The particular parcel of land where grading is being performed.

SHEAR KEY: Similar to buttress, however, it is generally constructed by excavating a slot within a natural slope, in order to stabilize the upper portion of the slope without grading encroaching into the lower portion of the slope.

SLOPE: An inclined ground surface, the steepness of which is generally specified as a ration of horizontal:vertical (e.g., 2:1)

SLOPE WASH: Soil and/or rock material that has been transported down a slope by action of gravity assisted by runoff water not confined by channels (also see Colluvium).

SOIL: Naturally occurring deposits of sand, silt, clay, etc., or combinations thereof.

SOIL ENGINEER: Licensed Geotechnical Engineer or Civil Engineer experienced in soil mechanics (also see Geotechnical Engineer).

STABILIZATION FILL: A fill mass, the configuration of which is typically related to slope height and specified by the standards of practice for enhancing the stability of locally adverse conditions. A stabilization fill is normally specified by minimum key width and depth and by maximum backcut angle. A stabilization fill may or may not have a backdrainage system specified.

SUBDRAIN: Generally a pipe and gravel or similar drainage system placed beneath a fill in the alignment of canyons or formed drainage channels.

SLOUGH: Loose, non-compacted fill material generated during grading operations.

TAILINGS: Non-engineered fill which accumulates on or adjacent to equipment haul-roads.

TERRACE: Relatively level step constructed in the face of a graded slope surface for drainage control and maintenance purposes.

TOPSOIL: The presumable fertile upper zone of soil, which is usually darker in color and loose.

WINDROW: A string of large rocks buried within engineered fill in accordance with guidelines set forth by the Geotechnical Consultant.

OBLIGATIONS OF PARTIES

The Geotechnical Consultant should provide observation and testing services and should make evaluations in order to advise the Client on Geotechnical matters. The Geotechnical Consultant should report his findings and recommendations to the Client or his authorized representative.

The client should be chiefly responsible for all aspects of the project. He or his authorized representative has the responsibility of reviewing the findings and recommendations of the Geotechnical Consultant. He shall authorize or cause to have authorized the Contractor and/or other consultants to perform work and/or provide services.

During grading the Client or his authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

The Contractor should be responsible for the safety of the project and satisfactory completion of all grading and other associated operations on construction projects, including but not limited to, earthwork in accordance with the project plans, specifications and controlling agency requirements. During grading, the Contractor or his authorized representative should remain on-site. Overnight and on days off, the Contractor should remain accessible.

SITE PREPARATION

The Client, prior to any site preparation or grading, should arrange and attend a meeting among the Grading Contractor, the Design Engineer, the Geotechnical Consultant, representatives of the appropriate governing authorities as well as any other concerned parties. All parties should be given at least 48 hours notice.

Clearing and grubbing should consist of the removal of vegetation such as brush, grass, woods, stumps, trees, roots of trees and otherwise deleterious natural materials from the areas to be graded. Clearing and grubbing should extend to the outside of all proposed excavation and fill areas.

Demolition should include removal of buildings, structures, foundations, reservoirs, utilities (including underground pipelines, septic tanks, leach fields, seepage pits, cisterns, mining shafts, tunnels, etc.) and man-made surface and subsurface improvements from the areas to be graded. Demolition of utilities should include proper capping and/or re-routing pipelines at the project perimeter and cutoff and capping of wells in accordance with the requirements of the governing authorities and the recommendations of the Geotechnical Consultant at the time of the demolition.

Trees, plants or man-made improvements not planned to be removed or demolished should be protected by the Contractor from damage or injury.

Debris generated during clearing, grubbing and/or demolition operations should be wasted from areas to be graded and disposed off-site. Clearing, grubbing and demolition operations should be performed under the observation of the Geotechnical Consultant.

The Client or Contractor should obtain the required approvals for the controlling authorities for the project prior, during and/or after demolition, site preparation and removals, etc. The appropriate approvals should be obtained prior to proceeding with grading operations.

SITE PROTECTION

Protection of the site during the period of grading should be the responsibility of the Contractor. Unless other provisions are made in writing and agreed upon among the concerned parties, completion of a portion of the project should not be considered to preclude that portion or adjacent areas from the requirements for site protection until such time as the entire project is complete as identified by the Geotechnical Consultant, the Client and the regulating agencies.

The Contractor should be responsible for the stability of all temporary excavations. Recommendations by the Geotechnical Consultant pertaining to temporary excavations (e.g., backcuts) are made in consideration of stability of the completed project and therefore, should not be considered to preclude the responsibilities of the Contractor. Recommendations by the Geotechnical Consultant should not be considered to preclude more restrictive requirements by the regulating agencies.

Precautions should be taken during the performance of site clearing, excavations and grading to protect the work site from flooding, ponding, or inundation by poor or improper surface drainage. Temporary provisions should be made during the rainy season to adequately direct surface drainage away from and off the work site. Where low areas can not be avoided, pumps should be kept on hand to continually remove water during periods of rainfall.

During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the Contractor should install check-dams de-silting basins, rip-rap, sandbags or other devices or methods necessary to control erosion and provide safe conditions.

During periods of rainfall, the Geotechnical Consultant should be kept informed by the Contractor as to the nature of remedial or preventative work being performed (e.g., pumping, placement of sandbags or plastic sheeting, other labor, dozing, etc.).

Following periods of rainfall, the Contractor should contact the Geotechnical Consultant and arrange a walk-over of the site in order to visually assess rain related damage. The Geotechnical Consultant may also recommend excavations and testing in order to aid in his assessments. At the request of the Geotechnical Consultant, the Contractor shall make excavations in order to evaluate the extent of rain related damage.

Rain-related damage should be considered to include, but may not be limited to, erosion, silting, saturation, swelling, structural distress and other adverse conditions identified by the Geotechnical Consultant. Soil adversely affected should be classified as Unsuitable Materials and should be subject to overexcavation and replaced with compacted fill or other remedial grading as recommended by the Geotechnical Consultant.

Relatively level areas, where saturated soils and/or erosion gullies exist to depths greater than 1 foot, should be overexcavated to unaffected, competent material. Where less than 1 foot in depth, unsuitable materials may be processed in-place to achieve near optimum moisture conditions, then thoroughly recompacted in accordance with the applicable specifications. If the desired results are not achieved, the affected materials should be overexcavated then replaced in accordance with the applicable specifications.

In slope areas, where saturated soil and/or erosion gullies exist to depths of greater than 1 foot, should be over-excavated to unaffected, competent material. Where affected materials exist to depths of 1 foot or less below proposed finished grade, remedial grading by moisture conditioning in-place, followed by thorough recompaction in accordance with the applicable grading guidelines herein may be attempted. If the desired results are not achieved, all affected materials should be overexcavated and replaced as compacted fill in accordance with the slope repair recommendations herein. As field conditions dictate, other slope repair procedures may be recommended by the Geotechnical Consultant.

EXCAVATIONS

UNSUITABLE MATERIALS:

Materials which are unsuitable should be excavated under observation and recommendations of the Geotechnical Consultant. Unsuitable materials include, but may not be limited to dry, loose, soft, wet, organic compressible natural soils and fractured, weathered, soft, bedrock and nonengineered or otherwise deleterious fill materials.

Materials identified by the Geotechnical Consultant as unsatisfactory due to its moisture conditions should be overexcavated, watered or dried, as needed, and thoroughly blended to uniform near optimum moisture condition (per Moisture guidelines presented herein) prior to placement as compacted fill.

CUT SLOPES:

Unless otherwise recommended by the Geotechnical Consultant and approved by the regulating agencies, permanent cut slopes should not be steeper than 2:1 (horizontal:vertical).

If excavations for cut slopes expose loose, cohesionless, significantly fractured or otherwise suitable material, overexcavation and replacement of the unsuitable materials with a compacted stabilization fill should be accomplished as recommended by the Geotechnical Consultant. Unless otherwise specified by the Geotechnical Consultant, stabilization fill construction should conform to the requirements of the Standard Details.

The Geotechnical Consultant should review cut slopes during excavation. The Geotechnical Consultant should be notified by the contractor prior to beginning slope excavations.

If during the course of grading, adverse or potentially adverse geotechnical conditions are encountered which were not anticipated in the preliminary report, the Geotechnical Consultant should explore, analyze and make recommendations to treat these problems.

When cuts slopes are made in the direction of the prevailing drainage, a non-erodible diversion swale (brow ditch) should be provided at the top-of-cut.

PAD AREAS:

All lot pad areas, including side yard terraces, above stabilization fills or buttresses should be over-excavated to provide for a minimum of 3-feet (refer to Standard Details) of compacted fill over the entire pad area. Pad areas with both fill and cut materials exposed and pad areas containing both very shallow (less than 3-feet) and deeper fill should be over- thickness (refer to Standard Details).

Cut areas exposing significantly varying material types should also be overexcavated to provide for at least a 3-foot thick compacted fill blanket. Geotechnical conditions may require greater depth of overexcavation. The actual depth should be delineated by the Geotechnical Consultant during grading.

For pad areas created above cut or natural slopes, positive drainage should be established away from the top-of-slope. This may be accomplished utilizing a berm and/or an appropriate pad gradient. A gradient in soil areas away from the top-of-slope of 2 percent or greater is recommended.

COMPACTED FILL

All fill materials should be compacted as specified below or by other methods specifically recommended by the Geotechnical Consultant. Unless otherwise specified, the minimum degree of compaction (relative compaction) should be 90 percent of the laboratory maximum density.

PLACEMENT

Prior to placement of compacted fill, the Contractor should request a review by the Geotechnical Consultant of the exposed ground surface. Unless otherwise recommended, the exposed ground surface should then be scarified (6-inches minimum), watered or dried as needed, thoroughly blended to achieve near optimum moisture conditions, then thoroughly compacted to a minimum of 90 percent of the maximum density. The review by the Geotechnical Consultants should not be considered to preclude requirements of inspection and approval by the governing agency.

Compacted fill should be placed in thin horizontal lifts not exceeding 8-inches in loose thickness prior to compaction. Each lift should be watered or dried as needed, thoroughly blended to achieve near optimum moisture conditions then thoroughly compacted by mechanical methods to a minimum of 90 percent of laboratory maximum dry density. Each lift should be treated in a like manner until the desired finished grades are achieved.

The Contractor should have suitable and sufficient mechanical compaction equipment and watering apparatus on the job site to handle the amount of fill being placed in consideration of moisture retention properties of the materials. If necessary, excavation equipment should be "shut down" temporarily in order to permit proper compaction of fills. Earth moving equipment should only be considered a supplement and not substituted for conventional compaction equipment.

When placing fill in horizontal lifts adjacent to areas sloping steeper than 5:1 (horizontal:vertical), horizontal keys and vertical benches should be excavated into the adjacent slope area. Keying and benching should be sufficient to provide at least 6-foot wide benches and minimum of 4-feet of vertical bench height within the firm natural ground, firm bedrock or engineered compacted fill. No compacted fill should be placed in an area subsequent to keying and benching until the area has been reviewed by the Geotechnical Consultant. Material generated by the benching operation should be moved sufficiently away from the bench area to allow for the recommended review of the horizontal bench prior to placement of fill. Typical keying and benching details have been included within the accompanying Standard Details.

Within a single fill area where grading procedures dictate two or more separate fills, temporary slopes (false slopes) may be created. When placing fill adjacent to a false slope, benching should be conducted in the same manner as above described. At least a 3-foot vertical bench should be established within the firm core of adjacent approved compacted fill prior to placement of additional fill. Benching should proceed in at least 3-foot vertical increments until the desired finished grades are achieved.

Fill should be tested for compliance with the recommended relative compaction and moisture conditions. Field density testing should conform to ASTM Method of Testing D 1556-64, D 2922-78 and/or D2937-71. Tests should be provided for about every 2 vertical feet or 1,000 cubic yards of fill placed. Actual test intervals may vary as field conditions dictate. Fill found not to be in conformance with the grading recommendations should be removed or otherwise handled as recommended by the Geotechnical Consultant.

