



DATE: October 2, 2019

AGENDA ITEM #3

TO: Design Review Commission
FROM: Eliana Hassan, Assistant Planner
SUBJECT: SC19-0001 – 1683 Parkhills Ave

RECOMMENDATION:

Approve design review application SC19-0001 subject to the listed findings and conditions

PROJECT DESCRIPTION

This is a design review for a new two-story house with a basement. The project includes 2,087 square feet on the first story and 1,208 square feet on the second story. The following table summarizes the project's technical details:

GENERAL PLAN DESIGNATION: Single-family Medium Lot (SF-4)
ZONING: R1-10
PARCEL SIZE: 9,438 square feet
MATERIALS: Horizontal wood siding, vinyl windows, bi-fold glass sliding doors, stained wood entry and garage doors, asphalt shingle roof

	Existing	Proposed	Allowed/Required
LOT COVERAGE:	2,128 square feet	2,603 square feet	2,831 square feet
FLOOR AREA:			
First floor	2,008 square feet	2,087 square feet	
Second floor	638 square feet	1,208 square feet	
Total	2,646 square feet	3,295 square feet	3,303 square feet
SETBACKS:			
Front (Friars Lane)	28.67 feet	27.2 feet	25 feet
Rear	40.92 feet	30.5 feet	25 feet
Right side (1 st /2 nd)	9.67 feet/46.5 feet	13.2 feet/21.25 feet	10 feet/17.5 feet
Left side (1 st /2 nd)	10.67 feet/10.67 feet	14.7 feet/ 22.8 feet	10 feet/17.5 feet
HEIGHT:	18 feet	26.59 feet	27 feet

BACKGROUND

Neighborhood Context

The subject property is located on an interior lot on the east side of Parkhills Avenue adjacent to where the street intersects with Richardson Avenue. The surrounding neighborhood is considered a Consistent Character Neighborhood as defined in the City's Residential Design Guidelines. The characteristics are derived from the similar style, house type, setbacks, and streetscape character within the neighborhood. The Cape Cod style homes in the immediate neighborhood context are a mix of two-story homes and one-story homes with livable attic spaces that are characteristic of the original tract developer. The materials commonly seen include traditional horizontal wood siding, brick and stone accent veneer, and wood shake or composition shingle roofs. The houses appear to have been built around the same time period and maintain relatively similar facades and character dominated by side-gable or cross-gabled structures with similar low scale horizontal eave lines, steep pitch roof structures and tall roof ridges. The residences share similar lot layout patterns and front yard setbacks of about 25 feet from the property line with two-car garages on the front elevation. Landscapes in the front are predominantly grass lawns with screening hedges and one or two dominant street trees, and concrete driveways with gravel or landscaped areas between the property and the City right-of-way easement.

DISCUSSION

Design Review

According to the Design Guidelines, in Consistent Character Neighborhoods, good neighbor design has design elements, materials, and scale found within the neighborhood and sizes that are not significantly larger than other homes in the neighborhood.

Houses in the existing neighborhood on Parkhills Avenue have low-scale wall plate heights, uniform horizontal roof lines, and utilize similar materials as mentioned in the previous section. Due to the original designs of the street being part of a tract development, many homes utilize a floor plan with a livable attic space, which creates taller, more monolithic side gable roofs across existing homes. The proposed new two-story home utilizes a horizontal wood siding material and asphalt shingle roof, which is consistent with the materials used elsewhere in the neighborhood. The front elevation contains a two-car garage and expansive porch with craftsman columns, which imitates porch and garage designs seen in other homes in the neighborhood. The proposed two-car garage also contains a decorative vent above the garage on the gable, which is characteristic of other garages with front-gables in the area. Overall, the materials and design elements relate to existing materials found in the neighborhood context.

The overall height of the structure will increase from 18 feet to 26.59 feet, which, according to the Neighborhood Compatibility Sheet (Attachment B), is taller than other homes in the neighborhood. The immediate house to the north (1675 Parkhills) has an overall height of approximately 24 feet, which helps integrate the height transition to the overall neighborhood context. The wall plate heights of the first story are 10 feet, with a 9-foot wall plate height in the garage. The second story wall plate heights are at a height of 8.7 feet. Although the heights are uncharacteristically tall relative to most homes in the neighborhood, they are moderated by the project's lower-pitched hipped roofs, as many other homes in the neighborhood have steep pitch roofs that add volume and vertical mass to the buildings. Should the commission consider the wall plate heights to not be compatible, staff

recommends a one-foot reduction from 10 feet to 9 feet in order to help reduce the impact of the mass.

Overall, the proposed two-story home is an overall appropriate design within this Consistent Character neighborhood. The proposed materials are compatible with the surrounding neighborhood, however further compatibility could be achieved by a reduction in wall plate heights.

Privacy

The right side (north) elevation contains three two-story windows that are located in the master bath, laundry, and bedroom spaces. The setbacks from the windows to the property line are about 24 feet at the closest point, with sill heights of three feet for the bedroom egress window and four feet for the other two windows. An existing redwood tree is being proposed to remain, which will also help screen the portions of the second story towards the rear yard. Overall, the setback distance and higher overall sill heights should not pose any unreasonable privacy concerns.

The left side (south) elevation contains four two-story windows, which are located in bedroom spaces. The windows in “Bedroom 2”, which are at a 3-foot sill height and are twice the width of other second-story windows, may pose minor privacy concerns. Raising the sill plate to 4.5 feet to reduce direct views into neighboring properties is typically recommended to mitigate privacy impacts, however, the window serves as the primary egress for the bedroom; therefore, the maximum the sill plate can be raised is 42 inches which staff recommends. The other three second story windows have a sill height of four feet and are approximately 27 feet from the side property line. This distance is about ten feet greater than the minimum second-story side setbacks. Therefore, the windows do not appear to pose any unreasonable privacy concerns.

The rear elevation contains two second-story windows in the master bedroom and bath, which have lower sill heights of 2.8 and 3.7 feet. The second story has a minimum setback of about 45 feet from the rear property line. This distance exceeds the minimum required rear yard setback, and, combined with the proposed rear yard landscape screening, should not pose any unreasonable privacy concerns.

Overall, the project’s proposed window setbacks and sill heights adequately minimizes views towards the adjacent properties and does not create any unreasonable privacy impacts.

Trees and Landscaping

The site has seven existing mature trees that are proposed to remain through the construction process. These trees include a large 48-inch diameter Douglas Fir in the front yard, an 18-inch diameter redwood in the side yard, and several rear yard fruit trees. The existing boxwood hedges are also proposed to remain through construction, which will provide additional screening in the front yard. The larger existing trees and shrubs will help reduce the appearance of bulk and mass of the proposed house and provide privacy screening.

The Landscape Plan proposes additional evergreen screening plants. Several Carolina Laurel plants are proposed along both side yards, which will help reduce potential perceived privacy impacts into neighboring properties. Other plants used for screening include Purple Hopseed bushes and Shiny Xylosma shrubs in the side yard, and English Laurel shrubs in the rear yard.

Overall, the project utilizes existing and proposed landscaping to screen the proposed two-story house. Since the project is a new two-story house with greater than 500 square feet of new landscaping, it is subject to the City's Water Efficient Landscape Ordinance.

Environmental Review

This project is categorically exempt from environmental review under Section 15303 of the California Environmental Quality Act because it involves the construction of a single-family dwelling in a residential zone.

Public Notification

A public meeting notice was posted on the property and mailed to 12 nearby property owners on Parkhills Avenue, Newcastle Drive, and Richardson Avenue. The Notification Map is included in Attachment A.

Cc: Ajit Singh and Jose Fernandez, Applicants and Designers
Wayman Leung, Property Owner

Attachments:

- A. Area, Vicinity, and Public Notification Maps
- B. Neighborhood Compatibility Worksheet
- C. Material Board
- D. Geotechnical Investigation and Soil Report

FINDINGS

SC19-0001 – 1683 Parkhills Ave

With regard to design review for the two-story addition, the Design Review Commission finds the following in accordance with Section 14.76.060 of the Municipal Code that:

- a. The proposed addition complies with all provisions of this chapter;
- b. The height, elevations, and placement on the site of the proposed addition, when considered with reference to the nature and location of residential structures on adjacent lots, will avoid unreasonable interference with views and privacy and will consider the topographic and geologic constraints imposed by particular building site conditions;
- c. The natural landscape will be preserved insofar as practicable by minimizing tree and soil removal; grade changes shall be minimized and will be in keeping with the general appearance of neighboring developed areas;
- d. The orientation of the proposed addition in relation to the immediate neighborhood will minimize the perception of excessive bulk;
- e. General architectural considerations, including the character, size, scale, and quality of the design, the architectural relationship with the site and other buildings, building materials, and similar elements have been incorporated in order to insure the compatibility of the development with its design concept and the character of adjacent buildings; and
- f. The proposed addition has been designed to follow the natural contours of the site with minimal grading, minimum impervious cover, and maximum erosion protection.

CONDITIONS

SC19-0001 – 1683 Parkhills Ave

GENERAL

1. Expiration

The Design Review Approval will expire on October 1, 2021 unless prior to the date of expiration, a building permit is issued, or an extension is granted pursuant to Section 14.76.090 of the Zoning Code.

2. Approved Plans

The approval is based on the plans and materials received on September 3, 2019, except as may be modified by these conditions as specified below.

- a. On the second story side elevations, raise the four-foot sill plate heights to 4.5 feet to reduce direct views into neighboring properties; for bedroom egress windows, raise the sill plate to be a height of 42 inches.

3. Encroachment Permit

An encroachment permit shall be obtained from the Engineering Division prior to doing any work within the public right-of-way including the street shoulder. All work within the public street right-of-way shall be in compliance with the City's Shoulder Paving Policy.

4. Protected Trees

Tree nos. 1-7 shall be protected under this application and cannot be removed without a tree removal permit from the Community Development Director.

5. Landscaping

The landscape plan is subject to the City's Water Efficient Landscape Regulations pursuant to Chapter 12.36 of the Municipal Code.

6. Fire Sprinklers

Fire sprinklers shall be required pursuant to Section 12.10 of the Municipal Code.

7. Underground Utilities

Any new utility service drops may need be located underground from the nearest convenient existing pole pursuant to Chapter 12.68 of the Municipal Code.

8. Indemnity and Hold Harmless

The applicant/owner agrees to indemnify, defend, protect, and hold the City harmless from all costs and expenses, including attorney's fees, incurred by the City or held to be the liability of the City in connection with the City's defense of its actions in any proceedings brought in any State or Federal Court, challenging any of the City's action with respect to the applicant's project.

INCLUDED WITH THE BUILDING PERMIT SUBMITTAL

9. Conditions of Approval

Incorporate the conditions of approval into the title page of the plans.

10. Tree Protection Note

For Tree nos. 1-7, tree protection fencing shall be installed and add the following note: "All tree protection fencing shall be chain link and a minimum of five feet in height with posts driven into

the ground and shall not be removed until completion of construction unless approved by the Planning Division.”

11. Water Efficient Landscape Plan

Provide a landscape documentation package prepared by a licensed landscape professional showing how the project complies with the City’s Water Efficient Landscape Regulations and include signed statements from the project’s landscape professional and property owner.

12. Green Building Standards

Provide verification that the house will comply with the California Green Building Standards pursuant to Section 12.26 of the Municipal Code and provide a signature from the project’s Qualified Green Building Professional Designer/Architect and property owner.

13. Underground Utility Location

Show the location of underground utilities pursuant to Section 12.68 of the Municipal Code. Underground utility trenches shall avoid the driplines of all protected trees unless approved by the project arborist and the Planning Division.

14. Air Conditioner Sound Rating

Show the location, setbacks to property line, model number, and maximum sound rating of any proposed air conditioning units on the site plan and provide the manufacturer’s specifications showing the sound rating for each unit conforming to Chapter 6.16 Noise Control.

15. Storm Water Management

Show how the project is in compliance with the New Development and Construction Best Management Practices and Urban Runoff Pollution Prevention program, as adopted by the City for the purposes of preventing storm water pollution (i.e. downspouts directed to landscaped areas, minimize directly connected impervious areas, etc.).

PRIOR TO ISSUANCE OF BUILDING OR DEMOLITION PERMIT

16. Tree Protection

Tree protection fencing shall be installed around the driplines of Tree nos. 1-7, as shown on the site plan. Tree protection fencing shall be chain link and a minimum of five feet in height with posts driven into the ground and shall not be removed until all building construction has been completed unless approved by the Planning Division.