The Contractor should assist the Geotechnical Consultant and/or his representative by digging test pits for removal determinations and/or for testing compacted fill.

As recommended by the Geotechnical Consultant, the Contractor should "shutdown" or remove any grading equipment from an area being tested.

The Geotechnical Consultant should maintain a plan with estimated locations of field tests. Unless the client provides for actual surveying of test locations, by the Geotechnical Consultant should only be considered rough estimates and should not be utilized for the purpose of preparing cross sections showing test locations or in any case for the purpose of after-the-fact evaluating of the sequence of fill placement.

MOISTURE

For field testing purposes, “near optimum” moisture will vary with material type and other factors including compaction procedures. “Near optimum” may be specifically recommended in Preliminary Investigation Reports and/or may be evaluated during grading.

Prior to placement of additional compacted fill following an overnight or other grading delay, the exposed surface of previously compacted fill should be processed by scarification, watered or dried as needed, thoroughly blended to near-optimum moisture conditions, then recompacted to a minimum of 90 percent of laboratory maximum dry density. Where wet or other dry or other unsuitable materials exist to depths of greater than one foot, the unsuitable materials should be overexcavated.

Following a period of flooding, rainfall or overwatering by other means, no additional fill should be placed until damage assessments have been made and remedial grading performed as described herein.

FILL MATERIAL

Excavated on-site materials which are acceptable to the Geotechnical Consultant may be utilized as compacted fill, provided trash, vegetation and other deleterious materials are removed prior to placement.

Where import materials are required for use on-site, the Geotechnical Consultant should be notified at least 72 hours in advance of importing, in order to sample and test materials from proposed borrow sites. No import materials should be delivered for use on-site without prior sampling and testing by Geotechnical Consultant.

Where oversized rock or similar irreducible material is generated during grading, it is recommended, where practical, to waste such material off-site or on-site in areas designated as “nonstructural rock disposal areas”. Rock placed in disposal areas should be placed with sufficient fines to fill voids. The rock should be compacted in lifts to an unyielding condition. The disposal area should be covered with at least 3-feet of compacted fill, which is free of oversized material. The upper 3-feet should be placed in accordance with the guidelines for compacted fill herein.

Rocks 3 inches in maximum dimension and smaller may be utilized within the compacted fill, provided they are placed in such a manner that nesting of the rock is avoided. Fill should be placed and thoroughly compacted over and around all rock. The amount of rock should not exceed 40 percent by dry weight passing the $\frac{3}{4}$ -inch sieve size. The 3-inch and 40 percent recommendations herein may vary as field conditions dictate.

During the course of grading operations, rocks or similar irreducible materials greater than 3-inch maximum dimension (oversized material) may be generated. These rocks should not be placed within the compacted fill unless placed as recommended by the Geotechnical Consultant.

Where rocks or similar irreducible materials of greater than 3-inches but less than 4-feet of maximum dimension are generated during grading, or otherwise desired to be placed within an engineered fill, special handling in accordance with the accompanying Standard Details is recommended. Rocks greater than 4 feet should be broken down or disposed off-site. Rocks up to 4-feet maximum dimension should be placed below the upper 10-feet of any fill and should not be closer than 20-feet to any slope face. These recommendations could vary as locations of improvements dictate. Where practical, oversized material should not be placed below areas where structures of deep utilities are proposed.

Oversized material should be placed in windrows on a clean, overexcavated or unyielding compacted fill or firm natural ground surface. Select native or imported granular soil (S.E. 30 or higher) should be placed and thoroughly flooded over and around all windrowed rock, such that voids are filled. Windrows of oversized material should be staggered so that successive strata of oversized material are not in the same vertical plane.

It may be possible to dispose of individual larger rock as field conditions dictate and as recommended by the Geotechnical Consultant at time of placement.

Material that is considered unsuitable by the Geotechnical Consultant should not be utilized in the compacted fill.

During grading operations, placing and mixing the materials from the cut and/or borrow areas may result in soil mixtures which possess unique physical properties. Testing may be required of samples obtained directly from the fill areas in order to verify conformance with the specifications. Processing of these additional samples may take two or more working days. The Contractor may elect to move the operation to other areas within the project, or may continue placing compacted fill pending laboratory and field test results. Should he elect the second alternative, fill placed is done so at the Contractor’s risk.

Any fill placed in areas not previously reviewed and evaluated by the Geotechnical Consultant, and/or in other areas, without prior notification to the Geotechnical Consultant may require removal and recompaction at the Contractor's expense. Determination of overexcavations should be made upon review of field conditions by the Geotechnical Consultant.

FILL SLOPES

Unless otherwise recommended by the Geotechnical Consultant and approved by the regulating agencies, permanent fill slopes should not be steeper than 2:1 (horizontal to vertical).

Except as specifically recommended otherwise or as otherwise provided for in these grading guidelines (Reference Fill Materials), compacted fill slopes should be overbuilt and cut back to grade, exposing the firm, compacted fill inner core. The actual amount of overbuilding may vary as field conditions dictate. If the desired results are not achieved, the existing slopes should be overexcavated and reconstructed under the guidelines of the Geotechnical Consultant. The degree of overbuilding shall be increased until the desired compacted slope surface condition is achieved. Care should be taken by the Contractor to provide thorough mechanical compaction to the outer edge of the overbuilt slope surface.

Although no construction procedure produces a slope free from risk of future movement, overfilling and cutting back of slope to a compacted inner core is, given no other constraints, the most desirable procedure. Other constraints, however, must often be considered. These constraints may include property line situations, access, the critical nature of the development, and cost. Where such constraints are identified, slope face compaction may be attempted by conventional construction procedures including backrolling techniques upon specific recommendations by the Geotechnical Consultant.

As a second best alternative for slopes of 2:1 (horizontal to vertical) or flatter, slope construction may be attempted as outlined herein. Fill placement should proceed in thin lifts, (i.e., 6 to 8 inch loose thickness). Each lift should be moisture conditioned and thoroughly compacted. The desired moisture condition should be maintained and/or reestablished, where necessary, during the period between successive lifts. Selected lifts should be tested to ascertain that desired compaction is being achieved. Care should be taken to extend compactive effort to the outer edge of the slope. Each lift should extend horizontally to the desired finished slope surface or more as needed to ultimately establish desired grades. Grade during construction should not be allowed to roll off at the edge of the slope. It may be helpful to elevate slightly the outer edge of the slope. Slough resulting from the placement of individual lifts should not be allowed to drift down over previous lifts. At intervals not exceeding 4-feet in vertical slope height or the capability of available equipment, whichever is less, fill slopes should be thoroughly backrolled utilizing a conventional sheepfoot-type roller. Care should be taken to maintain the desired moisture conditions and/or reestablishing same as needed prior to backrolling. Upon achieving final grade, the slopes should again be moisture conditioned and thoroughly backrolled. The use of a side-boom roller will probably be necessary and vibratory methods are strongly recommended. Without delay, so as to avoid (if possible) further moisture conditioning, the slopes should then be grid-rolled to achieve a relatively smooth surface and uniformly compact condition.

In order to monitor slope construction procedures, moisture and density tests will be taken at regular intervals. Failure to achieve the desired results will likely result in a recommendation by the Geotechnical Consultant to overexcavate the slope surfaces followed by reconstruction of the slopes utilizing overfilling and cutting back procedures and/or further attempt at the conventional backrolling approach. Other recommendations may also be provided which would be commensurate with field conditions.

Where placement of fill above a natural slope or above a cut slope is proposed, the fill slope configuration as presented in the accompanying standard Details should be adopted.

For pad areas above fill slopes, positive drainage should be established away from the top-of-slope. This may be accomplished utilizing a berm and pad gradients of at least 2-percent in soil area.

OFF-SITE FILL

Off-site fill should be treated in the same manner as recommended in these specifications for site preparation, excavation, drains, compaction, etc.

Off-site canyon fill should be placed in preparation for future additional fill, as shown in the accompanying Standard Details.

Off-site fill subdrains temporarily terminated (up canyon) should be surveyed for future relocation and connection.

DRAINAGE

Canyon sub-drain systems specified by the Geotechnical Consultant should be installed in accordance with the Standard Details.

Typical sub-drains for compacted fill buttresses, slope stabilization or sidehill masses, should be installed in accordance with the specifications of the accompanying Standard Details.

Roof, pad and slope drainage should be directed away from slopes and areas of structures to suitable disposal areas via non-erodible devices (i.e., gutters, downspouts, concrete swales).

For drainage over soil areas immediately away from structures (i.e., within 4-feet), a minimum of 4 percent gradient should be maintained. Pad drainage of at least 2 percent should be maintained over soil areas. Pad drainage may be reduced to at least 1 percent for projects where no slopes exist, either natural or man-made, or greater than 10-feet in height and where no slopes are planned, either natural or man-made, steeper than 2:1 (horizontal to vertical slope ratio).

Drainage patterns established at the time of fine grading should be maintained throughout the life of the project. Property owners should be made aware that altering drainage patterns can be detrimental to slope stability and foundation performance.

STAKING

In all fill areas, the fill should be compacted prior to the placement of the stakes. This particularly is important on fill slopes. Slope stakes should not be placed until the slope is thoroughly compacted (backrolled). If stakes must be placed prior to the completion of compaction procedures, it must be recognized that they will be removed and/or demolished at such time as compaction procedures resume.

In order to allow for remedial grading operations, which could include overexcavations or slope stabilization, appropriate staking offsets should be provided. For finished slope and stabilization backcut areas, we recommend at least 10-foot setback from proposed toes and tops-of-cut.

SLOPE MAINTENANCE LANDSCAPE PLANTS

In order to enhance superficial slope stability, slope planting should be accomplished at the completion of grading. Slope planting should consist of deep-rooting vegetation requiring little watering. Plants native to the Southern California area and plants relative to native plants are generally desirable. Plants native to other semiarid and arid areas may also be appropriate. A Landscape Architect would be the best party to consult regarding actual types of plants and planting configuration.

IRRIGATION

Irrigation pipes should be anchored to slope faces, not placed in trenches excavated into slope faces.

Slope irrigation should be minimized. If automatic timing devices are utilized on irrigation systems, provisions should be made for interrupting normal irrigation during periods of rainfall.

Though not a requirement, consideration should be given to the installation of near-surface moisture monitoring control devices. Such devices can aid in the maintenance of relatively uniform and reasonably constant moisture conditions.

Property owners should be made aware that overwatering of slopes is detrimental to slope stability.

MAINTENANCE

Periodic inspections of landscaped slope areas should be planned and appropriate measures should be taken to control weeds and enhance growth of the landscape plants. Some areas may require occasional replanting and/or reseeding.

Terrace drains and downdrains should be periodically inspected and maintained free of debris. Damage to drainage improvements should be repaired immediately.

Property owners should be made aware that burrowing animals can be detrimental to slope stability. A preventative program should be established to control burrowing animals.

As a precautionary measure, plastic sheeting should be readily available, or kept on hand, to protect all slope areas from saturation by periods of heavy or prolonged rainfall. This measure is strongly recommended, beginning with the period of time prior to landscape planting.

REPAIRS

If slope failures occur, the Geotechnical Consultant should be contacted for a field review of site conditions and development of recommendations for evaluation and repair.

If slope failure occurs as a result of exposure to periods of heavy rainfall, the failure areas and currently unaffected areas should be covered with plastic sheeting to protect against additional saturation.

In the accompanying Standard Details, appropriate repair procedures are illustrated for superficial slope failures (i.e., occurring typically within the outer 1 foot to 3 feet of a slope face).

TRENCH BACKFILL

Utility trench backfill should, unless otherwise recommended, be compacted by mechanical means. Unless otherwise recommended, the degree of compaction should be a minimum of 95 percent of the laboratory maximum density.