PRIOR TO FINAL INSPECTION

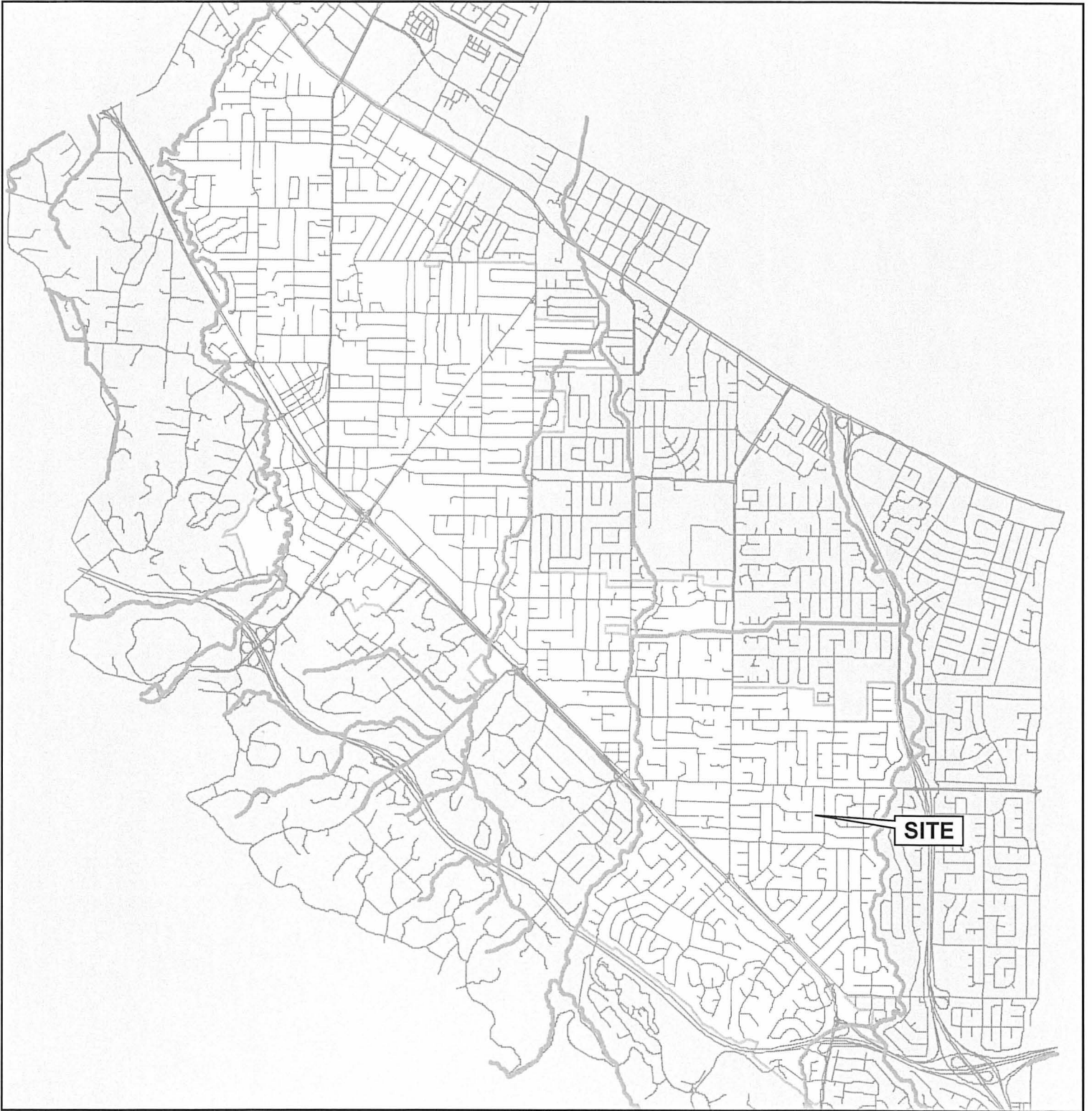
17. Landscaping Installation and Verification

Provide a landscape Certificate of Completion, signed by the project’s landscape professional and property owner, verifying that the trees, landscaping and irrigation were installed per the approved landscape documentation package.

18. Green Building Verification

Submit verification that the house was built in compliance with the City’s Green Building Ordinance (Section 12.26 of the Municipal Code).

AREA MAP



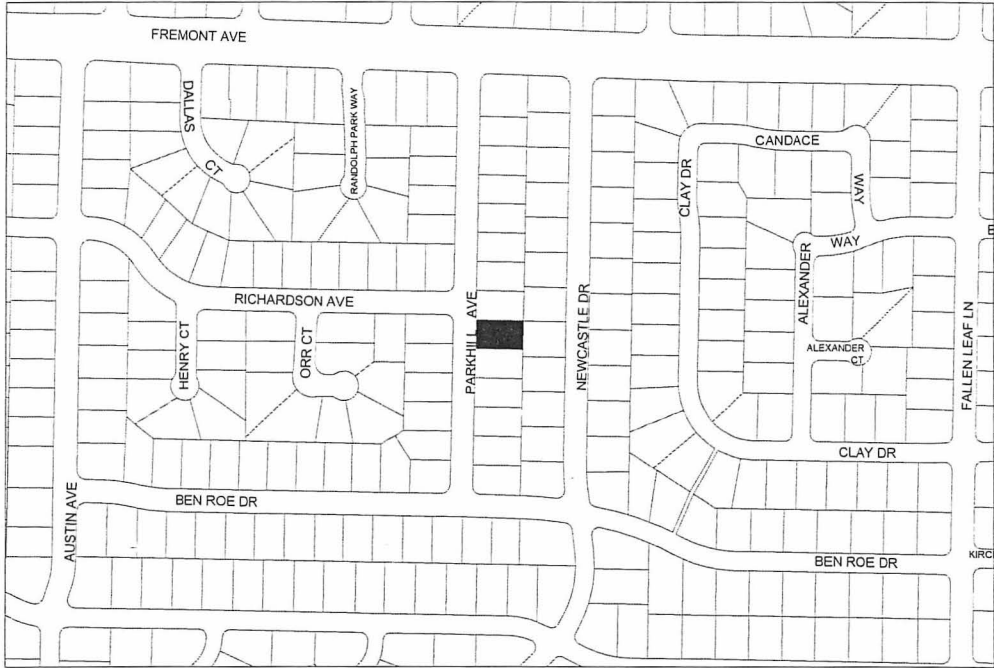
CITY OF LOS ALTOS

APPLICATION: 19-SC-02
APPLICANT: Ajil Singh/ Wayman Leung
SITE ADDRESS: 1683 Parkhills Avenue