Approved granular material (sand equivalent greater than 30) should be used to bed and backfill utilities to a depth of at least 1 foot over the pipe. This backfill should be uniformly watered, compacted and/or wheel-rolled from the surface to a firm condition for pipe support.

The remainder of the backfill shall be typical on-site soil or imported soil which should be placed in lifts not exceeding 8 inches in thickness, watered or aerated to at least 3 percent above the optimum moisture content, and mechanically compacted to at least 95 percent of maximum dry density (based on ASTM D1557).

Backfill of exterior and interior trenches extending below a 1:1 projection from the outer edge of foundations should be mechanically compacted to a minimum of 95 percent of the laboratory maximum density.

Within slab areas, but outside the influence of foundations, trenches up to 1 foot wide and 2 feet deep may be backfilled with sand and consolidated by uniformly watering or by mechanical means. If on-site materials are utilized, they should be wheel-rolled, tamped or otherwise compacted to a firm condition. For minor interior trenches, density testing may be deleted or spot testing may be elected if deemed necessary, based on review of back-fill operations during construction.

If utility contractors indicate that it is undesirable to use compaction equipment in close proximity to a buried conduit, the Contractor may elect the utilization of light weight compaction equipment and/or shading of the conduit with clean, granular material, which should be thoroughly jetted in-place above the conduit, prior to initiating mechanical compaction procedures. Other methods of utility trench compaction may also be appropriate, upon review by the Geotechnical Consultant at the time of construction.

In cases where clean granular materials are proposed for use in lieu of native materials or where flooding or jetting is proposed, the procedures should be considered subject to review by the Geotechnical Consultant.

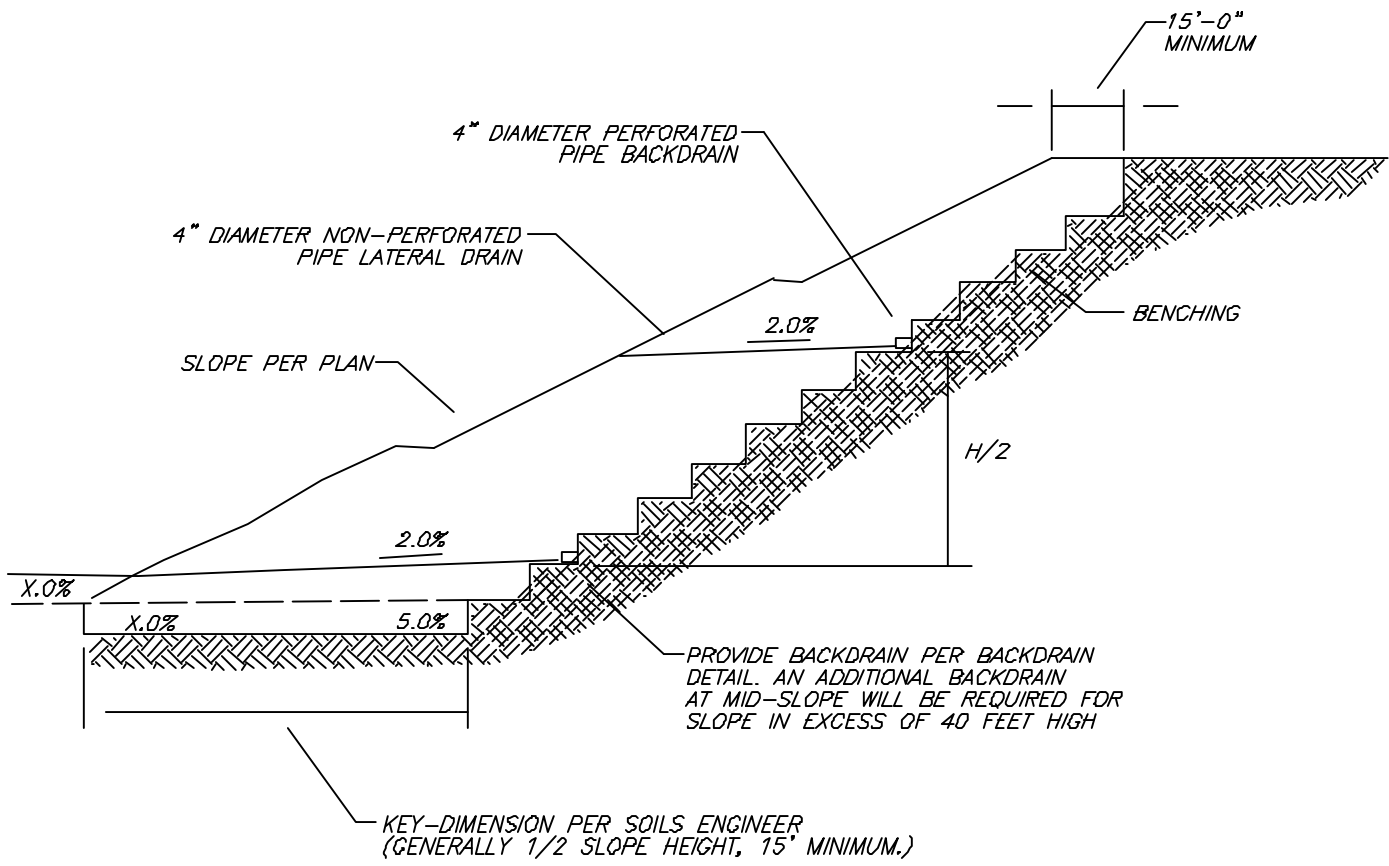
Clean Granular backfill and/or bedding are not recommended in slope areas unless provisions are made for a drainage system to mitigate the potential build-up of seepage forces.

STATUS OF GRADING

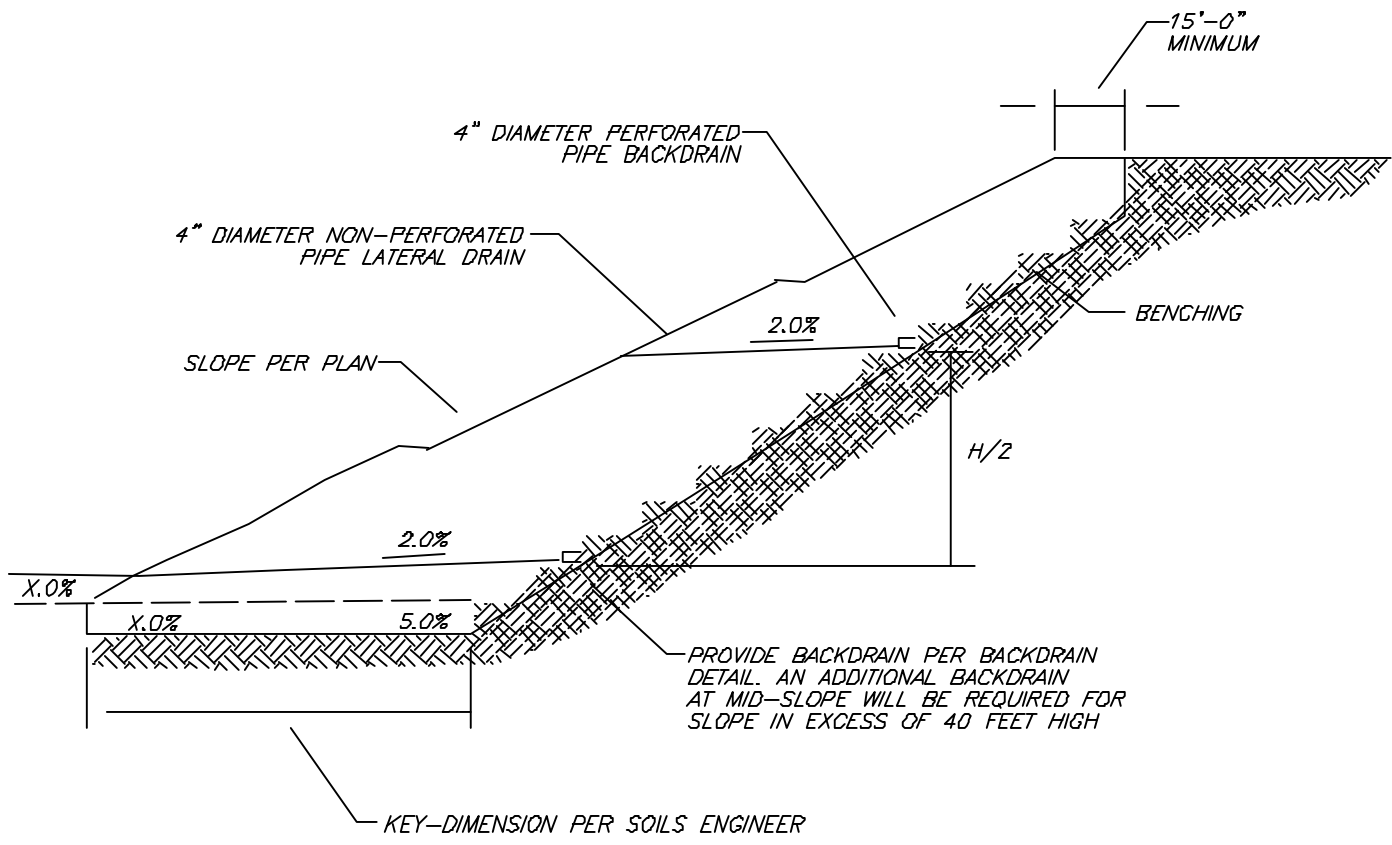
Prior to proceeding with any grading operation, the Geotechnical Consultant should be notified at least two working days in advance in order to schedule the necessary observation and testing services.

Prior to any significant expansion of cut back in the grading operation, the Geotechnical Consultant should be provided with adequate notice (i.e., two days) in order to make appropriate adjustments in observation and testing services.

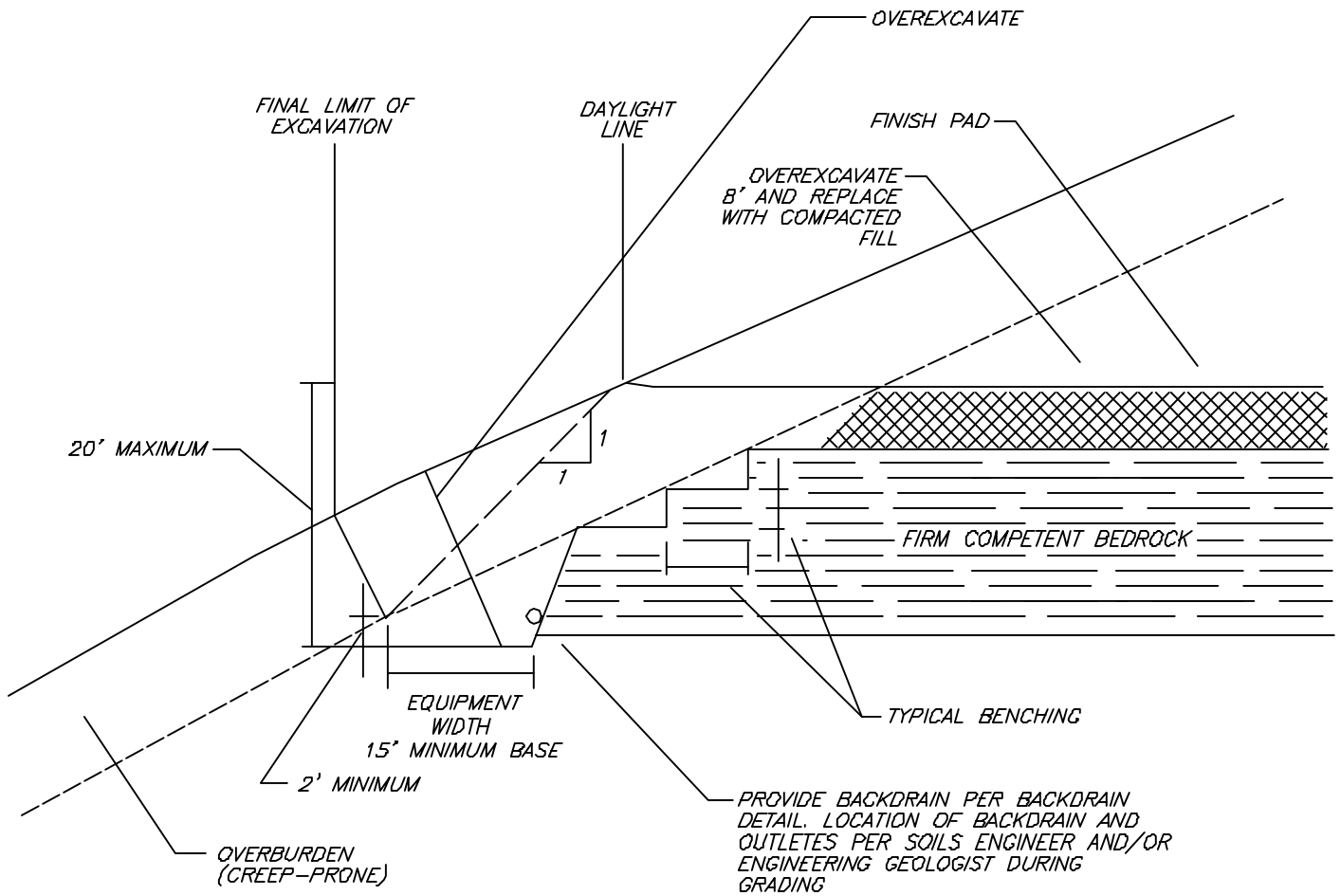
Following completion of grading operations and/or between phases of a grading operation, the Geotechnical Consultant should be provided with at least two working days notice in advance of commencement of additional grading operations.