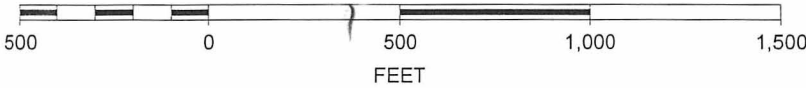


Not to Scale

VICINITY MAP



SCALE 1 : 6,000



CITY OF LOS ALTOS

APPLICATION: 19-SC-02
APPLICANT: Ajil Singh/ Wayman Leung
SITE ADDRESS: 1683 Parkhills Avenue

City of Los Altos

Planning Division

(650) 947-2750

Planning@losaltosca.gov



NEIGHBORHOOD COMPATIBILITY WORKSHEET

In order for your design review application for single-family residential remodel/addition or new construction to be successful, it is important that you consider your property, the neighborhood’s special characteristics that surround that property and the compatibility of your proposal with that neighborhood. **The purpose is to help you understand your neighborhood before you begin the design process with your architect/designer/builder or begin any formal process with the City of Los Altos.** *Please note that this worksheet must be submitted with your 1st application.*

The Residential Design Guidelines encourage neighborhood compatibility without necessarily forsaking individual taste. Various factors contribute to a design that is considered compatible with a surrounding neighborhood. The factors that City officials will be considering in your design could include, but are not limited to: design theme, scale, bulk, size, roof line, lot coverage, slope of lot, setbacks, daylight plane, one or two-story, exterior materials, landscaping et cetera.

It will be helpful to have a site plan to use in conjunction with this worksheet. Your site plan should accurately depict your property boundaries. The best source for this is the legal description in your deed.

Photographs of your property and its relationship to your neighborhood (see below) will be a necessary part of your first submittal. Taking photographs before you start your project will allow you to see and appreciate that your property could be within an area that has a strong neighborhood pattern. The photographs should be taken from across the street with a standard 35mm camera and organized by address, one row for each side of the street. Photographs should also be taken of the properties on either side and behind your property from on your property.

This worksheet/check list is meant to help *you* as well as to help the City planners and Planning Commission understand your proposal. Reasonable guesses to your answers are acceptable. The City is not looking for precise measurements on this worksheet.

Project Address 1683 PARKHILLS AVE. LOS ALTOS, CA 94024

Scope of Project: Addition or Remodel _____ **or New Home**

Age of existing home if this project is to be an addition or remodel? _____

Is the existing house listed on the City’s Historic Resources Inventory? NO

Address: 1683 PARKHILLS AVE.

Date: 4-22-2019

What constitutes your neighborhood?

There is no clear answer to this question. For the purpose of this worksheet, consider first your street, the two contiguous homes on either side of, and directly behind, your property and the five to six homes directly across the street (eight to nine homes). At the minimum, these are the houses that you should photograph. If there is any question in your mind about your neighborhood boundaries, consider a radius of approximately 200 to 300 feet around your property and consider that your neighborhood.

Streetscape

1. Typical neighborhood lot size*:

Lot area: 9,438 square feet

Lot dimensions: Length 125 feet

Width 75.5 feet

If your lot is significantly different than those in your neighborhood, then note its: area _____, length _____, and width _____.

2. Setback of homes to front property line: (Pgs. 8-11 Design Guidelines)

Existing front setback if home is a remodel? 28.8

What % of the front facing walls of the neighborhood homes are at the front setback 100 %

Existing front setback for house on left 28.5 ft./on right 28.8 ft.

Do the front setbacks of adjacent houses line up? yes

3. Garage Location Pattern: (Pg. 19 Design Guidelines)

Indicate the relationship of garage locations in your neighborhood* only on your street (count for each type)

Garage facing front projecting from front of house face X

Garage facing front recessed from front of house face

Garage in back yard

Garage facing the side

Number of 1-car garages 0; 2-car garages 12; 3-car garages 0

Address: 1683 PARKHILLS AVE.
Date: 4-22-2019

4. Single or Two-Story Homes:

What % of the homes in your neighborhood* are:

One-story 70%

Two-story 30%

5. Roof heights and shapes:

Is the overall height of house ridgelines generally the same in your neighborhood*? 21'

Are there mostly hip , gable style , or other style X roofs*?

Do the roof forms appear simple X or complex ?

Do the houses share generally the same eave height YES?

6. Exterior Materials: (*Pg. 22 Design Guidelines*)

What siding materials are frequently used in your neighborhood*?

 wood shingle stucco X board & batten clapboard
 tile stone brick X combination of one or more materials
(if so, describe) Mostly board siding but 20% combination.

What roofing materials (wood shake/shingle, asphalt shingle, flat tile, rounded tile, cement tile, slate) are consistently (about 80%) used?

Asphalt shingles

If no consistency then explain:

7. Architectural Style: (*Appendix C, Design Guidelines*)

Does your neighborhood* have a consistent identifiable architectural style?

YES NO

Type? X Ranch X Shingle Tudor Mediterranean/Spanish
 Contemporary Colonial Bungalow Other

Address: 1683 PARKHILLS AVE.
Date: 4-22-2019

8. Lot Slope: *(Pg. 25 Design Guidelines)*

Does your property have a noticeable slope? No

What is the direction of your slope? (relative to the street)

Flat

Is your slope higher _____ lower _____ same Same in relationship to the neighboring properties? Is there a noticeable difference in grade between your property/house and the one across the street or directly behind?

9. Landscaping:

Are there any frequently used or typical landscaping features on your street (i.e. big trees, front lawns, sidewalks, curbs, landscape to street edge, etc.)?

Big tree, Front lawn no sidewalks, no curb and no gutter

How visible are your house and other houses from the street or back neighbor's property?

Very visible

Are there any major existing landscaping features on your property and how is the unimproved public right-of-way developed in front of your property (gravel, dirt, asphalt, landscape)?

None

10. Width of Street:

What is the width of the roadway paving on your street in feet? 60-ft ROW

Is there a parking area on the street or in the shoulder area? Shoulder

Is the shoulder area (unimproved public right-of-way) paved, unpaved, gravel, landscaped, and/or defined with a curb/gutter? Unimproved

Loose soil

11. What characteristics make this neighborhood* cohesive?

Such as roof material and type (hip, gable, flat), siding (board and batten, cement plaster, horizontal wood, brick), deep front yard setbacks, horizontal feel, landscape approach etc.:

Roof material, siding and front yard setbacks.

General Study

- A. Have major visible streetscape changes occurred in your neighborhood?
 YES NO
- B. Do you think that most (~ 80%) of the homes were originally built at the same time?
 YES NO
- C. Do the lots in your neighborhood appear to be the same size?
 YES NO
- D. Do the lot widths appear to be consistent in the neighborhood?
 YES NO
- E. Are the front setbacks of homes on your street consistent (~80% within 5 feet)?
 YES NO
- F. Do you have active CCR's in your neighborhood? (*p.36 Building Guide*)
 YES NO
- G. Do the houses appear to be of similar size as viewed from the street?
 YES NO
- H. Does the new exterior remodel or new construction design you are planning relate in most ways to the prevailing style(s) in your existing neighborhood?
 YES NO

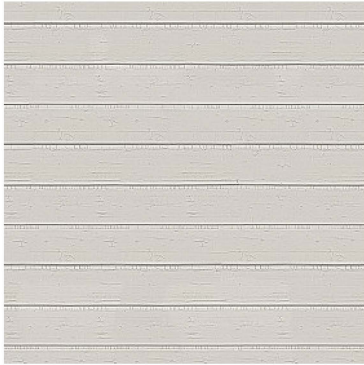
Address: 1683 PARKHILLS AVE.
 Date: 4-22-2019

Summary Table

Please use this table to summarize the characteristics of the houses in your immediate neighborhood (two homes on either side, directly behind and the five to six homes directly across the street).

Address	Front setback	Rear setback	Garage location	One or two stories	Height	Materials	Architecture (simple or complex)
1691 Parkhill	25-ft	45-ft	Front	one	18-ft	Sidding w/ asphalt	Mirror to 1683
1701 Parkhill	25-ft	52-ft	Front	One	18-ft	Sidding w/ asphalt	Country
1675 Parkhill	25-ft	35-ft	Front	Two	25-ft	Wood Shingles	Country
1667 Parkhill	25-ft	31-ft	Front	Two	18-ft	Brick & wood	Country
1530 Richardson	25-ft	25-ft	Front	One	20-ft	Brick & sidding	Country
1662 Parkhill	25-ft	25-ft	Front	One	18-ft	Siding	Country
1690 Parkhill	25-ft	25-ft	Front	One	21-ft	Siding	Country
1700 Parkhill	25-ft	42-ft	Front	Two	18-ft	Siding	Country

ATTACHMENT C



PROPOSED EXTERIOR HORIZONTAL SIDING
WOOD SIDING
W/ BENJAMIN MOORE COLOR : AMERICAN WHITE 2112-70



WINDOW MILGARD BRAND
TUSCANY SERIES WITH EXTERIOR
DARK ANODIZED BRONZE COLOR



Preview Frame in Dark Anodized Bronze

SLIDING DOOR MILGARD BRAND
BI-FOLD GLASS WALLS IN - WITH
EXTERIOR DARK ANODIZED
BRONZE COLOR



PROPOSED CHARCOAL (OR SIMILAR) ASPHALT
SHINGLES, MIN. CLASS "C". TO MATCH (E)



STAINED WOOD ENTRY DOOR

NO.	DESCRIPTION	BY	DATE
1	BUILDING COMMENTS	JF	03.11.2019
2	Daylight plane updated design	JF	06.30.2019

PROJECT:
1683 Parkhills Ave.
Los Altos
California,
94024
APN: 318-19-006

SHEET TITLE :

MATERIAL BOARD

DESIGNER STAMP:

DATE:
8/5/2019

SHEET :

MB-1

CAPEX ENGINEERING INC.

P.O BOX 14198, FREMONT, CA 94539

Tel: (408) 609-1115

E-mail: capexinc888@gmail.com

GEOTECHNICAL INVESTIGATION

**PROPOSED
NEW RESIDENCE PROJECT AT
1683 PARKHILL AVE.
LOS ALTOS, CA**

By

CAPEX ENGINEERING INC.

Project No. 11245
December 19, 2018

CAPEX ENGINEERING INC.

P.O BOX 14198, FREMONT, CA 94539

Tel: (408) 609-1115

E-mail: capexinc888@gmail.com

Project No. 11245
December 19, 2018

Mr. Ajit Singh

1683 Parkhills Ave.
Los Altos, CA

Subject: Proposed New Residence Project at
1683 Parkhill Ave.
Los Altos, CA
**GEOTECHNICAL INVESTIGATION REPORT AND
FOUNDATION RECOMMENDATION**

Dear Mr. Singh:

In accordance with your authorization, *CAPEX ENGINEERING INC.*, has completed geotechnical investigation at the subject site. Recommendations are based on our site investigation, laboratory test result analysis and proposed site plan.

The accompanying report presents the results of our geotechnical investigation. Our findings indicate that the site is suitable, from a geotechnical standpoint, for the proposed development provided the recommendations of this report are carefully followed and are incorporated into the project plans and specifications.

We appreciate the opportunity to be of service to you. Should you have any questions relating to the contents of this report or should you require additional information, please do not hesitate to contact our office at your convenience.

Very truly yours,
CAPEX ENGINEERING INC.

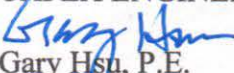

Gary Hsu, P.E.
Principal



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1.0 INTRODUCTION

The purpose of the geotechnical investigation for the proposed two-story with basement development located at 1683 Parkhill Ave., Los Altos, CA was to determine the surface and subsurface soil conditions at the subject site. Based on the data and information obtained, we have provided recommendations for foundation design and grading criteria for the site.

The scope of our work included the following:

1. Site reconnaissance by Project Engineer.
2. Subsurface exploration consisted of one (1) exploratory testing boring.
3. Performed laboratory tests to provide engineering criteria.
4. The preparation and writing of this report which presents our findings, conclusions and recommendations.

Our findings indicate that the proposed development is feasible from a geotechnical standpoint provided the recommendations in this report are included into the project plans and specifications and adhered to during and after construction.