TYPICAL STABILIZATION FILL DETAIL

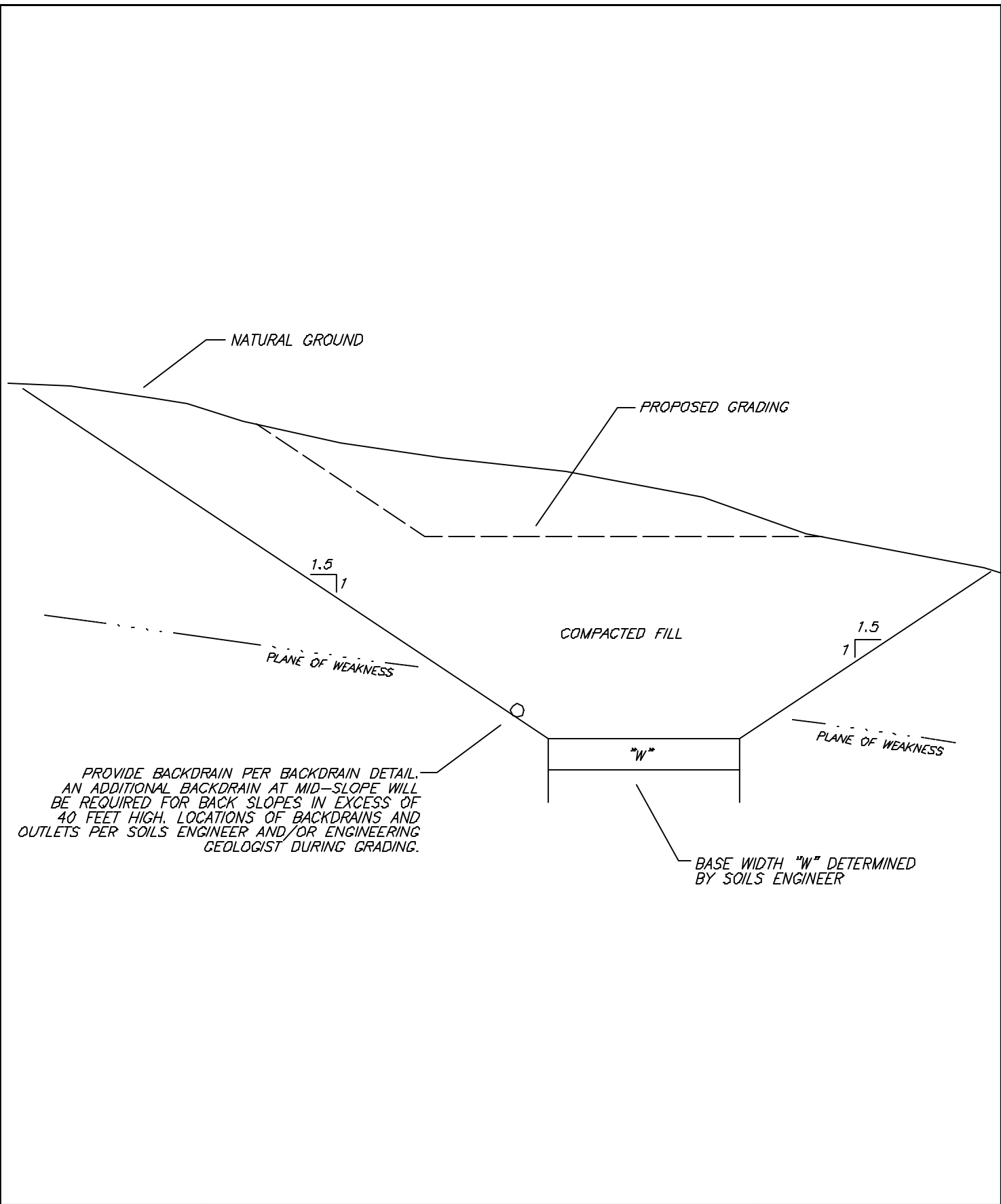


TYPICAL BUTTRESS FILL DETAIL

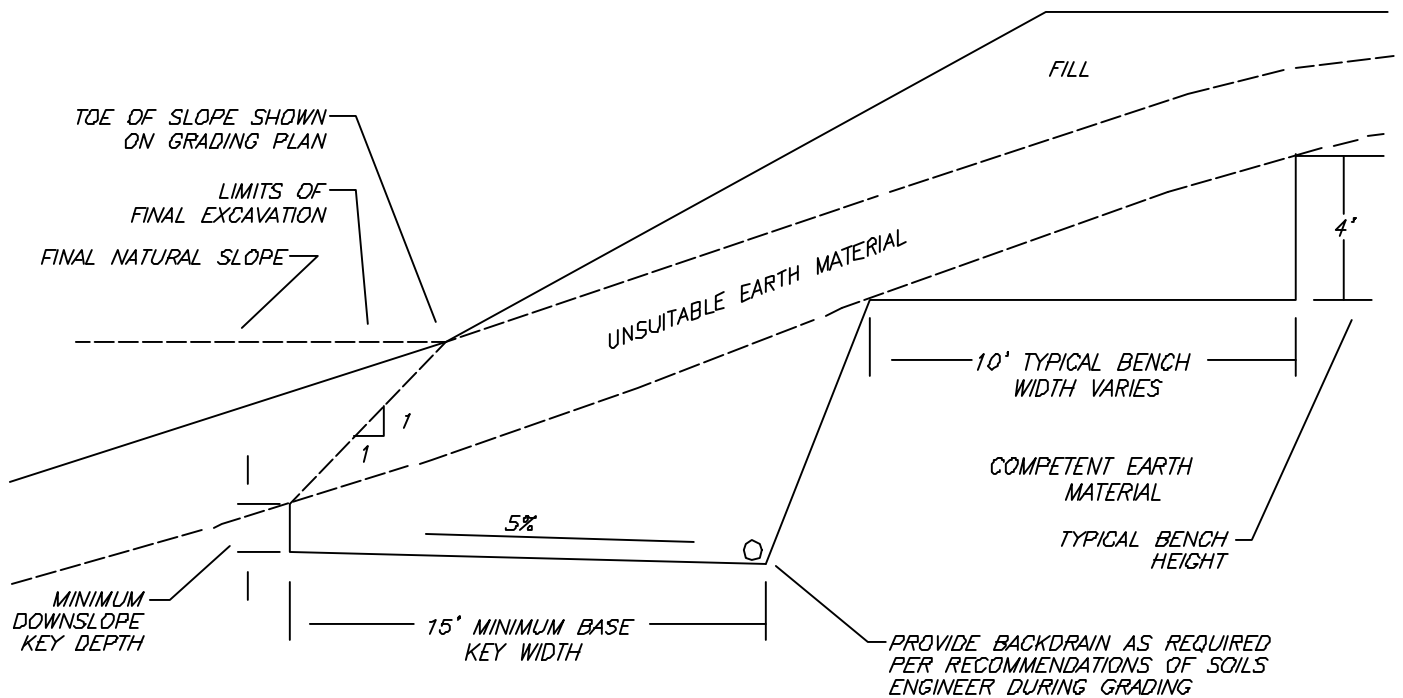


DAYLIGHT SHEAR KEY DETAIL

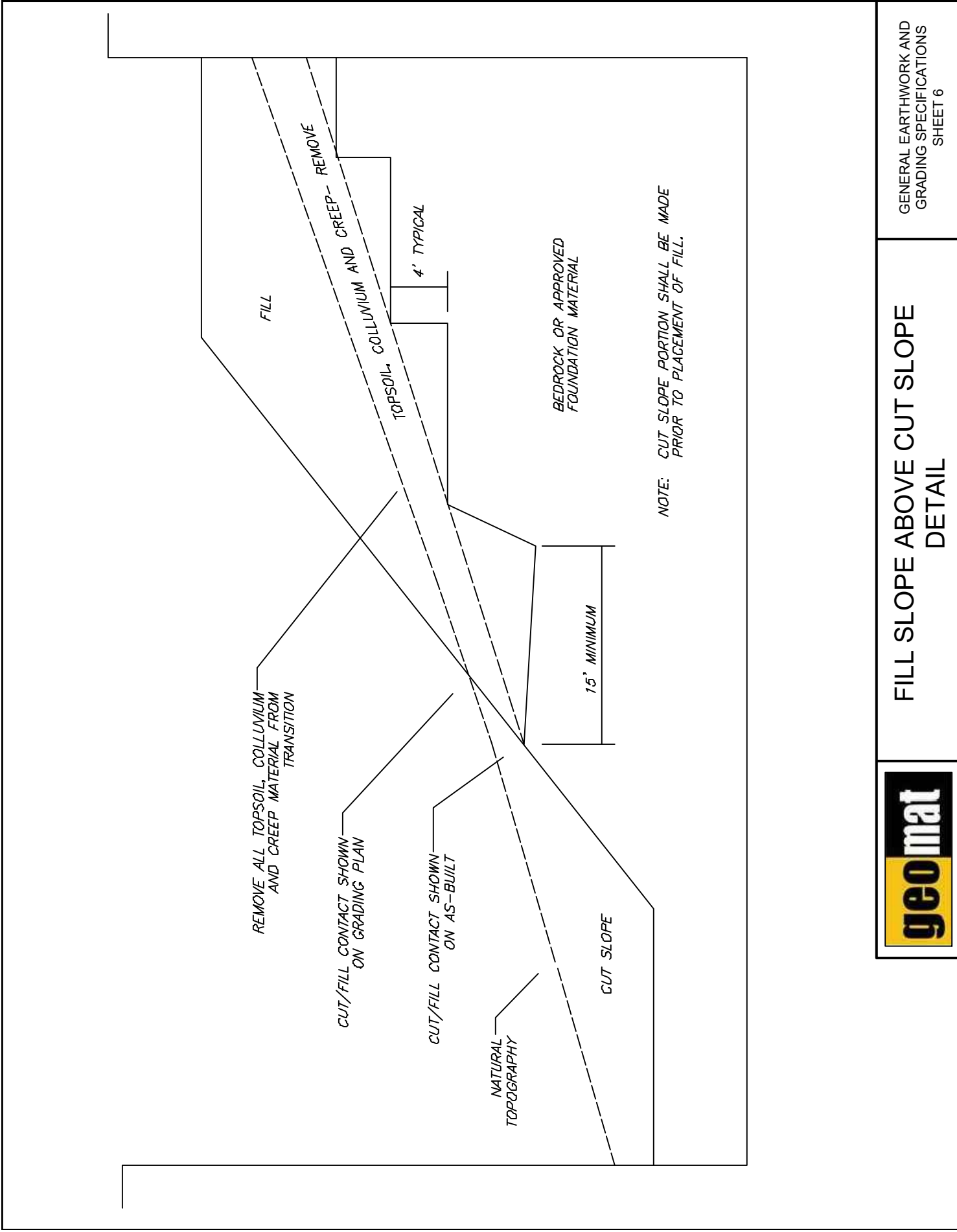
GENERAL EARTHWORK AND GRADING SPECIFICATIONS SHEET 3