2.0 SITE LOCATIONS AND DESCRIPTION

The site is located on 1683 Parkhill Ave., Los Altos, CA. The proposed building will consist of two-story structures with basement.

The site is relatively flat and has one existing building. The surrounding lots of the site are developed with single family residence. The above description is based on site reconnaissance by the project engineer and a site plan.

3.0 FIELD INVESTIGATION

The field investigation was performed on December 8, 2018 and included a site reconnaissance by the project engineer and the drilling of one (1) exploratory boring at the approximate location shown on site plan. (Figure 1)

The boring was drilled to a maximum depth of 18 feet below the existing ground surface. The drilling was performed with a truck-mounted rig using power driven, six inches diameter flight auger. Drilling was performed by West Coast Exploration Inc.,

Visually classifications were made from the auger cuttings and the samples in the field. As the drilling proceeded, undisturbed samples were obtained by means of a 2.5 inches split-tube sampler (Outer Diameter of Sampler). The sampler was driven under the impact of a 140 pounds hammer with a free fall of 30 inches. The number of blows required driving the sampler the last 12 inches were adjusted to the standard penetration resistance (N-Value) and are presented in the Log of Test Boring (Figure 2).

4.0 SOIL CONDITIONS

The soil conditions were derived from our site reconnaissance and the information and samples obtained from our exploratory borings. Detailed descriptions of the materials encountered in the laboratory borings and the results of the laboratory tests are presented on “Log of Test Boring” (Figure 2).

The subsurface soils condition, as encountered in the boring were found to consist of a Silty Clay to the terminate depth of boring at 18 feet. Ground water was not encountered during drilling operations. However, fluctuations in the groundwater table are anticipated with seasonal rainfall variations. All borings were backfilled on the date of excavation.

5.0 LABORATORY TESTINGS

- 5.1 All samples were visually classified in the laboratory in accordance with the Unified Soil Classification System per ASTM D-2487 and/or D-2488 in order to verify the field classification.
- 5.2 The natural moisture contents and dry unit weights were determined for all undisturbed samples per ASTM D-2216.

The results of sieve analysis test and plastic index indicate that the near surface soils exhibit a low percentage of fines and are subject to a low swell/shrink potential with variation in moisture content. (P.I = 11.5)

6.0 C.B.C EARTHQUAKE DESIGN CRITERIA

The seismic design parameters for the site per Chapter 16 of the California Building Code (2016 Edition) are follows:

Latitude: 37.350119 (Degree); Longitude: -122.070085 (Degree)

Site Class = D

Short Term Spectral Response Parameter, $S_{DS} = 1.816$ g

Short Term Design Spectral Response Parameter, $S_{DS} = 1.21$ g

1 Second Spectral Response Parameter, $S_1 = 0.716$ g

1 Second Design Spectral Response Parameter, $S_{D1} = 0.716$ g

7.0 LIQUEFACTION POTENTIAL EVALUATION

Liquefaction occurs primarily in relatively loose, saturated, cohesionless soils which can be subjected to a temporary loss of strength due to the buildup pore pressures, especially as a result of cyclic loading such as induced by earthquakes.

Evaluation of liquefaction potential on this site was based on the soil type, density of the site soils, and the presence of groundwater. Based on the data obtained during our field and laboratory investigations, it is our opinion that the liquefaction potential at this site is nil.

8.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

8.1 General

From a geotechnical standpoint, for the proposed addition development is feasible for construction on the subject site provided the recommendations presented in this report are carefully followed and are incorporated into the project plans and specifications.

8.2 Grading & Compaction

- 8.2.1 Prior to any grading, demolition of the site should be completed. This should include the removal of the existing residential structure and any concrete foundations, underground utilities or any other surface or sub-surface structure which may be encountered. Any tree root system, debris or trash that is encountered should also be removed. It is vital that *CAPEX ENGINEERING INC.* observe the demolition operation and be notified in ample time to ensure that no sub-surface structures are covered and that any tree root system completely removed.
- 8.2.2 All on-site material having an organic content of less than 1% by volume and free from other deleterious materials are suitable for use as fill on site. All fill material should have a maximum particle size of 6 inches with no more than 15% larger than 2.5 inches.
- 8.2.3 Any import fills which is predominately granular in nature and with plasticity index of 12 or less can be used. The soil engineer should give final approval of any import fill material prior to placement. The contractor shall notify the soil engineer 5 working days in advance of his intention to import soil from any other source outside the site area and shall permit the engineer to sample as necessary for the purpose of performing tests to establish the qualities of the material.
- 8.2.4 After preparation of the native ground soils, the site may be brought to the desired finish grade by placing on-site native material or import material in lifts not to exceed 8 inches in uncompacted thickness. Compacted to a minimum of 90% as determined by ASTM D-1557-91 laboratory testing procedure.

8.2.5 The moisture content of the fill material should be 0 to 3% above optimum and sufficient to obtain the required density. Water should be added or other satisfactory method shall aerate the fill material in order to have acceptable range for moisture.

8.3 Foundations

(I) The proposed structure of basement footings and slab can be satisfactory supported on a mat foundation provided the site is prepared as previously recommended.

- (a) The modulus of subgrade reaction (*Ks*) ----- 120 pci
- (b) Lateral passive pressure ----- 250 pcf
- (c) Coefficient of sliding ----- 0.25
- (d) Allowable soil bearing pressure (DL + LL) -----1,800 psf
- (e) Allowable soil bearing pressure (All Loads) -----2,500 psf

(II) Part of foundation without using retaining wall of basement as bearing wall can be satisfactory supported on a spread and continuous footings (grade beam) foundations.

The following soil design parameters apply:

- Allowable soil bearing pressure (DL + LL) -----1,800 psf
- Allowable soil bearing pressure (All Loads) ----- 2,500 psf
- Lateral passive pressure -----250 pcf
- Coefficient of sliding -----0.25

Extend all footings at least 24 inches below the undisturbed ground surface [Minimum embedment of the native soil or engineering soil (min. 90% relative compacted soil)]. Foundation widths should conform to CBC minimum standards provided the soil bearing stress recommendations of this report are not exceeded. Footings should be reinforced using a minimum of one # 4 bar at the top and the bottom. The footings should be reinforced as determined by the Structural Engineer based upon the loads.