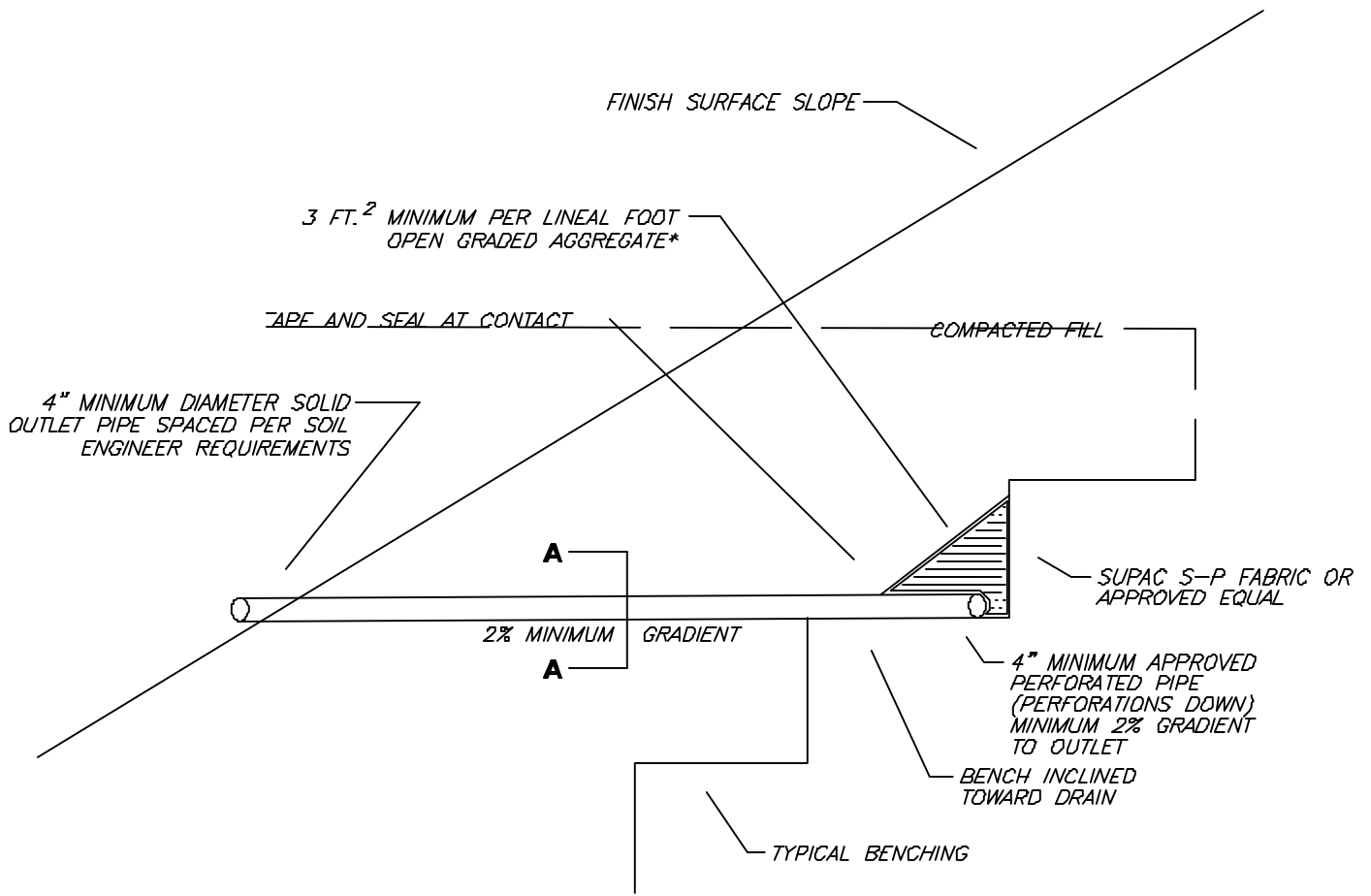
TYPICAL SHEAR KEY DETAIL



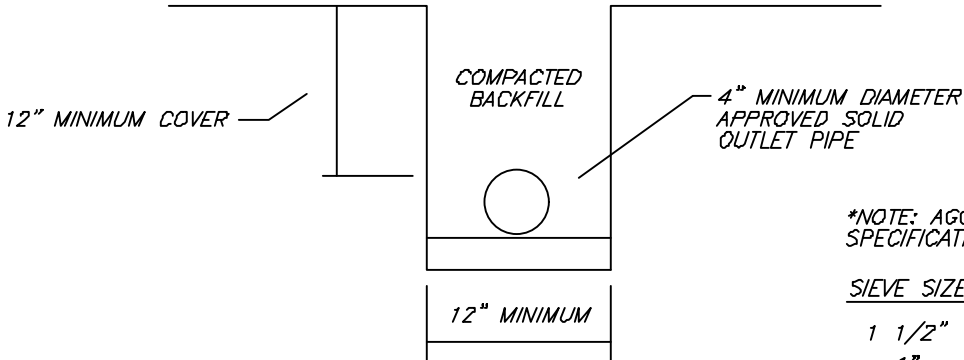
WHERE NATURAL SLOPE IS 5:1 OR LESS, BENCHING IS NOT NECESSARY. HOWEVER, FILL IS NOT TO BE PLACED ON COMPRESSIBLE OR UNSUITABLE MATERIAL.



FILL SLOPE ABOVE CUT SLOPE
DETAIL



DETAIL A-A

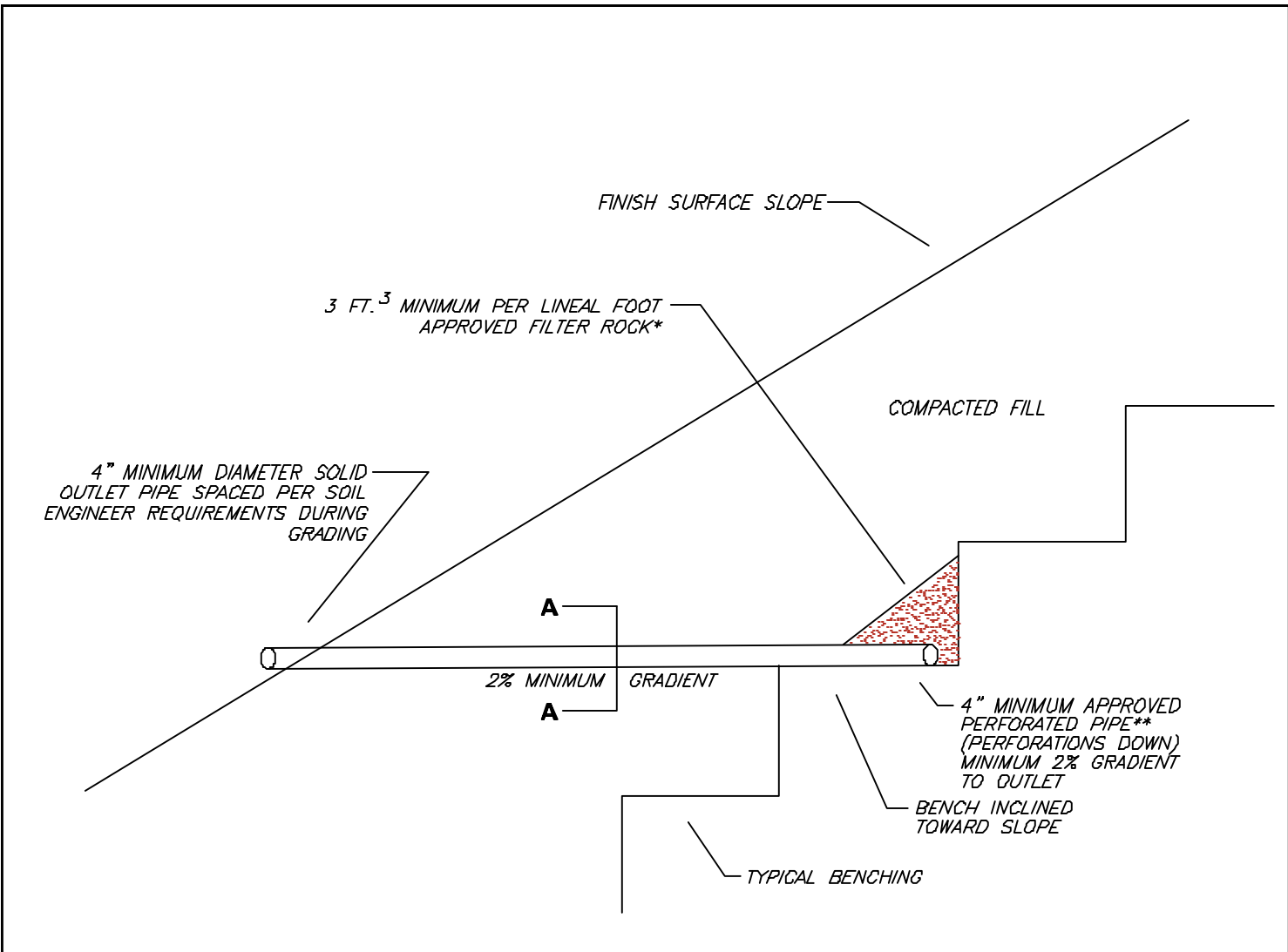


*NOTE: AGGREGATE TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUAL:

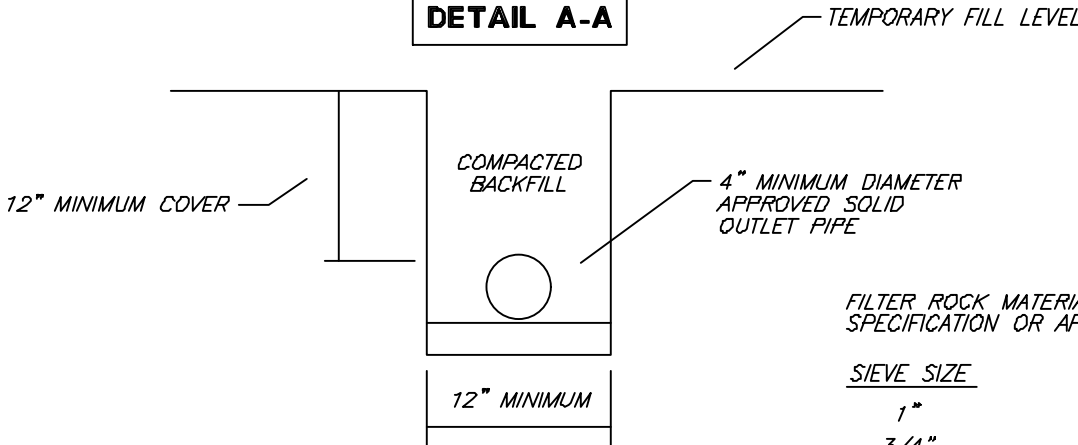
SIEVE SIZE	PERCENTAGE PASSING
1 1/2"	100
1"	5-40
3/4"	0-17
3/8"	0-7
NO. 200	0-3



BACKDRAIN DETAIL (GEOFABRIC)



DETAIL A-A



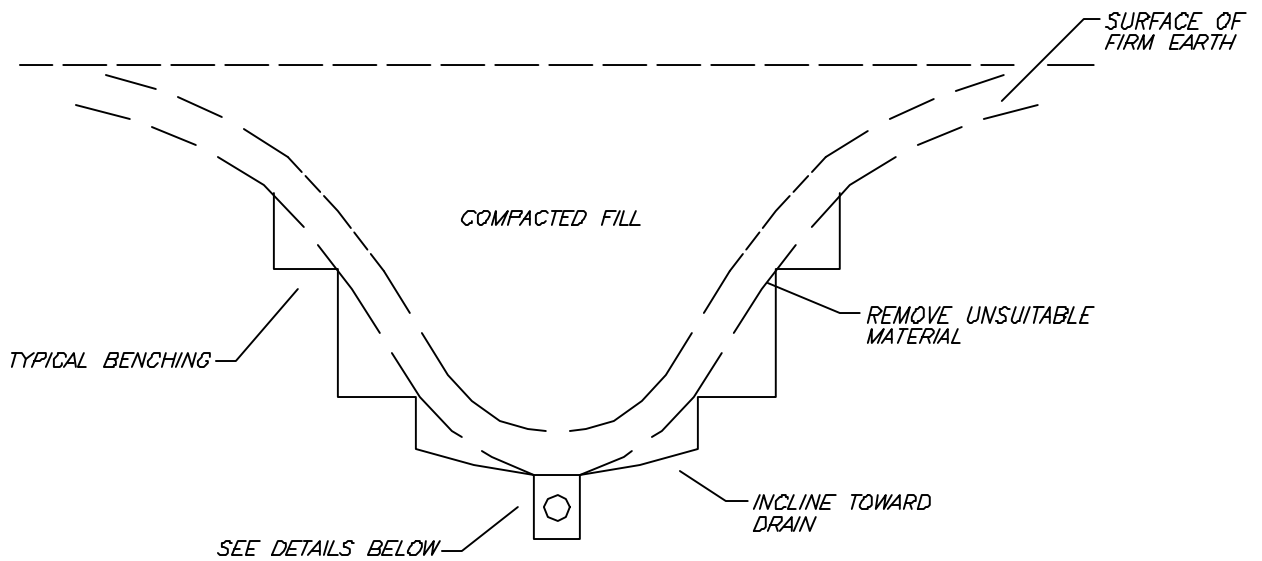
FILTER ROCK MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

****APPROVED PIPE TYPE:**
 SCHEDULE 40 POLYVINYL CHLORIDE
 (P.V.C.) OR APPROVED EQUAL.
 MINIMUM CRUSH STRENGTH 1000 PSI.



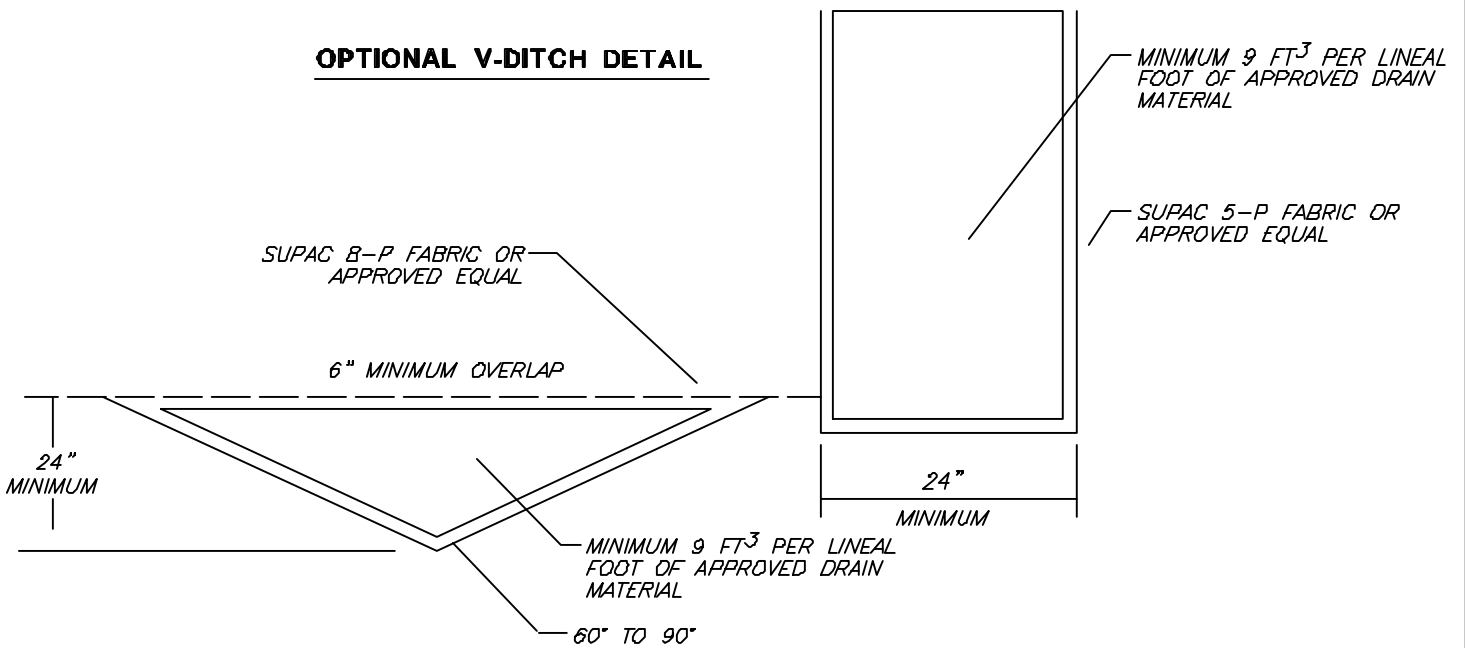
TYPICAL BACKDRAIN DETAIL



TRENCH DETAIL

6" MINIMUM OVERLAP

OPTIONAL V-DITCH DETAIL



DRAIN MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1-1/2"	88-100
1"	5-40
3/4"	0-17
3/8"	0-7
NO.:200	0-3

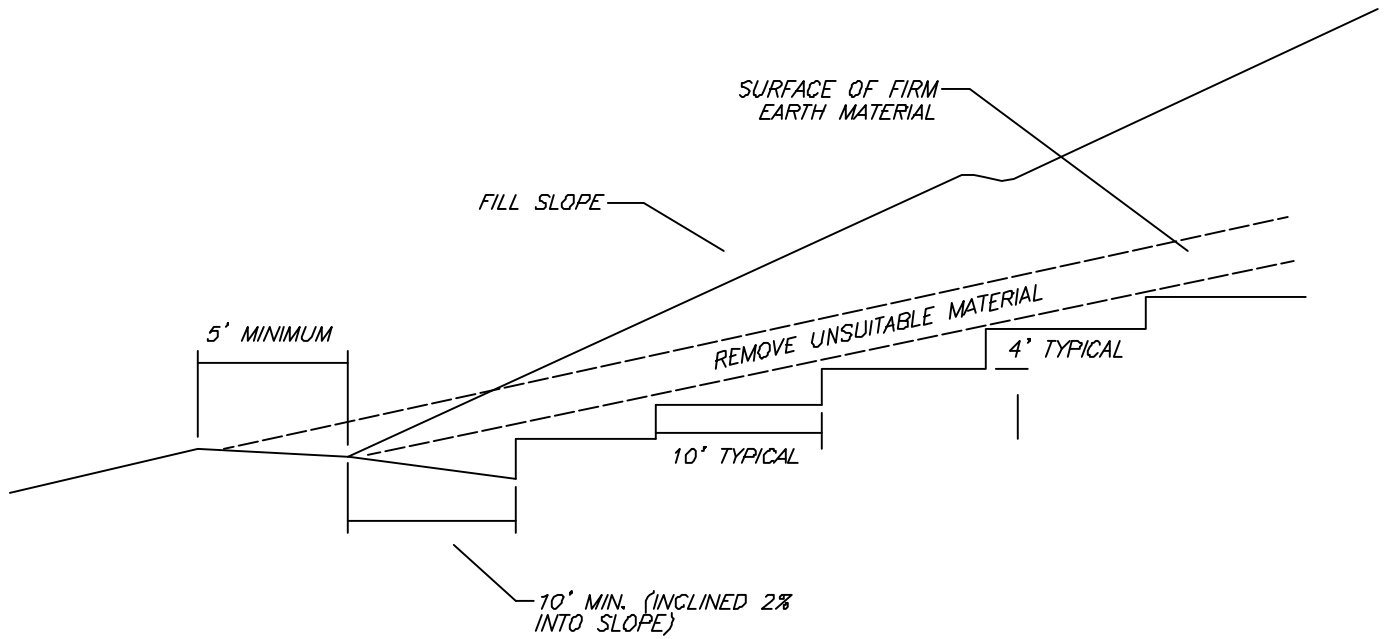
ADD MINIMUM 4" DIAMETER APPROVED PERFORATED PIPE WHEN GRADIENT IS LESS THAN 2%

APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYL-CHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 psi.