(III) RETAINING WALLS

Retaining walls should be designed to resist lateral soil pressure exerted from a media having an equivalent fluid weight as following.

Gradient of Back slope Weight (PCF)	Equivalent Fluid Weight (PCF) Unrestrained	Equivalent Fluid Weight (PCF) Restrained	Seismic Equivalent Fluid Weight (PCF) Unrestrained	Seismic Equivalent Fluid (PCF) Restrained
Flat	45	65	22	30
3 to 1	65	85	30	35
2 to 1	75	95	35	40

For soil seismic loads the pressure distribution is an inverted triangular distribution for example for a 10 feet high retaining wall (Flat-Unrestrained) at top of wall the seismic pressure is 220 psf and the pressure decreases linearly to zero at 10 feet deep.

In addition, restrained walls should be designed to resist an additional uniform pressure of 100 psf for the entire height of the wall. If surcharge loads are expected near the back of the wall, an additional uniform lateral pressure equal to one-half the surcharge pressure should be assumed to act against the back of the wall.

The above criteria are based on fully drained conditions. For these conditions, we recommend that a filter material blanket be placed behind the wall. The blanket should be a minimum of 12 inches thick and should extend the full height of the wall to within 12 inches of the surface. A 4-inch diameter perforated drain (perforations down) should be installed in the bottom of the filter blanket and should be underlain by at least 4 inches of filter type material. Sufficient gradient shall be provided to discharge water that collects behind the wall to an adequately controlled discharge system away from the building foundations and nearby engineered fill.

8.4 CONCRETE SLAB ON GRADE

- 8.4.1 Concrete slab should be structurally reinforced using at least No. 4 bars, within the middle of slab, at 18 inches on centers both ways. The structural engineer may determine that additional reinforcement is required based on the intended use and loading of the slab.
- 8.4.2 Slab on grade should be underlain by a minimum of 4 inches of granular material conforming to Caltrains Specifications for Class II permeable material in order to provide a capillary moisture break. An impervious membrane of 10 mils minimum thickness should be placed over the granular material in order to provide vapor barrier. In addition, two inches of wetted clean sand should be placed directly under the slab and on the top of the membrane to minimize punctures and to assist in the proper curing of the concrete.
- 8.4.3 All flatwork slabs should be poured structurally independent of the foundations. A 30-pound felt strip, expansive joint material, or other positive separator should be provided around the edge of all floating slabs to prevent bond to the structure foundation.

8.5 GENERAL CONSTRUCTION REQUIREMENTS

Surface Drainage and Irrigation:

- 8.5.1 All finish grades should provide a positive gradient to an adequate discharge point in order to provide rapid removal of surface water runoff away from all foundations. No stilling water should be allowed on the pad or adjacent to the foundations. These lot slopes should be provided to aid in the removal of water from the pads and to reduce the amount of water

to seep beneath the buildings. Surface drainage should be provided as designed by the project engineer and maintained by the property owner at all times afterwards.

- 8.5.2 All finish grade drainage swales must be cut into compacted finish grade. Construction of the drainage swales using uncompacted loose surface fill does not meet the recommended grading requirement.
- 8.5.3 Continuous roof gutters are recommended. Downspouts from the gutters may be drained away the foundation and graded areas, thus reduce the possibility of soil saturation adjacent to the foundations and engineered fill.
- 8.5.4 Planters should be avoided adjacent to the foundation. Should planters be constructed, foliage requiring little irrigation should be considered to further reduce the amount of water that could affect the foundation. Alternatively, a watertight planter box with controlled discharge should be provided.

Utility Trenches:

- 8.5.5 Any utility trenches extending under the building areas should be backfilled with native on-site soils or approved import materials. Backfill should be properly compacted to prevent water migration through the utility trenches extending underneath the structure.
- 8.5.6 Utility trenches extending underneath all traffic areas must be backfilled with native or approved import material and compacted to a relative compaction of 90% to within 12 inches of the subgrade. The upper 12 inches should be compacted to 95% relative compaction. Backfilling and compaction of these trenches must meet the requirement set forth by the City of Los Altos, Department of Public Works.
- 8.5.7 The soils generated from trenching may be used as backfill with the exception of cobbles greater than 6 inches in largest dimension. Compaction of the trench backfill should comply with the requirements set forth by the City of Los Altos, Department of Public Works.

Trench Shoring and Temporary Slopes

- 8.5.8 Applicable safety standards require that trenches in excess of 5 feet must be properly shored or that the walls of the trench slope back to provide safety for installation of lines. If trench wall sloping is performed, the inclination should vary with the soil type. The underground contractor should request an opinion from the soil engineer as to the type of soil and the resulting inclination. Slope of 1:1 (horizontal to vertical) may be utilized for stable cohesive soils while 2:1 will be required for the more granular loose soil.

9.0 CONSTRUCTION OBSERVATION

The recommendations of this report are based upon assumptions regarding design concepts, and construction materials and procedures. To validate these recommendations, Capex Engineering Inc. must be retained to:

- a. Review the drainage and foundation plans.
- b. Review the structural calculations related to the foundations.
- c. Observe the preparation of the site for slab-on grade construction.
- d. Observe the foundation excavations to determine if the exposed soil conditions are substantially the same as those encountered in this report; and, to make alternative recommendations based upon professional judgment.
- e. Observe the initial and final site grading and installation of surface and subsurface drainage.

10.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

- 10.1 The recommendations of this report are based on the assumption that the soil conditions do not deviate from those disclosed and from a reconnaissance of the site. Should any variations or undesirable conditions be encountered during the construction, Capex Engineering Inc. will provide supplemental recommendations as dictated by the field conditions.
- 10.2 This report is issued with the understanding that it is the responsibility for owner or his representative, to ensure that the information and recommendations contained herein are brought to the attention of the Architect, Engineer and Contractor for the project and incorporated into the plans and that the necessary steps are taken to see that the contractor and subcontractor carry out such recommendations in the field.
- 10.3 This report specifically recommends that Capex Engineering Inc. be retained to review the project plans and to provide observations and/or testing services during construction. It is the responsibility of the client to retain Capex Engineering Inc. and to inform Capex Engineering Inc. of the need for such services.
- 10.4 The conclusions and recommendations contained in this report will not be considered valid after a period of two (2) years, unless the changes are reviewed and conclusions of this report modified or verified in writing.
- 10.5 Capex Engineering Inc. does not provide design services, nor does Capex Engineering Inc. act as a builder. Our professional findings and recommendations were prepared in accordance with generally accepted engineering principals and practices. NO other warranty, expressed or implied, is made.