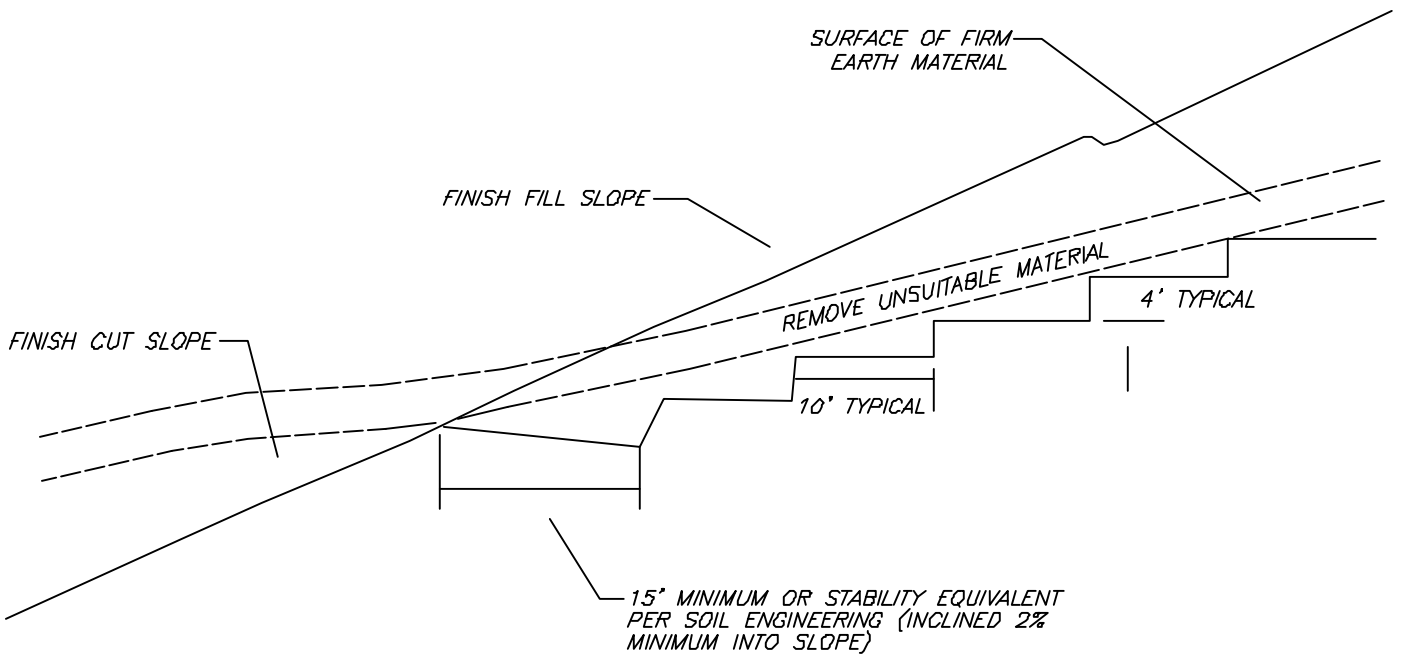


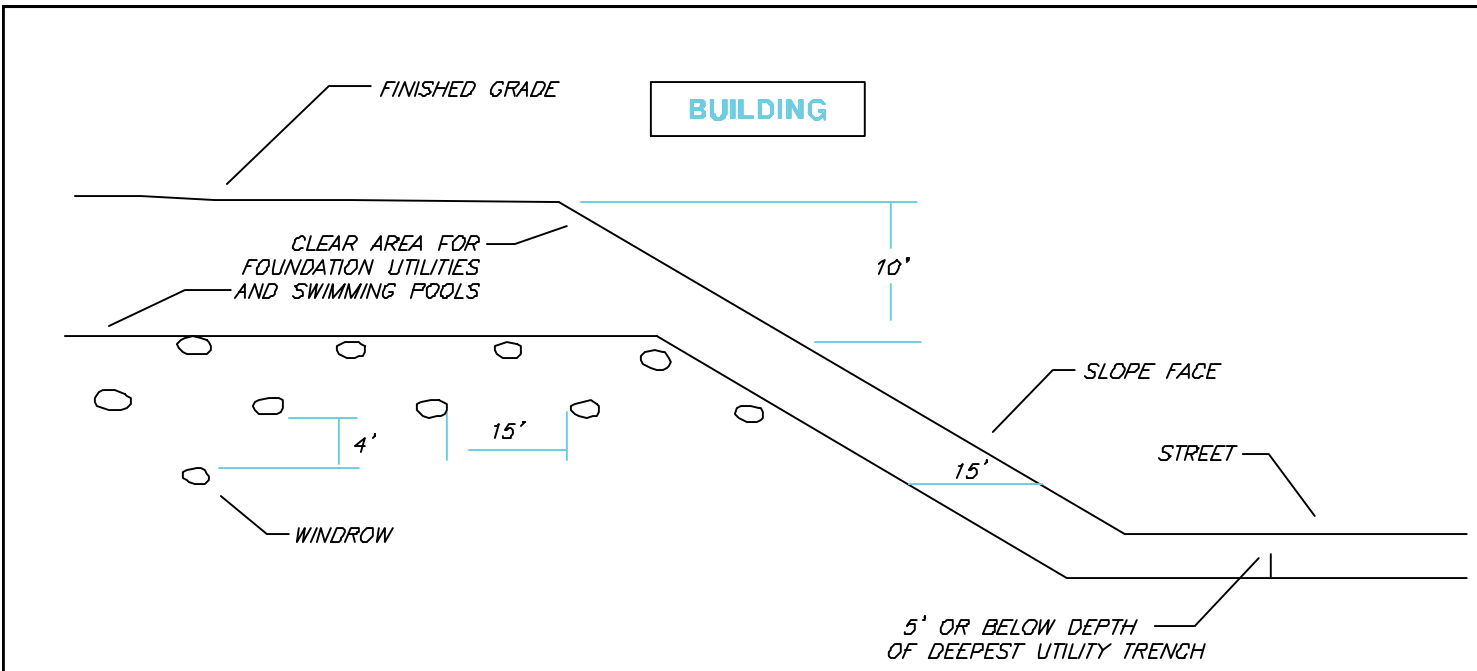
GEOFABRIC SUBDRAIN DETAIL

BENCHING FILL OVER NATURAL

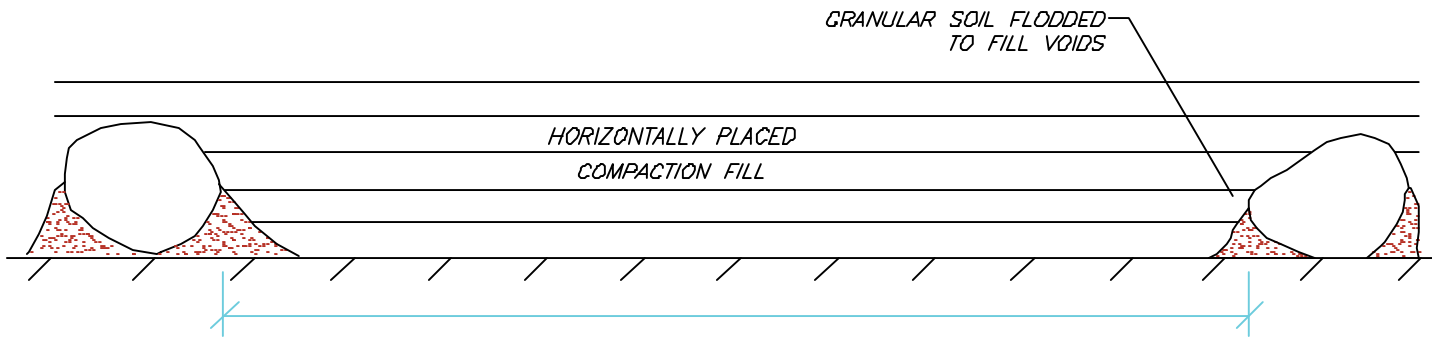


BENCHING FILL OVER CUT

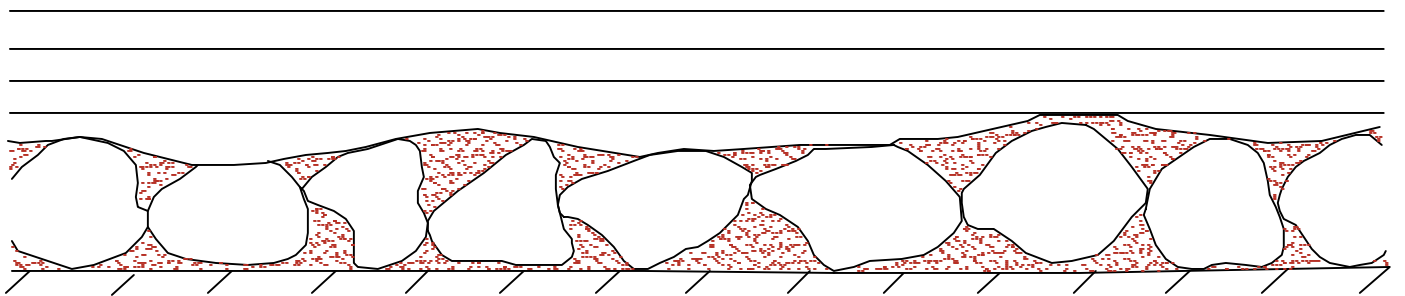


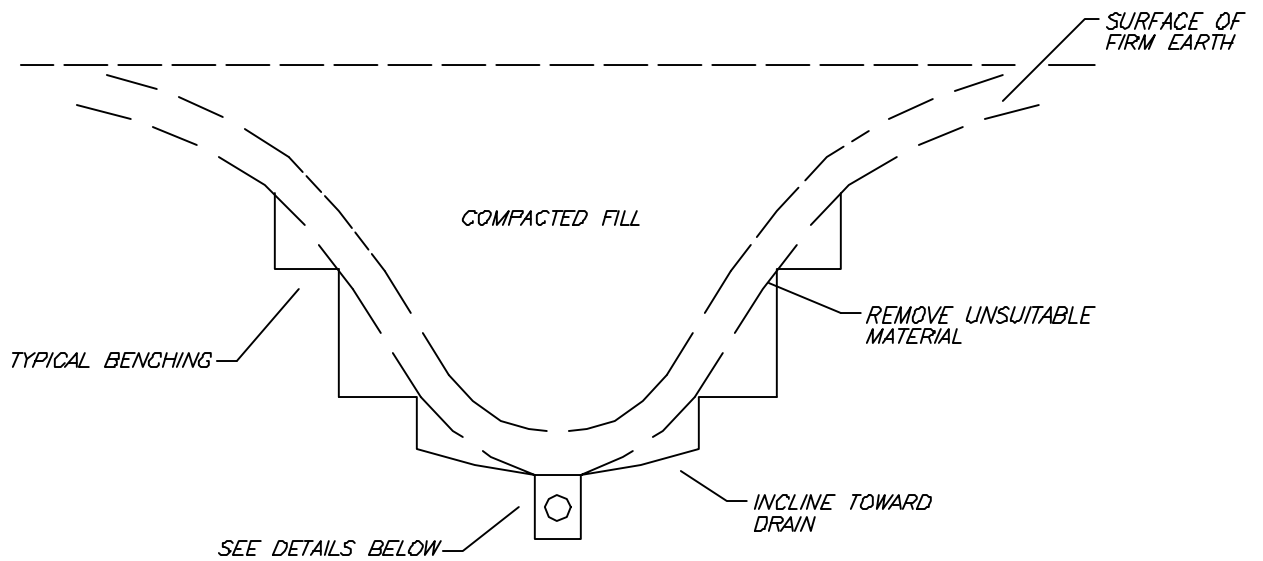


TYPICAL WINDROW DETAIL (EDGE VIEW)