LOCATION MAP

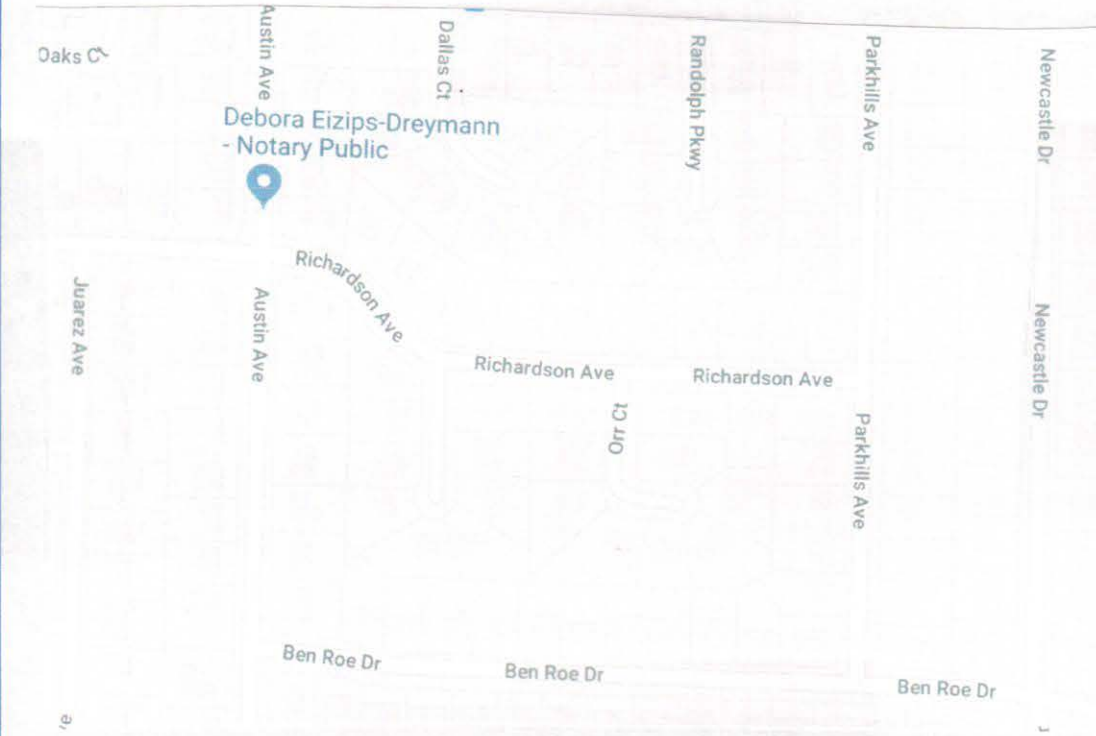
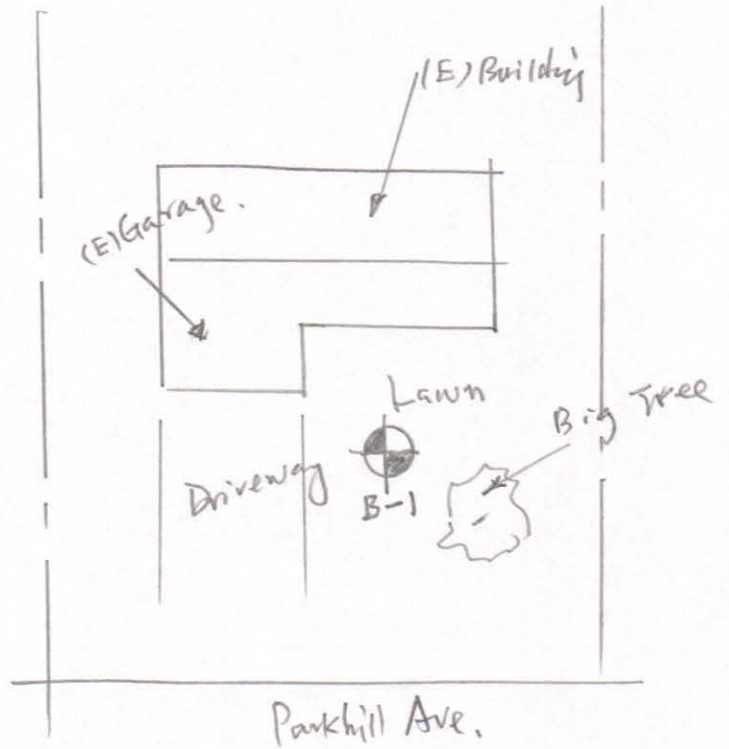


Figure 1

Project No. 11245	December 19, 2018
CAPEX ENGINEERING INC.	1683 Parkhill Ave. Los Altos, CA

SITE PLAN



Approximate Location of Test Borings



Figure 2

Project No. 11245

December 19, 2018

CAPEX ENGINEERING INC

1683 Parkhill Ave.
Los Altos, CA

Depth (Feet)	Description	Sample No.	Unified Soil Classification	Blows/Foot (350 Ft.-Lbs)	Dry Density (P.C.F)	Moisture (% Dry Density)	Pocket Penet. (T.S.F)	Remarks
1	Light Brown Silty Clay, moist							
2								
3								
4	Light Brown Silty Clay, moist, stiff	1-1	CL	10	114.5	14.5	2.0	Unconfined Compression Test Uc =1,875 psf Plastic Index P.I =11.5
5	same as above							
6								
7								
8	Light Brown Silty Clay, moist , stiff	1-2	CL	12	115.5	15.0	2.0	
9								
10								
11	Same As Above							
12								
13								
14	Light Brown Silty Clay, moist , stiff	1-3	CL	24	116.0	15.5	2.5	
15	Same As Above							
16								
17								
18	Light Brown Silty Clay, , moist , stiff	1-4	CL	26	117.0	16.0	2.5	
19	Terminated at 18 feet, no ground water encountered during boring							
20								
21								
22								
23								
24								
25								

CAPEX ENGINEERING INC.	BORING LOG NO. 1		Figure No. 3
	Date Drilled: 12/8/18	By: G.H	Project No. 11235