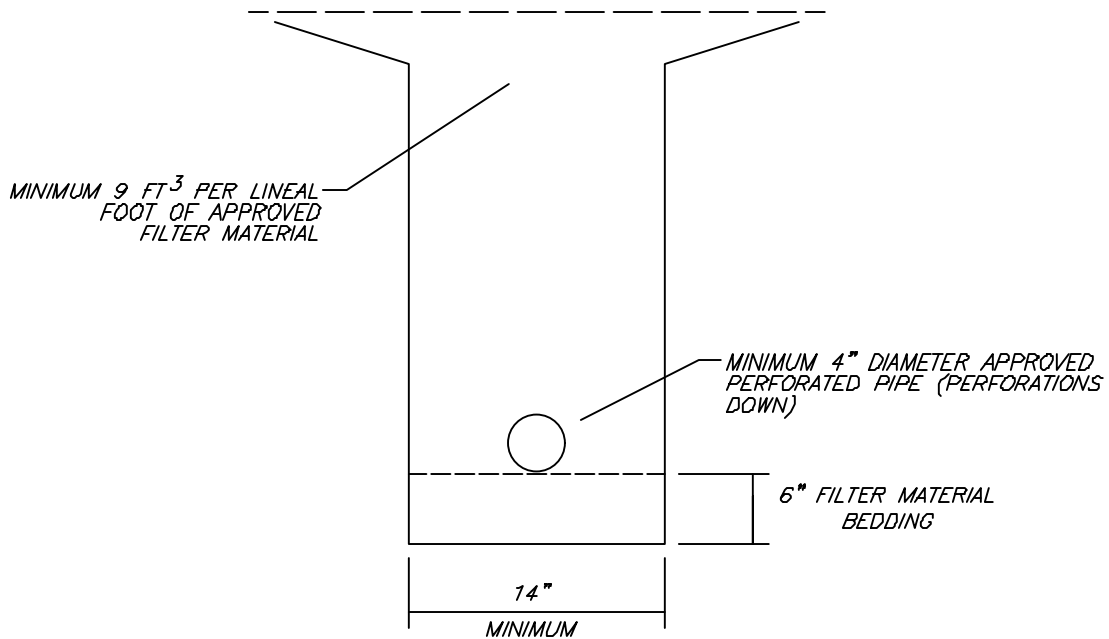


PROFILE VIEW





TRENCH DETAIL



FILTER MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

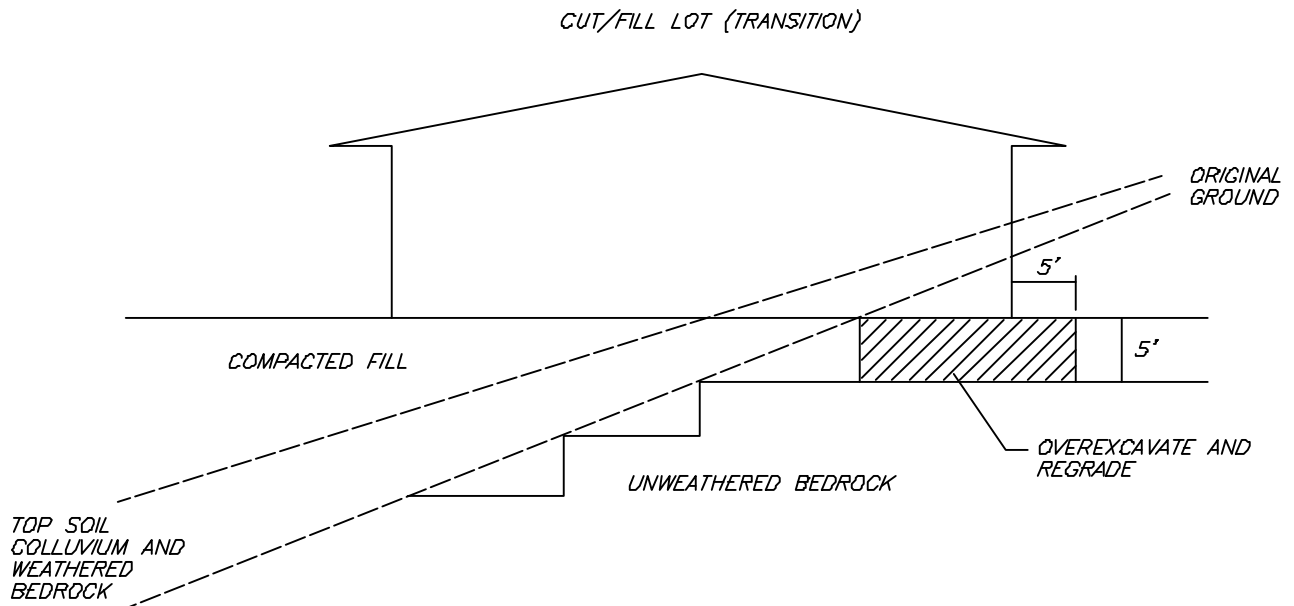
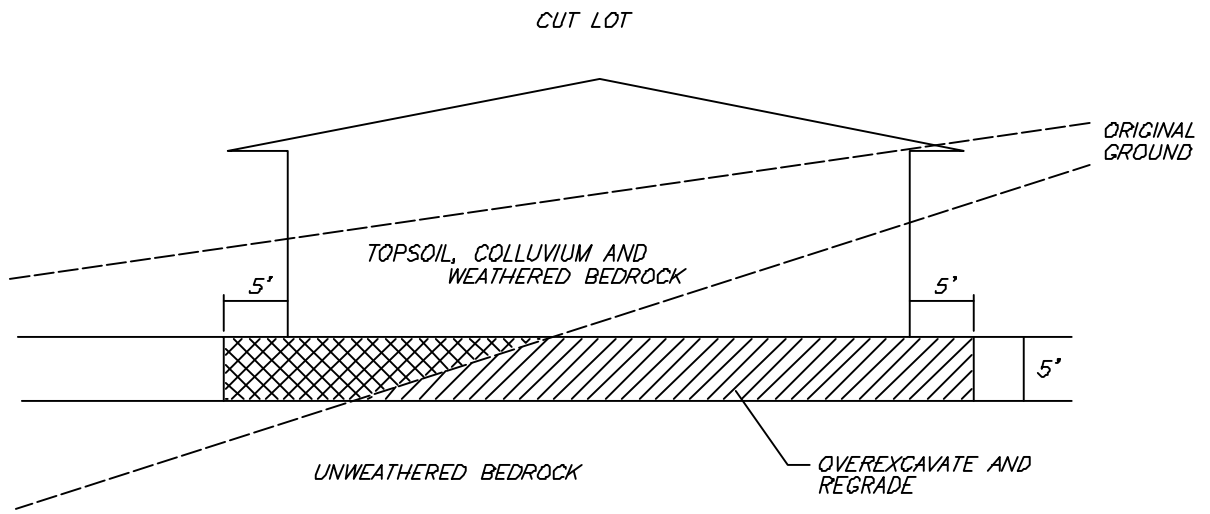
APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYL-CHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 psi.

PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA. SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING.

LENGTH OF RUN	PIPE DIAMETER
UPPER 500'	4"
NEXT 1000'	6"
> 1500'	8"



TYPICAL CANYON SUBDRAIN DETAIL



TRANSITION LOT DETAIL

APPENDIX G

SLOPE MAINTENANCE GUIDELINES



GeoMat Testing Laboratories, Inc.
Geotechnical Engineering
Engineering Geology
Material Testing

Inland Empire
9980 Indiana Ave, Suite 14
Riverside, California 92503
Office (951) 688-5400

Los Angeles
5714 W. 96th Street
Los Angeles, California 90045
Office (310) 337-9400

geomatlabs.com

SLOPE MAINTENANCE GUIDELINES

Hillside lots in general, and hillside slopes in particular, need maintenance to continue to function and retain their value. Many homeowners are unaware of this and allow deterioration of their property. In addition to his own property, the homeowner may be subject to liability for damage occurring to neighboring properties as a result of his negligence. It is therefore important to familiarize homeowners with some guidelines for maintenance of their properties and make them aware of the importance of maintenance.

Nature slowly wears away land, but human activities such as construction increase the rate of erosion 200, even 2,000 times that amount. When we remove vegetation or other objects that hold soil in place, we expose it to the action of wind and water, and increase its chance of eroding.

The following guidelines are provided for the protection of the homeowner's investment, and should be employed throughout the year.

- (a) Care should be taken that slopes, terraces, berms (ridges at crown of slopes), and proper lot drainage are not disturbed. Surface drainage should be conducted from the rear yard to the street by a graded swale through the sideyard, or alternative approved devices.
- (b) In general, roof and yard runoff should be conducted to either the street or storm drain by nonerosive devices such as sidewalks, drainage pipes, ground gutters, and driveways. Drainage systems should not be altered without expert consultation.
- (c) All drains should be kept cleaned and unclogged, including gutters and downspouts. Terrace drains or gunitite ditches should be kept free of debris to allow proper drainage. During heavy rain periods, performance of the drainage system should be inspected. Problems, such as gulying and ponding, if observed, should be corrected as soon as possible.
- (d) Any leakage from pools, waterlines, etc. or bypassing of drains should be repaired as soon as possible.
- (e) Animal burrows should be filled since they may cause diversion of surface runoff, promote accelerated erosion, and even trigger shallow soil failures.
- (f) Slopes should not be altered without expert consultation. Whenever a homeowner plans a significant topographic modification of the lot or slope, a qualified geotechnical consultant should be contacted.
- (g) If plans for modification of cut, fill, or natural slopes within a property are considered, an engineering geologist should be consulted. Any oversteepening may result in a need for

expensive retaining devices. Undercutting of the bottom of a slope might possibly lead to slope instability or failure and should not be undertaken without expert consultation.

- (h) If unusual racking, settling, or earth slippage occurs on the property, the homeowner should consult a qualified soil engineer or an engineering geologist immediately.
- (i) The most common causes of slope erosion and shallow slope failures are as follows:
 - ❖ Gross negligent of the care and maintenance of the slopes and drainage devices.
 - ❖ Inadequate and/or improper planting. (Barren areas should be replanted as soon as possible.)
 - ❖ Excessive or insufficient irrigation or diversion of runoff over the slope.
 - ❖ Foot traffic on slopes destroying vegetation and exposing soil to erosion potential.
- (j) Homeowners should not let conditions on their property create a problem for their neighbors. Cooperation with neighbors could prevent problems; also increase the aesthetic attractiveness of the property.

WINTER ALERT

It is especially important to "winterize" your property by mid-September. Don't wait until spring to put in landscaping. You need winter protection. Final landscaping can be done later. Inexpensive measures installed by mid-September will give you protection quickly that will last all during the wet season.

- ❖ Check before storms to see that drains, gutters, downspouts, and ditches are not clogged by leaves and rubble.
- ❖ Check after major storms to be sure drains are clear and vegetation is holding on slopes. Repair as necessary.
- ❖ Spot seed any bare areas. Broadcast seeds or use a mechanical seeder. A typical slope or bare areas can be done in less than an hour.
- ❖ Give seeds a boost with fertilizer.
- ❖ Mulch if you can, with grass clippings and leaves, bark chips or straw.
- ❖ Use netting to hold soil and seeds on steep slopes.

- ❖ Check with your landscape architect or local nursery for advice.
- ❖ Prepare berms and ditches to drain surface runoff water away from problem areas such as steep, bare slopes.
- ❖ Prepare base areas on slopes for seeding by raking the surface to loosen and roughen soil so it will hold seeds.

CONSTRUCTION

- ❖ Plan construction activities during spring and summer, so that erosion control measures can be in place when the rain comes.
- ❖ Examine your site carefully before building. Be aware of the slope, drainage patterns and soil types. Proper site design will help you avoid expensive stabilization work.
- ❖ Preserve existing vegetation as much as possible. Vegetation will naturally curb erosion, improve the appearance and value of your property, and reduce the cost of landscaping later.
- ❖ Use fencing to protect plants from fill material and traffic. If you have to pave near trees, do so with permeable asphalt or porous paving blocks.
- ❖ Minimize the length and steepness of slopes by benching, terracing, or constructing diversion structures. Landscape benched areas to stabilize the slope and improve its appearance.
- ❖ As soon as possible after grading a site, plant vegetation on all areas that are not to be paved or otherwise covered.

TEMPORARY MEASURES TO STABILIZE THE SOIL

Grass provides the cheapest and most effective short-term erosion control. It grows quickly and covers the ground completely. To find the best seed mixtures and plants for your area, check with your local landscape architect, local nursery, or the U.S. Department of Agriculture Soil Conservation Service. Mulches hold soil moisture and provide ground protection from rain drainage. They also provide a favorable environment for starting and growing plants. Easy-to-obtain mulches are grass clippings, leaves, sawdust, bark chips, and straw.

Straw mulch is nearly 100 percent effective when held in place by spraying with an organic glue or wood fiber (tackifiers), by punching it into the soil with a shovel or roller, or by tacking a netting over it.

Commercial applications of wood fibers combined with various seeds and fertilizers (hydraulic mulching) are effective in stabilizing sloped areas. Hydraulic mulching with a tackifier should be done in two separate applications; the first composed of seed fertilizer and half the mulch, the second composed of the remaining mulch and tackifier. Commercial hydraulic mulch applicators – who also

provide other erosion control services – are listed under “landscaping” in the phone book.

Mats of excelsior, jute netting, and plastic sheets can be effective temporary covers, but they must be in contact with the soil and fastened securely to work effectively.

Roof drainage can be collected in barrels or storage containers or touted into lawns, planter boxes, and gardens. Be sure to cover stored water so you don't collect mosquitoes. Excessive runoff should be directed away from your house. Too much water can damage trees and make foundations unstable.

STRUCTURAL RUNOFF CONTROLS

Even with proper timing and planting, you may need to protect disturbed areas from rainfall until the plants have time to establish themselves. Or you may need permanent ways to transport water across your property so that it doesn't cause erosion.

To keep water from carrying soil from your site and dumping it into nearby lots, streets, streams and channels, you need ways to reduce its volume and speed. Some examples of what you might use are:

- ❖ Riprap (rock lining) – to protect channel banks from erosive water flow.
- ❖ Sediment trap – to stop runoff carrying sediment and trap the sediment.
- ❖ Storm drain outlet protection – to reduce the speed of water flowing from a pipe onto open ground or into a natural channel.
- ❖ Diversion dike or perimeter dike – to divert excess water to places where it can be disposed of properly.
- ❖ Straw bale dike – to stop and detain sediment from small-unprotected areas (a short-term measure).
- ❖ Perimeter swale – to divert runoff from a disturbed area or to contain runoff within a disturbed area.
- ❖ Grade stabilization structure – to carry concentrated runoff down a slope.